VOCABULARY ACQUISITION IN A SECOND LANGUAGE :

THE HYPOTHESIS OF 'SYNFORMS' (SIMILAR LEXICAL FORMS).

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Ph.D

UNIVERSITY OF EDINBURGH

1985

Vocabulary Acquisition in a Second Language: the Hypothesis of 'Synforms' (similar lexical forms)

Abstract

The study hypothesizes and investigates an error pattern in vocabulary acquisition - the confusion of 'synforms' (words of similar form).

It defines, illustrates and classifies synforms into categories on the basis of their features of similarity.

In the empirical part of the study, a validation of this error pattern is carried out. The empirical work examines the following hypotheses: a. whether the synform confusion is indeed a common error in the learner's language; b. whether some synform categories are more error-provoking than others; c. whether the learner's native language is systematically related to the susceptibility to synform errors.

The validation was carried out by means of two elicitation procedures: each item was tested twice by the two tests. 528 learners were tested: native speakers (age 11-12) and foreign learners (at the FCE level of proficiency). Altogether 1056 tests were administered; 24192 responses were obtained and analysed by computer.

The results of the study indicate the following: a. synformy in general is a source of error; b. some synform categories are more error-provocative than others; hence a hierarchy of difficulty is presented; c. L1 can often have an effect on synform confusion.

The implications of the findings are considered from three perspectives: a. the lexicon of the learner's language; b. language learning processes; c. vocabulary teaching. With regard to the lexicon, the study discusses the defective representation of lexical items and the organization of the learner's mental lexicon. In the section on learning processes, evidence is presented in support of both the L1 restructuring hypothesis and the creative construction hypothesis. The language pedagogy section deals mainly with the selection, practice and testing of synforms.

Declaration

This thesis has been composed by myself and is
entirely my own work.

Acknowledgements

Numerous people in Britain and Israel have contributed to my work on this thesis and to them I wish to express my gratitude.

My earlier idea of similar lexical forms, called 'synophones' at first, saw the light in 1981 in a short article.   It was Dr Yshai Tobin's (Ben Gurion University, Israel) enthusiasm and insistence on the importance of this issue for Applied Linguistics and Language Teaching that convinced me to develop this idea into the present thesis.

Dr Alan Davies' thorough and dedicated supervision provided me with all the guidance I needed in all the stages of my work. The critical comments of Mr A.P.R. Howatt, my other supervisor, made me rethink some basic issues and seek alternative approaches.

Dr Paul Meara's (Birkbeck College, London University) special contribution was in his comments on the preliminary version of Chapter 2, in providing me with access to his personal library and the M.A. projects of his students and in the numerous valuable discussions (and arguments) we had about lexis and approaches to research.

Professor Andrew Cohen (The Hebrew University, Jerusalem) read and commented on Chapter 3.   Throughout my work, his advice on thesis-writing was most useful.

The empirical part of the study involved administering over 1000 tests.   The following institutions and individuals made this task possible.

The Educational Board of the Lothian Regional Council recommended the following primary schools in Edinburgh to participate in the research: Broughton, James Gillespie, Liberton, South-Morningside. The head-teachers of these schools were most cooperative in the actual testing.

The foreign learners tested in Britain were from the Institute for Applied Language Studies (Edinburgh); Stevenson College (Edinburgh); Pitman College (London); University of Birmingham; 'Language Learning Centre', In lingua', 'Eurocentre' (Brighton).   The

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Introduction

1.1 Background

> "A person has 'learned' a foreign language when he
> has ..... first, within a <u>limited vocabulary</u>, mastered
> the sound system ..... and has, second, made the
> structural devices ..... matters of automatic habit."
>
> (Fries 1945:3)

Even though, according to Fries, vocabulary is secondary in importance to successful language learning, language teachers, learners and native speakers communicating with foreigners have always been struggling with lexical problems. For it is only common sense that no communication can take place without words. Even researchers whose main interest lies in grammar do not deny that lexis is essential for language learning. Hatch (1983) admits that

> "basic communicative competence is largely concerned
> with the strategies that learners use to solicit
> the vocabulary they need in order to get meaning
> across" (p.74)

On the same page she points out that Krashen has often said that

> "learners don't carry grammar books around in their
> pockets. They carry dictionaries".

Vocabulary learning is not only absolutely necessary; it is also never ending. Long after the acquisition of grammar has been completed, the learner will still be encountering new words and expanding his lexicon.

One of the ways in which methodologists tried to reduce the burden of word learning was reflected in frequency count movement. The aim of the counts was to find out (from analysis of written text) which were the most useful words for language users, in terms of range of use, coverage of lexical area and ready availability to a native speaker. The assumption was that these most frequent words should be learnt first and that elementary level materials should be restricted to certain levels of the count. Among the *best* known attempts of vocabulary control are Basic English by Ogden (1930), The Teacher's Word Book by Thorndike and Lorge (1944), A General Service List of English Words by West (1953), the OUP (Oxford University Press) vocabulary lists by L.A. Hill - five lists for use by the OUP in preparing second language materials (unpublished).

Vocabulary control was not the only area in lexis that generated interest among teachers and methodologists/scholars concerned about vocabulary learning. The question of vocabulary methodology has been addressed in various articles and books. Some of the work (e.g. Salt 1976, Ridout 1976, Reinert 1976) tries to promote certain methods of teaching words which the authors found successful in their experience. Other work (e.g. Martin 1976) discusses how to teach vocabulary to specific groups of learners, or how to approach specific difficulties (e.g. Brown 1974). Studies have been carried out on various mnemonic techniques (Raugh and Atkinson 1975, Pavio and Desrochers 1979, Cohen and Aphek 1980). Their aim has been to investigate methods of memorization of words in order to find out how vocabulary learning can best be facilitated, or 'easified', to use Cohen and Aphek's term.

Recently we are witnessing even books specially devoted to vocabulary: student's textbooks (Rudska et al. 1981, Sim and Laufer 1984) and teacher's books (Wallace 1982, Allen 1984).

And yet, in spite of the above mentioned work on vocabulary, Meara's (1980) survey article is called: "Vocabulary acquisition: a neglected aspect of language learning" (underlining mine). The two do not contradict each other. As Meara points out, the major concern of the above mentioned work has been the management of vocabulary learning and its nature has been pedagogical. What has been neglected is research on the various aspects of the acquisition of lexis, for example why certain words are learnt with more difficulty than others; what the differences and the similarities between vocabulary acquisition in L1 and L2 are; whether there is a 'natural' order, or any kind of order in vocabulary acquisition; what it is that makes learners prefer to use some words to others. There are many other possible questions that could be investigated (see Meara 1980 and Levenston 1979), but have not inspired SLA (Second Language Acquisition) researchers. The major efforts of SLA research have been directed towards the investigation of phonology and grammar. Classic books and articles in the field which are concerned with SLA acquisition hardly mention vocabulary (e.g. Hatch 1978; Ritchie 1978; Scarcella and Krashen 1980; Dulay, Burt and Krashen 1982), as if vocabulary was not a part of language acquisition. Whether the research carried out has dealt with the acquisition of a single feature in language, or with the order in which several features are acquired, it has mostly studied the acquisition of morphemes and syntactic structures.

In spite of the important contribution of some researchers
to the field of vocabulary learning (e.g. Blum and Levenston 1977
and 1978; Kellerman 1977, Ringbom 1978 and 1982, Meara 1980 and
1984), the amount of research on lexis still lags behind research
in all the other areas of language learning and is therefore considered
"a neglected aspect of language learning" (Meara 1980) and "a
victim of discrimination" (Levenston 1979).

The present study has been undertaken in the belief, borne
out by teaching experience, that more work on vocabulary acquisition,
especially of an empirical nature, is an absolute necessity in SLA
research.   The insights such work is likely to provide into the
various issues in vocabulary acquisition will make a valuable
contribution to our understanding of the language learning processes
and consequently lead to better language learning and teaching.

The study will hypothesise and investigate an error pattern
in vocabulary acquisition - the confusion of synforms (words of
similar form).   It will try to define, illustrate and classify
synforms into categories on the basis of their features of similarity.
In the empirical part of the study, a validation of this error
pattern will be carried out.   The aim of the empirical work will
be to find out the following: a) whether synform confusion is
indeed a common error in the learner's language;   b) whether some
synform categories are more error-provoking than others;   c) whether
the foreign learner's native language is systematically related
to the susceptibility to synform errors.

Even though the primary interest of the study is in the second
language learner, similar tests will be carried out with English

speaking children; results of native and non-native learners
of English will be compared to examine possible patterns of similarity
in the confusion of synforms.

1.2 Definition of terms

In the course of the study several terms are used which need
to be defined.

1.2.1 Word/lexical item

The term 'word' will be used in one sense only: the common
factor underlying the set of forms which are variants of the same
unit such as 'talk', 'talks', 'talked', 'talking'. Such 'underlying
word' unit is often called a lexeme, or a lexical item - the minimal
distinctive unit of meaning. Therefore, the terms 'word' and
'lexical item' will be used interchangeably.

1.2.2 Vocabulary/lexis; lexicon

The terms 'vocabulary', 'lexis' and 'lexicon' seem to be
used interchangeably in the literature. In this thesis, however,
there will be a distinction between 'vocabulary'/'lexis' on one
hand and 'lexicon' on the other. 'Vocabulary' and 'lexis' will
be used interchangeably meaning the complete inventory of the
lexical items.

The term 'lexicon' will be used to mean the speaker's mental
representation of all the semantic, syntactic and phonological
specifications of the lexical items in a language. Items listed
in the lexicon are referred to as lexical entries.

1.2.3 <u>Form</u>

In talking about the form of words, or their shape, we adopt Crystal's (1980) definition: "the phonological and/or grammatical characterisation as opposed to their meaning or function".

1.2.4 <u>Acquisition and Learning</u>

In this study, the two terms are used interchangeably; both refer to the process by which knowledge is internalised. The rigid distinction between learning as a conscious process and acquisition as a subconscious one is avoided. It is assumed that since all learning is to some extent cognitively controlled the distinction between conscious and subconscious processes, or learning and acquisition, is not one of kind, but of degree.

1.2.5 <u>Second language/Foreign language/L2</u>

The terms are used interchangeably, whether we are talking about learning a language other than the mother tongue in the L2 natural setting, or via formal instruction. The learners are referred to as foreign, or L2 learners.

1.3 <u>Structure of the thesis</u>

The thesis has 9 chapters. Chapters 1, 2 and 3 - Introduction, Literature Survey, the Concept of Synforms - provide the background to the study. Chapters 4, 5, 6 - Preliminary Study, Design of the Main Study, Results - constitute the empirical part of the thesis. Chapters 7, 8 - Discussion, Implications of the Study -

discuss the findings and relate them to language learning and teaching. Chapter 9 - Conclusion and Suggestions for Further Research - concludes and summarises the study.

Chapter 2 is divided into two parts. Part 1 looks at specific studies investigating various factors which are likely to affect and cause difficulty with which vocabulary is learnt. Part 2 looks in more detail at the investigation of one particular factor - form similarity of words, since it is this similarity that is dealt with throughout the thesis.

Chapter 3 introduces the notion of synforms in vocabulary acquisition. It attempts to provide a model of synformy in terms of general characteristics of synformic similarities and ten specific categories of synforms. It also discusses a possible relation of the study of synforms to language learning and teaching.

Chapter 4 describes an attempt to establish a methodology for the study and to obtain some preliminary information about general trends in synformic confusions.

Chapter 5 states the aims of the main study, in general terms and in the form of null hypotheses; discusses the methodology and its limitations; describes the subjects participating in the tests, the administration of the tests and the organization of the data for computer analysis.

Chapter 6, part 1, explains how the results are presented and what calculations and statistics were carried out to arrive at the results. Part 2 presents the results of the 11 tests in 11 separate sections (1-11) and a comparison of the various tests in section 12.

Chapter 7 discusses the results of the study. It looks at synformy in general as a source of error; at error-provocativeness of individual categories; at the hierarchy of difficulty of synform categories. The chapter also examines the mother tongue effect on synform confusions of the foreign learners.

Chapter 8 examines the implications of the study for our knowledge about the lexicon of the learner's Interlanguage, language learning processes and teaching of vocabulary. With regard to the lexison, the chapter considers the defective representation of lexical items and the organization of the learner's lexicon. In the section on learning processes, evidence is presented for both the L1 restructuring and the creative construction hypotheses. The language pedagogy section deals mainly with the selection, practice and testing of synforms.

Chapter 9 summarizes the main points and findings of the thesis and provides several suggestions for further research in the area of synforms.

The thesis includes six appendices. Appendix 1 a list of synforms; Appendix 2 - sample tests of preliminary study; Appendix 3 - the tests of the main study; Appendix 4 - sample computer printouts of the analysis of the results; Appendix 5 - a selection of synform exercises; Appendix 6 - published papers.

A complete list of references is provided at the end of the thesis.

1.4 <u>List of abbreviations</u>

SLA	– Second Language Acquisition
IL	– Interlanguage
L1	– the learner's native language
L2	– the learner's second/foreign language
FCE	– First Certificate of English
TOEFL	– Test of English as a Foreign Language
ELTS	– English Language Testing Service
ELBA	– English Language Battery
EFL	– English as a Foreign Language
EAP	– English for Academic Purposes
FL	– Foreign Language

Chapter Two

Literature Review

2.1 <u>Why are some words more difficult than others?- some factors</u>
<u>that affect the learning of words</u>

Even though vocabulary is not a closed, rule-governed

system, but an open set, it would, however, be a misconception

to regard the learning of lexis as totally random, lacking

in any consistency. It is true that some words are simply

'picked up' through exposure. Yet the ease with which some words

are learnt and the difficulty inherent in the learning of others;

the excessive use of some types of words and the avoidance of

others; similar lexical deficiencies found in the IL of different

learners - all these suggest that vocabulary acquisition, though

not rule governed behaviour, is nevertheless subject to certain

regularities.

The purpose of the following section, 2.1 is to examine whether

on the basis of the available literature on vocabulary learning

we can detect any regularities in the way learners acquire words.

Specifically, 2.1 will look at some factors which affect the ease

or difficulty with which new words are learnt in the foreign language.

After a brief examination of what is involved in the learning

of a new word, the section will focus on two broad categories

of variables in vocabulary acquisition: intralexical - stemming

from the word itself; interlexical - stemming from the interaction

between the new word and other words familiar to the learner in

his L2 and his L1[1]. Since we are concerned here with regularities the source of which is the lexis itself, we will not discuss any extralexical factors of vocabulary acquisition, important as they may be, such as: learning situation, teaching techniques, the learner's personality and motivation.

2.1.1 What is involved in the learning of a new word

In most linguistic analyses a word is described as a set of properties, or features. Chomsky (1975) defines lexis as a set of dictionary entries, each dictionary entry being a complex of syntactic, phonological and semantic information. Lado (1972) regards a word as a complex of form, meaning and distribution. The form of a word consists of its sound segments, stress, pitch (in tone languages) and also its morphological units. Meaning is classified by Lado, on the basis of the form it attaches to, into: lexical-which attaches to a word as a word; morphological-which attaches to the bound morphemes (e.g. the plural meanings of -s in 'books'); syntactic meaning-attached to the syntactic function of the word; distributional-which refers to the word's geographic, social and stylistic characteristics. Gibson and Levin (1975) define a word as a "complex of features, a composite representation of five classes of information: graphic, phonological, orthographic, semantic and syntactic". (p.194)

1. It is realised that this distinction is somewhat artificial since there is some amount of interaction between intralexical and interlexical factors. For example, what learners find phonologically difficult in a word will depend on the sound system of L1.

According to Lado (1964), knowing a word in speaking means

> "that the forms of the word can be expressed at will
> almost instantaneously when their meaning is available.
> This must be in appropriate sentence structure, sound,
> stress and intonation. .... In listening it means
> that when the expression is heard in context, it will
> recall its meaning almost instantaneously."
>
> (p.118)

This definition could be expended to written language as well. Knowing a word in writing would involve the ability to supply its written form in appropriate sentence structure; in reading, knowing a word would imply the recognition of meaning from its written form.

According to Faerch et al. (1984) knowing a word implies the knowledge of the full meaning potential of the word, the appropriate situations for using the word, its collocational restrictions (how the word can combine with other words) and the relation between the word and other words within a lexical set.

To the knowledge of the above mentioned properties, Richards (1976) adds the following: the degree of probability of encountering the word in speech or print; the underlying form and derivations that can be made from it.

Thus knowing a word would ideally imply a familiarity with all its features as is often the case of an educated native speaker. However, in the case of language learning, knowing may be partial, i.e. the learner may have mastered some of the word's properties but not the others. In fact, the plurality of features to be learnt increase the probability of a word being problematic and therefore only partially learnt, since problems can arise from one or more of the areas.

The rest of 2.1 will examine the factors that contribute
to the problematicity of learning or its absence.   No separate
discussion will be devoted to passive or active vocabulary since
it is not easy to determine when a word is known passively or
actively.   There are words which learners know in the sense of
knowing what they mean in certain contexts, but which it is impossible
to use productively.   Some words can be retrieved only with effort;
some are momentarily inaccessible (the tip-of-the-tongue phenomenon);
others can be expressed at will instantaneously.

> "Rather than make the simplistic opposition between 'active'
> and 'passive' vocabulary, we should think of vocabulary
> knowledge as a continuum between ability to make sense
> of a word and ability to activate the word automatically
> to productive purposes" (Faerch et al. 1984:100)

However, where it is clear that a factor affects comprehension or
production only, it will be stated ~~that~~ this is the case.

2.1.2   Intralexical factors which affect the difficulty of vocabulary learning

Section 2.1.2 will attempt to analyse the intralexical factors
which make some words easier or more difficult to learn than others.
It will focus on the phonological, grammatical and semantic properties
of the word;   on multiplicity of meaning; on register restrictions.
Gibson and Levin's variables of graphics and orthography will
not be discussed.   A word will be considered known even if it
is badly handwritten or misspelled, as long as it is recognizable.

2.1.2.1 Phonological Factors

Research on the phonological factors that affect the difficulty

of vocabulary acquisition has dealt with the following characteristics

of the new word: its pronounceability; its length.

2.1.2.1.1 Pronounceability

Celce-Murcia (1976) describes the simultaneous acquisition

by her daughter Caroline of English and French. Caroline was

exposed to both the English and French equivalents for an object,

but she avoided or refused to say the one that was phonologically

more difficult in terms of her system. She preferred [kutɔ]

to [naif] since [f] was difficult; [boi] to [gaRsõ] since

[R] was also difficult.

Levenston (1979) points out that his own research which involved

adult learners provides support for the hypothesis of avoidance

of phonologically difficult words.

It may be argued that this kind of avoidance does not hinder

the comprehension of such words, only their production. Evidence

to the contrary can be found in Gibson and Levin (1975). They

report a series of experiments on nonsense words - some pronounceable,

some unpronounceable (e.g. 'sland' vs. 'ndasl'). The results

showed that the pronounceable words were perceived more accurately

than the unpronounceable ones. This implies that phonological

regularity is a facilitating factor in comprehension when meaning

is absent. Though the experiments were with nonsense words and

were conducted with English native speakers, the implication for

foreign language learning is quite obvious. Foreign words are

just as meaningless to the FL learner as the nonsense words were in the experiments. The foreign learner will have a better chance to perceive and produce words which follow a familiar phonological pattern and can therefore be easily pronounced.

However, what it is that makes a foreign word pronounceable to a particular learner will be determined by his L1 sound system. Rodgers' study (1969) with English-speaking learners of Russian showed that if the foreign word could be easily pronounced by the learner it had a better chance of being learnt than the one that was difficult to pronounce (e.g. /mgla/- haze').

The ease with which cognates are learnt could be attributed, partially at least, to the ease of their pronunciation. Anderson and Jordan (1928) who investigated the learning and retention of Latin words by English native speakers found that the pairs most easily learnt and retained were words which were almost identical in the two languages (e.g. 'provincia/province').

Stock (1976), on the other hand, found no relationship between difficulty of pronunciation of some Hebrew items and their recall by learners of Hebrew, native speakers of English. But she admits that in her study the factor of pronounceability might have been neutralized by other factors which had more effect on the acquisition of particular words. Therefore, in spite of the apparent non-effect of pronounceability in her study, it is reasonable to conclude on the basis of available evidence that the presence of unfamiliar sounds which makes a word difficult to pronounce makes it also difficult to perceive and produce.

2.1.2.1.2 Length

Intuitively, it would seem that longer words should be more difficult simply because there is more to learn and remember. However, Rodgers (1969) suggests that item length is not a significant variable. In his experiment total syllables per item ratio for most learned and least learned Russian-English word pairs were shown to be approximately the same. But it seems that the factor of length might not *have been* properly isolated in this experiment; it was not shown that the most learned and the least learned word pairs were similar in all other factors except length.

The Bulgarian learners of English of Gerganov and Taseva (1982) memorized more easily one syllable words than two syllable words.

In Stock's study (1976), one syllable Hebrew words had a higher retention rate than those with two syllables. But three syllable words had a higher retention than two syllable ones.

Coles (1982), on the other hand, found that word length had a strong effect on word recognition, at least in its written form. Long words produced more errors in recognition tasks than shorter ones. Even though all the words were supposed to be familiar to the learner, Cole's findings suggest that the longer ones were less well learnt than the shorter ones. Particular problems were evident with learners whose L1 had a non-Roman script.

Phillips (1981) also found that length had a significant influence on learning (he investigated the learning of French words by English speakers), but it decreased with the increase in the learner's proficiency.

It seems reasonable to argue that if the length factor could be properly isolated we might find longer words more difficult to learn than the shorter ones. In a learning situation, however, it is hard to attribute the difficulty of learning a particular word to its length rather than to a variety of factors. It may also be that length becomes significant beyond a certain point, but it remains to be found out what point exactly.

2.1.2.2 Grammatical characteristics of the word

2.1.2.2.1 Part of speech

It is sometimes argued that certain grammatical categories of words are more difficult to learn than others. Phillips (1981) found that nouns were better learnt than verbs or adjectives, but the effect of part of speech decreased with the increase in the learners' proficiency.

Allen and Vallette (1972) claim that adverbs and adverbial expressions are difficult to learn and that even intermediate students confuse 'souvent' with 'surtout'; 'tout de suite' with 'tout d'un coup'.

In an experiment on learning Russian-English pairs of words, Rodgers (1969) found that if the Russian word was a noun or an adjective, this made the pair easier to learn than if the item was a verb or an adverb.

However, in Allen/Vallette's examples above, confusion might have resulted because of phonological similarity of each pair

of adverbs, not because of the category as such.   Examination

of Rodgers' list of the least learnt verbs and adverbs shows that

there might be other difficulties with these words: some verbs

were in their 'perfective' form, some in the 'imperfective';

some in the 'reflexive', some in the 'infinitive', some in the

'past tense'.   All such forms in Russian yield morphological

changes which English speakers might find difficult.   Nouns (the

most learned words), on the other hand, were all in their nominative

case.   Thus the difficulty with learning the verbs, in Rodger's study,

might have resulted from their morphological complexity rather than

from belonging to the category of verbs.

2.1.2.2.2 Inflexional complexity

Features such as irregularity of plurals, gender of inanimate

nouns, noun cases, make an item more difficult to learn than an

item with no such complexity, since the learning load caused by

the multiplicity of forms in greater.   Stock (1976) points out

that among the most conspicuous problems of English speakers learning

Hebrew are mastering the Hebrew verb inflexions (especially the irregular

ones), remembering the inanimate nouns with the correct gender

and other apparent 'illogicalities' like typical feminine noun/adjective

endings for masculine nouns.

2.1.2.2.3 Derivational complexity

Morphology of a word can often serve as a facilitating factor

in the recognition of a new word and its subsequent production.

Thus, the learner's familiarity with the meaning of the suffix '-ship'

and the word 'scholar' will enable him to recognize the meaning

of 'scholarship'. The awareness of ' ante.'and ' pre-'as being

synonymous will make the learner realise that 'prenatal' and 'antenatal'

are identical in meaning.

However, lack of regularity with which morphemes can or cannot

combine to create new meanings or the multiplicity of their meanings

can be a source of difficulty. For example, the learner must learn that

'preview' is correct, but 'anteview' is not; that 'over' in 'overfly' means

'on the top'/'across'; in 'overthrow' it means 'put an end to';

in 'overcook' - too much.

A special case of morphological difficulty in comprehension

is what could be called 'deceptive transparency'. The meaning

of a word might look transparent from its parts which look like

familiar morphemes. For example, in 'outline', 'out' does not

mean 'out of'. Yet students in the experiments of Laufer and

Bensoussan (1982) and Bensoussan and Laufer (1984) interpreted

'outline' as 'out of line'; 'discourse' as 'without direction'

and 'falsities' as 'falling cities'.

2.1.2.3 Semantic features of the word

The identification of semantic features is done through componential

analysis:

> "an approach to the study of Semantics based on the
> assumption that lexical items can be broken up into
> certain component parts, or features, or markers"
> (Lehrer 1974 : 46)

Semantic features are defined as:

> "theoretical constructs which can characterize
> the vocabulary of a language" (Leech 1984:96).

Each lexical item, therefore, can be defined in terms of minimal distinctive features which contrast with other features. This section will examine the literature (limited as it is) on the effect of the features of abstractness, specificity and idiomaticity on the learning difficulty of a word.

2.1.2.3.1 -Abstractness

Allen and Vallette (1972) have argued that an abstract word is more difficult than a concrete word because the former is intrinsically more complex than the latter.

> "Concrete words are the easiest to learn.
> Neither young nor older students have
> trouble in learning numbers, days of the
> week, colours, names of objects and the
> like". (p.114)

And yet Stock (1976) reports that her English speaking learners of Hebrew had more difficulty with learning the two types of 'blue' in Hebrew (kachol/tchelet) than with learning many abstract nouns, apparently due to the lack of distinction between the 'two' colours in English. Teachers of English to Hebrew speakers know that, at the beginning, learners confuse 'Tuesday' with 'Thursday', presumably due to the similarity in length and sound. According to Balhouq (1976), Arab learners of English find difficulty with such apparently 'simple' words as 'cousin', 'aunt', 'uncle', since they do not find 'enough' information in their words (whether the cousin is male or female, whether the aunt or uncle are from the father's or mother's family).

Thus it cannot be claimed that concreteness in itself can assure ease in learning. If all the other features of two words were identical, the concrete one would probably be easier. In the real learning situation, however, many concrete words present a problem.

2.1.2.3.2 Specificity

In their study of lexical simplification, Blum and Levenston (1978) found that foreign learners (and also writers of simplified texts) tended to use words set up as superordinates (general terms) where the majority of the native speakers used co-hyponyms (more specific terms). For example, the learners preferred the Hebrew equivalent of 'put' instead of 'impose'. Blum and Levenston conclude that

> "learners will prefer words which can be generalized
> to use in a large number of contexts. In fact they
> will over-generalize such words, ignoring register
> restrictions and collocational restraints, falsifying
> relationships of hyponymy, synonymy and autonymy" (p.152)

This suggests that foreign learners retain the general items *more* readily than the specific ones. This is not surprising, since the general item covers a larger area of meaning and could therefore fit in a number of contexts. The learner who remembers and uses it runs a smaller risk of making an error than if he were to learn and use the specific item with its restricted area of meaning.

2.1.2.3.3 Idiomaticity

As any teacher of foreign language could attest, idiomatic expressions are much more difficult to understand and learn to

use than their non-idiomatic meaning equivalents.   Thus, 'decide' would be easier than 'make up one's mind'.   Marton (1977) sees the problem of idioms as the biggest obstacle to fluent comprehension in advanced learners.   Also Bensoussan and Laufer (1984) found that idioms were among the principal pitfalls in reading comprehension. Dagut and Laufer (1985) examined the avoidance of phrasal verbs by Hebrew speakers both in free expression and in elicited responses.   They found that Hebrew speakers showed significant preference for one-word verbs where English speakers chose the phrasal verbs, e.g. 'postpone' was preferred to 'put off', 'reprimand' to 'tell off'.   These results are not surprising, since the learning load in the case of idioms is particularly heavy.   Not only is there more than one word to learn, but also there is little or no clue whatsoever as to the meaning of the idiom from the meaning of each individual word that builds it up.

Idiomaticity seems to present a difficulty even when the two languages, L1 and L2 are similar in the use of idiom.   Kellerman (1977) found that Dutch learners of English transferred those Dutch idioms into English which involved core meanings.   If, on the other hand, the idiom involved a more peripheral, metaphorical meaning, the learners assumed it would not transfer.   Even though the idioms Kellerman investigated (with the word 'break') are semantically and formally equivalent in Dutch and English, in his study, there was only a limited facilitating effect of this simarility on learners' performance.

2.1.2.4 Register restrictions

Halliday et al. (1964) define register as "a variety of language distinguished according to use" (p.87).

They mention three parameters of register: field of discourse, i.e. the subject matter under consideration; mode of discourse (spoken/written); style of discourse, which is determined by the relation among the participants.

Foreign learners are very often unaware of the fact that lexical items frequent in one field of discourse or mode of discourse may not be normal in another; that words acceptable when used with some addressees may be out of place with others. Halliday et al. point out that "the choice of items from the wrong register, and the mixing of items from different registers, are among the most frequent mistakes made by non-native speakers of a language" (Halliday et al. 1964:88)

It follows, therefore, that 'neutral' words, which can be used in all registers will be easier to learn; words the use of which is restricted to one register but not the other will be more problematic. The selection of the appropriate lexical item for each register implies that the learner has to familiarize himself with extra-linguistic phenomena such as the socially-defined relationships between individuals in the language community.

2.1.2.5 Multiple meaning

> "The 'ideal' language one might say would be one in which each form had only one meaning, and each meaning was associated with only one form" (Lyons 1968:405).

In practice, however, one form can have several meanings and one meaning can be represented by different forms.[1] One form which represents several meanings can be either a polyseme or a homonym. Polysemy is a property of single lexemes; a polyseme is a lexical item with several meanings related to each other, e.g. 'neck' can be part of the body, or part of a shirt or other garment, or part of a bottle, or narrow strip of land. Homonyms are separate lexical items with distinct meanings unrelated to each other, e.g. 'bank' as a financial institution and 'bank' of a river. But in practice, it is hard to distinguish which meanings are related and which are not and therefore "the problem of distinguishing between homonymy and polysemy is, in principle, insoluble" (Lyons 1981:148).

If lexicographers, let alone language learners, have problems with establishing meaning relatedness, we suggest to regard polysemy and homonymy as one problem in language learning. The learner's task is to learn to discriminate between the different senses of the same form and use the form in its various meanings.

Empirical evidence is available to illustrate the difficulty learners have with polysemy and homonymy. As for meaning discrimination, Bensoussan and Laufer (1984) found, in their study of lexical guessing, that polysemes induced the largest number of errors in comprehension of words. Learners who were familiar with one of the meanings of a polyseme/homonym did not abandon this meaning even though it did not make any sense in context. For example, 'since' in

1. The latter phenomenon, synonymy, will be discussed in 2.1.3.2.2 in the context of meaning relations between L2 words.

the sense of 'because' was often interpreted as 'from the time when'; 'yet' and 'still' meaning 'but' - as 'until now'; 'course' (duration) - as 'dish'; 'state' (situation) - as 'country'.

In production, there is evidence for the avoidance of what Levenston (1979) calls 'unreasonable polysemy'. He quotes Kantor's (1978) study which shows that English speaking learners of Hebrew acquire one meaning of the polyseme, but cannot bring themselves to use it in its other meanings. For example, there is a Hebrew verb 'lidchot' which means 'postpone' *which learners avoid* since "It just does not seem reasonable that one word can have two such incompatible meanings, and even lead - with objects like 'the proposed meeting' - to most unfortunate ambiguities" (Levenston 1979:152). Similarly, Levenston's own students, Hebrew speaking learners of English, preferred the sentence "When Labour party was in government" or "When Labour party was in power" to "When Labour party was in office". Levenston argues that this was probably due to the fact that it did not seem reasonable that one word 'office' could mean 'place where one does his administrative work' and 'power'.

2.1.2.6 Summary

Section 2.1.2 examined several features inherent in the word itself which might affect the ease or difficulty with which the word is learnt. These were the following: phonological: pronounceability and length; grammatical: part of speech, inflexional and derivational complexity; semantic: abstractness, specificity, idiomaticity; register restrictions: multiplicity of meaning.

Most of the evidence presented in the section suggests that, except in the case of length and part of speech, the above mentioned factors seem to affect the ease/difficulty of learning the word.

Helpful though this information may be to our understanding of the acquisition of vocabulary, it has its limitations. The empirical studies reviewed in this section investigated the effect of isolated features of the word: the effect of length, of abstractness, etc. It would be interesting and useful to investigate how these features affect the learning difficulty when they interact with each other in different ways. For example, are specific words with easy pronunciation easier or more difficult to learn than general words with difficult pronunciation? To my knowledge, no such studies seem to have been carried out yet.

2.1.3 Interlexical factors affecting the learning of words

When a new word is acquired it is incorporated into the total inventory of words stored in the learner's mind. Most work on the lexicon of bilinguals (memory experiments and semantic experiments) suggest that bilinguals, or multilinguals, store the words in the different languages together in one lexicon and not separately, i.e. words in language 'a' - in lexicon 'a', words in language 'b' - in lexicon 'b'. (For a review of studies on bilingual lexicon, see Meara 1980; also for summary see Hatch 1983).

As for the organization of the lexicon, the main principle seems to be semantic. Words are classified into semantic categories first; then each category is subdivided into a set of L1 and L2 words. In addition to the semantic principle of organization,

there is also a phonological one.   Words are organized into phonological

networks in such a way that a word which resembles another word

most in sound is its nearest neighbour in the lexicon.

It follows from the above that each learnt word will interact

with other words in the lexicon on the basis of semantic and phonological

principles.   And since words in L1 and L2 are stored together

in one lexicon, the learnt words will interact with the semantically

and phonologically related words both in L1 and L2.

Section 2.1.3.1 will discuss how the difficulty of vocabulary

acquisition is affected by the relationship of the word to other

words in the learner's L1;   2.1.3.2 will discuss how it is affected

by the relationship of the learnt word to other words the learner

knows in L2.

The first part of 2.1.3.1 will deal with words similar in

form in L1 and L2;   the second part - with words different in form.

The discussion will focus not on the difference in form as such

but on the difference in the way L1 and L2 classify meaning.

2.1.3.2 will first examine the effect of the meaning relationships

of the word with other words in L2 (hyponymy, antonymy, converseness

and synonymy);   then the effect of its form similarity to other

words in L2.

2.1.3.1   Relating L2 words to L1 words - the effect on learning
          difficulty

2.1.3.1.1   Similarity of form to L1 words

L2 words which are similar in form to words in the learner's

L1 may belong to one of the two categories: i.   cognates - (words

similar both in form and in meaning in the same context, e.g.'liberty'
and 'liberté'; ii. false or deceptive cognates - words similar
in form but different in meaning, e.g. 'asistir' in Spanish is
not 'to assist' but 'to attend'. The more similar a foreign word
is in its form and meaning to the L1, the easier it is to learn.
Anderson and Jordan (1928) studied learning and retention of three
types of Latin words: 'identical' words similar in form and in
meaning to English (provincia/province)[1]; 'associative' - words

> "whose English and Latin sounds are dissimilar but
> for which there are derivative English words closely
> associated to the Latin word in sound (and meaning)"
> (p.486)

(lingua/language/bilingual); 'non-associative' words - words different
in sound in the two languages. They found that the 'identical'
words were learnt and retained better than the 'associative' and the
'non-associative' ones; and the 'associative' better than the 'non-
associative'.

The difficulty in learning cognates might lie in learning
the proper frequency of their use and the register restrictions
imposed on them. Balhouq (1976) points out that English speakers and
learners of French are likely to use 'excusez-moi' and 'certainment'
too frequently (rather than 'pardon' and 'bien sûr') because of
the high frequency of 'excuse me' and 'certainly' in English.

The ease with which cognates are acquired accounts for their
overuse in inappropriate registers. Among my own students of
English, the native speakers of Spanish would use 'approximately'
instead of 'about', 'more or less' in everyday conversation, to
the amazement of their Hebrew speaking class-mates. The French

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1. 'Identity' and 'similarity' of sound seem to be relative notions.
I would rather describe words like 'provincia/province' as closely
similar, since identity implies the sameness of the words' phonemes
and stress pattern.

speaking learner of English might prefer 'commence' ('commencer' in French) to 'start' or 'begin', even though 'commence' is not appropriate in the spoken language.

In spite of these minor difficulties, cognates constitute the lowest difficulty group in vocabulary learning.

The false cognates, on the other hand, "constitute a special group very high on a scale of difficulty ... They are sure fire-traps" (Lado 1964:283). This tendency of the learner, to associate similarity of form with similarity in meaning in L1 and L2, has been particularly noticed with speakers of related languages to the L2. Ringbom (1982) analysed the lexical production errors in English made by Swedes and Finns, who knew Swedish as well, and found that the highest number of errors in both groups of learners were false cognates transferred from Swedish into English, not from Finnish in the case of Finns.

In their study of lexical guessing in context, Bensoussan and Laufer (1984) found that false cognates were among the most difficult categories of words to recognize for meaning.

Thus, form similarity to L1 as such does not ensure easy learning of the new word. The ease results from identity or close similarity in both form and meaning as in the case of cognates, and from similarity in the derivation of the words in the two languages, as was shown with the associative words.

2.1.3.1.2 Non-isomorphism of meaning in L1 and L2

a. Meaning relations between words in L1 and L2

It is a naive but common assumption that all languages have
vocabulary systems in which words differ in their form but refer
to reality in the same way.   That is to say, each word in one
language has an exact equivalent in another language since 'words'
are labels for 'things'.

Languages do share lexical common ground (just as they share
phonological and syntactic features).   Without such common ground,
resulting from universality of human experience, the teaching and
learning of foreign languages would be impossible.   Yet different
language speaking communities classify some areas of experience
in different ways and words play a significant part in this
classification.

From this it follows that the more similar the classification
is in the two languages, the easier it will be to learn the words
that take part in it.   For example, the English 'window', the
French 'fenêtre' and the Hebrew 'chalon' refer to the same concept,
while the English 'home' is not the same as the French 'maison'
or the Hebrew 'bait'.   Thus the meaning of 'home' is more difficult
to learn than that of 'window' for both the French and   Hebrew-
speaking learners, since its referent (the concept it refers to)
is not coded in the lexicon of French and Hebrew.

Lado (1972) discusses seven patterns of difficulty in vocabulary:
i. cognates (easy); ii. false cognates (difficult); iii. words
similar in meaning but different in form (normal difficulty) where

the learner's burden is chiefly that of learning a new form, not
a new meaning; iv. words that have 'strange' meaning e.g. first
floor in American English means number one at ground level while
'primer piso' in Spanish is number one above ground level (difficult);
v. new form types or idioms, e.g. phrasal verbs (difficult); vi.
words that have different connotations in the two languages e.g.
'grueso' - 'fat' is a compliment in Spain, but not in England (difficult);
vii. geographically restricted words, e.g. 'petrol' in Britain
vs. 'gasoline' in the U.S. (difficult).

Lado's patterns i and ii address the issue of similarity of form
with or without similarity in meaning, respectively. Pattern
iii. refers to the cases where the two languages classify meaning
in the same way so that the only learning burden is learning a
new form for a familiar meaning. Pattern vi. includes words which
reflect cultural differences; vii. demonstrates the case of language
varieties; v. - unfamiliar way of coding the meaning. Pattern
iv. seems to represent perhaps the most common phenomenon: different
ways of classifying meaning in different languages, or incongruencies
in lexical gridding.

b. Incongruencies in lexical gridding

i. One-to-many correspondence

Dagut (1977) provides a classification of semantic differences
between languages into cases of divergence and convergence.
Convergence (with regard to L2) refers to a situation in which
several words in L1 are equivalent to one word in L2, e.g. 'af'
in Hebrew - 'to fly with the aid of wings', while 'tas' - 'to fly

with the aid of a machine' are represented in English by one word
only 'fly'.   Divergence refers to a situation where one word in
L1 may be represented by several words in L2, e.g. the Hebrew word
'lehazmin' which, in English, might mean 'order', 'book', 'invite'.
The two phenomena (convergence and divergence) are described by
Dagut (1977) as incongruencies in lexical 'gridding' of two languages,
different ways of 'mapping' the experience in each language.

Convergence might be problematic for the foreign listener
or reader since he has to decide which of the possible meanings
of the word is presented in the text, or the spoken discourse.
Divergence poses a problem in speaking and writing, since the learner
must learn and retain several alternatives for one word in his
L1 and be able to select, when necessary, a narrower lexical grid
vis à vis his mother tongue.

ii. Partial overlap in meaning

In all Dagut's examples there is a one-to-many relationship
between the two languages.   However, contrastive lexical statement
is not always so simple.   A particular word in one language may
cover only part of the uses of the word in the other language,
but each of them will also have other uses of its own.   To use
the grid analogy, the difference between such words can be expressed
as follows: if we place one grid directly on top of the other
grid, the holes do not coincide.   The following diagrams (Levenston
1970) illustrate the relationship between the uses of three words,
Hebrew words and their most common equivalents in English.
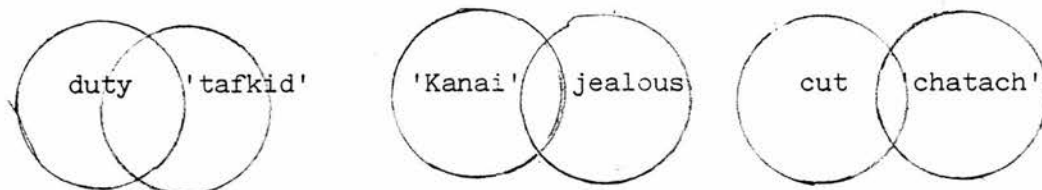
In the left grid, 'duty' can be translated by 'tafkid' in the following
sentence, for example: 'His duties included typing and filing
documents'. But 'duty' is the equivalent of 'chova' in Hebrew
if it is in the following sentence: 'It is the children's duty
to take care of old parents'. 'Tafkid', on the other hand which
is 'duty' can also mean 'function'. If an English native speaker
were to translate into Hebrew 'The function of this part is to
ignite the engine', 'function' would be translated by 'tafkid',
just as 'duty' would.

Such cases, of partial overlap in meaning, combine the difficulties
of the convergence and the divergence phenomena. When 'duty'
is encountered in speech or writing, the learner has to decide
'which' duty it is: 'tafkid' or 'chova'. When he wants to use
the equivalent of 'tafkid', he has to choose between 'duty' and
'function'.

The amount of overlap in the diagrams, and the relative size
of the circles will vary according to the degree of translation-
equivalence and the range of uses of each particular word.

iii. Metaphorical extension

A particular instance of incongruencies in lexical gridding
is the difference languages exhibit in the metaphorical extension.
Hebrew extends the use of 'gadol' (large) which can refer merely
to physical size to cover value judgement referred to by 'great'

in English.   Hebrew extends the term 'charif' from the meaning
equivalent of 'hot' or 'piquant' - to mental processes which in
English can only be described as 'subtle'.   To give an example
of a reverse situation, 'dull' in English may refer to a blade,
a colour, a pain, a book or an intellect.   In all these instances
Hebrew would use different terms (kehe, koder, amum, meshaamem,
kshe-tfisa), respectively.

The correct use of metaphor when L1 and L2 differ would indicate
an advanced stage in language learning since it would mean that
the learner has overcome a considerable difficulty in vocabulary. ·

iv.   Some empirical evidence for learning difficulty

Studies in lexical errors support the prediction of Contrastive
Analysis that the various cases of incongruencies in lexical gridding
between L1 and L2 will result in difficulty in learning and consequently
in error, underdifferentiation, or avoidance.   In Duškova's (1969)
collection of errors, out of a total of 233 lexical errors, 54
on the production level were in cases where a Czech word had two
or more equivalents in English;   on reception level, 62 errors
were noticed in cases where English words had several Czech equivalents.
Ringbom's (1982) error analysis also contains such errors called
by Ringbom extension of semantic range, where learners extended
the meaning of some English words by establishing a one-to-one
equivalence with the words in their L1.   For example, the error 'He bit
himself in the language' stemmed from equating the Finnish 'kieli'
(tongue and language) with 'language'; 'a difficult language' resulted
from equating the Swedish 'svar' (serious and difficult) with 'difficult'.

Macaulay (1966) provides some examples of underdifferentiations Spanish speakers make when speaking English. In such cases the end product is not an error but a failure to choose the word which will specify all the necessary semantic features. For example, the Spanish 'discutir' covers the features of the English 'discuss' and 'argue'. By choosing 'discuss' instead of 'argue' the Spanish speaker will have not specified the features inherent in 'argue' of confrontation and possible violence.

Myint Su (1971) analysed errors of Burmese learners of English in ten lexical sets. Many errors in her study exhibit non-discrimination by the learner between items which have fewer meaning equivalents in Burmese. For example, the Burmese word 'pyo' can mean: ask, talk, speak, say. This might have resulted in the following errors:

Listen what the teacher speaks.

They talk that they get a new car.

My mother talks me to try for examination. (p.162)

The lexical set of /lend/borrow/hire/rent/let/ has two Burmese equivalents: 'hoi' meaning either 'lend' or 'borrow', and 'hgna' which can mean any of the 5 English words above. This non-isomorphism can explain the following errors:

He lends the book from his friend.

I will borrow my bicycle to your father.

Landowners hire their wide lands to the poor. (p.175, 177, 180)

In Myint Su's study there is also evidence for underdifferentiation. In each of the following examples a certain semantic element is not realised.

Correct term	term used by the learner	element not realised
pay	salary	currency
salary	wages	skill: non-manual; at intervals not less than a month
wages	salary	skill: manual; service: casual at intervals: week or less
group	crowd	small number
pay	give	monetary bidirectionality

(p.313, 314)

c. Cultural differences

i. Different connotative meaning

Many foreign words which appear to have an equivalent basic meaning in the learner's L1 are nevertheless different because of their different connotations. Lado (1972) mentions 'fat' as an example of a word which has a favourable connotation in Spanish but unfavourable in English. Balhouq (1976) points out that, in a Muslim Arabic speaking context, a 'pub' is not a place where people meet socially for a friendly drink, but a place where people sin against God and morality. Words like 'holocaust', 'concentration' (even without 'camp'), 'diaspora' have a particularly strong emotive value when translated into Hebrew.

Words may be difficult for a learner if they have harmless connotation in L1, but are offensive or taboo in L2, or vice versa; if they are emotionally neutral in L1 but have affective connotation in L2, or vice versa. The tendency of the learner will be to transfer the L1 connotation into L2. If the word is neutral in L1 the learner may use it in L2 without realizing its effect.

If neutral in L2 but not in L1, the learner may avoid using it for fear of creating the same reaction it produces in L1.

ii. Lexical voids

Differences in culture may be reflected in the existence of items in one language but not the other. In other words, an item in L1 may be a void in L2, or vice versa.[1] Macaulay (1966) points out that Spanish does not have common equivalents for 'fussy', 'fidget', 'grudge'. Many foreigners find it difficult to grasp the distinction between 'tea' (as a meal), 'dinner', 'supper' unless they are familiar with the British eating schedule.[2] A Hebrew speaker, for example, can see the 'need' for one term only. Another fairly known instance of voids is the multiplicity of terms the Eskimo language has for 'snow'.

Learning foreign words which are voids in the learner's L1 is one of the most difficult tasks since a new concept has to be created along with the new language habit.

d. Different collocations

Knowing a word implies the knowledge of the possible combinations into which a given item can enter. Such combinations are called collocations. Collocations are problematic when their meaning is apparent at first glance but their constituent elements cannot be given their translation equivalents. For example, in Hebrew

1. It is realised that not all lexical voids can be explained in terms of different cultures, like 'weed', which is a void in Hebrew.

2. I can recall being addressed by a flatmate at about 6 p.m. who asked me "Are you going to make tea?"   "No, coffee" I said.

one 'brings' examples, not 'gives' them; the Hebrew speakers 'stand
in front of' a problem, while the English 'face' them; Israeli
university students get 'high' education, the British - 'higher'
education; Hebrew-speaking psychiatrists help their patients to
'solve' dreams rather than 'interpret' them.

Balhouq (1976) lists a number of collocation errors common with Arabic
speaking learners of English;   The lead us to visit the village

We made a party

I made an operation

I saw a car running fast

Failures to observe collocational restrictions may not necessarily
result in error, but in odd expressions.   An English speaker often
asks for 'café noir' in France, even though 'cafe' is always black,
unlike 'coffee' which can be black or white.   A speaker of Arabic
or Hebrew would ask for 'coffee with milk' in England rather than
'white coffee'.

Collocational difference between language is a well-recognized
difficulty factor, even with advanced learners (Brown 1974).   However,
since the meaning of most collocations is transparent, the problem
occurs mostly on the production level.

2.1.3.1.3 Relating L2 words to L1 words - summary

Section 2.1.3 examined several factors affecting the ease or
difficulty of vocabulary learning, factors which stem from the relation
between the words being learnt in L2 and words in the learner's L1.

Except in the case of form and meaning similarity (the case
of cognates), all the factors discussed in this section were shown
to be difficulty inducing.

Incongruencies in lexical gridding, whether in the form
of one-to-many correspondence, partial overlap in meaning, or metaphorical
extension; cultural differences as expressed in different connotative
meaning and lexical voids; collocational differences; similarity
in form with differences in meaning (the case of false cognates) - all
these factors contribute to the difficulty in the learning of new
words.

The examples of errors in the section were quoted in order
to demonstrate all the above difficulties in actual language performance.

What is clear from the discussion and the examples of errors,
is that the learner relates the new items in L2 to concepts and
meanings acquired in his L1 and not, as some advocates of the Direct
Method of teaching would claim, directly to objects and concepts
in the outside world. The world and the world view have already
been structured by the distinctions L1 has made. Therefore the
learner "will have psychological difficulty in adopting the different
'world view' embodied in the lexical segmentation of the foreign
languiage" (Dagut 1977:244). And since, in the learner's view,
objects and concepts in the outside world are supposed to be the
same whatever language one uses, learners will establish translation
links between the words in the two vocabularies regardless of the
actual correspondence, or non-correspondence between the two systems.
And

> "the greater the difference between the systems, i.e.
> the more numerous the mutually exclusive forms and
> patterns in each, the greater the learning problem
> and the potential area of interference"

(Weinreich 1953: 1)

2.1.3.2 Relating L2 words to familiar L2 words - the effect on learning difficulty

2.1.3.2.1 Meaningfulness and meaning relations

Psychologists assume that, in general, material is difficult
to learn if it has no relation, association or similarity to any
material already learnt   (Higa 1972).   In verbal learning, association
with previous material refers to the various relationships between
the new word learned and already familiar words in L1 or L2, in
meaning or in sound.   The more such relations   the learner can see,
the more 'meaningful' the word decomes to him.   'Meaningfulness'
was defined by Noble (1952) as the mean frequency of continued associations
in 60 seconds.   In studies with nonsense syllables it was found
that the higher the meaningfulness, the faster the item was learnt
(Noble and McNealy 1957).

It would follow, therefore, that the acquisition of a new word
can be facilitated by the various relationships the learner can
make between the word and other familiar words.   The various relationships
with L1 words were discussed in section 2.1.3.1.   As for the main
types of meaning relationships between words in L2, these are:
hyponymy (or inclusion), e.g. 'cat' is a hyponym of 'animal';   antonymy
(or oppositness) e.g. 'old' and 'young';   converseness, e.g. 'parent'
and 'child'; 'borrow' and 'lend';   synonymy (or near equivalence),
e.g. 'freedom' and 'liberty'.

Foreign language methodologists have urged the teacher to make use of these relations in order to increase the meaningfulness of the new item and to make learning easier this way.

> "Psychologically, the associations of words help us to remember them" (Mackey 1965:209)
>
> "The association of contrasts should be played upon constantly" (Mallinson 1961:85).

The belief in the facilitating effect of the meaning is reflected in the teaching materials which are notion/function/situation oriented. Since each unit in such materials is constructed around a subject-matter, the learner will encounter new words side by side with familiar words which are semantically related to it.[1]

2.1.3.2.2 Synonymy[2]

Meaning relation as a facilitating factor does not seem to apply to the case of synonymy. Since the function of words is to express meaning, learning a multiplicity of forms for one meaning creates an unnecessary load, at least for the non-advanced learner. There is empirical evidence, albeit implied, in Linnarud (1983) that foreign learners do not acquire synonyms easily. In her study of the lexical richness of Swedish students' compositions after 8-9 years of English in school, Linnarud analysed, among other factors, lexical variation, i.e. the ratio between number of word types and number of word tokens (a type-token ratio for a text is a measure

1. It should be noted, however, that learning semantically related new words is not necessarily easier than learning unrelated words (Higa 1963). Here we are concerned with the relation of a new word to already familiar ones.

2. In Semantics, synonyms are only those words "which can replace each other in any given context, without the slightest alteration in cognitive or sensitive import" (Ullman 1957:108-109). For L2 teaching, however, synonymy can be considered as partial equivalence - interchangeability of lexical items in some, but not necessarily all contexts, e.g. 'achieve', 'accomplish', 'attain'.

of how frequently the learner makes use of one and the same word type). There was a large difference in variation of vocabulary between the Swedish learners and native speakers of the same age, which means that the Swedish learners repeated themselves in the compositions since they were unable to describe the same thing with different words. If the same words were used all over, this implies that the learners did not have adequate knowledge of synonyms. Once a form for a meaning has been acquired, another form for the same meaning will appear superfluous and will therefore be learnt with more difficulty.

Learning synonyms is further complicated by the fact that some items are synonymous in some contexts, but not in others, e.g. an argument can be 'strong' or 'powerful', but tea can be only 'strong', and an engine 'powerful'; a 'strong' man is not necessarily a 'powerful' man. If the learner has acquired two items as synonymous in one context, he may generalise their use into other contexts where they are not synonymous.

2.1.3.2.3 <u>Relating L2 words to similar. sounding L2 words</u>

If all the associations of the new word could increase its meaningfulness and therefore facilitate its learning, then similarity of sound between it and the already familiar L2 words would be an advantage since it would increase the number of associations. This belief is apparently held by some proponents of the 'key word method' for facilitating vocabulary learning, for example Raugh and Atkinson (1975). In the first stage of this method the learner is provided with an acoustic association to the new word. This

association (the key word) may be a word of a similar sound in L1 or in L2. In the second stage, the learner is required to form a mental image of the key word interacting with the translation of the new words in L1 (for a survey of mneumonic devices see Cohen and Aphek 1980 and Meara 1980). It should be noted, however, that the other mnemonic devices either provide a non-acoustic link, e.g. the 'hook' method described by Pavio and Desrochers (1974), or encourage the learner to create his own association (Cohen and Aphek 1980).

Thus, acoustic links to L2 words have not been the only mnemonic technique; therefore, the results of these studies cannot be taken as evidence for a facilitating effect the sound association with L2 words can have on the learning of new words.

But there is empirical evidence that sound similar to other words in L2 is not a facilitating factor, but an interfering one.

Henning (1973) found that, on a vocabulary recognition test, learners, particularly of lower proficiency, chose acoustically associated distractors more than distractors associated semantically with the correct recognition response, or distractors which bore no association with it. This indicates that the learners were experiencing acoustic encoding interference.

Meara (1978) found that some associations of learners of French indicated that the stimulus word was confused with a similarly sounding word. For example, the stimulus 'béton' elicited 'animal', which shows that 'béton' was confused with 'bête'. The implication of Henning's and Meara's studies is therefore that in learning a

new word, the foreign learner might experience sound interference
from an already known word, which would make the new word more difficult
to retain in its correct form.   This, in turn, might lead to confusion
of similar words both in recognition and in production.

Duškova's (1969) lexical corpus of errors made by English learners,
native speakers of Czech, includes pairs like: case/cause, incline/
decline, depth/death, etc.

Myint Su (1971) noticed that her Burmese students learning
English confused pairs like: watching/washing, injure/endure, joy/
join, etc.   Stock (1976) observed a similar phenomenon with learners
of Hebrew who confused kar/kal (cold/light), poteax/pogesh (open/
meet), levakesh/levaker (ask/visit), maxar/maher (tomorrow/quickly), etc.

In a series of studies (Laufer, 1981; Laufer and Bensoussan,
1982; Laufer and Sim 1983; Bensoussan and Laufer, 1984; Laufer
and Sim, forthcoming 1985) it was found that similarly sounding
words -then referred to as synophones - presented a problem even
at the advanced level of reading comprehension.   Interviews revealed
that students were not aware of the fact that they were reading
unknown words since they associated them with similarly sounding
words which were familiar to them (e.g. comprehensive/comprehensible;
cancel/conceal; assume/consume).

Clearly then, sound similarity between words in L2 would be
an asset only if the similar words were also related in terms of
meanings.   Otherwise sound similarity might interfere with learning,
particularly if the learner is unaware of the fact that there is
a new word to learn.

2.1.3.2.4 <u>Relating L2 words to L2 words - summary</u>

Section 2.1.3.2 discussed how the meaning and sound relationship between new words and already familiar ones in L2 can affect the difficulty of the acquisition of the new words.

It was argued that creating associations between the new word and its superordinate, antonym, or converse may increase its meaningfulness and therefore facilitate its learning. The relation of synonymy, on the other hand, was argued to be difficulty inducing due to a special learning load of learning several forms for one meaning and the synonymy of some words in one context but not in others.

Sound similarity between the new word and the familiar ones was shown to be a factor of difficulty.

2.1.3 <u>General summary</u>

Section 2.1 attempted to classify, discuss and illustrate intralexical and interlexical factors which can make some words more difficult to learn than others. As far as possible, empirical evidence was presented to support the claims that were made. However, since not all areas have been researched yet, some of the arguments in the section drew on non-empirical literature and my own teaching experience. By way of summary, the following table outlines the various factors discussed in the section and their effect on the learning of words.

Table 2.1

Intralexical and interlexical factors

which affect vocabulary learning

Facilitating factors	Difficulty inducing factors	Non-effective factors
unproblematic pronunciation	difficult pronunciation (presence of foreign sounds)	
		word length
inflexional regularity	inflexional complexity	
derivational regularity	derivational complexity	
morphological transparency	deceptive morphological transparency	
		part of speech
generality	specificity	
nonidiomaticity	idiomaticity	
		concreteness/ abstractness
one form representing one meaning	one form representing several meanings (polysemy/homonymy)	
register neutrality	register restrictions	

	Inerlexical	
similarity to L1 in form and meaning	similarity to L1 in form with difference in meaning	
overlap in semantic grids between the word in L1 and L2	incongruencies in gridding: one-to-many correspondence partial overlap in meaning metaphorical extention	
similar connotation	different connotation	
	lexical void	
similar collocation	different collocation	
meaning relation : hyponymy, antonomy, converseness	meaning relation : synonymy	
	similarity in sound to other words in L2	

2.2 Lexical similarity and lexical disruptions

Section 2.2 will examine the effect of lexical form similarity in a language on verbal performance of native speakers and foreign learners.

In the preceding section, it was shown that words similar to each other like 'conceal/cancel', 'comprehensive/comprehensible' were confused by the foreign learners. Since errors are considered symptomatic of learning difficulty, the above type of similarity between words was taken to be a factor of difficulty in vocabulary learning.

As will be shown in 2.2.1, native speakers have also been observed to confuse similar words. Most of their disruptions do not result from ignorance of the confused words but are mere lapses in performance. Section 2.2.1 will examine the literature on these disruptions. On the basis of the studies, we will try to understand what it is about the similarity between words that leads to their confusion, whether there is any systematicity in the lexical disruptions of native speakers.

Even though our main concern in this thesis is with the vocabulary of foreign learners, it is believed that insights provided by studies of native speakers can sometimes illuminate certain aspects of foreign language acquisition. It seems also the case that vocabulary studies of foreign learners which deal with confusing similar words are very few and cannot supply the kind of information necessary for an adequate analysis of such disruptions. It is not surprising therefore that the largest part of 2.2 will be devoted to the literature on native speakers.

2.2 Lexical form and lexical disruptions of native speakers

2.2.1.1 Introduction

Similarity in word shape as a factor of interference has aroused interest particularly in the case of native speaker performance. The areas that have been mainly investigated are the TOT (tip-of-the-tongue) phenomenon, i.e. the difficulty in lexical retrieval; slips of the ear, i.e. the errors in speech perception and slips of the tongue, i.e. the errors in speech production. These phenomena are characteristic of normal native speakers. Investigations have also been carried out of errors made by people suffering from aphasia[1] and many of these are reported to be found similar to the slips of the normal native speakers.

There are some differences between the TOT phenomenon, slips of the ear and slips of the tongue since lexical retrieval, perception and production are different activities. There are also some differences between the data of the normals and the aphasiacs. However, all these various lexical disruptions exhibit certain similarities in terms of the following characteristics: type of error-word produced; the language unit participating in the error; similarity prerequisites of the intended and the produced words for the confusions; modes of slips; rules of lexical disruptions. The rest of section 2.2.1 will introduce the various lexical disruptions and will describe their common characteristics, with specific reference to the shape similarity between the confused pairs or groups of words.

1. Loss or impairment of the power to use words usually resulting from a brain lesion.

2.2.1.2 <u>Definitions and examples</u>

2.2.1.2.1 <u>TOT phenomenon</u>

The TOT (tip-of-the-tongue) phenomenon is the experience of searching of some word or name that is 'on the tip of the tongue' but cannot be recalled. Carrol (1969) reports that he was trying to recall the word 'contagious' but could only remember 'incongruous', 'contextual', 'infectious', but not the word he was looking for. Roger Brown conducted an experiment where the subjects were asked to write down words referred to by Brown's definitions which he read out.   There were instances in which a TOT phenomenon was signaled. The subjects searched for a familiar word which they could not recall at the given moment   (Brown 1970).

2.2.1.2.2 <u>Slips of the tongue</u>

A slip of the tongue is "an involuntary deviation in performance from the speaker's current phonological, grammatical, or lexical intention" (Boomer and Laver, 1968).   It is not an error which is due to faulty movements of the articulation or to faulty word knowledge (Nooteboom, 1969).   The slips of the tongue can occur both within words and across word boundaries.   Some of the examples quoted by Ellis (1980) of within-word slips are confusions between 'signal/single', 'confession/convention', 'suburbs/subways', 'finger/toe', 'Japanese/Chinese'[1].   Some examples of slips across word boundaries quoted in Fromkin (1973) are: 'torn the kerner' instead of 'turn the corner', 'odd hack' instead of 'ad hoc', 'flesh queer water' instead of 'fresh clear water'.

1.   The last two examples differ from the first three in that the confused words are related in meaning, not in sound.

Since some slips can result in laughter, speakers and writers
have also used them intentionally.   There are many spoonerisms
(involuntary reversals in the serial order of speech which was attributed
to a man named Spooner[1])which though attributed to unintentional
slip, were probably invented for comic purposes.   Fromkin (1973)
quotes a famous example: 'You have hissed all my mystery lectures.
I saw you fight a liar in the back squad;   in fact, you have tasted
a whole worm'.

Malapropisms are usually considered as a kind of a slip, since
they are involuntary deviations from the speaker's intention.
However, a distinction can be made between the two.   Slips could
be considered as lapses, errors in performance, since the speaker
is usually aware of the slip he made and can correct himself.
A malapropism is an error of which the speaker is unaware, i.e.
which is due to faulty knowledge of the language.   Some malapropisms
quoted in Garnes and Bond (1980) are: 'Allegory on the banks of
the Nile';   'they've had several conflictions with the symphony
and the Scandinavian Club';   'that's my analogy (analysis) of the
situation'.

Speech error data (slips of the tongue) were studied by Freud
(1929) to gain insight into psychological repressions.   According
to him, when an impecunious patient told her doctor not to give
her big 'bills' instead of 'pills', the slip revealed her hidden
fear of not being able to pay the doctor's bill.   Forgetting, according
to Freud, and therefore presumably the TOT phenomenon, where the
necessary word has been forgotten, occurs when we unconsciously wish
to forget a particular thing or event.   An error would not happen

1.   Rev. W.A. Spooner (1844-1930), Warden of   New College, Oxford.

"on all those occasions in which a person is heart and soul engaged"
(Freud. 1929 : 78 in Fromkin 1973).

Fascinating as the theory of the 'Freudian errors' might be,
most linguists agree that the "mechanics of slips (and the TOT phenomenon)
can be studied linguistically without reference to their motivation"
(Boomer and Laver. 1968).

2.2.1.2.3 Speech errors of the aphasiacs

According to Buckingham (1980), many kinds of aphasic errors
demonstrate precisely what slips in normals do. However, they
are not unintentional lapses since they result from linguistic
disorganization. They are rarely noticed by the speaker and therefore
remain uncorrected (Söderpalm 1980). Yet we could hardly consider
them as malapropisms; the latter bear phonological resemblance
to the target word while the aphastic errors may also involve similarity
of semantic features. Some of the aphastic errors quoted by
Buckingham (1980) are: confusions of 'husband/wife', 'nose/ear',
'golos / kolos' ('voice/ear of corn'- in Russian), 'metla / metal'
('broom/metal' - Russian).

2.2.1.2.4 Slips of the ear

Slips of the ear are the listener's misperceptions of individual
words or strings of words uttered by the interlocutor. With regard
to adult native speakers, the lapses in perception are not due to
ignorance of the words uttered, but are accidental. The slips
can occur within a word, e.g. 'simple/sinful', 'Fudge/French" (Browman
1980); 'Jewry/jewelry', 'free elections/flee elections' (Garnes

and Bond 1980); or they can occur across word boundaries, e.g. 'herb and spice shop/urban spice shop', 'descriptive/the script of', 'ice tea made/nice team mate' (Garnes and Bond 1980).

In the case of children, however, the misperception can be due to the ignorance of a particular word or topic under discussion. Garnes and Bond (1980) quote the following examples of children's misperceptions: 'the acts of God' perceived as 'the axe of God'; 'of thee I sing' as 'of thee icing', 'gladly thy cross I'd bear' as 'gladly, the cross-eyed bear', 'round yon Virgin' as 'round-eyed Virgin'.

2.2.1.3 The common characteristics of various lexical disruptions

2.2.1.3.1 Types of errors produced

With regard to the actual utterance produced by the speaker or perceived by the hearer, Laver (1973) distinguishes between two sorts of errors that distort accurate communication. One type of errors results in a form not found in the language. His example is 'he didn't bother me in the sleast', 'sleast' being a combination of 'slightest' and 'least'. Fromkin (1973) lists several hundred slips among which there are plenty non-words, e.g. 'relevation' instead of 'revelation', 'bagnificant sights' instead of magnificent sights', etc.

The second sort includes errors which give linguistically permissible results, but which are semantically inappropriate for communicating the speaker's idea, e.g. 'our queer old dean' instead of 'our dear old queen'. Such errors are more common in misperceptions than

in slips of the tongue.   Garnes and Bond (1980) mention: 'some
light' for 'sunlight', 'sense' for 'since', 'threw up' for 'grew
up', 'blow his own horn' for 'mow his own lawn'.

2.2.1.3.2 Language units participating in the error

a. Phoneme

Many errors are simply slips in one phoneme.   These can be
called phonemic slips.   They may result in an utterance which is
either meaningful or meaningless.   The examples in 2.2.1.3.1 are phonemic
errors.   Nooteboom (1968) classifies the meaningless combinations
of phonemes under the non-phonemic errors.   If, however, we classify
the slips in terms of the units involved, it would make sense to
include, under phonemic errors, all kinds of the distortions of
the correct phoneme, whatever the result in terms of meaningfulness.

Phonemic slips seem to be the most common ones among the slips,
judging from the corpus of Boomer and Laver (1968) (60% of errors
were slips in one segment),the large proportion of these slips in
Fromkin's (1973) appendix,and the scope of research devoted to these
as compared with the other slips.

b. Syllable

Syllabic slips involve an error in a whole syllable, e.g. 'reeled'
for 'revealed', 'butterpillar and catterfly' for 'butterfly and
caterpillar'. ,

c. <u>Morpheme</u>

Errors which involve a morpheme may also be syllabic slips
when the confused syllable corresponds to a derivational affix,
e.g. 'groupment' for 'grouping', 'perceptic' for 'perceptual'.
But sometimes a morpheme may include more than one syllable, e.g.
'horizontical' for 'horizontal', whether it is an affix or a root
morpheme, e.g. 'differable difference' for 'conceivable difference'
(Nooteboom 1969).

d. <u>Words</u>

Whole word slips usually involve the substitution of a target
word by another word in the same utterance. Nooteboom (1969) gives
the following examples: 'the president of the president' instead
of 'the microphone of the president', 'on the room in the table'
for 'on the table in the room'. But these slips may also be the
uttering or hearing a word that is not in the utterance at all,
but in the mind of the person. Examples from Fromkin (1973) are:
'take him to the lab first - I mean last', 'he got hot under the
belt' for 'he got hot under the collar'.

Except for the whole word slips, all the categories of slips
exhibit formal similarity between the target and the origin words.
Whether the actual slip is an utterance which is linguistically
acceptable or whether it is a non-existing item, it resembles the
intended word in its phonological shape, morphological, or both.
How similar must the intended and the error words be for the slip
to occur is the subject of the following section.

2.2.1.3.3 Similarity prerequisites for confusion

All the studies mentioned in sections 1 and 2 point out that
the most prevailing characteristic of the relationship between the
intended and the error words is shape similarity. This is true
for the phonemic, syllabic and morphemic slips and sometimes also
for whole word slips. It is true for slips that result in linguistically
appropriate items as well as for non-word slips. This section
will examine these prerequisites of similarity between the target
and the origin words which might lead to their confusion.

a. Number of syllables

If we look at the examples quoted in the preceding section
we can see that in most cases (except whole-word substitution) the
two confused words have the same number of syllables, e.g. 'signal/single',
'free/flee', etc. This has also been observed in the TOT phenomenon.
Brown (1970) found statistically significant evidence that in the
TOT phenomenon the subjects' guesses of the number of syllables
of the target word bore a positive relation to the actual number
of syllables in the target word.

b. Stress pattern

Another factor of similarity between the slip and the intended
word is their stress pattern, e.g.'relevation/revelation','Jewry/
jewelry'. This is also reported to be the case for the TOT
phenomenon (Heikkinen, 1983).

c. Shared phonemes

One of the most important prerequisites for a word to be a
likely candidate for a slip is to share phonemes with the intended
word.   As a matter of fact, the more phonemes are shared, the more
likely the words are to be interchanged.   Many of the slips mentioned
in Fromkin's (1973) appendix seem to share most phonemes and the
same can be said about the corpora of other studies quoted in this
chapter.   Of a particular importance seems to be sharing the initial
and the final segments, specially the initial.   In the TOT phenomenon,
Brown's subjects often remembered the initial segments;   the errors
of aphasiacs very often share the initial and the final segments
of the target words (Buckingham, 1980);   the same was found to be
the case in slips of the ear (Browman, 1980) and in some cases of
slips of the tongue.

A particular instance of phoneme sharing is what is called
by Mackay (1973) 'the repeated phonemic effect'.   He reported that
phonemic transpositions are more likely when the phonemes either
before or after the reversing ones are identical as in 'cat bap'
instead of 'bat cap' where the vowel   is repeated and follows
the reversing phonemes.   According to Boomer and Laver (1968),
by far the largest percentage of speech errors of all kinds show
substitution, transposition, omission, or addition of segments of
the size of a phone.

d. Feature similarity of the confused phonemes

Evidence has been found, e.g. Shattuck-Hufhagel and Klatt (1980),
that segmental substitution is not a random process, but that there

is distinctive feature similarity between the target and the intrusion

segments.   Even though random substitution is possible (Boomer

and Laver 1968), segments that share distinctive features are more

likely to replace each other.   Mackay (1973) found that stops were

usually interchanged with other stops, fricatives with other fricatives,

and semivowels with other semivowels.   Also reversed consonants

tended to have the same voicing and nasality more frequently than

would be expected by chance.   Buckingham (1980) reports that in

the case of aphasiacs, errors occurred most frequently between phonemes

related by one distinctive feature.

e. Morphological similarity

Phonemic similarity is only partial in pairs like 'grouping/

groupment', 'sequentially/sequencingly', 'industrial/industrious',

etc.   The roots are identical, but there is certainly more than

one segment involved in the confusion.   The studies on slips do

not seem to emphasize errors resulting from morphological similarity,

probably because these are fewer in number than the phonemic errors.

As will be shown much later in this study, the morphological errors

are very 'popular' with foreign learners.

f. Similarity in shape and meaning

Meaning similarity as such, between the confused words, is

not the concern of this study.   It is of relevance here only when

combined with shape similarity.   In semantic slips error and target

words can stand in complementary, antonymous, or converse relationship

to one another, e.g. 'early/late', 'not standard/standard', 'husband/

wife'; they can be co-hyponyms of one another (red/black); or hyponyms (Saturday/January, Britain/Europe). These examples are quoted in Hotopf (1980).

Some errors can be similar to the intended word both phonologically and semantically. Motley (1980) elicited slips and found that their frequency was significantly greater for word-pair targets with both semantic and phonological interference than for targets with phonological interference only. Examples for words resembling each other in shape and meaning as: 'admission/ admittance';'institution/institute'.

g. Summary

The more similar a given word is to an intended word, the more likely it will replace the intended word in a speech error, whether it is a slip of the tongue, slip of the ear, the TOT phenomenon, or an error of an aphasiac. Similarity can be in the number of syllables, stress pattern, shared phonemes, shared features of the reversed phonemes and shared semantic features.

The two words are confused when they,or rather their shared features,are simultaneously available to the speaker or the hearer. Simultaneous availability may arise in the following ways: either the 'competing' features appear in the same utterance, or in the alternative form of the utterance being considered, or they appear in another word associated with the target word.

2.2.1.3.4 Modes of slips

Modes of slip can be looked at from two perspectives: a. what
happens to the intended word as a result of the slip; b. the direction
of the influence of the interfering word when the target and the
origin word are in the same utterance. The different modes of
slip may apply to any of the participating units.

a. Substitution, omission, addition

i. A phoneme, syllable, morpheme, or word can be substituted by
a corresponding unit, e.g. 'pill/bill', 'grouping/groupment', 'on
the table in the room/on the room in the table'. Word substitution
is different from the rest as the replaced words are not similar
morphologically or phonologically, that is their substitution could not
be attributed to their similarity in shape. A word is usually replaced
by another word which is in the same utterance, as in the third example
above, or by a word in the speaker/hearer's internal lexicon. The
confusion of 'pill/bill' results in a different word. However, the
slip is a slip of phoneme and not of word, since the two words are
similar in sound.

ii. A unit participating in the error can be omitted, e.g. 'broad/
road', 'revealed/reeled', 'economical/economic'.

iii. A unit can be added, e.g. 'enjoying/enjoyding', 'historic/
historical'.

In the studies examined, I could not find examples of additions
and omissions of whole words. Still, such slips are not impossible
though apparently infrequent.

According to Boomer and Laver (1968) the most frequent unit-mode category is phoneme replacement. The examination of Fromkin's (1973) appendix of slips confirms this claim.

b. Anticipation, perseveration, transposition

i. If the influencing unit is in the part of the utterance that is still unspoken the error is an anticipation error, e.g. 'every-hing you hear/everything you hear'.

ii. If the influencing unit has already been spoken the error is said to be perseveration, e.g. 'what does that signify/what does that dignify'.

iii. If two units act upon one another, the errors are called transpositions, e.g. 'to cut him short/to shut him court.

Nooteboom (1969), in his corpus of errors, showed that there is predominance of anticipations, which gives him the impression that the speaker's attention is normally directed to the future.

2.2.1.3.5 Rules of lexical disruptions

a. Phonological constraints

Boomer and Laver conclude, on the basis of their corpus, that slips obey phonological orthodox sequence rules; slips do not result in sequences not permitted by normal phonology. By normal phonology they presumably mean phonology of the language concerned. Buckingham (1980) found that in the speech data of aphasiacs, on the whole, phonological constraints are operative. Other researchers agree with their findings.

b. Syllable position constraints

When phonemes, syllables, morphemes are perseverated from one lexical item to another they reappear in analogous syllabic positions, e.g. revelation/relevation; industrial/industrious. Units in initial syllable in the origin word replace units in initial syllable in the target word; nuclear replace nuclear, final replace final.

It is due to this rule that affixes in the origin and the target have always the same position with regard to the root morpheme, that is both are suffixes or both are prefixes, e.g.'inspiration/ expiration', 'grouping/groupment'.

c. Major classes and distinctive features

Vowels and consonants do not substitute for one another, nor do they exchange position with one another. This might be the result of the similarity prerequisite for phoneme interchange. If most slips differ from their targets by a minimum number of features, and the less similar the phonemes are the less chance they have to be confused, then vowels and consonants, the least similar among phonemes, will not substitute for one another.

d. Stress pattern constraints

Boomer and Laver (1968) and Nooteboom (1969) found that the origin syllable and the target syllable of a slip are metrically similar in that both are stressed (revelation/relevation), or both are unstressed (revelation/revolution). In significantly more cases than to be expected by chance the elements involved in a speech error belonged to stressed syllables.

As for the stress contour of the sentence in which the slip occurs, it is fixed, i.e. the primary, secondary and tertiary stresses remain in the same position even when the words of the sentence are interchanged. Boomer and Laver cite an example in which a speaker, instead of saying 'how bad things were' said 'how things bad were'. Fromkin (1973) cites more examples which substantiate this claim. One of them is:

'exa$\overset{2}{\text{m}}$ine the ey$\overset{3}{\text{e}}$s of the ho$\overset{1}{\text{r}}$se' mistakenly said as

'exa$\overset{2}{\text{m}}$ine the ho$\overset{3}{\text{r}}$se of the^{1}eyes'.

e. Phoneme position most susceptible to error

No common rule applies to all lexical disruptions with regard to the most vulnerable position in the word. In slips of the tongue Van de Brooke and Goldstein (1980) found that initial phonemes were more likely to be affected than final ones. In slips of the ear, however, and the TOT phenomenon errors were found at a minimum at the beginning and end of a word (Browman 1980).

f. Syntactic class

Nooteboom (1969), Fromkin (1973), Buckingham (1980) and others found that the incorrectly selected word almost always belonged to the same part of speech as the intended word. All the examples quoted in this section show that this is really the case.

2.2.1.4 <u>Summary</u>

When discussing the various lexical disruptions, researchers talk about the 'intrusion' of similar units from one word to another, segments 'driving out' other similar segments, 'competing' for the same slot in a word or an utterance. In other words, they all talk about the interference of various features of similarity, mainly shape similarity, in the perception and production of speech.[1]

This section described and discussed various manifestations of shape similarity in lexical disruptions experienced by native speakers of a language. The TOT phenomenon, slips of the tongue, slips of the ear, aphasic errors can be described linguistically in terms of confusions of similar words, whether both are real words, or whether the slip is a non-word.[2]

The kind of similarity required for the confusion to occur usually involves a combination of the following factors: the same number of syllables, same stress pattern, a large number of shared phonemes, similar features of confused phonemes and sometimes morphological similarity. Often, similarity of meaning is an additional factor in the confusion.

The confusions can take the form of substitutions, omissions, additions of a unit in the target word. When the origin and the target words are in the same utterance, the slips can involve anticipation,

1. The only exception of the principle of similarity in slips is the transposition of whole words in an utterance even though they do not resemble each other.

2. The psychological and the physiological factors of these phenomena are not of our concern in this study.

perseveration, or transposition of the influencing unit in the target word.

Most linguistic constraints imposed on the slips are related to the concept of their similarity to the targets.   Slips are always phonologically possible combinations of sounds[1];   they reappear in analogous syllable position to the target word;   vowels and consonants, the most different phonemes, do not replace each other;   the stress of the target word is preserved in the slip and so is the stress contour of the whole utterance;   the part of speech of the intended word is identical to that of the slip.[2]

The interference of shape similarity as manifested in the various lexical disruptions described here, might not present a communication problem in the case of normal educated native speakers.   Most native speakers are aware of their slips and consequently correct themselves. Most people who experience a slip of the ear feel that something odd has been said and ask again.

This, however, might not be the case of the language learner. The main difference between him and the native speaker is that the learner is not aware of his misperception or misproduction, i.e. his wrong interpretation or use of a word is not a slip, but a real error.

1. This, of course, has nothing to do with similarity.   Other constraints, however, do.

2. These constraints are probabilistic.   Some errors do break the pattern described here.

2.2.2   Lexical form similarity and lexical errors of L2 learners

2.2.2.0   Individual studies

Shape similarity as a factor of interference in L2 learning is
not as widely documented as is this phenomenon in L1.   Several
studies have mentioned shape similarity as a possible source of
lexical errors, yet none of these studies has been directly concerned
with this problem.   This section will focus on several studies
of lexical errors in L2 where shape similarity is explicitly referred
to as a source of interference, even though it is not the topic
these studies have investigated.

2.2.2.1   Duškova 1969

Duškova discusses various sources of errors in foreign language
learning, mostly syntactic errors.   With regard to lexis, a large
amount of errors in her corpus (errors made by the native speakers
of Czech) are confusions induced by formal similarity between words.
These errors are reported to have occurred both in production and
in comprehension.   In reading comprehension the subjects confused
pairs like: 'case/cause', 'clearly/cleanly', 'cautiously/causally',
'instead/indeed', 'depth/death', 'aim/aid', 'advantage/advance/adventure',
'incline/decline', 'think/thank', 'omission/emission'.   In production,
Duškova mentions errors such as: 'than/then', 'think/thing', 'role/rule',
'respect/aspect', 'plan/plane', etc.   A subgroup of such confusions
consists of words which are not only similar in form, but also in
meaning, e.g. 'institution/institute', 'latter/last', 'lie/lay', 'definite/
definitive', 'interested/interesting', etc.

2.2.2.2 <u>Myint Su 1971</u>

Myint Su is mainly concerned with errors caused by non-realization
of the presence of all the semantic features of an item or its
selectional restrictions.   Towards the end of her study she mentions
other lexical errors, some of which are reported to be caused by
phonological similarity between words.   Her students, native speakers
of Burmese, confused the following pairs of words: 'washing/watching',
'trouble/travel', 'inexpertly/unexpectedly', 'joy/join', 'probably/properly',
'injure/endure', 'bunch/branch', etc.   These were errors of production,
collected from students' essays.

2.2.2.3 <u>Stock 1976</u>

Stock studied various factors which made some words more
difficult to learn than others.   One of the factors of difficulty
reported in her study is similarity in sound.   English speaking
learners of Hebrew confused the following pairs: 'kar/kal' (cold/
light), 'poteax/pogesh', (open/meet), 'levakesh/levaker' (ask/visit),
'lekabel/levakesh' (get/ask).   In these examples the two words
in each pair belong to the same grammatical category.   But some
of the confusions are reported to have occurred between words of
different classes: 'maxar/maher' (tomorrow/fast), 'rats/raxav'
(run/wide), 'galil/gadol' (Galillee/big).   Stock argues that confusion
which results from phonological similarity is a very serious one
in the learning situation, since the foreign language teacher,
who is usually a native speaker of the language he/she teaches,
may be unaware of this problem.   According to Stock, in general,
people do not confuse similarly sounding items in their native
language.

This study differs from the other two in the method by which the errors of confusion were obtained. Stock was eliciting all kinds of errors and among them also errors resulting from sound similarity. This was done by requiring the students to translate English word-lists into Hebrew. Dušková, on the other hand, based her findings on error analysis and Myint Su elicited errors or semantic features only.

2.2.2.4 Laufer 1981

Laufer suggests a name for similarly sounding pairs - synophones (cf. synonyms = words similar in meaning). She provides a general classification of the synophones into monophonemic - differing from each other in one phoneme, e.g.'live/leave', 'cute/acute', and into multiphonemic - differing in more than one phoneme. This second category includes synophones differing in suffix, e.g.'industrial/ industrious'; differing in prefix, e.g. 'assume/resume/presume'; and a large category (miscellaneous) which defy a simple definition. Thus a large number of synophones remain unclassified, e.g. 'conceal/ cancel','valuable/available', etc.Furthermore, it is questionable whether pairs of words differing in affix are synophones - words similar in sound. The cause of the confusion of such pairs could be attributed both to similar morphology and sound.

2.2.2.5 Laufer and Benssoussan 1982 and Laufer and Sim 1985

In two studies on lexical guessing and the use of contextual clues it was found that words which had similarly sounding counterparts were among the most frequently misinterpreted items in reading

comprehension. Examples of errors made by Hebrew speaking learners

of English were the confusions of: 'comprehensive/comprehensible';

'conceal/cancel', 'assume/consume', etc.   Since all the mistakes in

these studies were made in context, the authors argued that though

contextual clues can usually facilitate interpretation, in the

case of similarly sounding words they were not effective.

2.2.2.6 Meara 1982

Another reference to the problematicity of phonological similarities

is made by Meara in his study of word associations in a foreign

language.   He argues that learners often produce associations

which do not appear among those made by the native speakers of

the language.   One of the reasons for this is simply the learners'

misunderstanding of stimulus words, mistaking them for other words

which phonologically resemble the stimulus ones.   Some unacceptable

association of learners of French reflected the following confusions

between stimulus words and other words: béton/bête, bâton/jeton/breton,

fendre/défendre, naguère/nager, toupie/toupé.   Meara points out

that the frequency of such confusions suggests

> "that actually identifying foreign language words reliably
> is a major problem for many learners, and this seems to be
> the case even when the words are simple, and when the
> learners themselves claim to know them".   (p.130)

He also argues that errors in identification of the word which is similar

to another word resemble errors made by native speakers when they

produce malapropisms.   In both cases, the initial consonant and salient

consonant clusters of the target word seem to be preserved, while

vowels and medial syllables are vulnerable to error.

2.2.2.7 <u>Heikkinen 1983</u>

Heikkinen too draws the analogy between slips in L1 and errors
in L2 and points out that the salient properties of the word include
the initial and final segments of a word, its syllable number and
stress pattern.

Meara's and Heikkinen's claim that lexical errors in L2 which
result from the interference of shape similarity resemble slips
of tongue is certainly true; this point will be taken up later
in the study.   However, judging from the examples of confusions
quoted in this section 2.2.2 one basic difference is evident.   None
of the learners' confusions resulted in a non-word.   The learners
confuse existing words with other existing words.   Unlike the
native speakers, they are not aware of their errors, since the
words they substitute for the required words are real, have been
used by them in other contexts and look appropriate.

2.2.2.8 <u>Conclusion</u>

Even though there is a considerable growth in the interest
in foreign vocabulary acquisition, research on the confusion of
similar words in L2 lags behind research on the lexical disruptions
of native speakers.   All the above studies (except Laufer 1981)
deal with form similarity as a matter peripheral to their various
topics of investigation.   Therefore it is not their concern to
provide a detailed description of the phenomenon, in terms of the
various types of confusions, rules and constraints that operate
in them.   Nor is there any empirical evidence as to the frequency
and the probability of these errors.   There is also no comparison

between speakers of different native languages with regard to the types of confusions they make; nor is there a comparison between native speakers and the learners of the language as to whether they make the same errors in confusing similar words. It is the aim of this study to investigate these areas of uncertainty and to provide additional information about a problem in L2 vocabulary learning - confusion of words of similar shape.

Chapter Three

The Concept of Synforms

This chapter introduces the concept of synforms - words of similar form. It attempts to define, illustrate, describe synforms and classify them into categories, each category representing a pattern of similarity between pairs/groups of synforms. The decision as to which words can be considered synforms is both intuitive and theoretical. Teaching experience has taught me where students are likely to err in confusing words of similar form; some findings about the lexical disruption of native speakers support this intuitive knowledge and seem to provide a theoretical framework to the phenomenon, a framework within which the error can not only be described, but also predicted.

3.1 Confusions of words of similar form as encountered in the course of teaching experience

My experience as a teacher of EFL in a non-immersion situation provided me with an opportunity to observe the phenomenon of form similarity of words as a source of problem. It became evident that confusions of similar words occurred in comprehension and in production; with intermediate and with advanced students; with young learners and with adults; in isolation and in context.

The lack of awareness on the part of the learner that he had confused two words suggested that he had not made a slip of the tongue or ear, but a real error. It also meant that the learner would not try to remedy his error since he was simply unaware of

the need to do so.   The fact that such confusions did not result

in a non-word, but in an existing word, inadequate meaningwise,

and therefore in a possible break in communication, pointed to the

seriousness of this factor of difficulty.   Most of all, the frequency

of such confusions suggested the possibility of their being not

a chance error, but a definite pattern of difficulty, a feature

of interlanguage which was worth investigating.

Here are some examples which illustrate this type of error.

The sentences quoted below are the original sentences in which my

learners misinterpreted the underlined words by confusing them with

words of a similar form.   The sentences themselves were in text-

context.

a. Relations between societies are found to be impermanent and

    superficial.

    ('superficial' was confused with 'artificial').

b. Russia freed their Jews fron venerable restrictions on marriage.

    ('venerable' was confused with 'vulnerable').

c. Find the most convenient and agreeable for you.

    ('agreeable' was confused with 'agreed').

d. A teacher must be quick to adapt himself to any situation.

    ('adapt' confused with 'adopt').

e. They were constantly exhorted to overcome their base natures.

    ('base' confused with 'basic').

f. Women are an invaluable and as yet untapped national resource.

    ('invaluable' confused with 'valueless').

The collection of errors was done in the course of my teaching
of intermediate and advanced EFL students, mostly native speakers
of Hebrew and Arabic, but also immigrants, speakers of European
languages.   The errors were collected from written assignments
as well as from spontaneous speech during the lesson.   Both the
written work and the speech included interpretations of given reading
and listening passages and also production of learners' own utterances
or sentences.   Thus, for example, if commenting on a reading passage,
a student interpreted 'a comprehensive peace settlement' as 'a peace
settlement that can be understood', the error would be an error
in comprehension.   If, on the other hand, he said: 'I'm very exhaustive
today', this would be an error in production.

3.2 Definitions

3.2.0 The confused words in each sentence are similar to each other.
But similar in what?   Myint Su (1971), Stock (1976), Laufer (1981),
Meara (1982) explained these confusions as resulting from sound
similarity.   Duškova (1969) was more cautious in her analysis and
referred to such confused words as words similar in form.

It seems to me difficult to state with absolute certainty whether
a certain confusion is a confusion of sound pattern or script, without
eliciting the pair of words with the error in both listening and
reading tests for the same learners.   In some cases one can detect
the source of the problem quite accurately either on the basis of
one's teaching experience (e.g. students confuse certain sounds
in listening comprehension, but not when these sounds are represented
by letters), or simply because one possibility is more plausible

than the other (e.g.'except/expect'are similar in script while
'except/accept' [iksept]/[aksept] in sound). In many cases, however,
the confusions can derive from similarity of the words in both sound
and script (e.g. 'ingenuous/ingenious', 'affect/effect', 'expert/
excerpt').

It is plausible, however, to assume that if words look alike
they might also sound alike to the learner. Even though there
is discrepancy between sound and script in English, a similar discrepancy
is likely to occur in similarly looking pairs/groups of words.
For example, even though the letter 'c' is pronounced as [k] at
the beginning of 'conceal', and as [s] in the middle of this word,
it is pronounced in the same way in 'cancel'. Therefore 'cancel'
and 'conceal' look similar and also sound similar.

3.2.1 Synphones

If words are similar in sound, I suggest they should be called
synphones.

This might not be the ideal name since 'syn' does not mean
'similar' in Greek, but 'with'. However, since the term 'synonym'
refers today to a word of similar meaning, and the term 'homophone'
- to a word of identical sound, it was felt that the term 'synphone'
could be coined for a word of similar sound.

Thus, 'a synphone' could be a word which has a similarly sounding
counterpart, e.g. 'live' and 'leave' are each other's synphones.
The phenomenon of sound similarity of words could be called 'synphony'.

3.2.2 Syngraphs

Pairs of words similar in script will be referred to as 'syngraphs'.
A syngraph, therefore, is a word which has a counterpart of similar
script, e.g. 'excerpt' is a syngraph of 'expert' and vice versa.
Syngraphy is the phenomenon of script similarity.

3.2.3 Synmorphs

Some pairs of words seem to be confused mainly because of similar
morphological structure - identical root and different affixes.
Thus, even though 'comprehensible' and 'comprehensive' share most
of their phonemes and letters and can therefore be regarded either
as synphones or syngraphs, they are also similar to each other in
their morphology and can therefore be called 'synmorphs'.   Thus,
'a synmorph' will be a word which has a counterpart of a similar
morphological structure, as in the above example, or as in 'industrious/
industrial'.   'Synmorphy' will refer to the phenomenon of morphological
similarity.

3.2.4 Synforms

Whether the similarity between the confused words is that of
sound, script, or morphology, it is always similarity of form -
phonological, graphic, morphological.   Therefore an 'umbrella'
term for synphones, syngraphs, synmorphs could be 'synforms' - words
similar in form - phonological, graphic, or morphological.   'Synformy'

is the phenomenon of form similarity between words.[1]

In this study no clear-cut distinction will be made between
synphones, syngraphs and synmorphs for the following reasons:
a. In many cases synforms are similar in both script and sound,
or sound and morphology, or script and morphology, or all three.
b. No tests were designed to check whether the confusions of particular
pairs/groups of words were specifically due to one of the similarity
types.
c. Teaching experience suggests that the degree of difficulty of
distinguishing between similar words is not necessarily greater
in one type of similarity (synphones, syngraphs, synmorphs) than
others.   Therefore, the problem of confusions of various synphones,
syngraphs, synmorphs will be treated as one learning problem of
vocabulary - the problem of synforms.

3.3 A model of synformy

3.3.1 General characteristics of synformic similarity

When words are referred to as being identical, for example,
in sound, it is quite clear what is meant.   'Weak' and 'week' are

1. It is realised that, linguistically, two different types of
similarity are covered by the term synformy: a) words which have
a similar form since they are related to each other etymologically,
whether the relation is transparent ('industrial/industrious'),
or not ('assumption/consumption'); b) words whose similarity in
form is purely accidental ('lunch/launch').

Though the two types a and b are quite different linguistically,
in this thesis, they are treated as one phenomenon since they result
in the same feature of IL - confusion of one word with another one
with a similar shape.

identical in sound; they are homophones. Similarity, on the other hand, is more difficult to define since it is not an absolute term. What is it, one wonders, that makes 'live' and 'leave' similar to each other, but not necessarily 'life' and 'left'?

The decision as to what constitutes form similarity between words is based on intuitive analysis of the corpus of errors and on the findings about the lexical disruptions of native speakers.

Looking at the collected confusions of synforms, one may notice that most of the confused synforms exhibit certain common features of similarity. It also appears that these characteristics of similarity are not different from the similarities between the error and the target words observed in the various lexical disruptions of native speakers: the TOT (tip-of-the-tongue) phenomenon, slips of the tongue and the aphasic errors.[1] The confused synforms are usually similar to each other in the following respects:

3.3.1.1 Number of syllables

The number of syllables of the error word and the target was very often the same, for example: 'industrious/industrial'. In some instances in the corpus of errors, however, there was one additional syllable in one of the words - when the syllable was a bound morpheme, prefix or suffix, or an additional vowel.

1. A detailed literature survey of these disruptions was provided in Chapter Two, section 2.

It was the very syllable that differentiated the two words, e.g. 'passion/compassion', 'economic/economical'.

3.3.1.2 Syllabic position

When phonemes, syllables or morphemes are perseverated from one word to another, they reappear in analogous syllabic positions, e.g. 'industri<u>al</u>/industri<u>ous</u>', '<u>as</u>piration/<u>in</u>spiration'.

3.3.1.3 Stress pattern

Most of the synform pairs in the corpus have the same stress pattern: both have their stress on their first, second, or third syllables respectively, e.g. 'affect/effect', 'simulate/stimulate'. Whenever the pair is distinguished by a prefix present in one of the words but not in the other, as in 'passion/compassion', the stress is on the same syllable of the stem. Some pairs of words, however, might have a different stress pattern, specially those with similar roots and suffix present in one of the words, but not in the other, e.g. 'object/objection'.

3.3.1.4 Syntactic class

The confused synforms mostly belong to the same syntactic class. They are all nouns, e.g. 'assumption, consumption, presumption'; adjectives 'economic/economical'; verbs 'assume, consume, presume, resume'.

3.3.1.5 Shared phonemes

According to the collected corpus of errors, the confused synforms share most of the phonemes, i.e. they differ in few phonemes only, usually no more than 3, as in the case of synmorphs, e.g. 'passion/compassion'.

3.3.1.6 Features of the confused phonemes

When the confused words differ in one phoneme, the features of this different phoneme are similar to the one it is confused with. For example [s] and [z] in 'price' and 'prize' differ in the feature of voice only.

3.3.2 Patterns of synformic confusions

Whenever a synform is confused with its counterpart, the confusion can take the form of substitution, omission, or addition of a unit or units with regard to the correct word. The unit of confusion can be a phoneme. If 'price' is understood to mean 'prize', then the pattern of confusion is a substitution of a phoneme. If 'cute' is taken to mean 'acute' then the error results from addition of a phoneme to the correct word . If 'acute' is misinterpreted as 'cute', then the error is the result of omission of a phoneme. The unit of confusion can also be a bound morpheme, e.g. the confusion of 'industrious' with 'industrial' involves the substitution of one suffix for another; 'economic' and 'economical' the omission or addition of a suffix, depending which of the two words is the error.

3.3.3 <u>Categories of synforms – criteria for classification</u>

If the units participating in the confusion of synforms can
be vowels, consonants, prefixes and suffixes; and if the modes
of confusions can be substitutions, omissions, or additions of either
of these units, the following 8 groups of words with synformic confusions
could be predicted to occur: a group where the error involves
substitution of a vowel; substitution of a consonant; substitution
of a prefix; substitution of a suffix; omission/addition of a
vowel; omission/addition of a consonant; omission/addition of a
prefix; omission/addition of a suffix.[1]

Schematically, they can be represented as follows:

	vowel	consonant	prefix	suffix
substitution				
omission/addition				

The prediction of the above 8 groups of synforms, which is based on
the combination of the confused unit and the mode of confusion,
is indeed borne out by the collected error corpus. Many of the
errors made by my students could fit into one of the eight
categories. However, it was felt, on the basis of the collected
data, that two more categories were appropriate. The corpus of
words with similar roots but different suffixes comprised two

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1. Omission and addition of the confused unit were put together since
they refer to the same group of words depending on which word is the
correct one and which is the error.

slightly different types of such words: those with a root productive
in present day English, e.g. 'industrial/industrious'; those with
an unproductive root, e.g. 'credible/credulous'.

The two types of words could behave differently in inducing
errors, since they could be stored differently in the learner's
lexicon.   According to Taft (1984), Taft and Foster (1975), Murrel
and Morton (1974), there is a separate representation for base morphemes
and for suffixes in the lexicon.   Thus, words with a stem which
is recognized as a word by the learner, e.g. 'consider' may be stored
independently, without the suffix 'ate' or 'able'.   If, however,
the stem is meaningless to the learner, as in the case of 'capable',
the stem is unlikely to be stored separately.   The learner would
presumably store the whole words 'capable' and 'capacious'.   Therefore
the category of words different in suffixes was split into two categories:
one with roots productive in present day English and one with
unproductive roots.

The corpus also included a large number of pairs of words which
differed in more than one vowel, but were identical in consonants,
e.g. 'legible/eligible'.   On the basis of the teaching experience,
it was felt that the numerous confusions of such words justified
a consideration of a separate category of synforms.   There could
also be a theoretical explanation for confusions of words identical
in consonants but different in vowels, even if the number of vowels
was two or three.   Weaver (1980) argues that vowels are less
important than consonants in the recognition of words.   According
to Smith (1973), readers use vowel letters in recognizing words
only when other information is inadequate.   If vowels, therefore,

are less salient than consonants for the purpose of recognition, and if the learner got used to relying on consonants for information, it is reasonable to assume that pairs of words similar in consonants and different in vowels are likely to be confused.

The collected corpus of errors and the above mentioned findings about the lexical disruption of native speakers and about storage and recognition of words seem to justify the existence of ten separate categories of synforms, each category representing a pattern of similarity between synforms. These categories are described and illustrated in the next section.

3.3.4 The 10 categories of synforms[1]

Category 1 - synforms which have the same root, productive in present-day English but different suffixes.

considerable/considerate

imaginary/imaginative/imaginable

successful/successive

Category 2 - synforms which have the same root, not productive in present-day English, but different suffixes.

capable/capacious

integrity/integration

numerous/numerical

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1. More examples for each category and listed in Appendix 1.

Category 3 -   synforms which differ from each other in a suffix

present in one synform but not in the other.

historic/historical

sect/sector

project/projection

Category 4 -   synforms which have the same root, not productive

in present-day English, but different prefixes.

consumption/assumption/resumption/assumption

compress/suppress/repress/oppress

attribution/contribution/distribution

Category 5 -   synforms which differ from each other in a prefix

present in one synform but not in the other.

passion/compassion

fault/default

mission/commission

Category 6 -   synforms identical in all their phonemes except one

vowel/diphthong.

affect/effect	[əˈfekt /iˈfekt]
set/sat	[set/sæt]
launch/lunch	[lɔːntʃ /lʌntʃ]

The confused vowels in this group of synforms are similar to each

other both in the position of the tongue with regard to front and

back in the oral cavity and in the height of the tongue during the

articulation of the vowels.   As for the position of the tongue,

the confused vowels seem to be those where the position is the same

in the horizontal dimension (e.g. [set/sæt]/ - front vowels);

or where it is relatively near, i.e. where the confused vowels are
either back and central (e.g. [lɔ:ntʃ/lʌntʃ]) or central and front
(e.g. [laibl / lɜibl]).   In the whole corpus of errors there
was only one case where the confused vowels were back and front
- [adæpt/adɔpt] ..   With regard to the height of the tongue,
the confused vowels are those where the height is the same
(e.g.[liv/li:v]- high vowels), or where it is relatively close,
i.e. where the confused vowels are eigher high and mid, or mid and
low (e.g. [bed / bæd]), but not high and low.

Category 7 -   synforms which differ from each other in a vowel present
                in one synform but not in the other.

        cute/acute   [kju:t/əkju:t]

        quite/quiet   [kwait/kwaiət]

        date/data   [deit/deitə]

The additional vowel-sound can be at the beginning of one synform,
in the middle, or at the end, as can be seen from the examples above.

Category 8 -   synforms identical in all their phonemes except one
                consonant.

        price/prize   [prais/praiz]

        extend/extent   [iks'tend/iks'tent]

As in the case of confused vowels, the confused consonants are similar
to each other.   In the examples above, these consonants differ
from each other only in the feature of voice.   They are the same
both in the manner and in the place of articulation.   Other examples
in the error corpus show that the confused consonants might sometimes

differ in the manner of articulation, but are identical in the place
of articulation (e.g.'grateful/graceful' - ['greitful /'greisful] .
[t] is a stop, [s] is a fricative.   But both are alveolar.
The consonants might also be confused when they differ in the point
of articulation as long as they are identical in the manner of
articulation.   In 'three/free' [θri: / fri:]   [θ] is interdental
and [f]is labio-dental, but both are fricatives.   No confusions
were found in the error corpus between consonants that differed
in both manner and place of articulation.

Category 9 - synforms which differ from each other in a consonant
               present in one synform but not in the other.
               ledge/pledge
               simulate/stimulate
               mean/means (n)

As in the case of the additional vowel (category 7), the additional
consonant in one of the synforms can be either at the beginning
of the word, in the middle, or at the end.

Category 10 - synforms identical to each other in their consonants,
               but different in their vowels (more than one vowel).
               base/bias   [beis/baiəs]
               manual/menial   [mænjuə l/'mi:njə l]
               embrace/embarrass   [im'breis/im'bæɾəs]

3.4 Possible implications of the study of synforms

3.4.0 The framework for the classification of synforms has been
taken from studies of lexical disruptions of native speakers -

the TOT phenomenon, malapropism, slips of the tongue and ear,
aphasic errors, none of which is a language learning error.
The study, however, is concerned with confusion of synforms as
a language learning problem.   Its principal aim is to verify
the phenomenon itself, to check to what extent the confusion
of synforms is indeed an error common with language learners.

The study of synforms, however, can also shed light on
several areas connected with Error Analysis in general: the
learner's competence (in our case, the learner's lexicon),
language learning processes, language methodology.

3.4.1   The learner's competence

The representation of the lexical item's form has been
investigated with adult native speakers.   Studies of the TOT
phenomenon, malapropisms, slips and aphasic errors concluded,
on the basis of similarity between the target and error words,
that lexical items had some salient features which were usually
preserved in the mental lexicon even when the correct form
of the item could not be retrieved.   These were: grammatical
category, number of syllables, stress pattern and initial portions
of the items, especially the consonants (Fay and Cutler 1977,
Cutler and Fay 1982, Zwicky 1979, Aitchinson and Straff 1982).

The study of synforms can provide additional information
about the salient features of words since it will examine the

following: the extent of confusion in synforms identical at their beginnings but different at their endings versus those identical at the ends but different at the beginnings; the extent of confusion in synforms identical in consonants but different in vowels versus those identical in vowels but different in consonants; synforms with identical stress pattern versus synforms in the same category but with different stress pattern. Since the study of synforms will be conducted with native and non -native speakers of English, it can reveal whether the features salient in the lexicon of the native speakers are also salient in the lexicon of the foreign learner.

Another interesting issue that has been investigated with relation to the mental lexicon is whether words composed of root and affix are stored as single units or whether the stems and affixes are stored separately (Brown and McNeil 1970, Fromkin 1971, Murrel and Morton 1974, Taft and Forster 1975, Hatch 1983, Jarvella 1983, Taft 1984). An examination of synformic confusions could reveal something about this issue with regard to the language learner's lexicon. For example, if similar frequencies of synform errors were found in prefix and suffix synforms this could be attributed to lexical decomposition in the lexicon with subsequent substitution of one affix by another.

In addition to lexical representation, investigations
have been carried out about the ordering of items relative
to each other in the lexicon (see reviews in Fromkin 1971,
Soudek 1982, Hatch 1983, Meara 1984). These indicate that
while in the native speaker's lexicon there are strong semantic
links between the words, in the case of foreign learners these
links are much weaker and the organization is primarily phonological.
Verification of synformic confusions would provide additional
evidence for such organization of the learner's lexicon.

3.4.2 Language learning processes

Two major hypotheses have been postulated about L2 learning:
the L1 restructuring hypothesis and the creative construction
hypothesis. According to the first one, the learner will
transfer the structure of his L1 into L2. When L1 and L2
structures differ the transfer will be negative: when they
are the same it will be positive. Negative transfer will
result in error, while positive transfer will produce correct
constructions. Among the main advocates of this hypothesis
were Fries (1945) and Lado (1957) and major projects of contrastive
analysis have been conducted in Europe, e.g. in Sweden directed
by Svartvik, Roumania - by Slama-Cazacu, Poland - by Fisiak,
Yugoslavia - by Filipović (for a complete list of projects
see Svartvik 1973). The aim of these projects was to provide
a better insight into the learning problems of English faced
by the different L1 speakers.

The creative construction hypothesis, which developed
as a reaction against Behaviourism and Contrastive Analysis,
approaches language acquisition as a problem of cognitive
learning. The learner is seen as constructing for himself
a grammar of the target language on the basis of the linguistic
data in the language to which he is exposed and the help
he receives from the teaching. In this theory, the learner's
errors are evidence of false hypotheses. The hypotheses
and the errors are similar in children learning their native
language and children and adults learning it as a second
or foreign language. This theory too inspired a wealth
of empirical studies and among its keen supporters have been
Dulay and Burt (1974 and many other studies), Richards (1971,
1974), Corder (e.g. 1983), Dulay, Burt and Krashen (1982)
and others.

Even though James (1971, 1980) tried to 'exculpate'
Contrastive Analysis and lately the notion of transfer has
been expanded to cover phenomena beyond the direct carry-
over of L1 features into L2 (Nickel and Wagner 1979, Ard
and Homburgh 1983, Dagut and Laufer 1982 and 1985, Gass and
Selinker 1983, Gass 1984), the dichotomy between the two
language learning hypotheses has not disappeared.

Examination of synform errors can provide evidence for one or both of the above hypotheses. If it is found that English speaking children and foreign learners make similar errors this could be taken as evidence in favour of the Creative Construction Hypothesis. If performance on synform tests differs between speakers of different L1s, this could be taken as an indication of the L1 restructuring hypothesis.

3.4.3 Language teaching methodology

In Chapter Two section 1 various patterns of difficulty in vocabulary learning were surveyed. Shape similarity as a factor of difficulty, it was pointed out, was not researched systematically in second language acquisition. If synforms are shown to induce a significantly large amount of errors this will mean that synformy is indeed a pattern of difficulty which requires particular teaching treatment in the form of exercises and tests. Such materials, to my knowledge, have not yet been developed.

3.5 Summary and Conclusion

The starting point of this investigation was a pedagogical
observation that learners confused words of similar form.   It was
noticed that a certain systematicity operated in these similarities,
a systematicity which could be described and on the basis of which
further errors could be predicted.

It has been suggested, in this chapter, that the phenomenon
of form similarity between words should be called synformy and pairs/groups
of words similar to each other in form should be called synforms.
Form similarity can be that of sound - synphony; or script - syngraphy;
or morphology - synmorphy.

In practice, however, synforms are often similar in both sound
and script; or sound and morphology, script and morphology, or
all three types of form.   Therefore it has been decided to treat
the confusions of these words as one learning problem - that of
synforms.

Synform similarity has been interpreted to be the kind of
similarity described by the 10 categories of synforms, i.e. words
have been considered synforms if they were similar to each other
in one of the 10 ways listed as the 10 categories.   All the 10
categories exhibit certain common features of similarity between
the pairs/groups of synforms.   However each one of them also represents
a particular type of similarity different from the types of similarity
of the other categories.

In categories 1-5, synforms are different from each other in an affix (prefix or suffix) and identical in their root; the affix might be different in each synform, or it might be present in one and absent in the other. Categories 6-9 include synforms differing from each other in one phoneme only, vowel or consonant. This phoneme might be different in each of the synforms, or it might be present in one of them and absent in the other. In category 10, synforms are identical in consonants, but different in some or all of their vowels.

This classification is not claimed to be the only possible one. For example, some categories could be established on the basis of script similarity. However, the suggested taxonomy seems to have a theoretical justification and to yield wider applicability than other taxonomies that were tried.

First, it provides a frame of reference for almost all the synform errors collected in my corpus of errors and also for the majority of such errors collected by Duškova (1967), Myint Su (1971), Stock (1976), Meara (1982), errors made by learners of English learners of French and learners of Hebrew. For example, Duškova's examples of confusions of 'aim/aid', 'think/thing' could be fitted into category 8 in the suggested taxonomy (synforms which differ in one consonant); 'omission/emission'; 'case/cause' - in category 6 (synforms differing from each other in one vowel); 'interested/interesting' - in category 1 (synforms differing from each other in the suffix). In Stock's corpus of Hebrew errors the confusions of 'kar/kal', 'levakesh/levaker' would fit into category 8 (synforms differing in one consonant). Meara's French examples of confusions between 'fendre/défendre',

could be included in category 5 (prefix in one synform but not in the other), 'toupie/toupé' - in category 4 (*different* vowel in one of the synforms.

In addition to the applicability of the proposed taxonomy to the various error corpora, it is also applicable to the description of a wide variety of errors since it encompasses errors in listening comprehension, reading comprehension, speaking and writing. Classification of synforms based on script, for example, would not apply to listening and speaking. The suggested taxonomy, however, based on sound differences between synforms, is very likely to apply to reading and writing, in addition to speaking and listening. According to the findings of Klieman (1975), Lima and Pollatsek (1983), words are recognized in script mainly through phonemic and morphological units, and not necessarily through an orthographic code. Also the less proficient readers are less likely to identify a word visually. Therefore phonological recoding may be of a particular importance to them as a back-up mechanism in word recognition (Jorm and Share 1983).

The suggested taxonomy of the 10 categories of synforms was taken to be the starting point of the elicitation part of the study - the actual examination of the extent to which learners confuse synforms.[1]

1.Appendix 1 lists a) the collected examples of synforms - confusions observed in the course of my teaching b) expanded samples of synforms - confusions which can be predicted on the basis of the similarity between synforms as described in this chapter.

It was pointed out that the study of synforms might shed light not only on the phenomenon of synformic confusion as such but also on the following: the learner's lexicon - representation and organization of lexical items; language learning processes; vocabulary teaching requirements.

Chapter Four

Preliminary Study

4.1   Introduction

The error sample collected in the course of my teaching, though
indicative of a difficulty students experienced with synforms,
was not in itself sufficient to draw any definite conclusion
about the extent of the problem.

As Corder (1973), Zydatiss (1974), Schachter (1974) have
pointed out, the learners tend to 'play safe', i.e. to avoid
difficulties in their production.   Therefore a low frequency,
or even non-existence of a particular error in a sample of students'
performance does not necessarily point to the availability of
the corresponding language form.   It may well be that if the
learners were forced to produce many of the low frequency items,
the number of errors would rise considerably.

In order to measure the extent of synform confusion, synformic
distinction had to be elicited.   A set of 'provocative devices',
or elicitation procedures[1], had to be planned to force the learner
into making the various synformic distinctions.

The preliminary study was the first attempt at a systematic
elicitation of synform errors.   Its aims were: a. to try out
a method of error elicitation which, at the time, seemed to
be suitable for the study;   b. to collect some basic information
as to whether synform confusion was indeed a common error among

1   Corder (1973) defines an elicitation procedure as "any procedure
     which causes a learner to make a judgement about the grammatical
     acceptability of a form or provokes him into generating a
     linguistic response".   (p.41).

foreign learners.

4.2   Subjects tested

4.2.1   The learners

The subjects tested were about a hundred and eighty EFL

learners, native speakers of Hebrew and Arabic.   They were

all graduates of Israeli high schools and were taking a University

pre-session summer (1983) course in EFL.   The purpose of this

course was to improve the learners' English, especially their

reading comprehension of texts of academic nature by the beginning

of the academic year 1983-84.

4.2.2   The level

The Israeli end-of-high-school examination in English which

is administered by the Ministry of Education is considered to

be the equivalent of the Cambridge FCE.   However, most students

entering the university have had a gap of 2-3 years in the use

of English due to the military service[1].   Therefore the university

EFL course starts with some revision of vocabulary and structure

at FCE level and continues with EAP material-language and reading

skills.   Since my preliminary tests were administered in the

middle of the summer course, it was reasonable to assume that

the general level of the learners was the equivalent of the

FCE.

1   The Arab students, who do not serve in the Army, come to
    the university straight after high school, unless they have
    chosen to work first.

In the course of collecting synform errors, prior to this
preliminary study, it looked as though these errors occu*r*ed mostly with
learners at level equivalent to FCE.   Possibly, the less advanced
learners did not possess enough vocabulary to serve as a source
of confusion.   The really advanced ones, on the other hand,
might have developed a good enough vocabulary knowledge to prevent
the confusion.   It looked as though, from the point of view
of synform errors, the worst interlanguage stage for the learner
and the most interesting for the researcher was precisely the
one at the FCE level.   This is why it was decided to confine
the study, the preliminary and the main one, to one particular
level of English proficiency, the FCE or its equivalent.

4.3   Procedure

4.3.1   The synform sample tested

The synforms tested in the preliminary study were taken
from the collected and the expanded samples of the 10 groups
of synforms listed in Appendix 1.   As was mentioned in Chapter
Three, the collected synforms were those which my learners actually
confused;   the synforms of the expanded sample were added on
the assumption that since they were identical in their features
of similarity to the collected ones, they would probably induce
the same kind of confusion as the collected synforms.   For
example, if the words 'industrious/industrial' were found to
cause error, it was assumed that 'judicial/judicious' would
present the same problem.   This would also be true of any other
pair of words identical in root and different in suffix, e.g.

'delivery/deliverance'.   The source for the additional pairs
or groups of synforms was my own lexicon and the Advanced Learner's
Dictionary.

4.3.2   The test

Each synform selected for testing[1] was tested twice: in
isolation and in sentence context.   There were 10 texts - each
test testing one category of synforms;   each test had two versions:
version A - synforms in isolation and version B - synforms in
context.   In both versions the learners were required to translate
the given synforms into Hebrew, or paraphrase them in English.
Thus, for example, in version A the learner had to translate
'imaginative' in isolation;   then, in version B he had to translate
the same word in the following sentence: 'Only a very <u>imaginative</u>
writer could write such a story'.

This particular method of testing (translation or paraphrase)
was chosen since it seemed to resemble the real situation of
reading comprehension.   The learner encounters words as he
reads and tries to make out their meaning.   Sometimes he uses
the context;   sometimes he treats each word as a separate entity
(Laufer and Bensoussan 1982,   Bensoussan and Laufer 1984).

4.3.3   Administration of the tests

The learners were *made to do* the tests[2] during their EFL lessons
as part of their course work.   Version A (in isolation) was
given first.   No definite time limit was set;   no dictionaries
were allowed.   When version A was completed, the tests were

1 There was no particular reason for this selection from the
   list.   The synforms in each of the categories were chosen
   randomly for testing.
2 Examples of complete tests of the preliminary study are presented
   in Appendix 2.

collected and version B of the same test was given out. Thus, each student had to translate or paraphrase the same synforms twice: first in isolation and then in context.

4.3.4   Organization of the results

For each item there were four possible types of answer; hence letters a, b, c, d, next to each item (see Appendix 2). The translation/paraphrase could be correct; in such case 'a' was circled by the _marker_. The incorrect translation could be a synform error; in such case 'b) was circled .   Any other error came under 'c'; no answer-under 'd'.   A synform error meant that the learner translated, for example, 'sensible' into the equivalent of 'sensitive'.

The tests were not marked for the number of the correct answers since their purpose was not to find out the learners' vocabulary knowledge, but the extent to which they would confuse the words in the test with their synforms.

After the answers had been classified under a, b, c, d, as above, lists were produced of the frequency of synform errors. For each word, a calculation was made of the number of synform errors in all the attempted answers across all learners[1].   Thus, if 16 learners attempted to translate the word 'sensible' and 8 of them mistranslated it as 'sensitive', the absolute synform frequency in this case would be 8/16; the relative frequency - 50%.   The frequency was calculated twice for each word: for test version A (in isolation) and test version B (in context).

1 'No answer' cases were not taken into account. Attempted answers
  do not imply correct answers.   Actually a large percentage
  of them was wrong.

4.4   Results – frequencies of synform errors (a sample)

A sample cf three tables is presented below.   These are results of three synform tests on categories 1, 6, 7 of synforms[1]. The first column in the tables shows the synform which was tested; the second – the synform with which learners were expected to confuse the tested word;   columns three and four show the absolute synform error frequencies on the two test versions;   columns five and six – the relative frequencies.   The denominators in columns three and four show the number of all attempted answers for the item in question.   (These are not necessarily the correct answers.)

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1 Since my conclusions about the problem of synforms will be
based on the results of the main study, I did not find it
necessary to present all the results of the preliminary study.

4.4.1 Category 1

synform tested	confused with	absol.freq. version A(isol.)	abs.freq. B.(context)	rel.freq. isol.	rel.freq. context
considerable	considerate	15/17	6/21	88	29
casualness	casualty	2/9	3/10	22	30
comparable	comparative	2/10	1/15	20	7
admittance	admission	9/14	2/15	64	13
virtually	virtuously	6/7	6/17	86	35
comprehensive	comprehensible	1/15	5/16	7	31
imaginative	imaginary	11/16	4/22	69	18
successive	successful	17/21	13/17	81	76
hardship	hardness	11/13	11/17	85	65
sensible	sensitive	8/16	10/19	50	53
practicable	practical	9/11	12/17	82	71
alternately	alternatively	8/12	4/19	67	21
favourable	favourite	13/17	9/18	76	50
adulteration	adultery adulthood	11/12	6/8	92	75
complexion	complication	13/15	12/16	87	75
conformation	conformity	11/14	7/17	79	41
defendant	defended	13/17	10/15	76	67
definitive	definite	6/12	1/11	50	9
deliverance	delivery	9/9	5/11	100	56
composure	composer composition	5/10	3/11	50	27
compulsive	compulsory	3/15	0/17	20	0
constructional	constructive	3/10	2/12	30	17
gracious	graceful	1/13	1/17	30	17

4.4.2 <u>Category 7</u>

synform tested	confused with	abs.freq. version A	abs.freq. version B	relat.freq. version A	rel.freq. version B
live	alive	17/18	5/16	94	31
beware	be aware	4/7	7/16	57	44
rousing	arousing	3/5	5/10	60	50
personnel	personal	10/15	6/16	67	38
quite	quiet	11/16	6/17	69	35
coping	copying	10/14	4/14	71	29
emergence	emergency	13/17	7/14	76	50
estate	state	4/5	1/8	80	13
minster	minister	10/10	11/12	100	92
oppress	press	6/12	2/12	50	17
equality	quality	5/15	5/15	33	33
essence	sense	2/6	8/12	33	67
acute	cute	0/5	0/15	0	0
data	date	3/14	3/15	21	20
deify	defy	0/2	0/10	0	0
elate	late	0/1	0/7	0	0
espy	spy	0/0	5/10	0	50

4.4.3 <u>Category 8</u>

synform tested	confused with	abs.freq. version A	abs.freq. version B	rel.freq. version A	rel.freq. version B
extent	extend	4/6	3/13	67	23
prize	price	5/9	3/8	56	38
loose	lose	11/15	2/7	73	29
cart	card	6/6	2/7	100	29
taught	thought	6/11	4/13	55	31
graceful	grateful	4/9	10/14	44	71
reflect	reflex	0/5	0/13	0	0
faithful	fateful	1/9	0/13	11	0
contend	content	1/6	0/10	17	0
pluck	plug	1/5	1/7	20	14
thrust	trust	2/11	2/13	18	15
petal	pedal	1/9	0/5	11	0

4.5   Discussion of the preliminary study

4.5.1   Synform errors

The results of the three tests presented here and the results
of the other tests give the impression that the foreign learners,
at least the native speakers of Semitic languages, have a tendency
to confuse words with other words of similar form. The exact
extent of such confusion was not the concern of the preliminary
study.   But one can easily see that some words induce an amazingly
large percentage of synform errors (e.g. deliverance, adulteration,
successive - test 1; minster - test 7) while others - almost
none (e.g. defy, elate - test 7; reflect, petal - test 8).
However, if we wanted to make any definite conclusions about
the extent of synform errors on the basis of this kind of test,
a much larger sample of test items or testees would be needed
(see methodology section 4.5.2).

As for the difference between synform errors in isolated
words and in words in context, it seems that, in general, there
are fewer synform errors in context[1] though in some cases the
opposite is true (e.g. casualness, comprehensive - test 1, espy
- test 7).   (The question of the usefulness of context in a
vocabulary test will be raised in the discussion of the design
of the main study.)

Thus, it looks as though synforms of some categories induce
relatively few synform errors (e.g. category 8) and synforms

1   This does not mean that the number of correct answers in
     context is higher.   The errors in each answer are more
     diverse, hence the lower percentage of synform errors.

of other categories seem to be especially error provocative
(e.g. category 1); within each category, there are differences
between individual words as to the extent of confusion they
cause. But the general impression from the preliminary study
is that the confusion of synforms is a distinct pattern of error
which can be elicited and measured.

4.5.2   Methodology

As was mentioned at the beginning of this chapter, one
aim of the preliminary study was to try out a methodology of
elicitation. Even though error elicitation by translation
is a method which has been accepted and practised successfully
by researchers (Corder, 1973, Myint Su, 1971, Zydatiss, 1974),
it was decided to abandon this elicitation procedure in the
main study.

4.5.2.1 Problem with different native languages

Myint Su and Zydatiss investigated errors of one L1 group
(Burmese and German, respectively). My study, on the other
hand, will attempt to examine synform errors of learners of
different L1 groups. Analysis of students' translations necessarily
requires the knowledge of their native languages and some of
these are unfamiliar to me.

As for the possibility of paraphrasing the tested words,
such a method was considered unreliable. It is sometimes hard
to find a paraphrase of a word even for a very proficient learner,
let alone a learner at the FCE level. Very often the learner
has a translation for a word but cannot produce a proper explanation
in the target language. Furthermore, some explanations attempted
by the learner are phrased in an unclear and/or incorrect language.

As a result, the answers can sometimes be interpreted in several ways; at other times answers of this type might remain incomprehensible and therefore cannot be graded.   Thus, the possibility of the paraphrase as an alternative to translation was discarded.

4.5.2.2 Need for an unreasonably large amount of test items
        or testees

An open ended test item can provoke a multiplicity of answers. Even though a correct translation of an item could result in a limited number of possible answers, the incorrect translations were more diverse than I expected.   They ranged from predictable types of errors to the wildest possible guesses.   For example 'deify', in context, was translated as 'find', 'ignore', 'differentiate', 'identify';   the word 'acute' was translated in context as 'existing', 'identical', 'decisive', 'minus', 'topical', 'happiness', 'right', 'central', 'deficit', 'problem', 'nuisance'.

If the purpose of my study had been to carry out a general analysis of lexical errors, then answers like these might have provided interesting data for the investigation of the possible types and sources of error.   However, in my specific case, elicitation of one particular type of error, the implication of this diversity of answers meant that a very large amount of items or learners would have to be tested to make sure that there was enough opportunity for the synform error to occur. In practice, providing enough such opportunities for 10 tests of synform categories would be unfeasible.   Therefore it became evident that the elicitation test should actually have the synform error built in, and the learner should be asked to respond to it in some way.

4.5.2.3 Difficulty in marking

If the translation method had been adopted for the main study with enough opportunity for synform error to occur, one difficulty would have been the quantity of test-items and their translation to mark. Another problem would have been the understanding of the various translations; yet another problem would have been the marking of paraphrases of learners whose mother tongue I did not know. Leaving aside the problem of the reliability of paraphrase, learners' paraphrases in the preliminary study were often phrased in such a fuzzy language, or badly handwritten that they were impossible to decipher and therefore to mark[1].

Thus, the translation/paraphrase method of error elicitation was discarded as a possible elication procedure for the main study on the grounds of its unpracticality in the circumstances. Too many native languages of learners would be unfamiliar to me, while paraphrase was considered unreliable. Since the number of possible answers for each item was virtually unlimited, this meant that an endless collection of data would be required to elicit synform errors. It became obvious, therefore, that a more manageable and practical solution had to be sought.

1 Those who paraphrased were usually non-Hebrew speakers who claimed they knew English better than Hebrew.

Chapter Five

Design of the main study

5.0   The results of the preliminary study confirmed the earlier

intuition that synform confusion was a distinct pattern of difficulty

in vocabulary comprehension.   In order to explore the phenomenon

more thoroughly, the main study was designed.

Chapter 5 describes the design of the study.   It states

the aims of the study;   it describes the methodology which was

considered most appropriate for the investigation of the various

hypotheses, in spite of its limitations, and the subjects who

participated in the tests.   It gives an account of the way

in which the tests were administered and the way in which the

test answers were organized for data analysis by computer.

5.1   Aims

The aim of the study was to investigate three areas of

synform confusion:

- Whether the confusion of synforms in general, and in each

of the 10 categories in particular, was a common error.

Specifically, it was investigated whether a) the synform

error distractors would attract the testees in significantly

higher number of cases than the non-synform errors;   b)

whether the synform error distractors were so 'attractive'

that they would overrule all the other responses, including

the correct one, in a significantly higher number of cases.

- Whether the mother tongue of the learner affected his

confusion of synforms.   The study investigated whether

in each of the synform categories there was a) a significant

difference between foreign learners of English and native learners of English (English speaking children) in their susceptibility to synform confusion, i.e. the number of synform errors they made; b) a significant difference between foreign learners of three L1 families: Semitic, Germanic, Romance, in their susceptibility to synform confusion.

- Whether some categories of synforms caused more difficulties than others. Specifically it was investigated whether some groups of synform categories induced a significantly higher number of synform errors than other groups.

The above aims were formulated in the form of the following null hypotheses.

1.1.1 The frequency of synform errors in category one was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

1.1.2 The frequency of synform errors in category one was not significantly higher than the frequency of all the other responses, including the correct one: a. in the case of native speakers; b. in the case of foreign learners.

1.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 1.

1.2.2 There was no significant difference between speakers of different L1 groups, among the foreign learners, in the number of synform errors made in category 1.

2.1.1 The frequency of synform errors in category 2 was not
significantly higher than the frequency of non-synform errors:
a. in the case of native speakers; b. in the case of foreign
learners.

2.1.2 The frequency of synform errors in category 2 was not
significantly higher than the frequency of all the other responses,
including the correct one: a. in the case of native speakers;
b. in the case of foreign learners.

2.2.1 There was no significant difference between native speakers
and foreign learners in the number of synform errors they made
in category 2.

2.2.2 There was no significant difference between speakers
of different L1 groups, among the foreign learners, in the number
of synform errors they made in category 2.

3.1.1 The frequency of synform errors in category 3 was not
significantly higher than the frequency of non-synform errors:
a. in the case of native speakers; b. in the case of foreign
learners.

3.1.2 The frequency of synform errors in category 3 was not
significantly higher than the frequency of all the other responses,
including the correct one: a. in the case of native speakers;
b. in the case of foreign learners.

3.2.1 There was no significant difference between native speakers
and foreign learners in the number of synform errors made in
category 3.

3.2.2 There was no significant difference between speakers
of different L1, among the foreign learners, in the number of
synform errors they made in category 3.

4.1.1 The frequency of synform errors in category 4 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

4.1.2 The frequency of synform errors in category 4 was not significantly higher than the frequency of all the other responses, including the correct one: a. in the case of native speakers; b. in the case of foreign learners.

4.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors made in category 4.

4.2.2 There was no significant difference between speakers of different L1, among the foreign learners, in the number of synform errors made in category 4.

5.1.1 The frequency of synform errors in category 5 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

5.1.2 The frequency of synform errors in category 5 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

5.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors made in category 5.

5.2.2 There was no significant difference between speakers of different L1, among the foreign learenrs, in the number of synform errors made in category 5.

6.1.1 The frequency of synform errors in category 6 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

6.1.2 The frequency of synform errors in category 6 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

6.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 6.

6.2.2 There was no significant difference between speakers of different L1, among the foreign learners, in the number of synform errors made in category 6.

7.1.1 The frequency of synform errors in category 7 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

7.1.2 The frequency of synform errors in category 7 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

7.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 7.

7.2.2 There was no significant difference between the speakers of different L1, among the foreign learners, in the number of synform errors they made in category 7.

8.1.1 The frequency of synform errors in category 8 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

8.1.2 The frequency of synform errors in category 8 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

8.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 8.

8.2.2 There was no significant difference between the speakers of different L1, among the foreign learners, in the number of synform errors they made in category 8.

9.1.1 The frequency of synform errors in category 9 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

9.1.2 The frequency of synform errors in category 9 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

9.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 9.

9.2.2 There was no significant difference between the speakers of different L1, among the foreign learners, in the number of synform errors they made in category 9.

10.1.1 The frequency of synform errors in category 10 was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

10.1.2 The frequency of synform errors in category 10 was not significantly higher than the frequency of all the other responses, including the correct ones: a. in the case of native speakers; b. in the case of foreign learners.

10.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in category 10.

10.2.2 There was no significant difference between the speakers of different L1, among the foreign learners, in the number of synform errors they made in category 10.

11.1.1 The frequency of synform errors in general, as tested in test 11, was not significantly higher than the frequency of non-synform errors: a. in the case of native speakers; b. in the case of foreign learners.

11.1.2 The frequency of synform errors in general, as tested in test 11, was not significantly higher than the frequency of all the other responses, including the correct ones; a. in the case of native speakers; b. in the case of foreign learners.

11.2.1 There was no significant difference between native speakers and foreign learners in the number of synform errors they made in general, as measured by test 11.

11.2.2 There was no significant difference between the speakers of different L1, among the foreign learners, in the number of synform errors they made in general, as measured by test 11.

12.1 There was no significant difference between synmorphs

(categories 1-5) and synphones (categories 6-10) in the number

of synform errors each of the two groups induced: a. in the

case of native speakers; b. in the case of foreign learners.

12.2 There was no significant difference between the 'suffix

synmorphs' (categories 1, 2, 3,) and the 'prefix synmorphs'

(categories 4, 5) in the number of synform errors they induced:

a. in the case of native speakers; b. in the case of foreign

learners.

12.3 There was no significant difference between the 'vowel

synphones' (categories 6, 7, 10) and the 'consonant synphones'

(categories 8, 9) in the number of synform errors they induced:

a. in the case of native speakers; b. in the case of foreign

learners.

5.2   Methodology

5.2.1   Elicitation format

The elicitation of synform errors was done by means of

a multiple choice test with the synform errors built in the

distractors.   For example, the testee was asked to complete

the following sentence: The factory .... included fifteen

workers.   a. staff b. stiff c. stuff d. stove.

This format was thought to be more suitable than the one used

in the preliminary study for several reasons.

a. It did not require my knowledge of learners' mother tongues.

b. Students were not required to paraphrase in English.   (The

    disadvantages of paraphrase were discussed in the chapter

    on preliminary study).

c. Since the number of possible answers to each item was limited
    to four, synform error among them, it was reasonable to
    assume that a workable amount of synform errors could be
    elicited from a manageable corpus of data. (This could
    not be done in the preliminary study.)

d. The multiple choice format would make it easy for most numerical
    and statistical computations to be done by the computer.
    Preparation of the data for computer analysis would involve
    proper coding of data only; it would not require my marking
    the tests.   Therefore, a relatively large amount of data
    could be worked with.   If a different format had been used,
    a format inadequate for computer processing, the amount
    of data would have had to be reduced considerably for the
    analysis to be completed in a reasonable period of time.

5.2.2   Test versions

There were 11 tests altogether,[1] 10 tests corresponding
to the 10 categories of synforms and test 1 'a general synform
test' which included items from all the categories, three items
from each category.

Each test had two versions, version A and version B.
Both versions of a particular test were taken by the same students,
that is, each synform was tested twice with a group of learners.
Version A of each test consisted of sentences with a gap to
be filled in each sentence.   The testees were given four alternatives
from which they had to choose the correct answer

e.g. The factory .... included fifteen workers.

        a. staff b. stiff c. stuff d. stove

1 The tests are presented in Appendix 3.

Version B of the same test, which was given to the learners after
they had completed version A, consisted of individual words with
four possible explanations of the meaning of each word.   The
testee had to choose the correct interpretation, as in the following
example:

STAFF

    a. group of people working together

    b. not easily changed in shape

    c. material of which something is made

    d. apparatus used for warming rooms

The explanations in a-d corresponded to the four possible answers
in the parallel sentence in version A.   Thus, alternative a
- 'staff' in test Version A corresponded to alternative a -
group of people working together in version B;   alternative
b - 'stiff' in A corresponded to b - 'not easily bent' in B;
c - 'stuff' in A corresponded to c - 'material of which something
is made' in B;   d - 'stove' corresponded to d - 'apparatus used
for warming rooms'.   This correspondence between the two versions
meant that the same distractors were provided twice for each
synform by means of the two test versions.

The idea of examining context effect on synform confusion
was abandoned after the preliminary study, where each synform
had to be translated in isolation and then in context and the
results were then compared.   The main study, however, did not
attempt to do the same.   It was assumed that the kind of sentences
that would be written for this study could not possibly replicate
the context which the reader faced in the reality.   Words usually
appear in context much larger than a sentence and the clues
to the understanding of the meaning of a particular word might

often appear not necessarily in the sentence which includes the word, but somewhere else in the text. Also the sentence with the word in question is not necessarily self contained, i.e. not fully meaningful to the reader without relating it to the larger context. Finally, not all words have clues in the surrounding context. Bensoussan and Laufer (1984) examined a total of 70 words in a text and found clues (direct and indirect) for a maximum of 41 of them. The study, however, could not provide texts for each synform; the sentences therefore would always have to be self-contained (unlike in a real reading situation); as for the clues, it was not clear (if context effect had been checked) to what extent the sentence should provide clues to the interpretation of the meaning. How fair, for example, would it be to apply a similar criterion to the judgement of context effect in the following two sentences? a. She made a graceful speech at the party. b. The plaintiff in the case charged that his civil rights had been violated. The first sentence gives no clues to the meaning of the underlined word. Someone who does not know it could interpret it as 'long', 'short', 'nice', 'impressive', etc. In the second sentence, the correct guess is very plausible. Because of the above difficulties, it was decided not to compare synform errors in isolation and in context and not to draw any conclusions as to context effect on synform confusions.

In the main study, Test Version A tested synforms in sentences, while Test Version B tested them in isolation. However, this was not done in order to check context effect on synform confusion. The two versions were simply two elicitation methods: Test Version A tried to elicit synform confusions when the allegedly

confused words were actually seen by the testee; Version B

of the same test tried to elicit synform confusions when the

testee was faced with the interpretation of the word tested,

of its allegedly confusing synform and of two other distractors

(see example p. 117). It was believed that having two different

types of tests (reputable and widely used[1]) testing the same

phenomenon would reduce the possibility of the results being

an artifact of a particular testing method.

5.2.3   Individual items

5.2.3.1 Corpus of items

As in the preliminary study, the synforms tested were taken

from the collected and the expanded samples of the 10 groups

of synforms listed in Appendix 1.   Each category was tested

in a separate test: category 1 - in test one, category 2 -

in test two, etc.   As mentioned before, test No. 11 included

items from all the categories; 3 items from each.

The number of items in each test was between 18 and 25.

The preliminary study, where different tests had different length,

showed that longer test (over 25 items) made many students lose

interest towards the end of the test.   Since, in the main study,

results of the test would not affect the students class grade

it was supected that in a long and tiresome test they would

not perform seriously towards the end.

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[1] Testing vocabulary by filling in gaps in sentences is the method
used by Cambridge First Certificate and Certificate of Proficiency
exams; testing words by asking for their meaning equivalence
in isolation is the method used by ELBA and TOEFL.

Thus, altogether 223 synforms were tested, each one twice by the two test versions. Some of them, which appeared in test 11 as well, were tested four times.

5.2.3.2 Distractors

As mentioned earlier, the four possible answers to each item included the correct answer, the synform distractor (several distractors in the case of synform groups, e.g. oppress, suppress, repress[1]), other distractors. The latter were chosen on the basis of some formal similarity to the synform tested, but not the kind of similarity tested in the particular test, e.g. Thousands came to watch the .... of the space shuttle.

    a. leech   b. launch   d. lunch   d. lurch

The synforms tested for confusion are 'lunch/launch'. The distractors 'leech', 'lurch' resemble launch (in the number of syllables, the consonants _l_, _tʃ_ , but not in the way specified in category 6 which includes 'lunch' and 'launch'.

When it was impossible to find distractors which resembled the tested item in form, other distractors were offered, which were similar to each other.

e.g. The road leading up to the mountain town followed a ....
    route.

    a. circus   b. circular   c. circuitous   d. citrus

The synforms tested for confusion are 'circular/circuitous'. The other two distractors 'circus', 'citrus' resemble each other.

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1   As will be explained in the 'Results' chapter, in such cases, the calculation of synform error frequency was different from the calculation in the case of one synform distractor.

This was done to reduce the possibility of one distractor being recongized as obviously wrong simply by being utterly different from the others.

In some cases one of the non-synform distractors resembled one synform and the other resembled the other synform, e.g. Don't .... the value of money; it's better to have it than not to.

a. deprive   b. cry   c. decry   d. pry

The synforms tested for confusion are 'cry/decry'. The distractor 'deprive' somewhat resembles 'decry'; 'pry' has some resemblance to 'cry'. But, as was stated earlier, these are not 'synform resemblances' of the type tested here.

Sometimes, in the design of the tests, it was impossible to have the non-synform distractors similar in form to each other, or to the synforms tested for confusion.

e.g. A teacher should have .... and attractive personality.

a. a living   b. alive   c. a live   d. lifelong

'Lifelong' is different from other alternatives in its form. But since lifelong is semantically related to the others, lifelong might not necessarily be immediately eliminated as a possible answer.

Thus, the general principle behind the construction of the non-synform distractors was to conceal the fact that in each sentence there were only two alternatives similar to each other, one of which was the correct answer, and to minimize the testee's ability to recognize the non-synform distractors as the obviously wrong ones.

5.2.4   Pilot test

In order to examine the feasibility of the methodology

a pilot test was administered.   It consisted of test 1 (which

tested synform category 1), versions A and B and was given to

12 foreign learners and 20 native speaking children.   The indication

was that the methodology was satisfactory in terms of the time

required to complete the test, clarity of task required of the

testee and technical ease of performing it, and the ease of

the marking system.   Since the same test was replicated in

the main study, the results of the pilot are not presented.

5.3   Subjects tested

The subjects tested were learners of English, native speaking

children and foreign learners, speakers of different native

languages - altogether 528 participants in the experiment.

5.3.1   Native speakers

207 children, boys and girls, studying in Primary School grade

7 (age 12) were tested.   All of them live in Edinburgh and

study in Edinburgh primary schools: Broughton Primary, James

Gillespie's Primary, Liberton Primary and South Morningside Primary

Schools.   These schools were recommended by the Research Evaluation

Committee of the Lothian Regional Council, Department of Education.

The children were from mixed social background; most of them,

however, belonged to the middle class.

The particular age of the children was chosen since it

was assumed that the vocabulary of the Primary 7 child was good

enough for communication and comprehension of not too difficult

written language, but it was still in its developing stages.

In other words, these children were still learners of English
even though it was their native language. Being language learners
they were likely to have various difficulties which were experienced
by all language learners. One such difficulty, it was assumed,
would be the distinction between synforms.

5.3.2   Foreign learners

5.3.2.1 Place of study

321 adult foreign learners male and female, participated
in the test.   These were Haifa University students in Israel
and foreign students in Britain: from Birmingham University;
Edinburgh University; London Pitman College; Stevenson College
in Edinburgh; 'English Language Centre', Inlingua' Eurocentre'
in Brighton.   The learners in Israel and in Britain were either
students of various departments other than English Language
and Literature, or were simply improving their English for career
purposes in Britain (Pitman College students), or for other
purposes (the Brighton schools).

The main purpose of the course in Israel was to improve
the learners' reading comprehension of academic literature;
the purpose of the various courses in Britain was to improve
the learners' general proficiency in English, and, in the case
of university students, also to develop or improve their academic
study skills.

1 The learners in Britain were all recent arrivals. I assumed,
   therefore, that the language input they had received outside
   the classroom was not sufficient enough at the time of the
   tests to consider them as very different from the learners in
   Israel, in a non-immersion situation.

5.3.2.2 Level

In spite of the different places of study, the level of the learners' English was similar - it was the level of the Cambridge FCE or its equivalent.   As mentioned in the preliminary study, the end-of-high-school exam in Israel required for entering the University, is the equivalent of the FCE.   It is true that most Israeli students start university education after a period of two-three years, due to their military service, in which they have no formal education and are therefore likely to be at a lower level at the beginning of their academic studies. But since the tests were administered in the middle of the course, after about 30 teaching hours, it was assumed that the learners had regained the proficiency they had had at the end of high school.

As for the learners in Britain, those in Pitman College were actually holders of the FCE and were beginning the Cambridge Proficiency course.   In other institutions teachers and course directors were consulted.   The classes selected for the tests by the institutions were those whose level was considered to be the equivalent of the FCE by the teaching staff.

5.3.2.3 Native languages

The foreign learners were native speakers of over 20 different languages.   The Israeli students were speakers of Hebrew and Arabic; two speakers of Roumanian.   The students in Britain were native speakers of Arabic, German, Dutch, Swedish, French, Icelandic, Spanish, Italian, Portuguese, Japanese, Chinese, Korean, Thai, Indonesian, Greek, Turkish, Berber, Russian and some African languages.   The different L1s were grouped into

language families: Semitic, Germanic, Romance, Sino-Tibetan/
Altaic and 'Other', which is a collection of other languages
grouped together due to insufficient numbers of testees-speakers
of each language. The exact numbers of speakers of each language
(including the native speakers) in each test is shown in the
following table. From the table it can be seen that altogether
528 learners were tested; each learner took two versions
of a test; thus, altogether 1056 tests were administered.

5.4 Limitations of the methodology

5.4.1 Format

The multiple choice (MC) elicitation format might not be the
best possible method to test vocabulary comprehension. It
can be argued that learners do not interpret the meaning of
words by retrieving four possible meanings from their memory,
eliminating three and deciding on the correct one.

Secondly, the four alternatives constructed by the researcher
for each item might not include the learner's interpretation
of the tested word, since the multiple choice format does not
allow for answers other than those incorporated in the test.

Another criticism levelled against MC tests is that it
is so easy for the testee to circle an answer, or put a cross
in a box next to it, that often when they are not sure about
the right answer they put that cross anywhere. Thus, some
of the collected results might represent guesswork rather than
learners' preference for a particular answer.

The above disadvantages are certainly true. However,
the advantages of the MC format which were discussed in 5.2.1 seemed

Test Number	1	2	3	4	5	6	7	8	9	10	11	Total per language group
Hebrew	8	4	6	3	7	8	6	4	3	12	4	
Arabic	3	5	5	8	8	7	8	6	7	6	8	
Total Semitic	11	9	11	11	15	15	14	10	10	18	12	136
German	5	4	3	4	3	3	4	3		4	3	
Dutch		1	1	1	2	2	1	2	1		1	
Icelandic									1		2	
Swedish	1		1				1		3	1		
Total Germanic	6	5	5	5	5	5	6	5	5	5	6	58
French	2	3	1		2	1	3	3	2	1	3	
Spanish	3	3	2	3	2	2	1	1	1	2	3	
Italian	2		2	2	2	1	1	1	3	2	3	
Roumanian							2					
Portuguese	1		1		1	1						
Total Romance	8	6	6	5	7	5	7	5	6	5	9	69
Japanese	1	1	1	1		1	1			1	1	
Chinese	2	3		3		4		3		2	1	
Korean	1	1	1		1	1	1					
Thai				1	1							
Total Sino-Tib/Altaic	4	5	2	5	2	5	1	3		3	2	32
Indonesian		1		1				1				
Greek					3	2						
African Languages		2	1	1	1	1	1	3				
Turkish	1	1	1	1								
Berber				1						1		
Russian						1	1	1	1	1		
Total other	1	4	2	4	5	4	2	2	1	2	2	25
Total foreign learners	30	29	26	30	34	34	28	25	22	33	30	321
Total native speakers	14	15	14	16	15	15	29	29	23	14	23	207
Total testees per test	44	44	40	46	49	49	57	54	45	47	51	528

to outweigh its shortcomings.   Moreover, the fact that many reputable

tests (Cambridge First Certificate and Certificate of Proficiency,

TOEFL, Michigan Test, ELTS, ELBA) use this format in most of their

subtests, including that on vocabulary, suggests that even if

it is not the best format, it is certainly one of the most practical

and practised ones.

5.4.2   Individual items

In the discussion of synform confusion as a common error,

it would be interesting to compare it with semantic confusion

of the items tested, i.e. to compare the amount of synform errors

with the amount of confusion with a semantically related distractor.

However, the distractors rarely included semantically related

ones.   If they had, it would have become clear to the testee

that in each sentence he was tested on the distinction between

two words similar in form, since in each sentence there would

have been two such words and two others.   Therefore it was attempted

to construct all the distractors on the basis of formal similarity

and the question of semantic confusion was not studied.

5.4.3   Subjects tested

A perfect comparison of synform categories in terms of their

difficulty, i.e. in terms of frequencies of synform errors, would

require testing the same learners on all the categories.   Even

though all the native speakers in the study were Primary 7 pupils

and all the foreign learners were at the FCE level, there might

have been differences in the vocabulary command of the various

groups tested due to different schools or institutions, individual

teachers, teaching methods and the learners' personal language

experience outside the classroom.   Therefore the comparison might

have been made between groups of learners that were slightly different from each other in their general language proficiency.

However, in practice, it was impossible to test 223 items, twice, on the same learners. It was, therefore, hoped that the school grade, in the case of the native speakers, and the FCE level, in the case of the foreign learners, were sufficient guidelines for selecting the subjects for tests.

In spite of the limitations in the test format, types of distractors and selection of the subjects, it was assumed that the results of the study would be meaningful enough since they were based on 22 tests (11 tests x 2 versions per test), testing 223 synforms, twice (and some 4 times with test 11)on 528 learners, resulting in 24192[1] responses altogether.

5.5   Administration of the tests

The tests were administered between December 1983 and March 1984. All of them were taken during the learners' lessons in their own schools and institutions. The tests for the Israeli students were sent by me to Haifa University with detailed instructions to some of my colleagues and were administered by them. The tests in Britain were administered either by me or by class teachers whom I personally instructed. The learners were told that the

1   Tests 1-10:   223 items x 2 (2 test versions) = 446
    Test 11:   29 items x 2 = 58
                  58 + 446 = 504:   11 tests = 45.818 (average number
                                                       of responses
                                                       per student)
                  45.818 x 528 students = 24192 responses altogether.

the purpose of the tests was experimental and that no credit would be given for the results. However, teachers who wished to get extra copies of the tests in order to go over them with their students, could do so after the completed tests had been collected.

In all cases, Test Version A was given first. Test Version B was given after A had been collected. No time limit was set for the test, but in all the cases the two versions did not take more than 40 minutes. The tests were done without any help of dictionaries, class teachers, or fellow students.

5.6   Organization of data for computer analysis

5.6.1   Data files

The results *of each test* were stored in a separate data file. Thus the data for test 1 were in File No.1, test 2 - File No.2, etc. This was done for the results of native speakers and then for foreign learners, separately, (for reasons of convenience only). For example, the results of test 1, native speakers were stored in a file named File F1; results of test 1, foreign learners - in a file named Foreign F1.

5.6.2   Variables

5.6.2.1 Student

Each test form had the testee's name at the top of the test. This way the two test versions could be matched for each student. Each student was given an ordinal number. The same number was given to a student on test version A and test version B; the number was written in the top box (see sample test, Appendix 3).

5.6.2.2 Native language

Each student was asked to write his mother tongue on the test form. The second box on each test form, which is below the Student No. box, contains the mother tongue code. The L1 was coded as follows: 1-Semitic language family, 2-Germanic, 3-Romance, 4-Sino-Tibetan/Altaic 5-English (for native speakers); 6-other.

5.6.2.3 Synform category

The third box on each test form contains the test number, i.e. the synform category tested and the test version, e.g. 3B, 12A, etc.

5.6.2.4 Answer identification

Each item was numbered and one of the answers (a-d) to each item was marked on the test form by each testee.

5.6.3 Input format

Each computer form which has the data of one test includes the following information in each row: first three digits designate the student number; the next number (after two spaces) stands for L1; next number (two digits) stands for test number; the letter that follows (A or B) represents the test version. The rest of each row includes the answers (A, B, C, D) to all the questions. A sample of data file is attached.

```
001   101A   AABCBADBACABDACDCBDDDADBB
001   1013   AMBCDABA3BCBCCCDBBAACCAAD
002   101A   BCBACCCCCACBADCBCCBBDCDDA
002   1013   ADBCBBCACADBBCDACCBCCCCBB
003   101A   DBCCABDBBDAADCCDBBBBBCDBB
003   1013   ABCCABAADCDDBDCDCCCCACBDD
004   101A   ABCBBABDCABDDACCDDADBBCAC
004   1013   DDACBDAABBBABDBCACBACCBAD
005   101A   CBACACACABDDAADCCCCCBCCAD
005   1013   MMMMMMMMMMCCDMMMMMMMMMMMM
005   101A   ABBDBABDCACADACCBDAACBDCD
006   1013   ADBCBCBACADCBCBCDCACCABDD
007   101A   CMABDCBADCACABAMDDBACDDBA
007   1013   AAADABBAAAB3BDDAACBMACBBA
008   101A  ·BBADDACBCACADDDCACDCDCDDD
008   1013   ACBCAADBBADMADCDMCAACCDBC
009   101A   BBB3BAADCBDBDDCDBDBCABDDB
009   1013   DABCABBA3CB3MDA3BCCCACBBA
010   101A   BDBCBCAACCABDCBDBBBDDADACC
010   1013   DBCBCDAABBBBBDDBDCBACADCDC
012   101A   BBMCAAABCCBCBBCDDCBMDCADD
012   1013   B3BCACDAADB3BDBDCCBACDDDD
013   201A   BBB3BBBBBACCACCBBEDCBCADD
013   2013   BA43ABBBBABCCDDBCCCCBCCCD
014   201A   BBB3DACCDCCADDCABDCBBDDDD
014   2013   CAC333B3C3CCDDDCCDCDDACDD
015   201A   ABACAACACACBBACBDDBADBCDB
015   2013   CDCCABABAAB3DD3BADACDBCDD
016   201A   BBB3DACBCACDDABDADCBABBCD
015   2013   AABCACAB3AB3BDDD3CMCCBCDCD
017   301A   BBB3BACBAAACBDCBCDCBBADCA
017   3013   AAB3ABABBBBBBDDDBCADCCDCDD
018   301A   BABB3BEBBADCBDAADADABCDDD
018   5013   BAB3333B3BA3BDCDADACC3CDCA
019   301A   BABB3CABAADCBCBADACBBBCDD
019   3013   AABBACABCADBACDADACCBCDCD
020   301A   BBB3DACBDAACDDCCBACBABDBD
020   3013   CAB3ABABBADBBDD3BCACCCCBDD
021   401A   ABACDAADACABDCBBDAABBACCD
021   4013   CCA3BCBBCCB3BDDDBBACACBBD
022   401A   BBBCDAACCABDDBCBADBCCACDD
022   4013   CABCBCBB3C3BDCBDCDACBBBBA
023   401A   DBBBDCCDBBDCDDBABDCDAAACB
023   4013   BABBABBBCCDBCDDACACCBBDBC
024   401A   CACDBACBCBADCDBB3DBBBB5DDD
024·  4013   CAADCCCBCDCBCDDAADBC3MMMM
025   501A   DAB3DBABACDADBACBBDBDAADB
025   6013   AABCBACABADBDDCBABABACBBD
026   201A   AAC3DBCCCDCBBDABBACCCDDCA
025   2013   CB3333BBCCCBCCBCADADB4ADA
027   201A   BBB3BACCCBDCBDDCBBPBCDDDA
027   2013   CAC3BDAACCDBBDABBAACDBCCC
028   301A   BBB3MACBCMACBDCCADBBBMDDB
028   3013   AAB3CBAAM43MBDMDMBBCCDBMC
029   311A   BABCMABBCADBCDCMAADMBCDDA
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_____
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029   3013   BAAMABAABMDBDDCDCBCCBMAMD
030   301A   BABBACBBCADCCDCBABBDABDDA
033   3013   ACC3ABABACBCCDCCABCCB3DBA
031   301A   BABB3ABBBADCADCADDCBCCDDB
031   3013   BAB3CCABBAACBDCADBACBBDCC
```

Chapter Six

Results

6.0   The Results chapter is in two parts: 1. preliminaries;
2. results of the main study.

The preliminaries section explains how the results are
organized for presentation and how the various figures and
statistical results in the second part were arrived at.
Hence the division of the 'preliminaries' into: 1. organization
of the results; 2. calculations.

The second and main part: 'results of the main study'
presents information about synform errors: their frequencies
and the learner's susceptibility to such errors. It also
presents the results of the statistical tests designed to
test the various hypotheses stated in chapter 5 'Design of
the main study', hypotheses about the frequencies of synform
errors, about the L_1 effect on the frequency and about the
relationship between the individual categories of synforms.

6.1   Preliminaries

6.1.1 Organization of the results

The results are organized in 12 sections. Each of the
sections 1-11 includes the results of one test, i.e. of one
synform category in tests 1-10, and a mixture of categories
in 11; section 12 includes a comparison of the different
categories of synforms.

6.1.1.1   Sections 1-11 - results of individual tests

Each section in 1-11 displays the following information:

a. Results of the native speakers

i. Synform error frequencies - the percentage of synform errors
made on each item by all the testees, in test version
A and test version B.

ii. Synform error susceptibility of individual testees -
the percentage of synform errors each testee made in
test version A and test version B.

iii. The percentage of all synform errors made in the test;
in version A and version B.   This information is presented
at the bottom of each table.

iv. The expected percentage of all synform errors in the
test based on the number of synform distractors in the
test.   This information is presented at the bottom
of the synform susceptibility tables.

v. Results of four χ^2 tests: 2 χ^2 tests testing the significance
of the difference between the number of synform and
non-synform errors in test version A and test version
B (one test for each version); 2 χ^2 tests testing the
significance of the difference between the number of
synform errors and the number of all the other responses
including the correct ones (one χ^2 test for each test
version).

The purpose of the first two tests was to check whether
when the learners err, the error is more likely to be
a synform than a non-synform error.   The purpose of
the second pair of χ^2 tests was to check whether the
synform error response is so powerful that it would attract
the learner, overruling even the correct response, which
is supposed to be the most attractive of all the four.

b. Results of foreign learners

    i. to v. as in the section above, only with regard to
the foreign learners.

c. Comparison between native speakers and foreign learners

i. Synform error frequencies - the percentage of synform
errors made on each item by native speakers next to the
% of synform errors on the same item made by foreign
learners. The information is presented for test version
A and B separately.

ii. The percentage of all synform errors made by native speakers
and that made by foreign learners in test version A and
B. This information is displayed at the bottom of the
synform frequency table.

iii. 2 χ^2 tests testing the significance of the difference
between the number of synform errors made by the native
speakers and that made by the foreign learners - one
χ^2 test for each test version.

d. Comparison between different L_1 groups of foreign learners

i. Synform error susceptibility of individual testees in
three L_1 groups: Semitic, Germanic, Romance, i.e. the
% of synform errors made by each testee in test version
A and B.

ii. The percentage of all errors made by each L_1 group in
each test version.

iii. 2 χ^2 tests testing the difference in the number of synform
errors made by each of the groups, one χ^2 test for each
test version.

e. Summary of the results

Each section 1-11 ends with a summary of the results.
The summary states whether, according to the significance
tests, the confusion of synforms in question is indeed
a common error or not; and whether the native language
of the learner has an effect on the particular synform
confusion.

The following criterion has been adopted for considering
a particular synform confusion to be a common error:
if the synform error frequency was significantly higher
than the frequency of other errors in both test versions
and if it was also significantly higher than the frequency
of all the other responses, including the correct ones,
in at least one test version.

6.1.1.2   Section 12 - comparison of categories

Section 12 displays the following information:

a. Percentages of all synform errors made in each one of
   the categories; by native speakers and by foreign learners;
   in test version A and in test version B.   In the same
   table, in addition to the above information, there is
   also the expected percentage of the synform errors in
   each category.

b. 4 χ^2 tests testing the significance of the difference
   between the number of synmorph errors (categories 1-5)
   and synphone errors (categories 6-10): 2 tests for native
   speakers, test version A and version B; 2 tests for
   foreign learners.

c. $4\chi^2$ tests testing the significance of the difference
   between the number of the synform errors induced by the
   'suffix synmorphs' (categories 1, 2, 3) and that induced
   by the 'prefix synmorphs' (categories 4, 5): $2\chi^2$ tests
   for native speakers, two for the foreign learners.

d. $4\chi^2$ tests testing the significance of the difference
   between the number of synform errors induced by the 'vowel
   synphones' (categories 6, 7, 10) and the 'consonant synphones'
   (categories 8, 9): $2\chi^2$ tests for native speakers;
   2 for foreign learners.

6.1.2 Calculations

6.1.2.1 Synform error frequencies

The actual frequencies[1] of synform errors for each item were
extrapolated from the computer printout which included the frequencies
of all possible answers to each item.   (A sample of the frequencies
printout is attached in Appendix 4 and marked 'Printout 1').

After the frequencies of synform errors had been written down
in the frequencies table, the sum of these frequencies was calculated
by a desk calculator for test version A and test version B.
Each of the two calculated sums was then divided by the number
of test items in order to calculate the % of all the synform errors
in the category in test version A and B.

For example, in test 3, version A, native speakers, the sum
of all synform error frequencies in % was 529.   Test 3 had 25

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1. These were the adjusted frequencies which did not take into
    account testees who did not answer the particular item for
    which the frequency was calculated.

items.   Thus the % of all synform errors in category 3, test
version A was $529:25=21.1 \sim 21\%^2$.

6.1.2.2   <u>Synform susceptibility of individual testees</u>

One of the tasks of the computer was to compute, in each test
version, the total number of synform errors, the number of non-
synform errors and the number of correct responses made by each
testee.   Having computed this, the computer listed the cases,
i.e. produced a list of the individual testees, their mother tongue,
the number of synform errors, the number of non-synform errors
and the number of correct responses each testee made.   (A sample
printout of individual cases is attached in Appendix 4 and marked
'Printout 2').   This printout was the source of information in
the synform susceptibility tables.   Yet, for the purpose of presentation,
the raw scores of synform errors were converted into %.   This
conversion was done by a desk calculator.   For example, in test
3 (native speakers) testee no. 1 had 6 synform errors in test
version A, and 11 in B.   The same testee answered all the 25 items
in the test.   To find what % of his answers were synform errors
the following calculations were performed: $\frac{6 \times 100}{25} = 24\%$; $\frac{11 \times 100}{25} = 44\%$.
Thus testee no. 1 made 24% of synform errors in test version A and
44% in B.   The % of synform errors per test (the bottom line) in the
two tables – the frequency table and the susceptibility one –
was expected to be the same.   Whether one adds up the % of synform
errors made in each item by all testees, or the % of synform errors

2.   This figure was checked against the total number of synform
errors in printout 2 in order to avoid error.

made by all students in the whole test, the result is the same: the % of all the synform errors made by all the testees.

6.1.2.3 χ^2 tests

a. Difference between the number of synform and non-synform errors.

For the purpose of χ^2 tests, the frequencies of synform and non-synform errors were compared in their raw scores. The total number of observed synform and non-synform errors was extrapulated from computer printout 2, the 'breakdown' section.

The expected frequency of synform and non-synform errors was calculated as follows. The total number of all errors (synform and non-synform) in a test divided by 3 would give the expected number of synform errors since the synform error was in one of the three incorrect distractors in each tested item. The rest (total errors minus expected number of synform errors) would be the expected frequency of non-synform errors. For example: the observed frequency of synform errors in test 3, version A, native speakers was 74; that of non-synform errors - 72; altogether 146 errors. The expected frequencies would be: synforms:146:3=48.7~49; non-synforms: 146-49=97. The χ^2 table for test 3, version A, native speakers would look as follows:

	Syn. errors	Non-syn. errors
Observed	74	72
Expected	49	97
Difference	25	-25
Yeats correction for df1	- ½	+ ½
	24.5	24.5

$$\chi^2 = \frac{24.5^2}{49} + \frac{24.5^2}{97} = 18.43$$

The calculation of the expected frequency of synform errors was slightly different for tests where there were more than one synform distractor for some of the items. For example, in test 2 there were 25 items tested but in 5 of them there were two synform distractors for each item, which means that there could be the maximum of 30 synform errors in one test, among the possible 75 errors (25 items x 3 error distractors). If for 75 errors there were 30 synform errors, then for 405 errors (all errors observed in test 2, version A) there would be $\frac{405 \times 30}{75}$ = 162 expected synform errors. The rest of the calculation for the x^2 test was the same as in the tests with one synform distractor for each item.

b. Difference between synform errors and all the other responses.

The total number of observed synform errors and that of all the other responses was extrapulated from computer printout 2 (the number of synform errors is printed under Total 1; the number of all the other responses was calculated by adding 'Total 2'- the non-synform errors and 'Total 4' - the correct responses).

The expected frequency of synform errors would be the total number of responses (total 1 + total 2 + total 4) divided by 4, if only one distractor in each case was a synform error.

If more than one synform error was among the distractors, the calculation would be similar to that in the previous section. For example, in test 2, 25 items were tested but there were 30 synform error responses among the 100 possible answers in the whole test (25 items x 4 possible responses per item). The observed number of all responses in test 2, version A

native speakers, was 274. Thus the expected number of synform errors in this test would be $\frac{274 \times 30}{100}$ = 112.2 ≈ 112. The rest of the calculation for the x^2 test was the same as in the preceding section.

c. Difference between speakers of different mother tongues in their susceptibility to synform errors.

The total number of synform errors made by each group of learners was taken from computer printout 2. Two kinds of comparisons were made: between native and non-native speakers; between three L_1 groups of foreign learners: speakers of Semitic languages, Germanic and Romance languages. These comparisons were made for each test versions, A and B.

In each x^2 test, the observed number of synforms was the number stated in the printout. The expected number of synform errors for each group was calculated as follows. For example, in test 3, version A native speakers made 74 synform errors and foreign learners - 201, altogether 275 synform errors. There were 14 native speakers tested and 26 foreign learners, altogether 40 testees. Thus the expected number of synform errors of the native speakers would be: $\frac{275 \times 14}{40}$ = 96. With foreign learners, the expected frequency would be: $\frac{275 \times 26}{40}$ or 275-96 = 179.

d. Difference between groups of synform categories in the number of synform errors they induced.

In each of the x^2 tests testing the above difference, the observed frequency of synforms in each category was taken from computer printout 2. Since groups of categories were

compared and not individual categories, the observed synform error frequency of the group was calculated by adding up the frequencies of the individual categories in the group.

The expected frequency of synform errors in each group was calculated as in the following example: comparison between 'suffix synforms' (categories 1, 2, 3) and 'prefix synforms' (categories 4, 5).

Test 1 (category 1) had 29 possible synform distractors: 14 native speakers took test 1. Thus, altogether, the maximum of 29 x 14 = 406 synform errors could be made in this test by all the native speakers. Similar calculations, of the maximum of synform errors in the test, were made for all the tests participating in the comparison of 'suffix synforms' and 'prefix synforms'. By adding the maximum number of synform errors in categories 1, 2, 3 we would get 1206; in tests 4, 5, the maximum synform errors would be 1288; altogether 2494 synform errors in the 5 tests.

The observed frequency of synform errors in tests 1, 2, 3 was 253; in categories 4, 5, it was 273, altogether 526 observed synform errors in the 5 tests.

Thus, the expected number of frequency errors made by the native speaking testees in tests 1, 2, 3 would be $\frac{526 \times 1206}{2494} = 254$; in tests 4, 5 it would be 526 - 254 = 272.

Once the expected frequencies of the groups of categories were found, the χ^2 was calculated in the usual way.

6.1.3 <u>Summary</u>

6.1.3.1 <u>Tables</u>

The section - 'results of the main study' includes 67 tables:
6 tables for each test 1-11; one table in the comparison section,
no 12.   In sections 1-11, 3 tables are frequency tables of the
% of synform errors made in each item by all the testees: one
table presents synform error frequencies of native speakers;
one of foreign learners; one compares the two, altogether 33
(11 x 3) frequency tables in sections 1-11.   The remaining tables
in each section 1-11, are synform error susceptibility tables
which display the % of all synform errors made by individual testees:
one table presents the synform error susceptibility of native
speakers; one of foreign learners; one of foreign learners in
each of the three L_1 groups compared in the study: Semitic, Germanic,
Romance; altogether 33 synform susceptibility tables in the 11
sections.

6.1.3.2 <u>Statistics</u>

In the analysis of the results 144 χ^2 tests were used.
In each of the sections 1-11, the following differences were tested
for significance:

- between the number of synform and non-synform errors made
by native speakers in test version A and test version B;
- between the number of synform errors and the number of all
other responses, including the correct one, made by native
speakers in test version A and B;

- between the number of synform and non-synform errors made

    by foreign learners in test version A and B;

- between the number of synform errors and all the other responses,

    including the correct one, made by foreign learners in

    test version A and B;

- between the number of synform errors made by native speakers

    and that made by foreign learners in test version A and B;

- between the number of synform errors made by three L_1 groups

    of foreign learners in test version A and B.

Altogether 12 χ^2 tests were used for each of the 11 sections.

In section 12, the following differences in synform error provocativeness were tested for significance:

- between synmorphs (categories 1-5) and synphones (categories

    6-10);

- between 'suffix synforms' (categories 1-3) and 'prefix synforms' (categories

    4-5);

- between 'vowel synforms' (categories 6, 7, 10) and 'consonant

    synforms' (categories 8, 9).

Each of the above differences was tested separately for native speakers; non-native speakers; test version A; test version B. Altogether, section 12 includes 12 χ^2 tests.

6.2   Results of the Main Study

   6.2.1   Test 1 - Category 1

   6.2.1.1   Tables 1-1 - 1-6

Table 1.1 - Synform frequencies (Native speakers)

No. of testees = 14

Correct answer	Expected syn. error	% of syn.errors Test Version A	% of syn.errors Test Version B
1. considerable	considerate	0	35.7
2. admittance	admission	28.6	14.3
3. imaginative	imaginable	7.1	7.1
	imaginary	0	50
4. successive	successful	42.9	64.3
5. homely	homelike	46.2	57.1
6. gracious	graceful	7.1	28.6
7. definitive	definite	28.6	35.7
	defined	35.7	21.4
8. respective	respectful	21.4	85.7
	respectable	35.7	0
	respected	14.3	0
9. hardship	hardness	21.4	42.9
10. industrious	industrial	23.1	42.9
11. exhaustive	exhausted	14.4	71.4
12. sensible	sensory	23.1	7.1
	sensuous	0	14.3
	sensitive	61.5	28.6
13. favourable	favourite	0	15.4
14. inflammatory	inflammable	15.4	38.5
15. exaction	exactness	23.1	38.5
	exactitude	7.7	30.8
16. adulteration	adultery	30.8	23.1
17. affectation	affection	38.5	53.8
18. comprehensive	comprehensible	30.8	46.2
19. erratic	erroneous	7.7	30.8
20. deliverance	delivery	16.7	61.5

Table 1.1 (continued)

Correct answer	Expected syn. error	% of syn.errors Test Version A	% of syn.errors Test Version B
21. composure	composition	38.5	23.1
22. casualness	casualty	15.4	15.4

	% of syn. error per test	29	45
	Expected syn. error	% of syn.errors Test Version A	% of syn.errors Test Version B

Table 1.2

Category 1 - Synform error susceptibility

of individual testees (Native speakers)

No. of items testes = 22

Student No.	% of syn.errors per test Test version A.	% of syn.errors per test Test version B
1.	9	59
2.	54.5	36
3.	18	36
4.	18	32
5.	15	64
6.	18	58
7.	18	50
8.	36	54.5
9.	45	50
10.	45	36
11.	23	54.5
12.	36	32
13.	32	23
14.	28.5	50

% of all syn.errors per test	29	45

Expected % of syn. errors by chance = 33

Significance tests

Difference between the number of synform errors and other errors:

Test version A : significant $(\chi^2 = 6.15 > 3.84, p < .05)$

Test version B : significant $(\chi^2 = 39.77 > 10.83, p < .001)$

Difference between the number of synform errors and all the other responses:

Test version A : not significant $(\chi^2 = 2.03 < 3.84)$ $p > 0.5$

Test version B : significant $(\chi^2 = 19.16 > 10.83, p < .001)$

Table 1.3 - Synform frequencies (Foreign learners)

No. of testees = 30

Correct answer	Expected syn.error	% of syn.errors Test Version A	% of syn.errors Test Version B
1. considerable	considerate	10	27.6
2. admittance	admission	62.1	14.3
3. imaginative	imaginable	17.2	20.7
	imaginary	13.8	20.7
4. successive	successful	30	50
5. homely	homelike	17.9	48.3
6. gracious	graceful	16.7	51.7
7. definitive	definite	26.7	37.9
	defined	40	10.3
8. respective	respectful	10	44.8
	respectable	20	0
	respected	16.7	0
9. hardship	hardness	50	35.7
10. industrious	industrial	10	44.8
11. exhaustive	exhausted	26.7	71.4
12. sensible	sensory	16.7	6.9
	sensuous	10	24.1
	sensitive	46.7	27.6
13. favourable	favourite	16.7	23.3
14. inflammatory	inflammable	32.1	27.6
15. exaction	exactness	20	25.9
	exactitude	13.3	44.4
16. adulteration	adultery	26.7	28.6
17. affectation	affection	36.7	20.7
18. comprehensive	comprehensible	21.4	75
19. erratic	erroneous	40	37.9
20. deliverance	delivery	27.6	51.9
21. composure	composition	16.7	10.7
22. casualness	casualty	26.7	3.6
% of syn. error per test		33	40

Table 1.4 - Synform error susceptibility of individual testees

(Foreign learners)

No. of items tested = 22

Student No.	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	27	41
2.	41	54.5
3.	54.5	41
4.	36	32
5.	50	50
6.	23	27
7.	30	52
8.	36	20
9.	36	48
10.	36	41
11.	40	36
12.	50	50
13.	23	32
14.	50	50
15.	23	45
16.	23	36
17.	18	36
18.	9	36
19.	14	36
20.	41	41
21.	45	45
22.	27	41
23.	41	58
24.	23	41
25.	32	50
26.	27	32
27.	32	27
28.	42	58
29.	36	41
30.	14	14

% of all syn.errors

per test   33   40

Expected % of syn.errors by chance = 33

Table 1.4 (continued)

Significance tests

Difference between the number of synform errors and other errors
Test version A : significant (x^2 = 9.77 > 3.84, p < .05)
Test version B : significant (x^2 = 55.91 > 10.83, p < .001)

Difference between the number of synform errors and all other responses:
Test version A : not significant (x^2 = 0.007 < 3.84) p > 0.5
Test version B : significant (x^2 = 14.28 > 10.83, p < .001)

Table 1.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expect syn.error	% of syn.errors Test Version A		% of syn.errors Test Version B	
		N.S.	F.L.	N.S.	F.L.
1. considerable	considerate	0	10	35.7	27.6
2. admittance	admission	28.6	62.1	14.3	14.3
3. imaginative	imaginable	7.1	17.2	7.1	20.7
	imaginary	0	13.8	50	20.7
4. successive	successful	42.9	30	64.3	50
5. homely	homelike	46.2	17.9	57.1	48.3
6. gracious	graceful	7.1	16.7	28.6	51.7
7. definitive	definite	28.6	26.7	35.7	37.9
	defined	35.7	40	21.4	10.3
8. respective	respectful	21.4	10	85.7	44.8
	respectable	35.7	20	0	0
	respected	14.3	16.7	0	0
9. hardship	hardness	21.4	50	42.9	35.7
10. industrious	industrial	23.1	10	42.9	44.8
11. exhaustive	exhausted	14.4	26.7	71.4	71.4
12. sensible	sensory	23.1	16.7	7.1	6.9
	sensuous	0	10	14.3	24.1
	sensitive	61.5	46.7	28.6	27.6
13. favourable	favourite	0	16.7	15.4	23.3
14. inflammatory	inflammable	15.4	32.1	38.5	27.6
15. exaction	exactness	23.1	20	38.5	25.9
	exactitude	7.7	13.3	30.8	44.4
16. adulteration	adultery	30.8	26.7	23.1	28.6
17. affectation	affection	38.5	36.7	53.8	20.7
18. comprehensive	comprehensible	30.8	21.4	46.2	75
19. erratic	erroneous	7.7	40	30.8	37.9
20. deliverance	delivery	16.7	27.6	61.5	51.9
21. composure	composition	38.5	16.7	23.1	10.7
22. casualness	casualty	15.4	26.7	15.4	3.4
% of syn.error per test		29	33	45	40

Table 1.5 (continued)

Significance tests

Difference between the number of synform errors of native speakers and that of foreign learners:

Test version A : not significant (χ^2 = 1.38 < 3.84, p > .05)

Test version B : not significant (χ^2 = 1.31 < 3.84, p > .05)

Table 1.6 - Synform error susceptibility of dfferent L_1 groups

(Semitic, Germanic, Romance)

Semitic

Student No.	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	27	41
2.	41	54.5
3.	54.5	41
4.	36	32
5.	50	50
6.	23	27
7.	30	52
8.	36	20
9.	36	48
10.	36	41
11.	40	36

Germanic

1.	50	50
2.	23	32
3.	50	50
4.	23	45
5.	32	50
6.	27	32

Romance

1.	23	36
2.	18	36
3.	9	36
4.	14	36
5.	32	27
6.	42	58
7.	36	41
8.	14	14

% of syn.errors in each L_1 group:

	Semitic	Germanic	Romance
Test Version A	37	34	23
Test Version B	40	43	36

Table 1.6 (continued)

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : significant (χ^2_{df2} = 6.17 > 5.99, p < .05)

Test version B : not significant (χ^2_{df2} = 1.73 < 5.99 , p > .05)

6.2.1.2   <u>Test 1 - Summary of the results</u>

a.   <u>Synform confusion as a common error</u>

Comparison of the occurrence of synform errors and non-synform errors shows that the frequency of synform errors is significantly higher than that of the non-synform ones.   This is true for both test versions and for both groups of testees - native speakers and foreign learners.   Thus, null hypothesis 1.1.1 which claims that there is no significant difference between the frequency of synform and non-synform errors, can be rejected at .05 level of probability for test version A and at .001 level of probability for test version B.

Comparison of the frequency of synform errors and all other responses, including the correct one, shows that the null hypothesis 1.1.2, which claims that there is no significant difference between the number of synform errors and other responses, cannot be rejected for test version A but can be rejected in test version B at .001 level of probability. This is the case for both native speakers and foreign learners.

The above results suggest that confusion of synforms of type 1 (words similar in root which is productive in the present-day English, and different in suffixes is indeed a common error.   It occurs more often than errors of non-synformic similarity;   and it may occur more often than the correct response.   The problem of synformic confusion of type 1 is similar for language learners whether they are native speakers or foreign learners.

b. L_1 effect on synform confusion

Comparison of synform frequencies in the tests of native

speakers and in those of foreign learners shows that the null

hypothesis 1.2.1 which says that there is no difference between the

native speakers and foreign learners in the number of synform

errors, cannot be rejected in either of the rest versions.

This implies that in general the extent of the problem

of synform confusion of type 1 is similar for all the learners,

whether the language being learnt is the mother tongue or

a foreign language.

As for the different L_1 groups of foreign learners, the

null hypothesis 1.2.2, which claims that there is no significant

difference between the Semitic, Germanic and Romance speakers,

cannot be rejected in test version B, but can be rejected

in test version A at .05 level of probability. Thus the

foreign learner's L_1 might sometimes have an effect on his

susceptibility to synform errors, but not necessarily so. When

it does, the most susceptible ones to synform errors are the

speakers of the Semitic languages; the least susceptible

are the speakers of the Romance languages.

6.2.2   Test 2 - Category 2

6.2.1.1 Tables 2.1 - 2.6

Table 2.1 - Synform error frequencies (Native speakers)

No. of testees = 15

correct answer	expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. experience	experiment	0	13.3
2. policy	politics	20	73.7
3. effective	efficient	40	53.3
4. beneficiary	benefactor	60	28.6
	beneficial	33.3	7.1
5. erratic	erroneous	6.7	26.7
6. capacious	capable	20	20
7. inherent	inherited	0	60
8. census	censor	7.1	13.3
9. circuitous	circular	86.7	40
10. civic	civilian	33.3	26.7
	civil	26.7	46.7
11. consummate	consume	53.3	33.3
12. corporate	corporal	46.7	6.7
13. incidence	incident	14.4	26.7
14. credulous	credible	46.7	33.3
15. competence	competition	14.3	26.7
16. integrity	integration	13.3	33.3
17. literal	literate	50	33.3
	literary	14.4	33.3
18. numerous	numerable	21.4	20
	numerical	7.1	6.7
19. populous	popular	33.3	26.7
20. physician	physicist	26.7	80
21. sociable	social	0	26.7
22. specifically	specially	53.3	60
23. explicit	explicable	20	33.3
24. obliging	obligatory	0	6.7
25. primate	primer	21.4	6.7
	primary	7.1	33.3
% of synform error per test		31	37

Table 2.2 - Synform susceptibility of individual testees
(Native speakers)

No. of items tested = 25

Student Number	% of syn.errors Test version A	% of syn. errors Test version B
1.	24	36
2.	32	44
3.	50	32
4.	20	40
5.	24	32
6.	32	40
7.	32	56
8.	32	40
9.	32	40
10.	40	40
11.	28	28
12.	36	36
13.	43	28
14.	20	40
15.	24	28

% of syn. error
per test   31   37

Expected % of syn. errors by chance = 30

Significance tests

Difference between the number of synform errors and other errors:

Test version A : significant (x^2 = 26.9 > 10.83, p < .001)

Test version B : significant (x^2 = 70.5 > 10.38, p < .001)

Difference between the number of synform errors and all the other
responses:

Test version A : not significant (x^2 = 0.15 < 3.84, p > 0.5)

Test version B : significant (x^2 = 9.6 > 6.63, p < .01)

Table 2.3 - Synform error frequencies (Foreign learners)

No. of testees = 29

Correct answer	Expect synform error	% of syn.error Test version A	% of syn.error Test version B
1. experience	experiment	3.4	6.9
2. policy	politics	20.7	42.9
3. effective	efficient	13.8	69
4. beneficiary	benefactor	65.5	13.8
	beneficial	13.8	20.7
5. erratic	erroneous	35.7	66.7
6. capacious	capable	20.7	14.3
7. inherent	inherited	17.9	15.4
8. census	censor	24.1	22.2
9. circuitous	circular	82.8	39.3
10. civic	civilian	32.1	42.3
	civil	42.9	23.1
11. consummate	consume	34.5	39.3
12. corporate	corporal	20.7	14.3
13. incidence	incident	14.8	39.3
14. credulous	credible	32.1	34.6
15. competence	competition	41.4	51.9
16. integrity	integration	17.2	40.7
17. literal	literate	35.7	21.4
	literary	21.4	25
18. numerous	numerable	24.1	21.4
	numerical	3.4	14.3
19. populous	popular	51.7	30.8
20. physician	physicist	13.8	46.4
21. sociable	social	31	25
22. specifically	specially	65.5	42.9
23. explicit	explicable	17.2	22.2
24. obliging	obligatory	17.2	21.4
25. primate	primer	21.4	25.9
	primary	25	33.3
% of synform error per test		34	37

Table 2.4 - Synform susceptibility of individual testees

(Foreign learners)

No. of tested items = 25

Student Number	% of syn.errors per test (Test version A)	% of syn.errors per test (Test version B)
1.	52	52
2.	40	44
3.	24	40
4.	46	58
5.	44	64
6.	32	44
7.	28	40
8.	52	44
9.	36	36
10.	25	52
11.	32	38
12.	24	40
13.	16	24
14.	16	25
15.	33	42
16.	44	38
17.	25	25
18.	28	24
19.	40	40
20.	29	33
21.	42	29
22.	28	24
23.	28	24
24.	56	56
25.	52	40
26.	44	29
27.	28	16
28.	17	26
29	36	24

% of synform errors per test	34	37

Expected % of synform errors by chance = 30

Table 2.4 (continued)

Significance tests

Difference between the number of synform errors and other errors:

Test version A : significant (χ^2 = 95.3 > 10.83, p < .001)

Test version B : significant (χ^2 = 172.4 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant (χ^2 6.59 > 3.84, p < .05)

Test version B : significant (χ^2 15.58 > 10.83, p < .001)

Table 2.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn. error Test Version A		% of syn. error Test Version B	
		N.S.	F.L.	N.S.	F.L.
1. experience	experiment	0	3.4	13.3	6.9
2. policy	politics	20	20.7	73.7	42.9
3. effective	efficient	40	13.8	53.3	69
4. beneficiary	benefactor	60	65.5	28.6	13.8
	beneficial	33.3	13.8	7.1	20.7
5. erratic	erroneous	6.7	35.7	26.7	66.7
6. capacious	capable	20	20.7	20	14.3
7. inherent	inherited	0	17.9	60	15.4
8. census	censor	7.1	24.1	13.3	22.2
9. circuitous	circular	86.7	82.8	40	39.3
10. civic	civilian	33.3	32.1	26.7	42.3
	civil	26.7	42.9	46.7	23.1
11. consummate	consume	53.3	34.5	33.3	39.3
12. corporate	corporal	46.7	20.7	6.7	14.3
13. incidence	incident	14.4	14.8	26.7	39.3
14. credulous	credible	46.7	32.1	33.3	34.6
15. competence	competition	14.3	26.7	41.4	51.9
16. integrity	integration	13.3	17.2	33.3	40.7
17. literal	literate	50	35.7	33.3	21.4
	literary	14.4	21.4	33.3	25
18. numerous	numerable	21.4	21.4	20	21.4
	numerical	7.1	3.4	6.7	14.3
19. populous	popular	33.3	51.7	26.7	30.8
20. physician	physicist	26.7	13.8	80	46.4
21. sociable	social	0	31	26.7	25
22. specifically	specially	53.5	65.5	60	42.9
23. explicit	explicable	20	17.2	33.3	22.2
24. obliging	obligatory	0	17.2	6.7	21.4
25. primate	primer	21.4	21.4	6.7	25.9
	primary	7.1	25	33.3	33.3
% of synform error per test		31	34	37	37

Table 2.5 (continued)

Significance tests

Difference between the number of synform errors of native speakers
and that of foreign learners:

Test version A : not significant (χ^2 = 0.89 < 3.84, p > .05)
Test version B : not significant (χ^2 = 0.22 < 3.84, p > .05)

Table 2.6 - Synform error susceptibility of different L1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	52	52
2.	40	44
3.	24	40
4.	46	58
5.	44	64
6.	32	44
7.	28	40
8.	52	44
9.	36	36
Germanic		
1.	25	52
2.	32	38
3.	24	40
4.	17	26
5.	36	24
Romance		
1.	16	24
2.	16	25
3.	33	42
4.	44	38
5.	25	25
6.	28	24

	% of syn.errors in each L1 group		
	Semitic	Germanic	Romance
Test version A	39	27	27
Test version B	47	36	30

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : not significant (χ^2_{df2} = 5.6 < 5.99, p > .05)
Test version B : significant (χ^2_{df2} = 8.8 > 5.99, p < .05)

6.2.2.2   Test 2 - Summary of the results

a.   Synform confusion as a common error

Comparison of the synform error frequency with the non-synform error frequency shows that null hypothesis 2.1.1, *that* there is no difference between the number of synform and non-synform errors, can be rejected at .001 level of probability in both test versions and for both native and non-native learners of English.

Comparison of the frequency of synform errors with the frequency of all other responses, including the correct ones, shows that null hypothesis 2.1.2, that there is no significant difference between the number of synform errors and all the other responses, can be rejected in the case of foreign learners in both test versions at .001 level of probability; it can be rejected in the case of native speakers in test version B at .01 level of probability, but cannot be rejected in test version A.

The above results suggest that confusion of synform type 2 (words with similar root, non-productive in the present day English, and different suffixes) is indeed a common error. It occurs more often than other errors which are of non-synformic similarity.   This is true for native and non-native learners. In the case of foreign learners, this confusion is powerful enough to overrule the correct response; with native speakers it may overrule the correct response, but not necessarily so.

b. $\underline{L_1}$ effect on synform confusion

Comparison of synform error frequencies of native speakers
with that of foreign learners shows that the null hypothesis
2.2.1, that there is no significant difference between the
number of synform errors made by native speakers and that
made by foreign learners, cannot be rejected.   As for the
different L_1 groups, null hypothesis 2.2.1, that there is
no significant difference between the three groups of foreign
learners in the number of synform errors, cannot be rejected
in test version A, but can be rejected in test version B
at .05 probability level.

The results suggest that synform confusion of type 2
is a language problem both for native speaking learners and
the foreigners; the frequency of such errors is similar in
both cases.

As for the L1 effect in the case of foreign learners,
the mother tongue might have an influence on synform error
susceptibility but not necessarily so.   When it does, it
seems that the most susceptible to synform errors are the
speakers of Semitic languages and the least susceptible-the
speakers of the Romance languages.

6.2.3   Test 3 - Category 3

6.2.3.1   Tables 3.1 - 3.6

Table 3.1 - Synform error frequencies (Native speakers)

Number of testees = 14

Synform tested	Confused with following synform	% of syn.error Test version A	% of syn.erros Test version B
1. comic	comical	21.4	7.1
2. historic	historical	42.9	71.4
3. politic	political	78.6	91.9
4. factor	fact	28.6	42.9
5. sect	sector	50	25
6. frontier	front	21.4	42.9
7. infinitesimal	infinite	64.3	35.7
8. bondage	bond	7.1	78.6
9. contention	content	14.3	64.3
10. fanciful	fancy	14.3	57.1
11. confidential	confident	0	7.1
12. depository	deposit	28.6	35.7
13. exacting	exact	28.6	57.1
14. figurine	figure	64.7	42.9
15. momentum	moment	0	46.2
16. novelty	novel	0	50
17. objection	object	0	0
18. partition	part	7.1	14.3
19. pasture	past	0	14.3
20. pillar	pill	7.1	7.1
21. procession	process	0	14.3
22. projection	project	28.6	14.3
23. economical	economic	14.3	64.3
24. hardly	hard	0	21.4
25. lodge	lodging	7.1	21.4
% of syn.errors per test		21	35

Table 3.2 - Synform susceptibility of individual testees

(Native speakers)

Student Number	% of syn.errors Test version A	% of syn.errors Test version B
1.	24	44
2.	32	48
3.	16	28
4.	28	40
5.	20	28
6.	12	28
7.	24	33
8.	20	24
9.	8	44
10.	33	24
11.	24	32
12.	12	44
13.	24	36
14.	21	39

% of syn.error per test

(across all testees)   21   35

Expected % of syn.errors by chance = 25

Significance tests

Difference between the number of synform errors and other errors:

Test version A : significant (χ^2 = 18.43 > 10.83, p < .001)

Test version B : significant (χ^2 = 99 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : not significant (χ^2 = 2.39 < 3.84, p > .05)

Test version B : significant (χ^2 = 18.25 > 10.83, p < .001)

Table 3.3 - Synform error frequencies (Foreign learners)

Number of testees = 26

Synform tested	Confused with following synform	% of syn.error Test version A	% of syn.error Test version B
1. comic	comical	30.8	26.9
2. historic	historical	73.1	72
3. politic	political	44	84.6
4. factor	fact	34.6	11.5
5. sect	sector	53.8	16.7
6. frontier	front	23.1	20
7. infinitesimal	infinite	38.5	44
8. bondage	bond	24	50
9. contention	content	20	31.8
10. fanciful	fancy	53.8	34.8
11. confidential	confident	8	12
12. depository	deposit	34.6	40
13. exacting	exact	24	68
14. figurine	figure	80.8	37.5
15. momentum	moment	30.8	66.7
16. novelty	novel	28	68.2
17. objection	object	11.5	8.3
18. partition	part	30.8	32
19. pasture	past	7.7	25
20. pillar	pill	4	13
21. procession	process	19.2	17.4
22. projection	project	52	43.5
23. economical	economic	38.5	52.2
24. hardly	hard	0	62.5
25. lodge	lodging	15.4	30.4

% of total amount of syn.error		31	39

Table 3.4 - Synform susceptibility (Foreign learners)

Number of items tested = 25

Student number	% of syn.error Test version A	% of syn.error Test version B
1.	32	46
2.	32	47
3.	12	44
4.	36	71
5.	33	60
6.	28	40
7.	46	56
8.	33	38
9.	28	42
10.	32	30
11.	29	52
12.	24	32
13.	40	32
14.	32	52
15.	40	32
16.	36	28
17.	28	28
18.	32	36
19.	36	32
20.	28	29
21.	36	42
22.	32	48
23.	16	16
24.	16	28
25.	36	36
26.	48	37

Total synform errors per test

	31	39

Expected % of synform errors by chance = 25

Table 3.4 (continued)

Significance tests

Difference between the number of synform errors and other errors:

Test version A : significant (χ^2 = 68.40 > 10.83, p < .001)

Test version B : significant (χ^2 = 198 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant (χ^2 = 13.6 > 10.83, p < .001)

Test version B : significant (χ^2 = 61.03 > 10.83, p < .001)

Table 3.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Synform tested	Confused with	% syn.error Test version A		% syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. comic	comical	21.4	30.8	7.1	26.9
2. historic	historical	42.9	73.1	21.4	72
3. politic	political	78.6	44	92.9	84.6
4. factor	fact	28.6	34.6	42.9	11.5
5. sect	sector	50	53.8	25	16.7
6. frontier	front	21.4	23.1	42.9	20
7. infinitesimal	infinite	64.3	38.5	35.7	44
8. bondage	bond	7.1	24	78.6	50
9. contention	content	14.3	20	64.3	31.8
10. fanciful	fancy	41.3	53.8	57.1	34.8
11. confidential	confident.	0	8	7.1	12
12. depository	deposit	28.6	34.6	35.7	40
13. exacting	exact	28.6	24	57.1	68
14. figurine	figure	64.7	80.8	42.9	37.5
15. momentum	moment	0	30.8	46.2	66.7
16. novelty	novel	0	28	50	68.2
17. objection	object	0	11.5	0	8.3
18. partition	part	7.1	30.8	14.3	32
19. pasture	past	0	7.7	14.3	25
20. pillar	pill	7.1	4	7.1	13
21. procession	process	0	19.2	14.3	17.4
22. projection	project	28.6	52	14.3	43.5
23. economical	economic	14.3	38.5	64.3	52.2
24. hardly	hard	0	0	21.4	62.5
25. lodge	lodging	7.1	15.4	21.4	30.4
% of synform errors per test		21	31	35	39

Significance tests

Difference between the number of synform errors of native speakers and that of foreign learners:

Test version A : significant (χ^2 = 7.39 > 6.63, p < .01)

Test version B : not significant (χ^2 = 0.07 < 3.84, p > .05)

Table 3.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	32	46
2.	32	47
3.	12	44
4.	36	71
5.	33	60
6.	28	40
7.	46	56
8.	33	38
9.	28	42
10.	32	30
11.	29	52
Germanic		
1.	24	32
2.	40	32
3.	32	52
4.	32	48
5.	16	16
Romance		
1.	40	32
2.	36	28
3.	28	28
4.	16	18
5.	36	36
6.	48	37

	% of synform errors in each group		
	Semitic	Germanic	Romance
Test version A	31	29	34
Test version B	48	36	30

Significance tests

Difference between L_1 groups in the number of synform errors:

Test version A : not significant (χ^2_{df2} = 0.31 < 5.99, p > .05)

Test version B : not significant (χ^2_{df2} = 2.81 < 5.99, p > .05)

6.2.3.2   Test 3 - Summary of the results

a.   Synform confusion as a common error

      Comparison of synform error frequency and non-synform error frequency shows that null hypothesis 3.1.1, that there is no difference between the number of synform and non-synform errors, can be rejected at .001 level of probability in both test versions and for both native and non-native learners of English.

      Comparison of synform error frequency with the frequency of all the other responses, including the correct ones, shows that null hypothesis 3.1.2, that there is no significant difference between the number of synform errors and the number of all other responses, can be rejected in the case of foreign learners at .001 level of probability;   in the case of native speakers it can be rejected in test version B at .001 probability level, but cannot be rejected in test version A.

      The above results suggest that synform confusion type 3 (words different in suffix which is present in one word but absent in the other) is a common error since it occurs more frequently than other errors of non-synformic similarity with both native speakers and foreign learners. In the case of the foreign learners, the confusion is powerful enough to overrule the correct response;   in the case of native speakers it may overrule the correct response, but not always.

b. L_1 effect on synform type 3 confusion

      Comparison of synform error frequencies of native speakers with that of foreign learners shows that null

hypothesis 3.2.1, that there is no significant difference between the number of synform errors made by native speakers and that made by foreign learners, can be rejected in test version A at .01 probability level, but cannot be rejected in test version B.   As for the different L_1 groups, null hypothesis 3.2.2 that there is no significant difference between the three groups of foreign learners in the number of synform errors, cannot be rejected in either of the test versions.

These results suggest that synform confusion type 3 might be a foreign language problem more than a language problem in general, since on one test version foreign learners had significantly more synform errors.   Among themselves, the foreign learners seem to have similar difficulties whether they are speakers of Semitic, Germanic or Romance languages.

6.2.4 Test 4 - Category 4

6.2.4.1 Tables 4.1 - 4.6

Table 4.1 - Synform error frequencies (Native speakers)

No. of testees = 16

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. distribution	contribution	25	0
2. consumption	presumption	6.2	6.2
	resumption	18.7	12.5
	assumption	6.2	0
3. object	eject	0	0
	reject	6.2	68.3
	subject	0	0
4. apply	supply	0	18.7
	comply	0	75
	rely	0	6.2
5. subjection	projection	6.2	50
	abjection	62.5	25
6. attend	contend	0	13.3
	extend	0	0
	intend	0	20
7. persist	desist	0	0
	exist	0	0
	consist	25	6.2
8. instant	constant	25	0
	distant	0	0
9. oppress	compress	18.7	6.2
	suppress	37.5	31.2
	repress	0	31.2
10. obtain	attain	6.2	31.2
	detain	0	0
	contain	6.2	18.7
11. efficient	deficient	0	6.2
	sufficient	50	68.7
	proficient	0	18.7

Table 4.1 (continued)

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
12. superficial	artificial	25	43.7
13. subsequently	consequently	12.5	37.5
14. affluence	confluence	18.7	18.7
	influence	43.7	12.5
15. apprehend	reprehend	12.5	31.2
	comprehend	6.2	18.7
16. ascribe	subscribe	18.7	26.7
	prescribe	18.7	13.3
	describe	50	33.3
17. affirm	confirm	75	56.2
18. induce	reduce	6.2	18.7
	deduce	12.5	37.5
	produce	31.2	18.7
19. implore	explore	0	31.2
	deplore	31.2	25
20. aspiration	expiration	0	6.2
	inspiration	87.5	25
21. compartment	department	6.2	12.5
	apartment	0	12.5
22. concede	recede	6.2	25
	precede	18.7	8.7
	accede	50	37.5
23. prosecuted	persecuted	6.2	25
	executed	0	68.7
24. remission	commission	18.7	0
	permission	6.2	18.7
	omission	62.5	37.5
25. prospective	respective	50	6.2
	perspective	6.2	25

Total synform error per test %	39	50

Table 4.2 - Synform susceptibility of individual testees

(Native speakers)

Number of items tested = 25

Student Number	% of syn.error Test version A	% of syn.error Test version B
1.	56	56
2.	52	56
3.	60	56
4.	24	36
5.	28	48
6.	48	57
7.	36	56
8.	24	44
9.	32	72
10.	40	48
11.	28	44
12.	44	44
13.	44	52
14.	40	40
15.	28	56
16.	44	40

Total synform error
per test %   39   50

Expected % of synform errors by chance = 58

Significance tests

Difference between synform and non-synform errors:

Test version A : χ^2 = 0 no difference

Test version B : significant (χ^2 = 7.46 > 6.63, p < .01)

Difference between synform errors and all other responses:

Test version A : significant, but in the direction of the other responses, i.e. the other responses were significantly more frequent than the synform errors (χ^2 = 56.96 > 10.83, p < .001)

Test version B : significant in the direction of other responses (χ^2 = 8.96 > 6.63, p < .01)

Table 4.3 - Synform error frequencies (Foreign learners)

Number of testees = 30

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. distribution	contribution	26.7	13.3
2. consumption	presumption	13.3	17.2
	resumption	10	20.7
	assumption	6.7	6.9
3. object	eject	6.7	6.7
	reject	43.3	73.3
	subject	3.3	13.3
4. apply	supply	13.3	26.7
	comply	3.3	63.3
	rely	6.7	0
5. subjection	projection	14.8	26.9
	abjection	25.9	23.1
6. attend	contend	10	3.7
	extend	6.7	7.4
	intend	10	29.6
7. persist	desist	3.4	10
	exist	34.5	13.3
	consist	24.1	20
8. instant	constant	23.3	0
	distant	6.7	13.3
9. oppress	compress	18.6	10.7
	suppress	17.9	39.3
	repress	14.3	17.9
10. obtain	attain	0	20.7
	detain	6.9	10.3
	contain	24.1	24.1
11. efficient	deficient	3.4	14.3
	sufficient	10.3	14.3
	proficient	6.9	17.9
12. superficial	artificial	34.5	41.4
13. supsequently	consequently	44.8	44.4

Table 4.3 (continued)

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
14. affluence	confluence	6.9	25
	influence	55.2	25
15. apprehend	reprehend	27.6	25.9
	comprehend	31	33.3
16. ascribe	subscribe	27.6	16
	prescribe	10.3	20
	describe	44.8	36
17. affirm	confirm	48.3	44
18. induce	reduce	20	8
	deduce	10	32
	produce	26.7	24
19. implore	explore	30	24
	deplore	20	24
20. aspiration	expiration	53.3	18.5
	inspiration	10	37
21. compartment	department	20.7	14.8
	apartment	6.9	22
22. concede	recede	13.3	26.9
	precede	30	19.2
	accede	20	50
23. prosecuted	persecuted	20.7	7.4
	executed	31	70.4
24. remission	commission	43.3	12
	permission	6.7	40
	omission	23.3	24
25. prospective	respective	43.3	30.8
	perspective	20	34.6

Total synform error per test %	48	55

Table 4.4 - Synform susceptibility of individual testees

(Foreign learners)

Number of items tested = 25

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	64	68
2.	67	52
3.	52	68
4.	58	60
5.	63	74
6.	68	60
7.	67	74
8.	60	52
9.	54	52
10.	32	54
11.	64	71
12.	20	38
13.	52	56
14.	40	52
15.	44	52
16.	64	57
17.	28	29
18.	64	64
19.	40	54
20.	44	44
21.	48	72
22.	28	52
23.	72	68
24.	22	27
25.	40	48
26.	45	47
27.	29	39
28.	40	52
29.	36	44
30.	20	40

Synform errors per test	48	55

Expected % of synform errors by chance = 58

Table 4.4 (Continued)

Significance tests

Difference between synform and non-synform errors:

Test version A : not significant $(\chi^2 = 1.74 < 3.84, p > .05)$
Test version B : significant $(\chi^2 = 10.28 > 6.63, p < .001)$

Difference between synform errors and all the other responses:

Test version A : significant in the direction of other responses $(\chi^2 = 33.59 > 10.83, p < .001)$
Test version B : not significant $(\chi^2 = 2.04 < 3.84, p > .05)$

Table 4.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. distribution	contribution	25	26.7	0	13.3
2. consumption	presumption	6.2	6.7	6.2	17.2
	resumption	18.7	10	12.5	20.7
	assumption	6.2	6.7	0	6.9
3. object	eject	0	6.7	0	6.7
	reject	6.2	43.3	68.3	73.3
	subject	0	3.3	0	13.3
4. apply	supply	0	13.3	18.7	26.7
	comply	0	3.3	75	63.3
	rely	0	6.7	6.2	0
5. subjection	projection	6.2	14.8	50	26.9
	abjection	62.5	25.9	25	23.1
6. attend	contend	0	10	13.3	3.7
	extend	0	6.7	0	7.4
	intend	0	10	20	29.6
7. persist	desist	0	3.4	0	10
	exist	0	34.5	0	13.3
	consist	25	24.1	6.2	20
8. instant	constant	25	23.3	0	0
	distant	0	6.7	0	13.3
9. oppress	compress	18.7	28.6	6.2	10.7
	suppress	37.5	17.9	31.2	39.3
	repress	0	14.3	31.2	17.9
10. obtain	attain	6.2	0	31.2	20.7
	detain	0	6.9	0	10.3
	contain	6.2	24.1	18.7	24.1
11. efficient	deficient	0	3.4	6.2	14.3
	sufficient	50	10.3	68.7	14.3
	proficient	0	6.9	18.7	17.9

Table 4.5 (Continued)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
12. superficial	artificial	25	34.5	43.7	41.4
13. subsequently	consequently	12.5	44.8	37.5	44.4
14. affluence	confluence	18.7	6.9	18.7	25
	influence	43.7	55.2	12.5	25
15. apprehend	reprehend	12.5	27.6	31.2	25.9
	comprehend	6.2	31	18.7	33.3
16. ascribe	subscribe	18.7	27.6	26.7	16
	prescribe	18.7	10.3	13.3	20
	describe	50	44.8	33.3	36
17. affirm	confirm	75	48.3	56.2	44
18. induce	reduce	6.2	20	18.7	8
	deduce	12.5	10	37.5	32
	produce	31.2	26.7	18.7	24
19. implore	explore	0	30	31.2	24
	deplore	31.2	20	25	24
20. aspiration	expiration	0	53.3	6.2	18.5
	inspiration	87.5	10	25	37
21. compartment	department	6.2	20.7	12.5	14.8
	apartment	0	6.9	12.5	22
22. concede	recede	6.2	13.3	25	26.9
	precede	18.7	30	8.7	19.2
	accede	50	20	37.5	50
23. prosecuted	persecuted	6.2	20.7	25	7.4
	executed	0	31	68.7	70.4
24. remission	commission	18.7	43.3	0	12
	permission	6.2	6.7	18.7	40
	omission	62.5	23.3	37.5	24
25. prospective	respective	50	43.3	6.2	30.8
	perspective	6.2	20	25	34.6
% of synform error per test		39	48	50	55

Table 4.5 (Continued)

Significance tests

Comparison between native speakers and foreign learners in the number of synform errors:

Test version A : not significant (χ^2 = 2.98 < 3.84, p > .05)

Test version B : not significant (χ^2 = 0.001 < 3.84, p > .05)

Table 4.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	64	68
2.	67	52
3.	52	68
4.	· 58	60
5.	63	74
6.	68	60
7.	67	74
8.	60	68
9.	54	52
10.	32	54
11.	64	71
Germanic		
1.	28	52
2.	72	68
3.	22	27
4.	40	48
5.	45	47
Romance		
1.	20	38
2.	29	39
3.	40	52
4.	36	44
5.	20	40

	% of synform errors of each group		
	Semitic	Germanic	Romance
Test version A	59	41	29
Test version B	64	48	43

Significancé tests

Difference between L_1 groups in the number of synform errors:

Test version A : significant ($\chi^2_{df2} = 10.72 > 5.99$, p $< .05$)

Test version B : significant ($\chi^2_{df2} = 9.69 > 5.99$, p $< .05$)

6.2.4.2   Test 4 - Summary of the Results

a.   Synform confusion type 4 as a common error

Comparison of synform error and non-synform error frequencies
shows that null hypothesis 4.1.1, that there is no significant
difference between the number of synform and non-synform errors,
cannot be rejected in test version A but can be rejected in
test version B at .01 level of probability.   This is true
for both native and non-native speakers.

Comparison of synform error frequency with the frequency
of all other responses including the correct one shows that
null hypothesis 4.1.2, that there is no significant difference
between the number of synform responses and all other responses,
cannot be rejected in test version A in the case of foreign
learners.   It can be rejected in test Version A and in both
test versions in the case of the native speakers, but in the
direction of other responses.   There were significantly more
other responses than synform errors.

The above result suggests that   the alleged synform
confusion of type 4 (words with similar roots but different
prefixes) is not a real problem for either the native speaking
children or the foreign learners of the language proficiency tested
in the study.

b. L_1 effect on synform type 4 confusion

Comparison of synform error frequencies of native and
non-native speakers shows that the null hypothesis 4.2.1, that
there is no significant difference between the two groups
in the number of synform errors they make, cannot be rejected
in either of the test versions.   As for the different L_1
groups of the foreign learners, null hypothesis 4.2.2, that

there is no significant difference between these groups in
the number of synform errors they make,can be rejected in
both test versions at .05 probability level. This suggests
that whenever errors of this type are made they are most likely
to be made by the speakers of Semitic languages and least
likely to be made by the speakers of the Romance group.
But on the basis of the results summarized in the previous
section, such errors are not very likely to be made.

6.2.5 Test 5 - Category 5

6.2.5.1 Tables 5.1 - 5.6

Table 5.1 - Synform error frequencies (Native speakers)

Number of testees = 15

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. compassion	passion	26.7	73.3
2. brace	embrace	40	26.7
3. enjoin	join	21.4	60
4. commission	mission	60	20
5. concurrent	current	21.4	13.3
6. confound	found	7.1	57.1
7. congenial	genial	33.3	20
8. decease	cease	21.4	13.3
9. decry	cry	0	20
10. default	fault	80	35.7
11. demobilize	mobilize	60	23.1
12. denaţionalize	nationalize	33.3	33.3
13. discount	count	13.3	28.6
14. approve	prove	6.7	6.7
15. improvidence	providence	14.3	0
16. extradition	tradition	7.1	28.6
17. persevere	severe	6.7	13.3
18. predetermine	determine	42.9	14.3
19. infirm	firm	64.3	0
20. predate	date	28.6	35.7
21. proclaim	claim	28.6	20
22. prejudicial	judicial	14.3	73.3
23. uproot	root	20	0
24. commotion	motion	13.3	13.3
% of synform errors per test		28	26

Table 5.2 - Synform error susceptibility of individual testees
(Native speakers)

No. of items tested = 24

Student Number	% of synform error Test version A	% of synform error Test version B
1.	16.6	20.8
2.	29	41.6
3.	20.8	20.8
4.	21.7	17.4
5.	37.5	25
6.	8.3	21.7
7.	29	33.3
8.	33.3	25
9.	8.7	21.7
10.	45.8	25
11.	37.5	29
12.	29	33.3
13.	29	20.8
14.	45.5	31.5
15.	33.3	25

% of synform error per test	28	26

Expected % of synform errors by chance = 25

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant $(\chi^2 = 18.23 > 10.83, p < .001)$
Test version B : significant $(\chi^2 = 19.3 > 10.83, p < .001)$

Difference between the number of synform errors and all the other responses:

Test version A : not significant $(\chi^2 = 1.39 < 3.84, p > .05)$
Test version B : not significant $(\chi^2 = 0.18 < 3.84, p > .05)$

Table 5.3 - Synform error frequencies (Foreign learners)

Number of testees = 34

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. compassion	passion	35.3	26.5
2. brace	embrace	40.6	21.4
3. enjoin	join	29.4	48.4
4. commission	mission	47.1	12.1
5. concurrent	current	35.4	23.5
6. confound	found	8.8	19.4
7. congenial	genial	26.5	8.8
8. decease	cease	26.5	12.1
9. decry	cry	11.8	22.6
10. default	fault	41.2	24.2
11. demobilize	mobilize	43.7	17.6
12. denationalize	nationalize	14.7	30.3
13. discount	count	18.2	37.5
14. approve	prove	12.1	23.5
15. improvidence	providence	17.6	9.4
16. extradition	tradition	26.5	11.8
17. persevere	severe	15.6	15.2
18. predetermine	determine	20.6	27.3
19. infirm	firm	45.5	3.1
20. predate	date	6.1	6.1
21. proclaim	claim	5.9	20.6
22. prejudicial	judicial	21.2	44.1
23. unroot	root	25	36.4
24. commotion	motion	41.2	18.7
% of synform errors per test		25	22

Table 5.4 - Synform error susceptibility of individual testees

(Foreign learners)

Number of items tested = 24

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	21	14
2.	29	25
3.	17	25
4.	42	12.5
5.	33	21
6.	46	29
7.	21	8
8.	33	21
9.	25	45
10.	42	33
11.	29	14
12.	21	37.5
13.	33	37.5
14.	21	17
15.	33	25
16.	21	0
17.	21	21
18.	17	21
19.	21	12.5
20.	19	10.5
21.	21	35
22.	29	8
23.	8	4
24.	21	29
25.	21	29
26.	42	23.5
27.	17	17
28.	21	17

Table 5.4 (Continued)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
29.	21	22
30.	12.5	21
31.	36	36
32.	17	25
33.	43	28
34.	17	17

% of synform errors per test	25	22

Expected % of synform errors by chance = 25

Significance tests:

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 20.39 > 10.83, p < .001)
Test version B : significant (χ^2 = 7.89 > 6.63, p < .01)

Difference between the number of synform errors and all the other responses:

Test version A : not significant (χ^2 = 0.13 < 3.84, p > .05)
Test version B : significant in the direction of the other responses (χ^2 = 4.30 > 3.84, p < .05)

Table 5.5 – Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. compassion	passion	26.7	35.3	73.3	26.5
2. brace	embrace	40	40.6	26.7	21.4
3. enjoin	join	21.4	29.4	60	48.4
4. commission	mission	60	47.1	20	12.1
5. concurrent	current	21.4	35.4	13.3	23.5
6. confound	found	7.1	8.8	57.1	19.4
7. congenial	genial	33.3	26.5	20	8.8
8. decease	cease	21.4	26.5	13.3	12.1
9. decry	cry	0	11.8	20	22.6
10. default	fault	80	41.2	35.7	24.2
11. demobilize	mobilize	60	43.7	23.1	17.6
12. denationalize	nationalize	33.3	14.7	33.3	30.3
13. discount	count	13.3	18.2	28.6	37.5
14. approve	prove	6.7	12.1	6.7	23.5
15. improvidence	providence	14.3	17.6	0	9.4
16. extradition	tradition	7.1	26.5	28.6	11.8
17. persevere	severe	6.7	15.6	13.3	15.2
18. predetermine	determine	42.9	20.6	14.3	27.3
19. infirm	firm	64.3	45.5	0	3.1
20. predate	date	28.6	6.1	35.7	6.1
21. proclaim	claim	28.6	5.9	20	20.6
22. prejudicial	judicial	14.3	21.2	73.3	44.1
23. uproot	root	20	25	0	36.4
24. commotion	motion	13.3	41.2	13.3	18.7
% of synform errors per test		28	25	26	22

Significance tests

Difference between native speakers and foreign learners in the number of synform errors:

Test version A : not significant (χ^2 = 0.19 < 3.84, p > .05)

Test version B : not significant (χ^2 = 0.87 < 3.84, p > .05)

Table 5.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	21	14
2.	29	25
3.	17	25
4.	42	12.5
5.	33	21
6.	46	29
7.	21	8
8.	33	21
9.	25	45
10.	42	33
11.	29	14
12.	21	37.5
13.	33	37.5
14.	21	17
15.	33	25
Germanic		
1.	21	0
2.	21	21
3.	17	21
4.	21	22
5.	12.5	21
Romance		
1.	21	12.5
2.	19	10.5
3.	21	35
4.	36	36
5.	17	25
6.	43	28
7.	17	17

% of synform errors of each group	Semitic	Germanic	Romance
Test version A	30	18.5	25
Test version B	24	17	23

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : not significant ($\chi^2_{df2}= 5.28 < 5.99$, $p > .05$)

Test version B : not significant ($\chi^2_{df2} = 2.03 < 5.99$, $p > .05$)

6.2.5.2   Test 5 – Summary of the results

a.   Synform confusion type 5 as a common error

Comparison of synform error and non synform error frequencies
shows that null hypothesis 5.1.1, that there is no significant
difference between the number of synform and non synform
errors, can be rejected for both native speakers and foreign
learners in both test versions;   in test version A – at .001
level of probability;   in test version B – at .001 probability
level for native speakers, and at .01 for foreign learners.

Comparison of synform error frequency and the frequency
of all the other responses, including the correct one, shows
that null hypothesis 5.1.2, that there is no significant
difference between the number of synform errors and that
of all the other responses, cannot be rejected in either of
the test versions in the case of native speakers or in test
version A in the case of foreign learners.   In test B, foreign
learners, it can be rejected in the direction of other responses,
i.e. there were significantly more other responses than synform
errors.

Bearing in mind that a particular synform confusion was
determined to be a common error if it was significantly higher
in frequency than other errors and all the other responses,
at least in one test version, we cannot claim that the confusion
of synform type 5 is indeed a common error.

b. L_1 effect on synform type 5 confusion

Comparison of synform error frequencies of native and
non-native learners shows that null hypothesis 5.2.1, that
there is no significant difference between the two groups

in the number of synform errors, cannot be rejected in either of the test versions. As for the different L_1 groups of foreign learners, null hypothesis 5.2.2, that there is no significant difference between these groups in the number of synform errors, cannot be rejected either.

This suggests, together with the results of the previous section, that the alleged confusion of synform of type 5 is not really a problem for the learner, whether he is a native speaking child of English, or a foreign learner provided his language level is similar to that in the study.

6.2.6 Test 6 - Category 6

6.2.6.1 Tables 6.1 - 6.6

Table 6.1 - Synform error frequencies (Native speakers)

Number of testees = 15

Correct Answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. affected (adj.)	effected	14.3	6.7
2. adapt	adopt	6.7	13.3
3. flaw	flow	20	6.7
4. staff	stuff	0	0
5. latter	letter	0	0
	later	7.1	78.6
6. counsel	council	66.7	66.7
7. fad	fade	42.9	28.6
8. bald	bold	0	0
9. commended	commanded	14.3	20
10. curse	course	6.7	0
11. bit	beat	0	0
12. dote	dot	0	13.3
13. expansive	expensive	0	6.7
14. foul	full	6.7	0
	fool	6.7	13.3
15. hop	hope	0	0
16. hurt	heart	20	0
17. nurture	nature	50	26.7
18. snub	snob	28.6	13.3
19. sole	soil	6.7	0
	soul	20	20
20. formerly	formally	21.4	20
21. lack	lake	0	0
	luck	0	0
22. bait	bite	0	0
23. libel	label	0	14.3
24. launch	lunch	0	0
% of synform errors per test		14.	14

Table 6.2 - Synform error susceptibility of individual testees (Native speakers)

Number of items tested = 25

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	4	4
2.	4	17
3.	4	12.5
4.	8	17
5.	17	4
6.	8	17
7.	13	4
8.	8	12.5
9.	21	12.5
10.	12.5	4
11.	25	25
12.	29	12.5
13.	4	33
14.	12.5	8
15.	33	29

% of synform errors

per test 14 14

Expected % of synform errors by chance = 29

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : not significant (X^2 = 2.97 < 3.84, p > .05)

Test version B : significant (X^2 = 6.7 > 3.84, p < .05)

Difference between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses

$$(X^2 = 38.13 > 10.83, p < .001)$$

Test version B : significant in the direction of other responses

$$(X^2 = 21.04 > 10.83, p < .001)$$

Table 6.3 - Synform error frequencies (Foreign learners)

Number of testees = 34

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. affected (adj.)	effected	11.8	26.5
2. adapt	adopt	11.8	35.3
3. flaw	flow	23.5	32.1
4. staff	stuff	14.7	5.9
5. latter	letter	3	15.2
	later	30.3	60.6
6. counsel	council	30.3	43.7
7. fad	fade	59.4	40
8. bald	bold	42.4	15.6
9. commended	commanded	35.3	55.2
10. curse	course	44.1	36.7
11. bit	beat	23.5	9.1
12. dote	dot	15.2	33.3
13. expansive	expensive	2.9	38.2
14. foul	full	9.4	6.5
	fool	37.5	29
15. hop	hope	17.6	15.6
16. hurt	heart	23.5	18.7
17. nurture	nature	24.2	22.2
18. snub	snob	37.5	20.7
19. sole	soil	15.6	3.3
	soul	12.5	30.3
20. formerly	formally	24.2	31.2
21. lack	lake	9.4	9.1
	luck	3.1	18.2
22. bait	bite	28.1	10.3
23. libel	label	27.3	18.7
24. launch	lunch	6.2	29
% of synform errors per test		26	29.5

Table 6.4 – Synform susceptibility of individual testees
(Foreign learners)

Number of items tested = 25

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	50	33
2.	25	25
3.	29	33
4.	33	42
5.	12.5	62.5
6.	37.5	12.5
7.	42	60
8.	25	41
9.	25	29
10.	42	25
11.	25	17
12.	21	46
13.	33	25
14.	29	43
15.	33	33
16.	37.5	52
17.	12.5	12.5
18.	33	21
19.	17	17
20.	16	18
21.	17	25
22.	29	25
23.	29	37.5
24.	29	46
25.	28	6
26.	21	4
27.	17	31
28.	8	40

Table 6.4 (continued)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
29.	8	11
30.	25	42
31.	17	9
32.	21	25
33.	35	15
34.	21	33

% of synform

errors per test   26   30

       Expected % of synform errors by chance = 29.5

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 8.08 > 6.63, p < .01)

Test version B : significant (χ^2 = 82.50 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses
$$(\chi^2 = 3.95 > 3.84, p < .05)$$

Test version B : not significant (χ^2 = 0.07 < 3.84, p > .05)

Difference between the number of synform errors and all the other responses: (Semitic speakers only)[1]:

Test version A : not significant (χ^2 = 0.27 < 3.84, p > .05)

Test version B : significant (χ^2 = 5.21 > 3.84, p < .05)

1. It was noticed that in test version B, the number of synform errors
   made by the Semitic group was relatively high.   Therefore a
   separate χ^2 test was performed.

Table 6.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. affected (adj.)	effected	14.3	11.8	6.7	26.5
2. adapt	adopt	6.7	11.8	13.3	35.3
3. flaw	flow	20	23.5	6.7	32.1
4. staff	stuff	0	14.7	0	5.9
5. latter	letter	0	3	0	15.2
	later	7.1	30.3	78.6	60.6
6. counsel	council	66.7	30.3	66.7	43.7
7. fad	fade	42.9	59.4	28.6	40
8. bald	bold	0	42.4	0	15.6
9. commended	commanded	14.3	35.3	20	55.2
10. curse	course	6.7	44.1	0	36.7
11. bit	beat	0	23.5	0	9.1
12. dote	dot	0	15.2	13.3	33.3
13. expansive	expensive	0	2.9	6.7	38.2
14. foul	full	6.7	9.4	0	6.5
	fool	6.7	37.5	13.3	29
15. hop	hope	0	17.6	0	15.6
16. hurt	heart	20	23.5	0	18.7
17. nurture	nature	50	24.2	26.7	22.2
18. snub	snob	28.6	37.5	13.3	20.7
19. sole	soil	6.7	15.6	0	3.3
	soul	20	12.5	20	30.3
20. formerly	formally	21.4	24.2	20	31.2
21. lack	lake	0	9.4	0	9.1
	luck	0	3.1	0	18.2
22. bait	bite	0	28.15	0	10.3
23. libel	label	0	27.3	14.3	18.7
24. launch	lunch	0	6.2	0	29
% of synform errors per test		14	26	14	29.5

Table 6.5 (Continued)

Significance tests

Difference between native speakers and foreign learners in the number
of synform errors:

Test version A : significant (χ^2 = 15 > 10.83, p < .001)
Test version B : significant (χ^2 = 18.16 > 10.83, p < .001)

Table 6.6 - Synform error susceptibility of different L_1 groups

Student number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	50	33
2.	25	25
3.	29	33
4.	33	42
5.	12.5	62.5
6.	37.5	12.5
7.	42	60
8.	25	41
9.	25	29
10.	42	25
11.	25	17
12.	21	46
13.	33	25
14.	29	43
15.	33	33
Germanic		
1.	37.5	52
2.	12.5	12.5
3.	33	21
4.	17	9
5.	21	25
Romance		
1.	17	17
2.	16	18
3.	17	25
4.	35	15
5.	21	33

% of synform errors in each group	Semitic	Germanic	Romance
Test version A	31	24	21
Test version B	35	24	22

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : not significant (χ^2_{df2} = 4.29 < 5.99, p > .05)

Test version B : significant (χ^2_{df2} = 9.62 > 5.99, p < .05)

6.2.6.2   Category 6 - Summary of the results

a.   Synform confusion type 6 as a common error

   Comparison of the frequencies of synform and non-synform
errors shows that null hypothesis 6.1.1, that there is
no significant difference between the number of synform
and non-synform errors, can be rejected for the foreign
learners in both test versions, at probability level of
.01 in test version A and at probability level of .001
in test version B.   In the case of native speakers it
can be rejected in test version B only at .01 probability
level, but cannot be rejected in test version A.

   Comparison of the synform error frequency and that
of all the other responses, including the correct one,
shows that null hypothesis 6.1.2, that there is no significant
difference between the number of synform errors and that
of all the other responses, can be rejected in the case
of the native speaking learners of English at .001
probability level but in the direction of the other responses,
i.e. there were more other responses than synform errors.
It can also be rejected like that in the case of foreign
learners in test version A, but not in test version B.

   These results suggest that confusion of synforms type
6 is not a common error neither of native speakers, nor
of the foreign learners.

b. L_1 effect on synform type 6 confusion

   Comparison of the number of synform errors made by
native speakers and that made by foreign learners shows
that null hypothesis 6.2.1, that there is no significant

difference between the two groups in the number of synform
errors, can be rejected in both test versions at .001
probability level.   As for the effect of the mother tongue
of the foreign learners, comparison of the Semitic, Germanic
and Romance groups in the number of synform errors they
made shows that null hypothesis 6.2.2, that there is no
significant difference between these groups in the number
of synform errors, cannot be rejected in test version
A, but can be rejected in test version B at .05 probability
level.

These results suggest that confusion of synforms of
type 6 is more likely to occur with foreign language learners
than with native speakers.   A different mother tongue
might make a difference in the learning difficulty but
not necessarily; when it does, the most likely candidates
for synform confusions will be the speakers of the Semitic
languages and the least likely ones – the speakers of
the Romance languages.   However, even in the case of
the foreign learners, the frequency of such confusions
is not high enough to qualify it for a common error.
The exception is the Semitic group where confusion of
synform type 6 is a common error.

6.2.7 Category 7 - Test 7

6.2.7.1 Tables 7.1 - 7.6

Synform error frequencies (Native speakers)
Number of testees = 29

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. live	alive	24.1	58.6
2. acute	cute	0	14.3
3. essence	sense	27.6	26.9
4. beware	be aware	31	3.4
5. arise	rise	24.1	66.7
6. personnel	personal	25	44.8
7. quite	quiet	25	28.6
8. coping	copying	6.9	13.8
9. rousing	arousing	31	7.1
10. data	date	13.8	7.1
11. deify	defy	24.1	27.6
12. elate	late	0	0
13. emergence	emergency	18.5	60
14. estate	state	17.9	3.4
15. move	movie	3.4	3.4
16. minster	minister	17.2	17.2
17. oppress	press	3.4	20.7
18. equality	quality	35.7	11.1
% of synform errors per test		18	23

Table 7.2 - Synform susceptibility of individual testees
(Native speakers)

Number of items tested = 18

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	13	60
2.	28	18
3.	39	37.5
4.	22	40
5.	20	31
6.	17	33
7.	17	22
8.	11	17
9.	17	12
10.	17	28
11.	5.5	5.5
12.	39	29
13.	17	22
14.	17	28
15.	17	39
16.	11	28
17.	11	17
18.	17	18
19.	11	17
20.	22	33
21.	29	11
22.	17	17
23.	33	33
24.	0	5.5
25.	5.5	11
26.	11	11
27.	33	17
28.	5.5	22
29.	22	33

% of synform errors per test

	18	23

Expected % of synform errors by chance = 25

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant $(\chi^2 = 15.72 > 10.83,\ p < .001)$
Test version B : significant $(\chi^2 = 61.2 > 10.83,\ p < .001)$

Difference between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses:
$$(\chi^2 = 12.31 > 10.83,\ p < .001)$$
Test version B : not significant $(\chi^2 = 0.94 < 3.84,\ p > .05)$

Table 7.3 - Synform error frequencies (Foreign learners)

Number of testees = 28

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. live	alive	33.3	28.6
2. acute	cute	7.4	12
3. essence	sense	38.5	22.2
4. beware	be aware	61.5	22.2
5. arise	rise	37	32.1
6. personnel	personal	22.2	46.4
7. quite	quiet	22.2	46.4
8. coping	copying	33.3	39.3
9. rousing	arousing	18.5	33.3
10. data	date	18.5	10.7
11. deify	defy	34.5	29.6
12. elate	late	15.4	7.4
13. emergence	emergency	44	67.9
14. estate	state	29.6	19.2
15. move	movie	28	10.7
16. minster	minister	20	28.6
17. oppress	press	46.2	50
18. equality	quality	26.9	3.6
% of synform errors per test		30	28

Table 7.4 - Synform error susceptibility of individual testees
(Foreign learners)

Number of items tested = 18

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	11	33
2.	45	41
3.	28	29
4.	39	50
5.	44	33
6.	5.5	5.5
7.	39	23.5
8.	41	31
9.	41	28
10.	29	46
11.	28	53
12.	17	44
13.	28	22
14.	47	40
15.	35	18
16.	28	33
17.	-	27
18.	33	39
19.	44	28
20.	39	17
21.	50	33
22.	28	22
23.	28	22
24.	17	17
25.	11	11
26.	17	11
27.	22	28
28.	17	22

| % of synform errors per test | 30 | 29 |

Expected % of synform errors by·chance = 25

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant $(\chi^2 = 38.42 > 10.83,\ p < .001)$
Test version B : significant $(\chi^2 = 35.25 > 10.83,\ p < .001)$

Difference between the number of synform errors and all the other responses:

Test version A : significant $(\chi^2 = 5.4 > 3.84,\ p < .05)$
Test version B : not significant $(\chi^2 = 2.97 < 3.84,\ p > .05)$

Table 7.5 - Synform error frequencies
(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. live	alive	24.1	33.3	58.6	28.6
2. acute	cute	0	7.4	14.3	12
3. essence	sense	27.6	38.5	26.9	22.2
4. beware	be aware	31	61.5	3.4	22.2
5. arise	rise	24.1	37	66.7	32.1
6. personnel	personal	25	22.2	44.8	46.4
7. quite	quiet	25	22.2	28.6	46.4
8. coping	copying	6.9	33.3	13.8	39.3
9. rousing	arousing	31	18.5	7.1	33.3
10. data	date	13.8	18.7	7.1	10.7
11. deify	defy	24.1	34.5	27.6	29.6
12. elate	late	0	15.4	0	7.4
13. emergence	emergency	18.5	44	60	67.9
14. estate	state	17.9	29.6	3.4	19.2
15. move	movie	3.4	28	3.4	10.7
16. minster	minister	17.2	20	17.2	28.6
17. oppress	press	3.4	46.2	20.7	50
18. equality	quality	35.7	26.9	11.1	3.6
% of synform errors per test		18	30	23	28

Significance tests

Difference between native speakers and foreign learners in the number of synform errors:

Test version A : significant $(\chi^2 = 11.07 > 10.83, p < .001)$
Test version B : not significant $(\chi^2 = 2.44 < 3.84, p > .05)$

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Table 7.6 - Synform error susceptibility of different L$_1$ groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	11	33
2.	45	41
3.	28	29
4.	39	50
5.	44	33
6.	5.5	5.5
7.	39	23.5
8.	41	31
9.	41	28
10.	29	46
11.	28	53
12.	17	44
13.	28	22
14.	47	40
Germanic		
1.	28	22
2.	28	22
3.	17	17
4.	11	11
5.	17	11
6.	22	28
Romance		
1.	35	18
2.	28	33
3.	-	27
4.	33	39
5.	44	28
6.	39	17
7.	17	22

% of synform errors in each group

	Semitic	Germanic	Romance
Test version A	32	20.5	33
Test version B	34	18.5	26

Table 7.6 (Continued)

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : not significant ($\chi^2_{df2}= 2.24 < 5.99$, p > .05)

Test version B : not significant ($\chi^2_{df2}= 5.53 < 5.99$, p > .05)

6.2.7.2 Test 7 - Summary of the results

a. Synform confusion type 7 as a common error

Comparison of synform error frequencies with the
frequencies of non-synform errors shows that null-hypothesis
7.1.1, that there is no significant difference between
the number of synform and non-synform errors, can be rejected
for both native speakers and foreign learners in both test
versions at .001 probability level. Thus, if the learners
were to err, they would be likely to make an error of
synformic rather than non-synformic confusion.

Comparison of synform error frequencies with that of
all the other responses, including the correct one, shows
that null hypothesis 7.1.2, that there is no significant
difference between the number of synform errors and that
of all other responses, cannot be rejected in the case
of native speakers in test version B, but can be rejected
in test version A, in the direction of other responses.
There were more of the other responses than of the synform
errors. It can be rejected in the case of the foreign
learners in test version A at .05 probability level, but
not in B.

These results suggest that synform confusion of type
7 is a common error of the foreign language learner but
not of the native speaking child learning English.

b. L_1 effect on synform type 7 confusion

Comparison of the number of synform errors made by
native speakers and that made by foreign learners shows
that null hypothesis 7.2.1, that there is no significant

difference between the two groups in the number of synform errors, can be rejected in test version A at .001 probability level, but cannot be rejected in test version B.

As for the effect of the mother tongue on the foreign learner's performance, comparison of the Semitic, Germanic and Romance groups in the number of synform errors they made shows that null hypothesis 7.2.2, that there is no significant difference between these groups in the number of synform errors, cannot be rejected in either of the test versions.

These results, together with those in section a, suggest that synform type 7 is problematic for the foreign learner irrespective of his mother tongue, but not for the native speakers.

6.2.8 Test 8 - Category 8

6.2.8.1 Tables 8.1 - 8.6

Table 8.1 - Synform frequencies (Native speakers)

Number of testees = 29

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. extent	extend	0	0
2. prize	price	0	0
3. reflect	reflex	20.7	10.3
4. faithful	fateful	0	0
5. loose	lose	0	6.9
6. cart	card	0	0
7. contend	content	0	10.3
8. taught	thought	0	0
9. thing	think	0	3.4
10. thicken	sicken	0	0
11. fuzzy	fussy	0	6.9
12. watch	wash	0	0
13. endure	injure	0	0
14. graceful	grateful	82.8	27.6
15. thrust	trust	17.2	0
16. plug	pluck	0	0
17. petal	pedal	0	0
18. plead	bleed	0	0
	pleat	0	3.4

% of synform errors per test	7	4

Table 8.2 - Synform error susceptibility of individual testees
(Native speakers)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	5.5	5.5
2.	5.5	5.5
3.	11	0
4.	11	0
5.	5.5	11
6.	5.5	0
7.	5.5	0
8.	5.5	0
9.	5.5	0
10.	0	5.5
11.	11	0
12.	5.5	5.5
13.	5.5	0
14.	11	0
15.	11	11
16.	11	5.5
17.	0	0
18.	0	5.5
19.	0	17
20.	5.5	0
21.	11	11
22.	5.5	0
23.	5.5	17
24.	0	5.5
25.	11	5.5
26.	5.5	0
27.	11	0
28.	11	0
29.	11	0

% of synform errors

  per test   7   4

Expected % of syn.errors by chance = 26

Table 8.2 (Continued)

Significance tests

Comparison of the number of synform and non-synform errors:

Test version A : significant (χ^2 = 32.79 > 10.83, p < .001)

Test version B : significant (χ^2 = 14.33 > 10.83, p < .001)

Comparison between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses
χ^2 = 103.49 < 10.83, p > .001)

Test version B : significant in the direction of other responses
(χ^2 = 135.9 < 10.83, p > .001)

Table 8.3 – Synform frequencies (Foreign learners)
Number of testees = 25

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. extent	extend	20.8	50
2. prize	price	33.3	45.5
3. reflect	reflex	34.8	4.3
4. faithful	fateful	16.7	14.3
5. loose	lose	24	0
6. cart	card	20	47.6
7. contend	content	17.4	35.3
8. taught	thought	13.6	20
9. thing	think	16	23.8
10. thicken	sicken	10	15
11. fuzzy	fussy	22.7	15
12. watch	wash	0	13
13. endure	injure	4	17.4
14. graceful	grateful	68.2	31.8
15. thrust	trust	24	31.8
16. plug	pluck	13.6	26.1
17. petal	pedal	0	28.6
18. plead	bleed	28.6	16.7
	pleat	14.3	27.8
% of synform errors per test		21	25

Table 8.4 - Synform error susceptibility of individual testees
(Foreign learners)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	27	50
2.	47	31
3.	27	57
4.	18	0
5.	13	7
6.	12	18
7.	35	18
8.	13	29
9.	39	22
10.	25	33
11.	23.5	19
12.	22	39
13.	17	35
14.	17	33
15.	0	0
16.	28	28
17.	17	11
18.	17	23.5
19.	20	17
20.	33	44
21.	33	11
22.	0	23.5
23.	22	28
24.	0	22
25.	28	33

% of synform errors
  per test   21   25

  Expected % of synform errors by chance = 26

Table 8.4 (Continued)

Significance tests

Difference between the synform and the non-synform errors:

Test version A: not significant (χ^2 = 2.68 < 3.84, p > .05)

Test version B : significant (χ^2 = 7.55 > 6.63, p < .01)

Difference between the synform errors and all the other responses:

Test version A : significant in the direction of other responses:
$$\chi^2 = 5.7 > 3.84, \text{ p} < .05)$$

Test version B : not significant $\chi^2 = 0.27 < 3.84, \text{ p} > .05)$

Table 8.5 - Synform frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. extent	extend	0	20.8	0	50
2. prize	price	0	33.3	0	45.5
3. reflect	reflex	20.7	34.8	10.3	4.3
4. faithful	fateful	0	16.7	0	14.3
5. loose	lose	0	24	6.9	0
6. cart	card	0	20	0	47.6
7. contend	content	0	17.4	10.3	35.3
8. taught	thought	0	13.6	0	20
9. thing	think	0	16	3.4	23.8
10. thicken	sicken	0	10	0	15
11. fuzzy	fussy	0	22.7	0	13
12. watch	wash	0	0	0	13
13. endure	injure	0	4	0	17.4
14. graceful	grateful	82.8	68.2	27.6	31.8
15. thrust	trust	17.2	24	0	31.8
16. plug	pluck	0	13.6	0	26.1
17. petal	pedal	0	0	0	28.6
18. plead	bleed	0	28.6	0	16.7
	pleat	0	14.3	3.4	27.8
% of synform errors per test		7	21	4	25

Significance tests

Difference between native speakers and foreign learners in the number of synform errors:

Test version A : significant $(\chi^2 = 30.41 > 10.83,\ p < .001)$
Test version B : significant $(\chi^2 = 59.67 > 10.83,\ p < .001)$

Table 8.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	27	50
2.	47	31
3.	27	57
4.	18	0
5.	13	7
6.	12	18
7.	35	18
8.	13	29
9.	39	22
10.	25	33
Germanic		
1.	0	0
2.	28	28
3.	17	11
4.	17	23.5
5.	20	17
Romance		
1.	23.5	19
2.	22	39
3.	17	35
4.	0	22
5.	28	33

% of synform errors in each group

	Semitic	Germanic	Romance
Test version A	26	16	18
Test version B	27	16	30

Significance tests

Difference between the L_1 groups in the number of synform errors:

Test version A : not significant $(\chi^2_{df2} = 1.15 < 5.99, p > .05)$

Test version B : not significant $(\chi^2_{df2} = 5.68 < 5.99, p > .05)$

6.2.8.2   Test 8 - Summary of the results

a.   Synform confusion type 8 as a common error

Comparison of synform error and non-synform error frequencies shows that null hypothesis 8.1.1, that there is no significant difference between the number of synform and non-synform errors, can be rejected for both the native speakers and the foreign learners in test version B; in test version A it can be rejected for native speakers but not for foreign learners.

Comparison of synform error frequencies with that of all other responses shows that null hypothesis 8.1.2, that there is no significant difference between the number of synform errors and that of all the other responses, cannot be rejected in test version B, foreign learners.   It can be rejected in the other test version and in both versions for native speakers, but in the direction of other responses. The frequency of other responses was significantly higher than that of synform errors.

These results indicate that synform confusion type 8 is not a common error.   Even though this error is more likely to occur than other errors of non-synformic similarity, the correct response is not very likely to be confused with its synform.

b. L_1 effect on synform type 8 confusion

Comparison of the native and the non-native learners in the number of synform errors shows that null hypothesis 8.2.1, that there is no significant difference between the two groups can be rejected in both test versions at .001 probability level.

Comparison of different L_1 groups shows that null hypothesis 8.2.2, that there is no significant difference between them in the number of synform errors, cannot be rejected in test version A, nor in test version B.

Even though according to these results synform type 8 confusion is more a foreign language learning problem than language learning problem, this does not appear to be an important finding.[1] Since the results in the preceding section indicate that synforms type 8 are not likely to be confused, the significant difference between the native and foreign learners means that this alleged confusion is even less of a problem for the native speaker.

1. This seems to be so for the language level investigated in the study. With lower levels, different results might have been arrived at.

6.2.9 <u>Test 9 - Category 9</u>

6.2.9.1 <u>Tables 9.1 - 9.6</u>

<u>Table 9.1 - Synform error frequencies (Native speakers)</u>

<u>Number of testees = 23</u>

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. customs	custom	43.5	26.1
2. conscious	conscience	0	8.7
3. phase	phrase	8.7	30.4
4. simulate	stimulate	39.1	21.7
5. addiction	addition	4.3	13
6. statute	statue	4.3	30.4
7. defy	define	4.3	34.8
8. means	mean	4.3	17.4
9. enjoin	enjoy	4.3	34.8
10. eternal	internal	17.4	4.3
11. ethic	ethnic	30.4	21.7
12. evasion	invasion	21.7	52.2
13. evolve	revolve	30.4	13
14. powder	power	8.7	0
15. prevision	revision	13	34.8
16. ledge	sledge	0	4.3
	pledge	4.3	0
17. septic	sceptic	39.1	0
18. instants	instance	8.7	8.7
19. climactic	climatic	78.3	30.4
20. net	nest	0	0
21. contest	context	17.4	0
22. devaluation	evaluation	26.1	4.3
23. event	invent	17.4	4.3
% of synform errors per test		19	17

Table 9.2 – Synform error susceptibility of individual testees

(Native speakers)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	22	22
2.	26	22
3.	17	13
4.	9	26
5.	13	9
6.	22	17
7.	9	9
8.	30	26
9.	4	22
10.	23	36
11.	32	17
12.	22	22
13.	32	30
14.	17	4
15.	39	13
16.	13	13
17.	13	17
18.	9	4
19.	9	9
20.	13	0
21.	30	26
22.	9	4
23.	17	39

% of synform errors per test	19	17

Expected % of synform errors by chance = 26

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 5.15> 3.84, p <.05)

Test version B : significant (χ^2 = 12.46> 10.83, p< .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses
$$\chi^2 = 14.63> 10.83,\ p< .001)$$

Test version B : significant in the direction of other responses
$$\chi^2 = 21.6> 10.83,\ p<.001)$$

Table 9.3 - Synform error frequencies (Foreign learners)

Number of testees = 22

Correct answer	Expected synform error	% of syn.error Test version A	% of syn.error Test version B
1. customs	custom	40.9	59.1
2. conscious	conscience	4.8	21
3. phase	phrase	4.8	20
4. simulate	stimulate	14.3	10
5. addiction	addition	9.5	29.4
6. statute	statue	19	28.5
7. defy	define	19	4.8
8. means	mean	22.7	4.8
9. enjoin	enjoy	19	33.3
10. eternal	internal	15	10
11. ethic	ethnic	35	16.7
12. evasion	invasion	10.5	26.3
13. evolve	revolve	14.3	0
14. powder	power	9.5	10.5
15. prevision	revision	5.9	7.1
16. ledge	sledge	15.8	26.7
	pledge	26.3	26.7
17. septic	sceptic	16.7	15.8
18. instants	instance	10.5	29.4
19. climactic	climatic	38.1	47.1
20. net	nest	13.6	11.1
21. contest	context	45	31.6
22. devaluation	evaluation	15	11.1
23. event	invent	5.6	5
% of synform errors per test		20	21

Table 9.4 - Synform error susceptibility of individual testees

(Foreign learners)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	29	50
2.	6	17
3.	33	33
4.	15	10
5.	43	21
6.	11	19
7.	5	27
8.	21	9
9.	20	33
10.	9	44
11.	42	30
12.	41	23
13.	14	27
14.	32	13
15.	9	17
16.	39	22
17.	9	19
18.	17	9.5
19.	9	9
20.	9	19
21.	22	22
22.	13	4

| % of all synform errors per test | 20 | 21 |

Expected % of synform errors by chance = 26

Significance tests

Difference between synform and non-synform errors:

Test version A : significant $\chi^2 = 8.45 > 6.63$, p $<$ .01)

Test version B : significant $\chi^2 = 5.86 > 3.84$, p $<$ .05)

Difference between the number of synform errors and all the other responses:

Test version A : significant in the direction of other responses

$$\chi^2 = 11.1 > 10.83, \ p < .001)$$

Test version B : significant in the direction of other responses

$$\chi^2 = 6.16 > 3.84, \ p < .05)$$

Table 9.5 - Synform error frequencies

(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.error Test version A		% of syn.error Test version B	
		N.S.	F.L.	N.S.	F.L.
1. customs	custom	43.5	40.9	26.1	59.1
2. conscious	conscience	0	4.8	8.7	21
3. phase	phrase	8.7	4.8	30.4	20
4. simulate	stimulate	39.1	14.3	21.7	10
5. addiction	addition	4.3	9.5	13	29.4
6. statute	statue	4.3	19	30.4	28.5
7. defy	define	4.3	19	34.8	4.8
8. means	mean	4.3	22.7	17.4	4.8
9. enjoin	enjoy	4.3	19	34.8	33.3
10. eternal	internal	17.4	15	4.3	10
11. ethic	ethnic	30.4	35	21.7	16.7
12. evasion	invasion	21.7	10.5	52.2	26.3
13. evolve	revolve	30.4	14.3	13	0
14. powder	power	8.7	9.5	0	10.5
15. prevision	revision	13	5.9	34.8	7.1
16. ledge	sledge	0	15.8	4.3	26.7
	pledge	4.3	26.3	0	26.7
17. septic	sceptic	39.1	16.7	0	15.8
18. instants	instance	8.7	10.5	8.7	29.4
19. climactic	climatic	78.3	38.1	30.4	47.1
20. net	nest	0	13.6	0	11.1
21. contest	context	17.4	45	0	31.6
22. devaluation	evaluation	26.1	15	4.3	11.1
23. event	invent	17.4	5.6	4.3	5
% of synform errors per test		19	20	17	21

Significance tests

Difference between native speakers and foreign learners in the number
of synform errors:

Test version A : not significant (χ^2 = 0.04 < 3.84, p > .05)

Test version B no difference χ^2 = 0)

Table 9.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn. errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	29	50
2.	6	17
3.	33	33
4.	15	10
5.	43	21
6.	11	19
7.	5	27
8.	21	9
9.	20	33
10.	9	44
Germanic		
1.	14	27
2.	32	13
3.	9	17
4.	39	22
5.	9	19
Romance		
1.	41	23
2.	17	9.5
3.	9	9
4.	9	19
5.	22	22
6.	13	4

% of synform errors in each group

	Semitic	Germanic	Romance
Test version A	19	21	19
Test version B	26	20	17

Significance tests

Difference between the different L_1 groups in the number of synform errors:

Test version A : not significant ($\chi^2_{df2} = 0.89 < 5.99$, $p > .05$)

Test version B : not significant ($\chi^2_{df2} = 0.68 < 5.99$, $p \not> .05$)

6.2.9.2   Test 9 - Summary of the results

a.   Synform type 9 confusion as a common error

Comparison of synform and non-synform error frequencies
shows that null hypothesis 9.1.1, that there is no significant
difference between the number of synform and non-synform
errors, can be rejected for both test versions in the case
of native speakers and foreign learners.

Comparison of the frequency of synform errors and all
the other responses, including the correct one, shows that
null hypothesis 9.1.2, that there is no significant difference
between the number of synform errors and that of all the
other responses, can be rejected but in the direction of
the other responses.   There were significantly more other
responses than synform errors in the case of the native
and the non-native learners of English in both test versions.

These results indicate that synform type 9 confusion
is not a learning problem for either the native speakers
or the foreign learners.   If they were to err, they would
be more likely to make a synform type confusion rather than
non-synform type one, but they are not likely to confuse
the correct response with its synform.

b. L_1 effect on synform type 9 confusion

Comparison of native and non-native speakers and the
comparison of the different L_1 groups in the number of synform
errors show that there is no significant difference in either
of the cases.   Thus null hypothesis 9.2.1 and 9.2.2 cannot
be rejected.   Apparently, confusion of synform type 9 is
not a problem for any of the groups tested.

6.2.10 Test 10 - Category 10

6.2.10.1 Tables 10.1 - 10.6

Table 10.1 - Synform error frequencies (Native speakers)

Number of testees = 14

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
1. ingenuous	ingenious	46.2	57.1
2. bias	base	46.2	23.1
3. propose	purpose	35.7	14.3
4. eligible	legible	42.9	35.7
5. menial	manual	50	28.6
6. merely	merrily	38.5	50
7. available	valuable	15.4	28.6
8. conceal	cancel	23.1	28.6
9. dairy	diary	7.1	0
10. split	spilt	14.3	21.4
11. eliminate	illuminate	35.7	21.4
12. embrace	embarrass	35.7	7.1
13. defiance	defence	28.6	14.3
14. excretion	excursion	23.1	21.4
15. humane	human	42.9	28.6
16. morale	moral	23.1	21.4
17. précis	precise	16.7	28.6
18. quit	quiet	7.7	21.4
	quite	23.1	0
19. fiery	fairy	15.4	35.7
	fair	46.2	28.6
% of synform errors per test		32.5	27

Table 10.2 - Synform error susceptibility of individual testees

(Native speakers)

Number of items tested = 19

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	26	32
2.	22	32
3.	16	26
4.	63	42
5.	26	22
6.	32	16
7.	16	16
8.	29	26
9.	21	10.5
10.	47	37
11.	58	37
12.	42	21
13.	21	32
14.	26	32

Total synform errors

per test %   32.5   27

Expected % of synform errors by chance = 28

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 25.8 > 10.83, p < .001)

Test version B : significant (χ^2 = 8.87 > 6.63, p < .01)

Difference between the number of synform errors and all the other responses:

Test version A : not significant χ^2 = 3.07 < 3.84, p > .05)

Test version B : not significant (χ^2 = 0.004 < 3.84, p > .05)

Table 10.3 - Synform error frequencies (Foreign learners)

Number of testees = 33

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
1. ingenuous	ingenious	34.4	43.7
2. bias	base	33.3	41.4
3. propose	purpose	15.2	18.7
4. eligible	legible	36.4	18.7
5. menial	manual	45.5	18.2
6. merely	merrily	12.5	15.6
7. available	valuable	40.6	33.3
8. conceal	cancel	36.4	15.2
9. dairy	diary	19.4	42.4
10. split	spilt	21.2	31.2
11. eliminate	illuminate	9.4	16.7
12. embrace	embarrass	21.2	31.2
13. defiance	defence	60.6	32.3
14. excretion	excursion	27.3	10.3
15. humane	human	45.5	51.5
16. morale	moral	60.6	48.5
17. précis	precise	28.1	32.3
18. quit	quiet	15.2	31.2
	quite	18.2	18.7
19. fiery	fairy	27.3	40.6
	fair	36.4	25

| % of synform errors per test | | 34 | 33 |

Table 10.4 - Synform error susceptibility of individual testees

(Foreign learners)

Number of items tested = 19

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	47	32
2.	42	21
3.	37	32
4.	21	53
5.	37	39
6.	26	26
7.	56	29
8.	37	50
9.	32	32
10.	42	44
11.	37	21
12.	53	50
13.	21	17
14.	22	35
15.	41	20
16.	26	37
17.	39	42
18.	21	37
19.	47	33
20.	0	16
21.	16	39
22.	39	43
23.	21	0
24.	39	26
25.	21	32
26.	21	12.5
27.	26	32

Table 10.4 (Continued)

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
28.	32	32
29.	53	32
30.	32	16
31.	37	53
32.	58	53
33.	26	56

Total synform errors per test %	34	33

Expected % of synform errors by chance = 28

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 42.5 > 10.83, p < .001)
Test version B : significant (χ^2 = 44.39 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant (χ^2 = 11.08 > 10.83, p < .001)
Test version B : significant (χ^2 = 7.74 > 6.63, p < .01)

Table 10.5 - Synform error frequencies
(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.errors Test version A		% of syn.errors Test version B	
		N.S.	F.L.	N.S.	F.L.
1. ingenuous	ingenious	46.2	34.4	57.1	43.7
2. bias	base	46.2	33.3	23.1	41.4
3. propose	purpose	35.7	15.2	14.3	18.7
4. eligible	legible	42.9	36.4	35.7	18.7
5. menial	manual	50	45.5	28.6	18.2
6. merely	merrily	38.5	12.5	50	15.6
7. available	valuable	15.4	40.6	28.6	33.3
8. conceal	cancel	23.1	36.4	28.6	15.2
9. dairy	diary	7.1	19.4	0	42.4
10. split	spilt	14.3	21.2	21.4	31.2
11. eliminate	illuminate	35.7	9.4	21.4	16.7
12. embrace	embarrass	35.7	21.2	7.1	31.2
13. defiance	defence	28.6	60.6	14.3	32.3
14. excretion	excursion	23.1	27.3	21.4	10.3
15. humane	human	42.9	45.5	28.6	51.5
16. morale	moral	23.1	60.6	21.4	48.5
17. precis	precise	16.7	28.1	28.6	32.3
18. quit	quiet	7.7	15.2	21.4	31.2
	quite	23.1	18.2	0	18.7
19. fiery	fairy	15.4	27.3	35.7	40.6
	fair	46.2	36.4	28.6	25
% of synform errors per test		32.5	34	27	33

Significance tests

Difference between native speakers and foreign learners in the number of synform errors:

Test version A : not significant $(\chi^2 = 0.03 < 3.84, p > .05)$
Test version B : not significant $(\chi^2 = 1.52 < 3.84, p > .05)$

Table 10.6 - Synform error susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	47	32
2.	42	21
3.	37	32
4.	21	53
5.	37	39
6.	26	26
7.	56	29
8.	37	50
9.	32	32
10.	42	44
11.	37	21
12.	53	50
13.	21	17
14.	22	35
15.	41	20
16.	26	37
17.	39	37
18.	21	37
Germanic		
1.	21	12.5
2.	26	32
3.	32	32
4.	53	32
5.	32	16
Romance		
1.	47	33
2.	0	16
3.	37	53
4.	58	53
5.	26	56

% of synform errors in each group

	Semitic	Germanic	Romance
Test version A	35	33	34
Test version B	34	25	42

Table 10.6 (Continued)

Significance tests

Difference between the groups in the number of synform errors:

Test version A : not significant (χ^2_{df2}= 0.23 < 5.99, p > .05)

Test version B : not significant (χ^2_{df2}= 1.32 < 5.99, p > .05)

6.2.10.2   Test 10 - Summary of the results

a.   Synform confusion type 10 as a common error

Comparison of synform and non-synform frequencies shows that null hypothesis 10.1.1, that there is no significant difference between the number of synform errors and that of non-synform errors, can be rejected for both native speakers and foreign learners in both test versions.

Comparison of the synform error frequencies with all the other responses, including the correct one, shows that null hypothesis 10.1.2, that there is no significant difference between the number of synform errors and the number of all the other responses, cannot be rejected in the case of native speakers in either of the test versions; it can, however, be rejected in the case of foreign learners, in test version A at .001 probability level and in test version B at .01 probability level.

These results suggest that synform type 10 confusion is definitely a problem for the foreign speaking learners, but not for the native speaking children.   Though, in the case of the native speakers, this confusion is more likely to occur than a non-synformic confusion, it is not necessarily more plausible than the correct response.

b. L_1 effect on synform type 10 confusion

Comparison of native and non-native learners and the comparison of the different L_1 groups in the number of synform errors show that there is no significant difference in either of the cases.   Thus null hypotheses 10.2.1. and 10.2.2. cannot be rejected.

The lack of significant difference between native speakers and foreign learners seems to contradict the finding that synform confusion was a common error for foreign learners, but not for native speakers.   In order to decide which of the findings is more plausible - that in section a. or in b., we might compare the results of test 10 to the results of tests 6 and 7 which tested the two other categories of vocalic synforms.   These tests showed that the synformic confusions were common with the foreign learners, but not with native speakers.   It is therefore reasonable to assume that synform confusion type 10, which also involves a confusion of vowels, is indeed a common error of the foreign learners, but not the native speakers.

6.2.11 Test 11 - General Test of Synform Errors

6.2.11.1 Tables 11.1 - 11.6

Table 11.1 - Synform error frequencies (Native speakers)

Number of testees = 23

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
1. successive	successful	0	52.2
2. gracious	graceful	17.4	39.1
3. respective	respectful	17.4	43.5
	respectable	13	21.7
	respected	30.4	30.4
4. economical	economic	30.4	39.1
5. projection	project	34.8	52.2
6. figurines	figures	87	39.1
7. circuitous	circular	87	56.5
8. literal	literate	30.4	26.1
	literary	4.3	34.8
9. specifically	specially	43.5	17.4
10. oppress	compress	40.9	9.1
	suppress	13.6	9.1
	repress	13.6	27.3
11. subsequently	consequently	21.7	39.1
12. prospective	respective	52.2	8.7
	perspective	4.3	34.8
13. commission	mission	69.6	43.5
14. default	fault	69.6	21.7
15. predetermined	determined	36.4	13
16. adapt	adopt	4.3	39.1
17. staff	stuff	0	0
18. counsel	council	82.6	68.2
19. beware	be aware	4.5	4.3
20. rousing	arousing.	36.4	52.2
21. emergence	emergency	36.4	52.2
22. faithful	fateful	9.5	22.7
23. loose	lose	21.7	30.4
24. conscious	conscience	8.7	36.4
25. means	mean	18.2	4.5

Table 11.1 (Continued)

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
26. enjoin	enjoy	13.6	54.5
27. bias	base	27.3	40.9
28. ingenuous	ingenious	39.1	68.2
29. humane	human	52.2	19
% of synform errors per test		37	39

Table 11.2 - Synform error susceptibility of individual learners
(Native speakers)

Number of items tested = 29

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	30	21
2.	34	52
3.	21	41
4.	41	36
5.	55	62
6.	24	14
7.	34	38
8.	37	34
9.	52	41
10.	31	34
11.	24	31
12.	38	31
13.	29	38
14.	38	45
15.	31	42
16.	39	34
17.	38	34
18.	38	38
19.	38	31
20.	41	45
21.	52	41
22.	45	64
23.	46	45

Total synform errors
  per test %   37   39

   Expected % of synform errors by chance = 30

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 66.53 > 10.83, p < .001)

Test version B : significant (χ^2 = 86.42 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant (χ^2 = 14.96 > 10.83, p < .001)

Test version B : significant (χ^2 = 22.26 > 10.83, p < .001)

Table 11.3 - Synform error frequencies (Foreign learners)

Number of testees = 30

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
1. successive	successful	3.3	43.3
2. gracious	graceful	26.7	43.3
3. respective	respectful	3.3	13.3
	respectable	20	16.7
	respected	20	30
4. economical	economic	24.1	50
5. projection	project	46.7	34.5
6. figurines	figures	66.7	25
7. circuitous	circular	86.7	34.6
8. literal	literate	30	25
	literary	40	32.1
9. specifically	specially	66.7	56.7
10. oppress	compress	10	6.7
	suppress	23.3	33.3
	repress	20	16.7
11. subsequently	consequently	36.7	48.3
12. prospective	respective	46.7	11.5
	perspective	10	46.2
13. commission	mission	36.7	20
14. default	fault	43.3	50
15. predetermined	determined	30	6.7
16. adapt	adopt	16.7	13.3
17. staff	stuff	6.7	17.2
18. counsel	council	40	42.9
19. beware	be aware	66.7	20.7
20. rousing	arousing	14.3	26.9
21. emergence	emergency	31	61.5
22. faithful	fateful	20.7	10.7
23. loose	lose	24.1	7.1
24. conscious	conscience	10.3	7.1
25. means	mean	31	17.9
26. enjoin	enjoy	13.8	23.1
27. bias	base	34.5	30.8

Table 11.3 (Continued)

Correct answer	Expected synform error	% of syn.errors Test version A	% of syn.errors Test version B
28. ingenuous	ingenious	46.4	34.6
29. humane	human	65.5	32.1
% of synform errors per test		38.5	34

Table 11.4 - Synform error susceptibility of individual learners (Foreign speakers)

Number of items tested = 29

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
1.	50	37.5
2.	38	40
3.	45	44
4.	31	53
5.	27.5	28
6.	38	57
7.	31	33
8.	48	48
9.	31	26
10.	28	38
11.	62	34
12.	42	34
13.	34	38
14.	38	41
15.	48	48
16.	48	27.5
17.	34	24
18.	41	41
19.	38	34
20.	21	31
21.	41	31
22.	41	31
23.	21	14
24.	38	34
25.	55	21
26.	31	17
27.	38	24
28.	45	34
29.	41	31
30.	31	38

Total of synform
errors per test   38.5   34

Expected % of synform errors by chance = 30

Table 11.4 (Continued)

Significance tests

Difference between the number of synform and non-synform errors:

Test version A : significant (χ^2 = 109 > 10.83, p < .001)
Test version B : significant (χ^2 = 92 > 10.83, p < .001)

Difference between the number of synform errors and all the other responses:

Test version A : significant (χ^2 = 27.50 > 10.83, p < .001)
Test version B : significant (χ^2 = 6.11 > 3.84, p < .05)

Table 11.5 - Synform error frequencies
(Comparison between native speakers and foreign learners)

Correct answer	Expected synform error	% of syn.errors Test version A		% of syn.errors Test version B	
		N.S.	F.L.	N.S.	F.L.
1. successive	successful	0	3.3	52.2	43.3
2. gracious	graceful	17.4	26.7	39.1	43.3
3. respective	respectful	17.4	3.3	43.5	13.3
	respectable	13	20	21.7	16.7
	respected	30.4	20	30.4	30
4. economical	economic	30.4	24.1	39.1	50
5. projection	project	34.8	46.7	52.2	34.5
6. figurines	figures	87	66.7	39.1	25
7. circuitous	circular	87	86.7	56.5	25
8. literal	literate	30.4	30	26.1	25
	literary	4.3	40	34.8	32.1
9. specifically	specially	43.5	66.7	17.4	56.7
10. oppress	compress	40.9	10	9.1	6.7
	suppress	13.6	23.3	9.1	33.3
	repress	13.6	20	27.3	16.7
11. subsequently	consequently	21.7	36.7	39.1	48.3
12. prospective	respective	52.2	46.7	8.7	11.5
	perspective	4.3	10	34.8	46.2
13. commission	mission	69.6	36.7	43.5	20
14. default	fault	69.6	43.3	21.7	50
15. predetermined	determined	36.4	30	13	6.7
16. adapt	adopt	4.3	16.7	39.1	13.3
17. staff	stuff	0	6.7	0	17.2
18. counsel	council	82.6	40	68.2	42.9
19. beware	be aware	4.5	66.7	4.3	20.7
20. rousing	arousing	36.4	14.3	21.7	26.9
21. emergence	emergency	36.4	31	52.2	61.5
22. faithful	fateful	9.5	20.7	22.7	10.7
23. loose	lose	21.7	24.1	30.4	7.1
24. conscious	conscience	8.7	10.3	36.4	7.1
25. means	mean	18.2	31	4.5	17.9

Table 11.5 (Continued)

Correct answer	Expected synform error	% of syn.errors Test version A		% of syn.errors Test version B	
		N.S.	F.L.	N.S.	F.L.
26. enjoin	enjoy	13.6	13.8	54.5	23.1
27. bias	base	27.3	34.5	40.9	30.8
28. ingenous	ingenious	39.1	46.4	68.2	34.6
29. humane	human	52.2	65.5	19	32.1
% of synform errors per test		37	38.5	39	34

Significance tests

Difference between native and non-native learners in the numbers of synform errors:

Test version A : not significant (χ^2 = 0.14 < 3.84, p > .05)
Test version B : not significant (χ^2 = 3.52 < 3.84, p > .05)

Table 11.6 - Synform errors susceptibility of different L_1 groups

Student Number	% of syn.errors per test Test version A	% of syn.errors per test Test version B
Semitic		
1.	50	37.5
2.	38	40
3.	45	44
4.	31	53
5.	27.5	28
6.	38	57
7.	31	33
8.	48	48
9.	31	38
10.	28	34
11.	62	34
12.	42	34
Germanic		
1.	34	38
2.	48	48
3.	48	27.5
4.	34	24
5.	41	41
6.	38	34
Romance		
1.	21	31
2.	41	31
3.	41	31
4.	21	14
5.	38	34
6.	55	21
7.	31	17
8.	38	24
9.	45	34

% of synform errors in each group

	Semitic	Germanic	Romance
Test version A	32	40.5	37
Test version B	39	35	26

Table 11.6 (Continued)

Significance tests

Difference between the different L_1 groups in the number of synform errors:

Test version A : not significant (χ^2_{df2} = 0.47 < 5.99, p > .05)

Test version B : not significant (χ^2_{df2} = 3.69 < 5.99, p > .05)

6.2.11.2 General test of synforms - summary of the results

a. Confusion of synforms as a common error

Comparison of synform and non-synform error frequencies shows that null hypothesis 11.1.1 that there is no significant difference between the number of synform and non-synform errors, can be rejected in both test versions for both native speakers and foreign learners at .001 probability level.

Comparison of synform error frequencies with that of all the other responses, including the correct one, shows that null hypothesis 11.1.2, that there is no significant difference between the number of synform errors and the number of all the other responses can be rejected in test version A at .001 probability level for both native speakers and foreign learners, and in test version B at .001 probability level for native speakers and at .05 level for foreign learners.

These results suggest that, in general, confusion of synforms is a common error for both the native and the non-native learners of English.

b. L_1 effect on synform confusion

Comparison of native speakers and foreign learners in the number of synform errors shows that null hypothesis 11.2.1 that there is no significant difference between the two groups in the number of synform errors, cannot be rejected.

Comparison of the three L_1 groups of foreign learners in the number of synform errors shows that null-hypothesis 11.2.2, that there is no significant differences between the various L_1 groups in their susceptibility to synform confusion, cannot be rejected either.

These results suggest that, in general, synform confusion can be regarded as a language learning problem whether the learner is a native speaker of English, or a foreign learner, speaker of a Semitic, Germanic or Romance language.

6.2.12 Comparison of categories of synforms

	Categ.No. + example	% of syn.errors native speakers Test V.A	Test V.B	% of syn.errors foreign learners Test V.A.	Test V.B.	Expected % of synform error
1.	considerable considerate	29	45	33	40	33
2.	experiment experience	31	37	34	37	30
3.	economic economical	21	35	31	39	25
4.	insist persist consist	39	50	48	55	58
5.	passion compassion	28	26	25	22	25
6.	stuff staff	14	14	26	29.5	29
7.	cute acute	18	23	30	28	25
8.	price prize	7	4	21	25	26
9.	addition addiction	19	17	20	21	26
10.	cancel conceal	32.5	27	34	33	28

Significance tests

Difference between synmorphs (cat.1-5) and synphones (cat.6-10) in the number of synform errors they induce:

Native speakers

Test version A : significant (X^2 = 21.18 > 10.83, p < .001)

Test version B : significant (X^2 = 92.38 > 10.83, p < .001)

Foreign learners

Test version A : not significant (X^2 = 0.19 < 3.84, p > .05)

Test version B : not significant (X^2 = 2.04 < 3.84, p > .05)

Difference between 'suffix synmorphs' (cat.1-3) and 'prefix synmorphs' (cat.4-5)

Native speakers

Test version A : not significant (χ^2 = 2.6 < 3.84, p > .05)

Test version B : significant (χ^2 = 26.17 > 10.83, p < .001)

Foreign learners

Test version A : significant (χ^2 = 19.68 > 10.83, p < .001)

Test version B : significant (χ^2 = 48.29 > 10.83, p < .001)

Difference between 'vowel synphones' (cat. 6, 7,10) and 'consonant synphones' (cat. 8, 9)

Native speakers

Test version A : significant (χ^2 = 19.38 > 10.83, p < .001)

Test version B : significant (χ^2 = 21.13 > 10.83, p < .001)

Foreign learners

Test version A : significant (χ^2 = 23.57 > 10.83, p < .001)

Test version B : significant (χ^2 = 21.61 > 10.83, p < .001)

Comparison of synform categories - Summary of the results

Comparison of synmorphs and synphones shows that null hypothesis 12.1, that there is no significant difference between synmorphs and synphones in the number of synform errors they induce, can be rejected in the case of native speakers, in both test versions at .001 probability level. It cannot be rejected in the case of foreign learners in either of the test versions.

These results indicate that, on the whole, confusions of synmorphs is more problematic than the confusion of synphones for native speakers, but not for foreign learners, who experience difficulty with distinguishing between phonologically similar words as well.

Comparison of 'suffix synmorphs' with 'prefix synmorphs' shows that null hypothesis 12.2, that there is no significant difference between them in the number of synform errors they induce, can be rejected in the case of foreign learners in both test versions at .001 probability level; it can be rejected in the case of native speakers in test version B at .001 probability level but not in test version A.

The results of foreign learners confirm the results of individual tests (1-5), according to which the confusion of 'suffix synmorphs' was a common error while the confusion of 'prefix synmorphs' was not. The results of native speakers, test version B, lead to the same conclusion. However, according to results of test version A there seems to be no difference in the problem of confusing the two types of synmorphs. This might suggest that in some circumstances, native speakers will have as little difficulty with one type of synmorphs as with the other.

Comparison of 'vowel synphones' and 'consonant synphones' show that null hypothesis 12.3, that there is no significant difference

between the two types of synphones in the number of synform errors they induce, can be rejected for both native speakers and foreign learners in both test versions at .001 probability level.

The results of foreign learners confirm earlier results of the individual tests (6-10), according to which the confusion of 'vowel synphones' was a common error while the confusion of 'consonant synphones' was not. The results of the native speakers seem to suggest a similar conclusion. However, according to the results of the individual tests (6-10), none of the synphone categories induced a significantly high number of synform errors. Thus, even though the number of errors in confusing the 'vowel synphones' is significantly higher than that with 'consonant synphones', it is not high enough in itself to be considered a common error.

Chapter Seven

Discussion of the Results

7.0 The chapter begins with restating the aims of the study,
its framework and its methodology. The discussion of the results
itself starts with the definition of the notion of common error
in the study. It then proceeds to discussing the following issues:
the phenomenon of synformy as a source of error; the relative
difficulty of the individual categories and of the major groups
of synforms; the effect of the learner's mother tongue on his
susceptibility to synform errors: in the individual categories
and in the major groups of synform categories. The chapter ends
with a summary of characteristics of synformy as an error and a
problem in language learning.

7.1 Summary of aims, framework and methodology of the study

The starting point of this investigation was the observation
that pairs/groups of words similar in shape tended to be confused
by foreign learners of English, speakers of different mother tongues,
at different levels of proficiency in English. The apparent
frequency and regularity of these confusions suggested that shape
similarity of words was a factor of difficulty which affected
vocabulary learning and that the errors which resulted from it
were not accidental but symptomatic of the learner's transitional
competence in foreign language, or his interlanguage.

The study undertook to analyse this feature of interlanguage
and to validate various hypotheses which would arise from the

analysis.   The first step towards the analysis consisted of collecting 'textual data', in Corder's terms (Corder 1973).   These were confusions of words of similar shape made by the learners in free speech, written compositions, interpretations of passages and translation of texts.

Pairs/groups of words similar in form were called synforms. Synforms similar in sound were called synphones, synforms similar in morphology - synmorphs;   synforms similar in script - syngraphs. A descriptive framework of synforms was devised on the basis of findings about the lexical disruptions in L1 and some properties of the mental lexicon.   Within this framework the collected synform errors were classified into ten categories, each category representing a different feature of similarity between the pairs/groups of synforms.

In the main study 47 hypotheses were postulated which addressed the following basic questions about the nature of the synform confusions:

- whether synform confusion in each of the categories was
  a common error: for the foreign learner; for the native-
  speaking learner;
- whether the native language of the foreign learner had
  an effect on this confusion;
- whether certain categories of synforms were more problematic
  than others: for foreign learners; for native speakers.

The various hypotheses were then submitted to experimental validation by means of elicitation procedures.   The two elicitation techniques had a multiple choice format.   Each testee took two different tests testing the same items.   It was hoped that two elicitation procedures will reduce the chance of the results being an artifact of a specific test.

Altogether 528 learners were tested: native speakers (age 11-12) and foreigners (at the FCE level of proficiency);   1056 tests were administered;   24192 responses were obtained and analysed by computer.

7.2 The notion of common error

Error analysis studies have claimed to investigate the so-called 'common errors' - similar errors made by different learners. Yet it is difficult to know, on the basis of these studies, how common an error has to be in order to justify the researcher's and the teacher's attention, in other words when it is that an error ceases to be accidental or idiosyncratic of an insignificant minority of learners and becomes common.

Thus Richards (1974a), Jain (1974) report, illustrate and analyse various errors without supplying their relative frequencies of occurrence.   For example, Richard's data list 2 instances of 'a' replacing 'the' which he collected from learners' compositions (number unstated).   Presumably, in these compositions, articles were sometimes used correctly.   How could we decide then whether the definite/non-definite article confusion was a common error

or not?   It seems that we would at least need to know the error/correct

form ratio in each learner's performance in order to make a judgement

as to how well it has been learnt.   It would also be useful to

know the proportion of learners who have not yet learnt the form

so as to decide whether it presented a problem to a given population,

whether indeed the error was popular or not.   Yet this kind of

information is absent in many error analysis studies.

Other studies (Myint Su 1971; Kroma 1974; Zydatiss 1974)

provide calculations of the number of errors, their percentage

out of the total possible number of errors, proportions of learners

among whom the error is popular, distribution of the error in

various tasks.   Yet the decision as to whether an error is common

or not is still subject to the researcher's intuition.   Myint

Su explicitly says that

> "there is a room for argument about how one classifies
> on a statistical basis a 'common error' ...   This is
> usually based on experience of a teacher dealing with
> learners in a specific situation ..2 people making
> errors in a corpus of 20 (in a particular word) is
> considered sufficient grounds for retaining that word
> for closer scrutiny" (p.137).

While according to Myint Su, 10% of error would make it a common error,

Kroma (1974) does not provide a definite criterion for his decision

as to which errors are common and which are not.   Yet his analysis

suggests that a third of error in an elicitation task is considered

as symptomatic of a learning problem.   He admits that his results

are not statistically validated since

> "in processing the subjects' responses elicitation
> procedures are not concerned with separating right
> and wrong answer on a quantitative basis as conventional
> tests do but in observing differences in pattern between
> the elicitation procedure items and the subject's
> response" (p.50).

In more recent studies which have investigated the acquisition of various forms, mainly grammatical, cut off points are used to indicate whether a particular form has been acquired or not, i.e. whether it is still erroneous. Hatch and Farhady (1982) report that most researchers would consider a feature erroneous if it were used incorrectly in 20% of obligatory instances. But different researchers have set different cut off points.

In the present study, the notion of common error was defined statistically, in terms of probability of occurrence. The confusion of synforms in a particular category was considered to be a common error if the synform error frequency across all testees was significantly higher than the frequency of other errors in both test versions; and if the frequency of synform errors was significantly higher than the frequency of all the other responses, including the correct one, in at least one test version. In more general terms, error occurrence was considered to be common when it had at least 95% probability of being a) the favourite _error_ among three errors, selected by the investigator; b) the favourite _response_ as compared to other errors and the correct answer, in at least half of the test cases (i.e. in one test version).

It is hoped that with such a stringent definition, based on statistically significant occurrence, the results of the study would, in addition to their descriptive value, gain predictive validity i.e. lend generalisability to the claim of synform systematicity.

7.3 <u>Synformy as a source of error</u> (test 11)

Test 11, which comprised selected items from all ten tests, was designed to provide a general indication as to whether synforms were likely to be confused in learners' comprehension and whether this confusion was a language learning problem or only a foreign language problem.

The results showed that in both test versions, the number of synform errors was significantly higher than that of other errors and also significantly higher than the number of other responses, including the correct one. Apparently, the synform error distractor was so attractive to the learners that it overruled all the alternative responses, even the supposedly most attractive one - the correct.

The selection of the items which were to be included in test 11 was purely intuitive. It is possible, of course, that if different items from the 10 tests had been selected the results might have been different. However, it is reasonable to assume that they would still be significant, judging from the high χ^2 values obtained in test 11. In other words, fewer synform errors might have been made, but the difference between the observed and expected frequency of these errors would probably still be significant, though with a lower χ^2 value than in test 11.

The results of test 11 also suggest that synformy is likely to be a source of difficulty for any language learner irrespective of mother tongue. The difference between the number of synform errors made by native speakers and that made by foreign learners

was not significant.   The same was true for the difference between

the various L1 groups of foreign learners.   The speakers of

Semitic, Germanic and Romance languages did not differ significantly

from each other in their susceptibility to the confusion of synforms.

The results of test 11 should be treated with caution.

Responses to 29 items out of a corpus of several hundred synform

confusions could not be indicative of any more than a general

tendency in the learner with respect to errors stemming from

synformy.   As will become clear from the next section, different

categories of synforms and groups of categories had different

effect on different testees.

7.4   Individual synform categories – the 'common error' test results[1]

7.4.1   Summary tables

Each section (6.2.1 – 6.2.10) in the second part of the

'Results' chapter ended with a summary of the results in the

particular synform category.

The 'common error' results of the 10 tests will now be summarized

in two tables: table 13.1 – for native speakers;   table 13.2

– for foreign learners.   Each table provides the following information:

---

1. The term 'common error test results' in the title of 7.4 refers
to the results of the   tests which checked whether the confusion
of synforms in a particular synform category was a common error
or not, according to the definition of common error as stated
in 7.2.

a. χ^2 values for the difference between the number of synform

errors and other errors in the column labeled 'favourite

error';

b. χ^2 values for the difference between the number of synform

errors and all the other responses, including the correct

one, in the column labeled 'favourite response'; (altogether

4 χ^2 values are presented in the table);

c. an indication whether each χ^2 value is significant (+), or

not (-), but only in the direction of synform errors, i.e.

if their number is higher, not lower than that of the other

responses;

d. an indication whether the category in question is a common

error (+), or not (-).

Two points of clarification are appropriate here. a) χ^2 values

were chosen for presentation rather than % of synform errors

since in different tests different % of synform errors were expected

to occur by chance. Therefore, comparison of categories in

terms of synform-error inducing power could not be made on the

basis of the actual % of synform error, but by comparing their

respective differences between the observed and the expected

numbers of synform errors, or χ^2 value.

b) As mentioned before, for a synform confusion to qualify for

'common error', the number of synform errors had to be significantly

higher than the number of other errors in both test version,

and significantly higher than the number of all the other responses

in at least one test version.

Table 13.1

Common-error test results (Native Speakers)

Category Number	Favourite Error				Favourite Response				Common Error
	Test A χ^2	sign.	Test B χ^2	sign.	Test A χ^2	sign.	Test B χ^2	sign.	
1.	6.15	+	39.77	+	2.03	−	19.16	+	+
2.	26.9	+	70.5	+	0.15	−	9.63	+	+
3.	18.43	+	99.0	+	2.39	−	18.25	+	+
4.	0	−	7.46	+	56.95*	−	8.96*	−	−
5.	18.23	+	19.3	+	1.39	−	0.18	−	−
6.	2.97	−	6.7	+	38.13*	−	21.04*	−	−
7.	15.72	+	61.2	+	12.31*	−	0.94	−	−
8.	32.79	+	14.33	+	103.49*	−	135.90*	−	−
9.	5.15	+	12.46	+	14.63*	−	21.60*	−	−
10.	25.8	+	8.87	+	3.07	−	0.004	−	−

(χ^2 values marked with * mean that the number of other responses, not synform errors, was significantly higher. Therefore, a − appears in the 'sign.' columns. This is in accordance with the decision to mark a result with a − when the number of synform errors was not significantly higher but lower than that of the other responses.).

Table 13.2

Common-error test results (Foreign Learners)

Category Number	Favourite Error				Favourite Response				Common Error
	Test A χ^2	sign.	Test B χ^2	sign.	Test A χ^2	sign.	Test B χ^2	sign.	
1.	9.77	+	55.91	+	0.007	−	14.28	+	+
2.	95.3	+	172.4	+	6.59	+	15.58	+	+
3.	68.40	+	198.0	+	13.6	+	61.03	+	+
4.	1.74	−	10.28	+	33.59*	−	2.04	−	−
5.	20.39	+	7.98	+	0.13	−	4.3*	−	−
6.	8.08	+	82.50	+	3.95*	−	0.07	−(+ for Semitic group)		−(+ for Semitic group)
7.	38.42	+	35.25	+	5.4	+	2.97	−	+
8.	2.68	−	7.55	+	5.7*	−	0.27	−	−
9.	8.45	+	5.26	+	11.1*	−	6.16*	−	−
10.	42.5	+	44.39	+	11.08	+	7.74	+	+

7.4.2 Hierarchy of difficulty : individual categories

It would appear that the χ^2 value is an appropriate indication of difficulty since the higher the value, the more synform errors were made in comparison with the expected number of these errors (except in the cases marked with * where the number of other responses was higher than expected in comparison with the synform errors). However, since for each category there are the four χ^2 values, not one, an additional criterion had to be added in measuring the relative difficulty of the categories —

the <u>number</u> of significant differences. Thus, the most difficult

categories were considered to be those with four pluses (+) for
significance of χ^2; next, those with three pluses, then with
two, then with one. Within this main distinction, if several
categories had the same number of significant χ^2 values, their
order to difficulty was determined as follows: the higher the
value of the χ^2 results in the 'favourite response' tests was,
the more difficult the category was thought to be. Another
possibility would be to take into account all the χ^2 values,
but since the 'favourite response' result was a more certain
indication of difficulty, it was judged to be the proper criterion
of difficulty, after the main distinction, on the basis of the
number of significant results, had been completed. If the χ^2
value was significant in the direction of other responses, it
was taken to be an adverse indication of difficulty and therefore
was assigned a negative value in the comparison with other categories.

On the basis of these two criteria, the number of significant
differences in the four χ^2 tests and the χ^2 values in the
'favourite response' tests, two orders of difficulty were worked
out: one for native speakers; the other for foreign learners.
In table 13.3 rank number 1 indicates the most difficult category;
rank 10 - the easiest one.

Table 13.3

Hierarchy of difficulty of synform categories

Category Number	Rank order Native Speakers	Rank order Foreign learners
1.	1	4
2.	3	2
3.	2	1
4.	10	10
5.	5	7
6.	9	6
7.	6	5
8.	8	9
9.	7	8
10.	4	3

To find out how similar the two orders were, the ranks were correlated. Spearman rank order correlation was calculated to be .83, significant at .01 probability level. This correlation indicates that the order of difficulty is quite similar for the two groups of learners. However, it does not mean that both native speakers and foreign learners experience similar difficulty with individual categories of synforms. Tables 13.1 and 13.2 show that some categories of synforms induced a significant number of synform errors, in the case of foreign learners, but not native speakers. What the correlation indicates is that for each group of learners some categories are more difficult than others and the order of their difficulty is quite similar even though the degree of difficulty might vary considerably.

7.4.3 Hierarchy of difficulty: major groups of synform categories

Another way of looking at the resemblance of the two orders
is by organizing the 10 categories into the four major categories
of synforms: suffix synforms, prefix synforms, vocalic and consonantal,
calculating the average rank order of each major group and comparing
the average rank orders of native speakers and foreign learners.

This idea of 'average' order of difficulty was developed
by Krashen (1982) with respect to morpheme acquisition.   In
his comparison of children learning English as their mother
tongue and learners of English as a second language, with respect
to the acquisitions of certain morphemes, Krashen organized these
morphemes in three major groups and claimed that the order of
acquisition of these three groups was similar for native speakers
and foreign learners.   However, the order of acquisition of
the individual morphemes in each of the three groups might be
different for the different learner.

According to the principle of the average order of difficulty
in synform categories the ranks will look as follows:[1]

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1. The grouping of categories into 4 was based on the similarities
between categories within each major group: synformic differences
in suffixes, prefixes, vowels, consonants.

Table 13.4

The average order of difficulty of the four

major categories of synforms

Category Number	Native speakers Cat. Rank Order	Average order	Foreign learners Cat. Rank Order	Average Order
suffix synforms				
1.	1		4	
2.	3	2	2	2.3
3.	2		1	
prefix synforms				
4.	10		10	
5.	5	7.5	7	8.5
vocalic synforms				
6.	9		6	
7.	6	6.3	5	4.6
10.	4		3	
consonantal synforms				
8.	8		9	
9.	7	7.5	8	8.5

If we look at the average rank orders we can see that the internal order of difficulty of the four groups is similar for the two types of learners, native and non-native.   The most difficult ones are the suffix-synforms, then the vocalic, then the prefix and the consonantal.   As in Krashen's case, the order of difficulty of each individual category within a major synform group may be different for the two kinds of learners, see for example categories 1 and 6.

The similarity in the rank order of the 4 major groups of synform categories does not necessarily point to the fact that both native speakers and foreign learners experience similar difficulty with the groups of categories. What it shows is that, in each group of learners, the relative difficulty of the four major groups of categories is as described in the last paragraph.

It would be interesting to find out whether the hierarchy of difficulty presented in this study corresponded in any way to the order in which the learner learned to distinguish between various synformic contrasts. According to Hatch and Farhady (1982), Borland (1984), the order of difficulty in morphemes found in cross-sectional studies corresponds to the order of acquisition of these morphemes in a longitudinal study. If the same principle operated in lexis then the order in which the learners, both native and foreign, would learn to properly distinguish between the synformic contrasts would be: consonantal and prefix synforms first, then vocalic, then the suffix ones. However, the present study did not aim at investigating the order of acquisition. Therefore the speculation mentioned above remains a possibility only which could be investigated in the future.

Additional information about the major groups of categories was provided by significance tests in section 12. Comparison between the number of errors induced by synmorphs and synphones showed that the two types of synforms were equally problematic for foreign learners, but not so for native speakers. The

latter had significantly more errors with synmorphs.   This

suggests that the foreign learners, who have difficulty with

synphones, cannot successfully match the written or spoken word

to its phonological representation in the mental lexicon.

The native speakers apparently can do it well.   The foreign

learners, at least at the FCE level, might not have developed

yet the correct phonological entries for each of the synphones.

For example, while a native speaker has two lexicon entries

for 'stuff' and 'staff', the foreign learner might have only

one.[1]

Comparison between suffix synforms and prefix synforms

showed that, for foreign learners, suffix synforms were significantly

more difficult than the prefix ones.   With native speakers,

the number of suffix synform errors was significantly higher

in test version B, but not in A.   This suggests that in some

circumstances, native speakers might have little difficulty

with either of the synform types.   However, when there is a

problem, it is more likely to be in distinguishing suffix synforms,

not the prefix ones.   In other words, both native speakers

and foreign learners are more likely to make a correct match

between a stimulus word and its representation in the mental

lexicon if the stimulus has a prefix + stem construction rather

than stem + suffix.

1. The actual quality of the vowel for this particular entry
might be identical to one of the two vowels, or it might be
a different vowel from the learner's mother tongue, like [a] .

Comparison of vocalic and consonantal synforms shows that the distinction between the vocalic synforms is more difficult than the distinction between the consonantal ones, both for native and foreign learners. This result does not necessarily indicate that the vocalic synform confusion is a common error with both types of learners. In 'Results' chapter, sections 2.6 - 2.10 we saw that the vocalic and the consonantal distinctions did not induce a significantly high number of synform errors with native speakers. The two results ('common error' and 'relative difficulty of categories') do not, however, contradict each other.

Even though the results of native speaking testees (age 11-12) did not show a significantly high number of synphone errors, it is possible that at a lower level of language proficiency, or at a younger age, they would have. Since the vocalic contrasts are significantly more error inducing than the consonantal ones, such significance with the less proficient learners, would probably be obtained with the vocalic synphones. This is, of course, a hypothesis which would need to be tested. There is a fair chance, it seems, that this assumption would be validated. If the vocalic contrasts are more difficult than the consonantal the learner would need more time and effort to master the former. Therefore, at earlier stages of learning we would probably get a significant number of errors in the distinction between the vocalic synforms, but not the consonantal ones. Still, this remains to be empirically tested out.

7.5   Mother tongue effect on confusion of synforms by foreign learners

7.5.1   Order of error susceptibility of L1 groups: individual categories

The summary of each section in 6.2.1 - 6.2.10 presented the difference in the number of synform errors made by each of the three L1 groups which were compared: the Semitic group, the Germanic and the Romance.   Table 13.5 summarizes the differences between the three groups both in terms of relative synform error susceptibility and the significance of the difference.   The numbers 1, 2, 3 indicate whether a language group is least susceptible to synform errors of the three groups (1), more susceptible (2), or most (3).   The last column in the table shows whether the difference in error susceptibility was significant (+), or not (-).

The ranks of susceptibility were determined as follows. In each test a comparison was made between the differences between the observed and the expected number of synform errors in each L1 group.[1]   The larger the difference, i.e. the more synform errors a group made, the more susceptible it was considered to be.   Thus, for example, in test 1, version A, the observed and expected numbers of synform errors were as follows:

1. The number of observed errors was obtained from computer printout 2 (see Appendix 4): the number of expected errors was calculated manually taking into account the number of testees.

	Semitic	Germanic	Romance
Observed	89	45	40
Expected	77	42	55
Difference	12	3	-15

The differences showed that the Semitic group was the most error
prone and was therefore assigned rank 3; the Germanic - less
prone and was given rank 2; the Romance - least prone, rank 1.
If the differences between the observed and expected number
of errors happened to be the same for two L1 groups, the two
were assigned rank 1.5, instead of arbitrarily deciding on rank 1
and 2; or 2.5, instead of the arbitrary 2 and 3.

Table 13.5

Synform error susceptibility of L1 groups : rank order

Category Number	Test Version	Rank order Semitic	Rank order Germanic	Rank order Romance	Significance of difference
1.	A	3	2	1	+
	B	1.5	3	1.5	-
2.	A	3	2	1	-
	B	3	2	1	+
3.	A	2	1	3	-
	B	3	2	1	-
4.	A	3	2	1	+
	B	3	2	1	+
5.	A	3	1	2	-
	B	3	1	2	-
6.	A	3	2	1	-
	B	3	2	1	+
7.	A	3	2	1	-
	B	3	2	1	-
8.	A	1.5	3	1.5	-
	B	1	2	3	-
9.	A	1	3	2	-
	B	2.5	2.5	1	-
10.	A	3	1	2	-
	B	1.5	1.5	3	-

At first glance at the table it looks as if the Semitic learners were the most error prone in most of the categories. In order to check this impression, the rank orders were summed up for all the categories and the average order was calculated. The results were: Semitic - 50, Germanic - 39, Romance - 31 for scores; Semitic 2.5, Germanic 1.95, Romance 1.55 for average order. These figures show that, on the whole, the Semitic group is indeed the most susceptible to synform confusions; the Germanic is less so; the Romance is least so. A note of caution is necessary here. The last column in table 13.5 shows that only in four categories out of 10 was the difference between the L1 groups significant in at least one test version. Thus, even though, in general, the order of susceptibility appears to be: Semitic, Germanic, Romance, one cannot assume that it would be so and significantly so in any individual category.

7.5.2 Order of error susceptibility of L1 groups:

major groups of synform categories

Because of the rather vague picture of L1 effect on the basis of table 13.5, an additional way of looking at the rank orders was tried. The categories of synforms were grouped into four major groups: suffix, prefix, vocalic, consonantal synforms; the rank orders from table 13.5 were then summed up and the average rank order was calculated for each major group. The results are presented in table 13.6

Table 13.6

Synform error susceptibility of L1 groups : major synform groups

Category Type	Average order Semitic	Average order Germanic	Average order Romance
suffix synforms Cat.no. 1,2,3	2.6	2	1.4
prefix synforms Cat.no.4,5	3	1.75	1.25[1]
vocalic synforms Cat.no.6,7,10	2.75	1.75	1.5
consonantal synforms Cat.no. 8,9	1.5	2.6	1.9

To obtain further information about the differences between the three L1 groups in the major groups of categories, an additional set of χ^2 tests was performed. In each of the four groups of synform categories, the difference between the 3 L1 groups in the total number of synform errors was tested for significance. The results were as follows:

Suffix synforms: Test version A : significant $(\chi^2_{df(2)}=6.37 > 5.99 p < .05)$

Test version B : significant $(\chi^2_{df(2)}=6.35 > 5.99 p < .05)$

Prefix synforms: Test version A : significant $(\chi^2_{df(2)}=17.17 > 13.81 p < .001)$

Test version B : significant $(\chi^2_{df(2)}=8.47 > 5.99 p < .05)$

1. The actual average rank for the Germanic and the Romance group was 1.5 according to the ranks in table 13.5. I checked the actual number of synform errors made by the two groups of learners and saw that the Germanic group made more errors. Therefore I changed 1.5 to 1.75 for the Germanic group and to 1.25 for the Romance, in order to show the relative order of susceptibility of the different learners.

Vocalic synforms: Test version A : not significant

$$\chi^2_{df(2)}=5.40<5.99 \text{ p}>.05)$$

Test version B : significant

$$\chi^2_{df(2)}=13>10.59 \text{ p}<.005)$$

Consonantal synforms: Test version A : not significant

$$\chi^2_{df(2)}=0.26<5.99 \text{ p}>.05)$$

Test version B : not significant

$$\chi^2_{df(2)}=1.20<5.99 \text{ p}>.05)$$

The average rank orders in table 13.6 and the significance tests indicate that the Semitic learners are significantly more error prone than the Germanic and the Romance ones in the suffix synform group, prefix group, and sometimes in the vocalic group.   The Germanic group is more error prone in those categories than the Romance one.   No such claim, however, can be made in the consonantal group.   The Germanic learners made most of the errors in this major group but the difference was not significant.

As for the differences between the three types of learners in the number of errors in each individual synform category, sometimes the difference is significant, sometimes it is not.

7.5.3   Mother tongue and the learning difficulty - the Contrastive Analysis Hypothesis and the Developmental Continuum Hypothesis

The results presented in 7.6.1 and 7.6.2 suggest that the Semitic learners are at a disadvantage, compared with their European peers, while learning to distinguish between synforms.   If, at a particular stage of learning, they make the largest number of

errors, this suggests that, in the course of learning, they would probably be slowest in the acquisition of the various synformic distinctions among the three groups of learners. Similarly, the Romance learners would probably be the quickest ones in this task.

The difference found between the three groups in synform error susceptibility can be explained in terms of either the traditional CA hypothesis, or in terms of what Corder (1981b) describes as language distance and the magnitude of the learning task.

A large number of synforms tested, especially synmorphs, have roots of Latin origin and therefore resemble their equivalents in the learner's mother tongue of the Romance family. For example, 'imaginative/imaginary' is 'imaginatif/imaginaire' in French. Sometimes one word of the pair, or the group of synforms resembled its L1 equivalent and thus made it easier for the learner to distinguish between this word and its synform in English. For example, in 'fact/factor', 'factor' resembles the French 'facteur', 'factor' is therefore less likely to be confused with 'fact' by a French-speaking learner than by a Hebrew-speaking one.

The traditional contrastive analysis which viewed learning difficulty and difference between native and foreign languages as directly related (Lado 1957, Fries 1975) would predict that, in the case of synformic distinctions, European learners, especially the Romance ones, would achieve the best results since they would transfer their knowledge of L1 words into the foreign language learning task. The Semitic learners, whose L1 vocabulary has no formal similarity to the English test-items whatsoever would

have most of the difficulty among the three groups tested.   Thus,
the speakers of the most different languages would have the most
difficult learning task.

Corder (1978), who has various reservations about Contrastive
Analysis in general, claims that all L2 learners, irrespective
of their L1 follow the same developmental sequence in acquiring
the L2.

> "Where the mother tongue is formally similar to
> the target language the learner will pass more
> rapidly along the developmental continuum (or
> some part of it), than where it differs."   (p.101)

Even though Corder discusses syntax only, his theory can apply
to the acquisition of synformic distinctions.   According to it,
all learners will have the same difficulties in the course of
their learning, but the Romance ones will overcome them quicker
than the Germanic and the Semitic will need most of the time for
the same task.

Whichever explanation one prefers, the traditional CA one,
or Corder's, the fact remains that language distance affects the
magnitude of the learner's task, in our particular case - the
distinction between words of similar form.

7.6 Summary – Synformy and synformic errors

Part 2 in Chapter 2 described several factors which affected
difficulty in vocabulary learning. Some of these factors were
explicitly investigated by researchers; more often, however,
they emerged as a by-product of general Error Analysis studies
where the emphasis was on grammatical errors.

It was pointed out in the same chapter that several studies
mentioned errors resulting from formal similarity between words;
none of them, however, looked into the problem in any further
depth.

The present study defined, described and illustrated the
phenomenon of synformy. Synformy was defined as shape similarity;
similarity, in turn, was defined in terms of a) general characteristics
of all synforms and b) particular characteristics of each of the
10 categories.

The study then examined synformy as a language learning problem
– one of the intralexical (stemming from the word itself) factors
that affected the difficulty in vocabulary learning. The manifestation
of this difficulty was demonstrated by the results of the study.
It was found that synformy in general induced errors in language
learners, native speakers and foreigners. The internal order
of difficulty of the major groups of synform categories seemed
to be the same for native speakers and foreign learners. As
for the hierarchy of difficulty of the individual synform categories
within each major group, they were not necessarily the same for
the two kinds of learners even though the two orders correlated

highly.　The degree of difficulty of categories and major groups might also be different in the two cases.

The comparison of different L1 groups of foreign learners with respect to error susceptibility, suggested that no definite conclusion could be made about the differences in error susceptibility in individual categories.　However, in major groups of synforms, a definite pattern emerged.　Except for the consonantal group, the Semitic learners were the most error prone, then the Germanic, then the Romance and mostly significantly so.

Let me summarize now the characteristics of synformic errors in terms of a) linguistic category;　b) surface structure; c) comparative analogy;　d) communicative effect.　These are the general guidelines for error description as suggested by Dulay, Burt and Krashen (1982).

a)　A description in terms of linguistic category involves classifying the error according to either or both the language component and the particular linguistic constituent the error affects.　Thus, a synform error is an error in lexis.　It is the confusion of pairs/groups of words similar in form, similar in one of the ways described in Chapter 3.

b)　A surface structure taxonomy highlights the systematic way in which the learner alters surface structures, hiw own particular principles in producing interlanguage.　A synformic error can be described as omission, addition, or substitution of a phoneme (sometimes more than one phoneme in the case of vowels), or a bound morpheme in the target word.

c) A description of errors in a comparative taxonomy is based
on comparison between the structures of L2 errors and certain
other types of constructions, most frequently to errors made by
children learning the target language as their L1 and to equivalent
forms in the learner's mother tongue. When the error is similar
to that made by a native speaking child it is considered to be
developmental; when it displays features of the learner's L1,
the error is called interlingual.

The results of the present study do not point to an obvious
categorization of synform errors in general as either interlingual
or developmental.   On one hand, English speaking children confused
suffix synforms just as badly as the foreign learners.   Also the
order of difficulty in individual categories correlates highly
in the two types of learners.   In this respect, synform errors
might be considered developmental.   However, L1 learners did
not make a significant number of errors in distinguishing between
vocalic synforms, while the foreign learners did.   Their difficulty
presumably resulted from the different vowel system of their native
language which made it hard to distinguish between the English
vowels.   In this respect, synform errors can be classified as
interlingual.

Even though synform errors in general defy precise classification
into interlingual or developmental, it is possible to claim, on
the basis of the results, that synmorphs belong to the developmental
type, while synphones to the interlingual.

d) Communicative effect taxonomy deals with errors from the perspective
of their effect on the listener or reader.   It focuses on
distinguishing between errors that cause miscommunication and
those that do not.

The study did not investigate the communicative effect of
synform errors.   However, on the basis of my encounter with these
errors in the course of teaching, I would classify them as
communicatively disruptive.   A synform error in comprehension
and in production implies assigning a wrong meaning to a lexical
item on the part of the learner, the meaning of the other synform.
Since the error results in a mismatch between the meaning intended
and produced, communication is affected.

Chapter Eight

Implications of the Study

8.0 The present study is basically a study in Error Analysis,
an investigation of a particular pattern of lexical errors.
Therefore, any wider implications should be considered within
a general framework of the contribution which Error Analysis studies
make to Applied Linguistics.

It has been generally agreed (Corder 1981c, Svartvik 1973,
Richards 1980) that Error Analysis has contributed to mainly three
areas within Second Language Learning research: a. the account
of the learner's competence;   b. the understanding of learning
processes and strategies;   c. the improving of language teaching.
Chapter 8 will therefore consider the implications of the study
from these three perspectives.   Specifically, it will examine
what the study suggests about the lexis of the learner's Interlanguage;
foreign language learning processes;   teaching methods and materials
design in the area of vocabulary.

8.1   The Lexicon of Interlanguage

Most of the work in Interlanguage has concentrated on syntactic
and morphological components of language learning.   However,
since the study of Interlanguage involves investigating
the differences between the learner's version of L2 and that of
the native speaker lexis should form an integral part of Interlanguage
research.

> "Obviously, learners have an internalized L2 lexicon,
> just as native speakers have an internalized L1 lexicon,
> and in any full account of a learner's knowledge of
> his L2, an account of this lexicon, its structure and
> its peculiarities is going to play a significant part.
> Equally obviously, there are good reasons for believing
> that there might be significant differences between
> the lexicon of a learner and that of a native speaker"

(Meara 1984:231)

In very general terms, this difference between the internalized
lexicon of the adult native speaker and that of a language learner,
foreign, or native speaking child, seems to manifest itself in
a. what will be referred to as the defective representation of
lexical items; b. non native like organization of the lexicon.
The remaining part of this section (the lexicon of Interlanguage)
will examine the relevance of the study to our understanding of
these two areas.

8.1.1 Defective representation of lexical items

Different psycholinguists have proposed different models
of the internalized or mental lexicon (the listing of words in
the head)(see, for example, Soudek's 1982 review).   It is generally
agreed, however, that vocabulary items must be stored with phonological
specifications, semantic features, and syntactic word class.
If a lexical entry is properly represented in the mind, all the
specifications are spelled out correctly.

If it is not, some or all of the specifications are wrong.
In the case of a language learner, the representation of a lexical
item might be defective in one of the following ways: a. the
item might be insecure, i.e. the learner might have an idea of

a possible meaning, or pronunciation of the item but be unsure
whether it is correct of not; b. his knowledge might be incomplete,
i.e. the learner might remember the form of the item without remembering
what it means; or remember one meaning but not the others; or
remember a part of the item's form but not all of it: c. the
knowledge is sometimes completely wrong. The entry for an item
in the learner's lexicon might be the entry of another item in
the lexicon of the language. For example, a Hebrew speaking
learner might be convinced that 'actual' means 'topical' ('actual'
is a false cognate with Hebrew 'aktuali' which means 'topical'),
thus assigning the wrong semantic entry to a correct phonological
representation. Or, the learner might confuse the pronunciation
of 'stuff' with 'staff', thus assigning a wrong phonological representation
to a correct semantic form. Another type of wrong representation
(phonological only), with foreign learners, is a form non-existent
in the target language, for example [staf] for [sta:f].

Defective representation of an item might lead to a faulty
retrieval. In the case of an insecure knowledge, the item can
be retrieved correctly since the representation might be correct
without the learner's being sure about it. But since the learner
is insecure he may retrieve a different item which is wrong.
When the representation is incomplete and the item has to be produced,
the missing parts tend

> "to be filled out by means of a phonological strategy,
> such as a filler prefix or suffix, or consonant harmony
> (redress/address)(cocoon/raccoon)"

(Aitchison and Struff 1982:213)

In comprehension, the learner will have to decide whether the
unknown bits of the items fit into what he thinks the word means;
for example, the learner who remembers that another word for 'thoughtful'
starts with 'consider' but does not remember how it ends will
have to decide whether 'considerable' is the proper alternative
for 'thoughtful', or not.

In both cases, insecure and incomplete representation, the
item is likely to be wrongly retrieved, since wrong bits might
be supplied by the learner or parts of the word might be wrongly
identified.   In the case of a wrong representation of an item,
the retrieved item will, by definition, be incorrect.

The present study did not deal with errors resulting from
defective semantic representation.   Therefore, in considering
the implications of the results, we will consider only the defective
representation of the item's _form_ in the mental lexicon.

As pointed out in Chapter 3, studies of the TOT phenomenon,
malappropisms and aphastic errors concluded, on the basis of similarity
between the target and error words, that lexical items had some
salient features which were usually preserved in the mental lexicon
even when the complete items could not be retrieved.   These were:
grammatical category, number of syllables, stress pattern and
initial portion of the items, especially the consonants.   (Fay
and Cutler, 1977, Cutler and Fay 1982, Zwicky 1979, Aitchinson
and Straff 1982).   The present study provides additional information
about the salient features in the lexicon of the language learner.

8.1.1.1 Grammatical category

If we look at the examples of synformic confusions (Appendices
1 and 3) we can notice that most pairs/groups of synforms belong
to the same grammatical category. The tests were not designed
to check whether the amount of confusion was lower between words
belonging to different grammatical categories than between words
of the same part of speech. However, on the basis of the collected
sample of synformic confusions, we can conclude that, in the case
of language learners, grammatical category of a lexical item is
a salient feature which is stored and retrieved correctly even
when the full form of the item is not remembered.

8.1.1.2 Number of syllables

In the present study the performance of native speakers was
different from that of the foreign learners with regard to the
number of syllables. A significant number of errors was made
by the native speakers in synform category No.3 (similar roots
and suffix in one synform but not in the other, e.g. 'fact/factor'),
but not in the other categories where the synforms differed from
each other in the number of syllables. In category 7 (synforms
differing in one additional vowel, e.g. 'cute/acute'), category
10 (synforms identical in consonants but different in vowels,
e.g. 'legible/eligible'), category 5 (synforms differing in a
prefix present in one of them, but absent in the other, e.g. 'passion/
compassion') no significant number of synform errors was made
by the native speakers. The foreign learners, however, made
a significantly large amount of synform errors in all the categories,
except No.5.

This result suggests that the number of syllables is not
always recorded properly in the lexicon of the foreign learner.
If it were, the learner would not confuse a significantly large
number of items with other items which had a different number
of syllables.   Therefore, the psycholinguists' claim about the
salience of the number of syllables in a lexical entry may be
appropriate for native speakers (except with the type 2 synforms),
but not necessarily for foreign learners.

8.1.1.3 Stress pattern

In order to examine the salience of stress pattern it was
decided to compare the number of synform errors in pairs of words
with different stress with the number of synform errors in pairs
of words with similar stress.   Since there were no special synform
categories where all the synforms were with different stress,
a 'within-category' check was performed in categories 2 (similar
root, non productive in English and different suffixes, e.g. 'capable/
capacious') and category 10 (same consonants, different vowels,
e.g. 'moral/morale').   In these categories there was the largest
number of synforms which differed in stress pattern: 9 pairs in
test 3; 6 - in test 10.   In each tests the number of synform
errors induced by synforms with different stress was compared
with the number of synform errors induced by synforms with a similar
stress pattern.   The difference was checked for significance
by a χ^2 test.   In both tests, both test-versions, both groups
of learners, native speakers and foreign learners, this difference

was insignificant with very low χ^2 values.[1]   If the stress pattern had been correctly recorded in the learners' minds they would not have chosen the distractors with a different stress pattern. Since they did, the implication is that they did not remember it properly.[2]

Bearing in mind that most of the synforms in all the categories had a similar stress pattern, but also that synforms with different stress patterns were confused, the following could be concluded: stress pattern is usually recorded properly even when the item is incorrectly retrieved, as, for example, in the confusion of 'considerable/considerate'.   However, this is not always true, as shown in tests 3 and 10.

1. Test 3, native speakers
    Test version A - χ^2=0.002   Test version B - χ^2 = 1.11
    Test 3, foreign learners
    Test version A - χ^2 = 2.26   Test version B - χ^2 = 0.004
    Test 10, native speakers
    Test version A - χ^2 = 0.38   Test version B - χ^2 = 0
    Test 10, foreign learners
    Test version A - χ^2 = 0.15   Test version B - χ^2 = 0.90

2. In test version B (providing the correct meaning of a given word) there might have been another reason for synform confusion.   While reading the test items, the learner might have mispronounced them assigning them the stress pattern of their synforms.   For example, asked to choose the correct meaning of 'humane', the learner might have pronounced it to himself as [hjumein] with a wrong stress pattern, thus making it even more similar to 'human'.

Psycholinguists do not claim that there is an absolute agreement
of stress in target and error words either.   In Fay and Cutler's
(1977) sample of mala propisms stress pattern was similar in 98%;
in Zwicky's (1979) sample of classical mala propisms - in 93%;
in Brown and McNeil's (1970) sample of the TOT approximations -
in 78%.   Thus, the present study appears to support the claim of
the relatively high, though not absolute, salience of stress pattern
in the internalized lexicon.

8.1.1.4 Initial elements

Speech errors in L1 provided evidence that the beginnings of
words are particularly important.   In their study of malap ropisms,
Fay and Cutler (1977) found that the errors resembled their intended
targets very strongly in the initial segments.   Similarities at
other points of the word were significantly weaker than those in
the initial elements (also Cutler and Fay 1982).

There is also evidence that words can be identified most speedily
and reliably from their initial fragments (Cutler 1982a).   This
is not surprising since, in English, word beginnings distinguish
between words more efficiently than other parts of the word, e.g.
'ability, debility, facility, hostility, mobility, sterility, virility'.
(Aitchinson and Straff 1982).

The results of the present study lend support to the claim
of salience of the initial elements.   Synform category 4 included
synforms with different prefixes (e.g. 'assume/presume/consume');
category 5 - synforms with a prefix in one of them but not in the
other ('passion/compassion').   In these categories the average

amount of synform errors was the lowest (see 7.4.3). This implies

that learners, both native and foreign, remember the beginnings

of the words, which distinguish between their meanings, and therefore

do not confuse the right words with their synforms.

Categories 1, 2, 3, however, induced the highest amount of

synform errors among the native and the non-native learners. These

were the categories where the synforms were identical in their initial

parts but different in their suffixes (category 1 - 'considerable/

considerate'; category 2 - 'social/sociable'; category 3 - 'fact/

factor'). In these categories the meaning distinguishing parts

of the words were the final ones. The learners' confusions of

these synforms suggest that they could not remember these final

elements. It appears that though the initial parts are properly

recorded in the lexicon, the final ones are not.

If it is the beginnings of words that are remembered and not

their ends, one of the possible reasons could be that these words are

stored as single units in the lexicon rather than as stems + affixes.

This assumption, however, runs counter to evidence for lexical

decomposition provided by studies of L1 lexical errors (Brown and

McNeil 1970, Fromkin 1971, Murrel and Morton 1974, Taft and Forster

1975, Jarvella 1983, Taft 1984). According to the lexical

decomposition theory 'considerable' is stored as 'consider + able',

which permits a substitution of 'ate' for the suffix 'able'. Taft

and Forster 1975 go even further in this claim and say that there

is separate memory representation for the base morpheme even when

it is bound. For example, 'consume' is stored as 'con+sume', which

permits a substitution of other prefixes like 'pre' for 'con'.

If the learners in the study had stored stems and affixes separately, as suggested by the lexical decomposition theory, they would have been likely to make errors with confusing prefixes of synforms just as frequently as with the confusion of suffixes since the same principle would have operated in both cases – remembering the stem and confusing the various affixes stored separately from the stem. But the learners did not confuse the prefix synforms very often, and significantly less often than the suffix synforms. One of the reasons for this difference may be the possible storage of words as single units.

This apparent contradiction between the theory of lexical decomposition and that of complete word storage can be resolved if we remember that the kind of population participating in the psycholinguistic studies was different from the subjects of the present study. The former consisted of adult educated native speakers with a developed lexicon, who must have been conscious of the morphological structure of English words. Such people, one may surmise, store one entry 'sume' for 'consume, presume, assume, resume' and separately – the different suffixes. But language learners, on the other hand, do not necessarily see words as composed of stems and affixes, particularly if the stems are non-productive in present-day English and therefore meaningless to the learner, like 'sume' in the above example, or 'mit' in 'admit, permit, remit, omit'. It is more likely therefore that each of such words should be stored as a single unit consisting of stem and affix. [1]

1. Except maybe speakers of Latin languages in the case of cognate words.

Some evidence for the single entry representation in the learner's lexicon is provided by Hatch (1983), who surveys studies on compound words carried out with children. The children were not conscious of the fact that words like 'blackboard', 'Thanksgiving' were compounds and treated them as single, non-compound items. If a learner does not notice two words in one word, he is less likely to notice two morphemes. It is possible that the subjects in our study have not yet reached the level of English vocabulary knowledge at which lexical decomposition in the lexicon is likely to occur.

Another possible explanation of the results in tests 1-5 is that our learners stored the prefixed words as single units but decomposed stems + suffixes. Whatever the way of storing affixed items may be, the result is the same: the final portions of words are easily confused and the initial ones are correctly recorded in the lexicon, i.e. are among the salient features of the item.

8.1.1.5 Consonants

Fay and Cutler (1977) and Zwicky (1982) noticed that malapropisms resembled their targets in initial consonants and initial consonantal clusters. The reasons for remembering the consonants in production and relying on them for word recognition can be explained by two simple factors (Weaver 1980). There are more consonants than vowels in English, and hence the consonants are more distinctive, more able to narrow down the number of possible alternatives that any given word could be. Secondly, the consonants occur more frequently than vowels, that is, in most cases there are more consonants per word. The above researchers concluded that consonants are among the salient features of English words.

(Weaver says this is true for other languages as well, particularly the Semitic ones, where the writing system omits most of the vowels.)

The results of the present study showed that the 'consonantal' synform categories, (category 8 - words differing in one consonant, e.g. 'price/ prize' and category 9 - words differing in one additional consonant in one of the pair, e.g. 'climatic/climactic' , did not induce a significantly high number of synform errors, neither with native speakers nor with foreign learners.   If a difference in one consonant did not provoke a false meaning, this indicates that the consonants of the tested items were correctly remembered.

As for the 'vocalic' synform categories, category 7 and 10 induced a significantly high number of synform errors with all foreign learners; category 6 - with speakers of Semitic languages.   With native speakers, the number of synform errors was not significantly high, but it was higher than that in the 'consonantal' synform categories.

The above results indicate that consonants are indeed among the salient features of the items;   vowels, on the other hand, are less prominent, especially so in the lexicon of foreign learners.

8.1.1.6 Salient and non-salient features - summary

Studies of lexical disruption in L1, which were conducted with adult native speakers, showed that certain features of words were more salient than others in the mental lexicon.   These features were remembered correctly even when the full form of the word could not be retrieved.   These were: grammatical class, number of syllables, stress pattern, initial parts of the word, particularly initial consonants and consonantal clusters.

The present study (both the collected sample of synformic confusions and the significance tests) provide further information about these salient features which are recorded in the lexicon even when the full form is not. The lexicon in question is not of adult native speakers but of language learners, both native speaking children and foreign learners.

It was found that both native and non-native learners correctly recorded the grammatical category of items, their stress pattern, initial elements and consonants. The number of syllables of the item was correctly represented in the lexicon of native speakers but not of foreign learners. Other features of words were prone to confusion if the lexical representation was defective. These were the non-initial parts of the item,[1] in the case of all learners, and vowels in the case of foreign learners.

These features might have actually been in storage but been less accessible than the salient ones. They might have had what Brown and McNeil (1970) call a 'faint entry', have been less 'legible' than the salient ones. This is probably the case when the item's defective representation is insecure or incomplete. The features are actually in storage, but cannot be retrieved. Another possibility is not a faint entry but an incorrect one. When the non-salient features are wrongly represented they are retrieved but the item is always incorrect. For example, in the case of a faint entry of the first vowel in 'proscription' the vowel might not be recalled;

1. The study did not investigate the confusion of the middle elements in a word. But according to Weaver (1980), research indicates that the middle is less important semantically than the end and therefore is less well remembered.

in the case of a wrong entry, it will be read or said as $\left[i \right]$.

Thus, whether an item's representation in the learner's lexicon
is insecure, incomplete, or wrong, the features stored properly are
the salient ones; the others are faintly or wrongly represented.
The salient ones are: grammatical category, stress pattern, initial
elements, consonants; with native speakers, number of syllables
as well.   The features which are likely to be faint or wrong are:
the non-initial parts of the item for all learners; number of syllables
and vowels for foreign learners.

8.1.2 Organization of the learner's lexicon

Organization of the lexicon means the ordering of items relative
to one another.   Even though Mental Lexicon is also referred to
as Mental Dictionary, psycholinguistics have not suggested that items
in the mind are ordered in a dictionary-like manner, i.e. alphabetically.
Instead, they might be organized by semantic similarity, as in thesaurus,
or phonological similarity, or frequency of occurrence, or a combination
of some or all of these.[1]

Studies in vocabulary recall and associations with adult native
speakers showed that there were close semantic links between words
in the lexicon.   (Subjects recalled word lists more easily if they
were ordered by semantic categories; the associations were most
often semantically related to the stimulus word.)   Thus, in addition
to a phonological principle of the organization of lexicon (Fay and

1. Forster 1980, who does not adopt the phonological recoding hypothesis,
suggests orthographic ordering, in addition to phonological and semantic.

Cutler 1977, Cutler and Fay 1982), there are also divisions and subdivisions of semantic networks in the mental lexicon of the adult native speaker.

Studies of word associations with foreign learners, however, (Meara 1984) showed that the subjects produced a large amount of responses which were not semantically connected with the stimulus word. Instead, they were either words phonologically similar to it, or words which indicated that the stimulus itself was confused with a phonologically similar word. For example, the French stimulus 'fendre' elicited 'permettre' as a response, which indicated that 'fendre' was confused with 'défendre'. On the basis of these association studies Meara concludes that, in the foreign learner's mental lexicon,

> "the semantic factors are frequently overridden by extraneous phonological factors, such as the chance resemblance between a form in the L1 and another in the L2" (Meara 1984:234)

The present study lends additional support to the claim that the learner's lexicon is in part phonologically organized. In some respect this is not different from the adult native speaker's lexicon. According to Fay and Cutler (1977), malap-ropisms of adult native speakers indicate that phonologically similar words are near neighbours in the lexicon. A malap-ropism error occurs when the language production device mistakenly selects, instead of the intended word, its nearest neighbout in the lexicon.

The phenomenon of synformic confusions leads to a similar conclusion with regard to the language learner, more so - the foreign learner.

In the study, it was the language comprehension device that selected, instead of the correct word, its near neighbour, its synform.

In spite of this similarity between the lexicons of adult native speaker and language learner, the learner's lexicon cannot be considered native-like. Adult native speakers have, in addition to phonological links, tight semantic links between words; with foreign learners these links are loose and the dominating factor in the organization seems to be the sound[1] (Meara 1984). Secondly, the phonological organization of the native speaker's lexicon is based on the correct phonological features, i.e. words are stored near one another on the basis of similarity in terms of English phonology. Foreign learners, on the other hand, might store items with wrong phonological entries, substituting an English phoneme with an alternative one from L1. This is likely to happen when the phoneme in question does not exist in L1 and therefore is unpronounceable or unrecognizable by the foreign learner.

8.1.3 The lexicon of Interlanguage - Summary

It has been argued in 8.1 that the study provides some information about the lexicon of the language learner: a) about salient and non-salient features of lexical items in the mental lexicon; b) about organization of items relative to each other.

1. This is particularly true of non-advanced foreign learners.
The more advanced they become, the more likely they are to develop semantic links between words (Hennig 1973).

The salient features, according to the study, are grammatical category, stress pattern, initial elements of items, consonants. With native speaking learners, the number of syllables is salient too.   The non-salient ones are: the non-initial elements of items for all learners; number of syllables and vowels for foreign learners.

As for the organization of the lexicon, synformic confusions provide evidence for the phonological principle or organization (among other principles not investigated here), so that the word's near neighbours are the words which sound most like it.

8.2   Learning Processes

8.2.1   Introductory remarks : processes or strategies?

The phenomena discussed in this section will be referred to as learning processes even though it is realised that some researchers call them strategies and some use the two terms, processes and strategies, interchangeably.   Thus, Richards (1971), ascribes the deficiencies in L2 knowledge, to the strategies of overgeneralisation, analogy, assimilation, etc.   Tarone (1977) considers transfer to be a communication strategy.   Kellerman's (1977) paper in ISB (Interlanguage Studies Bulletin) is called 'Towards a characterization of the strategy of transfer in second language learning', but in the same paper he explains transfer as a

> "psychological process whereby the learner, consciously
> or not, incorporates NL (native language) features into
> his TL (target language) production" (p.131).

The term strategy seems unsuccessful for the discussion of phenomena like transfer, overgeneralization, hypothesis testing, etc., since the term implies full consciousness on the part of the learner of what he is doing. According to James, it

> "carries associations of consciously elaborated plans, as in 'military strategy' or 'sales strategy'".
>
> (James 1977:93)

Faerch and Kasper (1984) point out that two main characteristics of a strategy are problem orientedness and potential consciousness. Kellerman (1977) defines a strategy as

> "a well organised approach to a problem". (p.93).

It seems unlikely, or at least difficult to make sure, that the learner is fully aware of the various hypotheses he is applying in L2 comprehension or production. Therefore the term process will be used meaning any mental operation behind the L2 performance, whether the operation is conscious or not.

8.2.2 Evidence for different learning processes

As mentioned in Chapter 3, two alternative hypotheses of second language learning have been postulated, elaborated and studied in the last few years: the L1 restructuring hypothesis and the creative construction hypothesis. The two are associated with two different processes behind language learning. The former implies that a second language learner develops his second language by a process of restructuring his first language; the latter - that the second language growth is independent of a particular first language and develops in the manner in which a child acquires his L1 - by cognitive construction.

Even though the validity of such a dichotomy had been questioned,

> "research had not led to convergence of views on the
> nature of L2 learning processes and a unified theory
> of underlying processes encompassing all available
> evidence had not yet been produced" (Richards 1980:94).

The results of the present study do not support <u>either</u> the L1 restructuring

hypothesis, <u>or</u> the creative construction one. Some of the results

provide evidence for one; some - for the other.

8.2.2.1 <u>The term transfer</u>

Dulay, Burt and Krashen (1982) claim that the term 'transfer'

has been used to refer to different phenomena: a) In the behaviouristic

sense, it has been used to refer to

> "the automatic, uncontrolled and subconscious use of past
> learned behaviours in the attempt to produce new responses"
>
> (Dulay et al. 1982:101).

b) From the educational point of view, transfer is the use of any

past knowledge and experience in new situations (e.g. one can transfer

from L1 to L2 the concept of letters representing sounds. c) Another

use of transfer, according to Dulay et al. refers not to any underlying

process, but simply to a characteristic of the learner's performance as

in 'transfer errors'.

In this chapter, transfer will be used, initially at least,

as defined by Crystal (1980) in <u>A First Dictionary of Linguistics</u>

<u>and Phonetics.</u>

"A term used in Applied Linguistics to refer to a process
in foreign language learning whereby learners carry over
what they already know about their first language to their
performance in their new language.   This tendency may
be an advantage, if the two languages have features in
correspondence, as there will be 'positive transfer' (or
'facilitation').   Rather more noticeable, however, are
the cases of 'negative transfer' (or interference), where
the patterns of the two languages do not coincide" (p.362).

8.2.2.2   Evidence for positive transfer

The results of tests 1-5, which tested all the synmorphs categories,

showed that the speakers of the Romance languages made the fewest

synform errors, the Germanic speakers erred more, the Semitic ones

were most error prone.   The differences between the three groups

of learners were significant in the suffix synform group (tests 1-3)

and in the prefix synform group (tests 4, 5).

Many words tested in the 5 tests were words of Latin origin.

The highest number of correct answers made by the Romance learners

must have been due to the fact that they exploited their first language

knowledge and recognized some tested items as similar to words in

their native languages.[1]   For the Germanic learners, there were

fewer such resemblances and the Semitic testees did not have any

clues in their L1s as to the meanings of the tested item.   The superiority

of the European learners, particularly the Romance ones, can be interpreted

as a manifestation of positive transfer.[2]

1. As mentioned in the section on the subjects in the tests (Chapter
5), all the learners were at the same general level of proficiency
in English.   The differences in the results of the study, therefore,
could not be attributed to better general knowledge, or a very different
teaching input.

2. It should be noted here that some researchers distinguish between
transfer and borrowing (Ringbom 1983, Corder 1983, Adjemian 1983).
Yet they discuss borrowing in production of language forms, not their
comprehension.   In comprehending words which look similar to words
in L1 the learner is likely to transfer his knowledge of L1 in the
decision of what the L2 word means.

As for the reason of this transfer, the study does not provide an answer to what it was that made the learners transfer their knowledge of L1 words. The traditional view (Fries 1945, Lado 1957) was that positive transfer occurred because of the formal similarities between languages. According to Kellerman (1977, 1983), however, transfer is due to perceived similarities between languages. Learners transfer L1 features which they perceive as similar to L2 whether they are similar or not. On the basis of the study, it is impossible to state whether the learners transferred their L1 knowledge because of formal or perceived similarity between the two languages. However, the two are not disconnected. It is reasonable to assume that learners can see some of the resemblances like those between words of similar origin. The positive transfer manifested in the study must have occurred because of the formal similarity between some of the tested words as well as the perceived one.

The above results are in accordance with the expectations of Contrastive Analysis and illustrate the traditional notion of transfer as used in Crystal's (1980) definition in 8.2.2.1. Yet, the results of the study revealed another interesting phenomenon with regard to the differences between the different L1 groups. The Romance group was the best one not only in synform tests which included words of Latin origin, but also in other tests where the words were not necessarily related to L1, or not as many were related as in tests 1-5. The Semitic learners had the worst results in almost all the tests except test 6 and 7. In other words, learners of related languages did better not only on similar words, where transfer could be expected, but also on others, which were not similar.

These results are in accordance with findings of Ard and Homburg (1983) who compared Spanish and Arabic speaking learners of English on vocabulary tests. They compared the scores of the two groups on words similar to Spanish in form and meaning and also on words completely unrelated to Spanish. The scores of the Spanish speaking learners were significantly higher than those of the Arabic learners on the two kinds of words. The researchers concluded that a related L1 had a facilitating effect not only where L1 and L2 had corresponding features, but also where no similarity was evident. Ard and Homburg explain this phenomenon using the notion of 'finite effort' effect. This means that the speakers of related languages, who do not have to invest time and effort in learning the similar features, can devote themselves to learning the non-similar ones; and learn them better therefore than the speakers of unrelated languages, for whom all features are equally unfamiliar and demand equal attention.

But this result of Ard and Homburg and also the result of the present study which shows the general superiority of speakers of related L1s could not be predicted by the traditional view of transfer, since, as Ard and Homburg point out,

> "built into the term itself is a theoretical assumption about what types of situation will induce native language-based effects" (p.171).

By such types of situation they must mean corresponding or different features of L1 and L2.

In language learning, it is more appropriate to adopt a broader definition of transfer, a definition suggested by Gass (1984) -

> "the use of native language (or other language) information in the acquisition of a second (or additional) language" (p.121).

Positive transfer will cover not only the correct carry over of L1
features which correspond to L2, but also a better learning of the
non-similar aspects of L2, better by comparison with speakers of
a non-related L1.   The effect of positive transfer, therefore, is
better performance and learning facilitation.

8.2.2.3 Evidence for negative transfer

The results of foreign learners in tests 6, 7, 10 - the vocalic
synforms - showed that the synform error was the favourite error
in all three tests; it was the favourite response in 7, 10 for all
the learners and in test 6 - for the Semitic learners.   This attractiveness
of the synform response can be interpreted as evidence for negative
transfer of the learners' L1 vocalic system.   For example, the distinction
[æ/e] as in ('latter/letter') does not exist in the Semitic languages
which are in the study.   The same is true for [ɔ/ɔ:/oʊ] as in 'bold/bald'
and 'dot/dote'.   In the test, when confronted with the four alternatives
like 'doubts, dotes, dots, dates', the Semitic learner would recode
them into [dauts] [dots] [dots] [deits] respectively, substituting the
nearest L1 phoneme [o] for two phonemes non-existent in L1 [ɔ] and
[oʊ] .   No wonder the distractor 3 (dots) was more frequently chosen
than 1 and 4.

An alternative explanation to negative transfer proposed by
the cognitivists is the ignorance hypothesis, according to which
the learner uses whatever means he has at his disposal, including
L1, when he does not know how to say or interpret something in L2
(Newmark and Reibel 1968), which is not the same as postulating that
two linguistic systems, of L1 and L2, compete with each other.

Another feature of this hypothesis is that the learner has to be conscious of his ignorance and therefore decide to resort to his means of expression or interpretation (Kellerman 1977).

In trying to resolve the two views and decide whether the synform errors in tests 6, 7, 10 were due to negative transfer or ignorance, we take the view of James (1977, 1980), who claims that the two are not alternatives of each other, but ignorance is a precondition for transfer. The learner in our example has not yet mastered the distinction between $[\mathfrak{I}]$ and $[o\mathfrak{u}]$ and is probably not aware of his ignorance (otherwise awareness of two distinct sounds might have provided the clue to the different meanings). Restructuring his L1 phonology, he maps his L1 sound onto two different L2 sounds. This makes two different words sound alike, which, in turn, creates confusion as to the meaning of each. The confusion of vowel synforms in the study can be taken as evidence for negative transfer in its traditional sense - carry over of L1 feature into L2 when the two do not correspond.

However, comparisons of the performance of the three L1 groups, Romance, Germanic, Semitic, shows evidence of negative transfer in broader sense. In 8.2.2.2 it was already mentioned that in almost all the tests, the Romance group made the lowest number of errors and the Semitic - the highest. These results were attributed to the general facilitation effect of a related L1, a phenomenon covered by the broader definition of transfer as the use of L1 information in the acquisition of L2. By implication, it can be argued that the same results show a general hindering effect of an unrelated L1 by comparison with the speakers of a related L1.

This statement would not be accepted by Corder (1981b), who

claims that a related L1 facilitates while an unrelated L1 has a

zero effect on the learner's progress along the Interlanguage continuum.[1]

It can be argued, however, that 'facilitation' is a comparative term.

If an L1 makes L2 acquisition easier, it is easier by comparison

with some other learners of this L2, speakers of unrelated languages.

Saying that a related L1 facilitates L2 learning (taking the speakers

of unrelated L1 as a criterion for comparison) is not different from

saying that an unrelated L1 hinders L2 acquisition by comparison

with speakers of a related L1.   Corder's argument can therefore

be seen as a partial description of the situation which adopts a

limited view of L1 effect.

If we accept the broader definition of transfer, negative transfer

will then mean more than an incorrect carry over into L2 of L1 forms

which do not correspond to L2.   It will also refer to a general

hindrance effect in L2 learning as compared with other learners,

speakers of related languages.[2]

8.2.2.4 Evidence for creative construction hypothesis

The results of tests 1, 2, 3 showed that the suffix synmorphs

(pairs/groups of words identical in roots but different in suffixes)

induced a significant number of errors with both native speakers

and foreign learners.   In all the tests, the synform error was

1. It is realised that this claim was made in connection with syntax.
Yet the same principle could be extended to vocabulary learning.
2. A similar broader approach to interference was suggested by Dagut
and Laufer (1982, 1985) according to which 'direct interference'
results in errors which reflect the L1 structure and 'indirect interference'
results in errors which are not paralleled by L1 forms, but are nevertheless
induced by the overall difference between the two languages.

the favourite error on both test versions, and also a favourite response

on one test version at least.   Moreover, the χ^2 tests of difference

between native speakers and foreign learners in the number of synform

errors was insignificant in tests 1, 2 in both test versions, and

in test 3 in one test version.

These results suggest that the confusions of synforms of type

1, 2, 3 are characteristic of language learning in general, both

by native speakers and foreign learners.   They do not seem to be

due to a reconstruction of a particular L1 since the native speaking

children in the sample did not know any language on which to model

their errors.

Another piece of evidence for the creative construction process

is the order of difficulty of the 10 synform categories in the two

groups of learners.   The correlation of the order between the native

speaking group and the foreign learners one was quite high, .83,

significant at .01 level (see 7.4).   The average order of the four

major synform groups was similar in the two groups of learners:

the most difficult group of synform categories was the suffix synform

group, then the vocalic, then the consonantal and the prefix ones.

Even though the degree of difficulty varied in the two types of learners

(as mentioned in chapter 7), the relative order of difficulty was

similar.

Since orders of difficulty are claimed to reflect orders of

acquisition, the above result suggests that the order in which language

learners master the distinction between various types of synforms

is similar for native speakers and foreign learners.   Since similar

orders of acquisition have been considered as evidence for the creative

construction process in language learning, the order of synform
difficulty as shown in the study can be taken as further evidence
of this hypothesis.

8.2.2.5 <u>Interaction of two processes : L1 restructuring and creative</u>
         <u>construction</u>

The present study provides evidence for both the L1 restructuring
and the creative construction hypotheses. Significantly better
results of the Latin speaking group on synmorphs could be ascribed
to positive transfer of familiar words; confusion of vowel synforms
of the Semitic learners can be explained by the transfer of the L1
vowels; lower error susceptibility in general of the European learners,
particularly Romance, indicates the general facilitating effect of
related L1s and interference of unrelated L1s in L2 acquisition.

On the other hand, similarity in the synform error susceptibility
between native speakers and foreign learners in the case of suffix
synforms, and a similar order of difficulty of the various categories
suggest that synformy is, to some degree, an inherent difficulty
of learning English, whether it is learnt as L1 or L2.

The evidence for the two processes is not self-contradictory.
It is possible to include both within a single model of second language
learning.   There may be aspects of language learning process that
are common to all learners (like confusion of suffix synforms) and
others that are specific to foreign learners (e.g. confusion of vocalic
synforms), or to speakers of a given language (e.g. confusion of
vocalic synforms of type 6 by Semitic learners).   It is not necessary
that an explanation should be found in one or other of the two hypotheses.

According to Wilkins (1982), this is even undesirable.

> "The very prevalence of dichotomies suggests that we find
> them helpful in conceptualizing issues which we seek to
> clarify.   The danger lies in the fact that we also
> anticipate a <u>resolution</u> of the opposition involved"   (p.228)

If, however, we wanted to reconcile the two hypotheses, we could

do it.

Corder's argument of the interlanguage continuum and the facilitating

effect of L1 is one way of reconciling them, rejecting, however,

the notion of negative transfer and interference.   A broader notion

of transfer, which views it as the use of L1 information in the acquisition

of L2 enables us to reconcile the two approaches while taking the

notion of interference into account.   Thus, language learning is

likely to follow a similar developmental sequence for all learners.

The role of L1 can be manifested in either facilitation of the process

in the case of a related L1, or interference with this developmental

process when the L1 is unrelated.

8.3 Language Pedagogy

8.3.0 In addition to its theoretical role, accounting for linguistic

competence and the indication of language learning processes, Error

Analysis has had a practical function in guiding syllabi, remedial

materials, teaching methods and testing.   The theoretical and the

practical aspects of Error Analysis are not unrelated to each other.

It is true that an experienced teacher does not need training in

Applied Linguistics to give an account of the typical errors made

by his students and to intuitively pinpoint the main learning problems.

However, without sufficient understanding of the nature and cause

of errors, remedial work can and indeed often does take the form
of reteaching or redrilling the problematic feature without much
improvement as a result.   To combat an error the teacher should
be aware of its cause and source.   And since most errors are a natural
result of the learning processes, the theoretical function of Error
Analysis, the investigation of these processes, is of direct relevance
in the improvement of teaching.

8.3.1 Error gravity and confusion of synforms

Error Analysis is likely to reveal a large amount of deficiencies.
But in the limited teaching time, not all errors can be dealt with;
nor are all of them important enough to receive treatment in class.
It is the teacher's job to establish priorities in error correction
on the basis of some kind of error evaluation.

One possible criterion for determining the degree of error gravity
is linguistic (James 1974) - the degree of mismatch between the learner's
utterance and that of the native speaker, in terms of (among other
things), the generality of the incorrectly applied rule, or the physical
size of constituents affected when rules are infringed.

However, linguistic mismatch alone is insufficient as a criterion
for error gravity.   An utterance may be well formed linguistically,
but inappropriate in a particular context.   A learner who says "I
can't write anything sensitive" while meaning that he cannot write
anything sensible, has produced a well-formed and therefore linguistically
acceptable sentence, which, nevertheless, is not the sentence a native
speaker would say in the same context.   Thus a sentence can be well-
formed and at the same time semantically deviant.   The criterion

of mismatch should therefore refer not only to linguistic deviance
but also to the deviance from the learner's intention.

An additional criterion of error evaluation is the communicative
effect of the error. Johansson (1973, 1975) suggests that the error
should be considered from two aspects of communicative effect: whether
it affects the comprehensibility of the message; whether it causes
irritation in the listener. Burt and Kiparsky (1975) and Burt (1975)
also distinguish between errors which affect communication and those
which do not. They argue that errors that affect overall sentence
organization significantly hinder communication. These are label-ed
global errors. Errors that affect single elements in a sentence
do not usually hinder communication. They are called local errors.

Even though both Johansson and Burt and Kiparsky are concerned
with the communicative effect of errors, their approaches as to what
errors hinder the communication are very different from each other.
Burt and Kiparsky's classification into global and local errors completely
disregards the disruptive effect of the wrong choice of a single
word (a local error in Burt and Kiparsky's terms) and also of errors
in single grammatical items which may affect the meaning of the whole
utterance, as in 'Do you have the time?' vs. 'Do you have time?'.
Johansson, on the other hand, found that lexical errors were more
disruptive communicatively than syntactic errors and they also induced
a higher degree of irritation in native speakers. Similarly, Olsson
(1973) found that semantic aspects of the sentence were more important
for communication than the structure of a sentence.

From the teacher's point of view, lexical errors are important
if we accept Johansson's criteria of error gravity. The implication

of Burt and Kiparsky's argument, on the other hand, is that lexical errors, being local, do not affect communication - an implication which runs counter to common sense and teaching experience.

If we wanted to judge synform errors in terms of the criteria suggested in this section, the synform errors would receive a high 'gravity score'. One linguistic consideration is, as mentioned, the physical size of the constituents affected by the error. Confusion of two synforms may affect the meaning of the sentence, i.e. the largest constituent, e.g. 'Israel and Egypt signed a comprehensible peace settlement' instead of 'comprehensive peace settlement'. It also reflects a mismatch between the intention of the learner to convey a certain meaning and the actual meaning expressed in the erroneous sentence.

From the point of view of the communicative effect, synform errors are disruptive precisely because of the mismatch between the message the learner tries to get across and the meaning the listener/ reader decodes.

As far as irritation is concerned, even though empirical studies have not been carried out on the irritation of synform errors, it is reasonable to assume that these errors would indeed be irritating. As mentioned earlier, Johansson (1975) found that lexical errors in general induced more irritation than grammatical ones. We also know that malapropisms and Spoonerisms are often associated with ridiculous characters in literature and in theatre. It is only common sense that errors which hinder communication are more irritating than those which do not; synform errors belong to the disruptive ones.

Since synform errors would score highly on the gravity scale the teacher will most probably decide to provide the necessary teaching treatment for the confusion of synforms.

8.3.2 Selection of synforms for practice

Once it has been decided that synform confusions (whether they have been actually made or are likely to be made) should receive treatment in class, the next step is to decide which synforms are to receive it.   This decision could be left to the judgement of the teacher.   He could choose the synforms that interfere with communication most frequently and most seriously.

The results of the study, however, may also provide guidelines as to the choice of synforms for practice.

It could be argued that only categories of synforms which induced a significant number of synform errors should be given special attention. Other synform errors, it could be claimed, were made by chance. On the other hand, all the synform errors in Appendix 1, collected sample, were actually made by learners.   It could be argued, therefore, that lack of statistical significance does not eliminate the possibility of synform confusions in an everyday teaching situation.

A compromise decision could be the following: categories which induced a significantly high number of synform errors could be considered as problematic categories; in the non-problematic categories we consider synform pairs with over 25% of error in each of the test versions as problematic items.   We choose 25% as the cut off since up to 25% of error could happen by chance in a test with 4 alternatives

for each item.   For example, in test 5, native speakers, the synform
pair 'passion/compassion' induced 26.7% of synform errors in test
version A and 73.3% in test version B (Table 5.1).   Thus, although
synform category 5 is not problematic as a category, the above pair
of synforms seem to need teaching treatment.[1]   In other words, in
the problematic categories, <u>any</u> pair of synforms could be predicted
to cause trouble;   in the non-problematic ones - no such prediction
can be made.   However, each non-problematic category includes troublesome
pairs of synforms;   these are the pairs which were shown to induce
a high number of synform errors.[2]

On the basis of the above criteria - a significantly high number
of synform errors per category (in the case of the problematic categories)
and over 25% of synform errors in individual items in the non-problematic
categories - the following are synform error inducing.

Problematic categories for native speakers: categories 1, 2, 3.
Problematic categories for foreign learners: categories 1, 2, 3,
                          7, 10; 6 (for Semitic learners).
Error inducing synforms in the non-problematic categories:
      Category 4, native speakers: oppress/suppress, efficient/sufficient,
            ascribe/describe, affirm/confirm, concede/accede,
            remission/omission.

1. It is realized that such decision is not based on a statistical
test, but is a rule of thumb.   Yet, in the actual teaching situation
decisions like this are inevitable.

2. There might also be other pairs of synforms which would induce
a high number of errors which were not tested here.

Category 4, foreign learners: object/reject, superficial/artificial,

      subsequently/consequently, apprehend/comprehend,

      ascribe/describe, affirm, confirm, prosecute/execute,

      prospective/respective.

Category 5, native speakers: compassion/passion, brace/embrace,

      default/fault, denationalize/nationalize, predate/date.

Category 5, foreign learners: compassion/passion, enjoin/join.

Category 6, native speakers: counsel/council, fad/fade, nurture/nature.

Category 7, native speakers: essence/sense.

Category 8, native speakers: graceful/grateful.

Category 8, foreign learners: prize/price, graceful/grateful.

Category 9, native speakers: customs/custom, climactic/climatic

Category 9, foreign learners: customs/custom, ledge/pledge,

      climactic/climatic, contest/context.

Category 10, native speakers: ingenuous/ingenious, eligible/legible,

      menial/manual, merely/merrily, humane/human, fiery/fair.[1]

As mentioned earlier, the above pairs of synforms induced a number
of synform errors that was higher than expected by chance in each
of the test versions. With a less stringent criterion for the decision
of individual synform problematicity, such as more than 25% of synform
error in one test version, or more than 50% of synform errors in
the two versions together, the lists of problematic synform pairs
would grow longer. In the actual teaching situation, a teacher
might decide that, in addition to the above mentioned pairs, other
synforms are also likely to induce error and should therefore be
treated.

1. As mentioned earlier, categories 6, 7, 10 were problematic as
categories for foreign learners.

8.3.3 <u>Synform Exercises</u> [1]

8.3.3.0 The synform exercises suggested in this section are all based on one principle - the practice of the pair/group of synforms, not one individual synform on its own. This does not mean that whenever a new word is learnt which has a/some synform(s), a whole list of these synforms should be introduced as well. For example, when 'considerable' is encountered for the first time it does not necessarily have to be contrasted with 'considerate' if the latter is unknown. The decision whether to do so might depend on the vocabulary load of the particular lesson and the context in which the new words were taught. If the number of new words in the lesson is considered large by the teacher, he might not wish to overburden the class with additional words which did not appear in the lesson context. Also if the teacher believes that new words should be related to each other by a meaningful context such as a text or a situation, then he might decide not to introduce the synforms which could not be fitted into the context of the lesson.

It is realised that the approach of juxtaposing problematic items is objected to by some teachers on the grounds that it creates an unnecessary confusion which might have not happened otherwise. There are two counter arguments to this claim - a) In the case of synforms, the present study showed that the confusion of synforms occurs even when the two (or more) synforms are not juxtaposed (test version B in all the tests did not present the synforms of the tested items but their meaning equivalents). b) It has not been empirically shown that awareness of a problem, or of error, to that matter, will increase the chance of its occurrence. Just as some teachers think that it will,

1. Examples of exercises are included in Appendix 5.

others, myself included, believe that awareness of a problem is a necessary step to its solution.

8.3.3.1 Synform reminding

If the synform of a new word was learnt at an earlier stage, it is very desirable that the class should be reminded of it and the contrast between the synforms be pointed out.   Such cross-references do not only reinforce the knowledge of the synforms in question.   They also develop in the learner what can be referred to as 'synform consciousness' - the learner's awareness of the fact that words might be similar in form without necessarily being similar in meaning.

8.3.3.2 Blank filling

Another type of synform practice is blank filling .

e.g. They prayed for .... from the epidemic.
The learner can be given the two synforms (delivery/deliverance) to choose from.   Or four possible answers could be provided.   The two additional distractors may be words which somewhat resemble the synforms in form like 'delight', 'delusion'; or they can be chosen on the basis of criterion other than form such as a semantic relation to the correct item, e.g. 'help', 'liberty'.   However, if the purpose of the exercise is to contrast synforms, then the former variation of the exercise, the two synforms as possible answers, would suffice.

A different type of blank filling is the rational cloze where the blanks are determined by the teacher.   It could be useful to

have some of the deletions in words which have synforms. When the cloze exercise is corrected and various alternatives are suggested for the blank filling, the teacher may suggest the synform as a possibility and ask whether it is correct or not. (There is a good chance, however, that some learners will provide the synform anyway.)

8.3.3.3 Explanation/paraphrase

Explanation/paraphrase of synforms can be done in isolation or in context. The learners could be asked the meaning of 'deliverance', for example, in isolation or in the sentence 'They prayed for deliverance from the epidemic', whether the sentence was encountered in a text or made up by the teacher.

Knowledge of the meaning could be checked in two ways: 1. by asking the learner to explain/paraphrase the word in English or to translate/paraphrase in his mother tongue; b. by asking him to choose from the alternatives provided by the teacher. In the latter case, one of the alternatives is the meaning equivalent of the word, the other - the meaning equivalent of the synform and two other distractors.

> e.g. They prayed for <u>deliverance</u> from the epidemic.
>   A. salvation B. sending out C. help D. liberty

8.3.3.4 Word family building

Most teachers practise word family building quite regularly. Textbooks often have tables where one word is provided and the learner has to complete the table with additional words from the same root (e.g. observe, observation, observational observationally).

In the case of synforms, or rather synmorphs in this exercise, the teacher should make his class aware of the various alternatives for the same part of speech and their different meanings.   For example, with word family of 'comprehend' it should be pointed out that two adjectives 'comprehensible', 'comprehensive' and consequently two nouns and adverbs, which have a different meaning even though they are derived from the same root.

8.3.3.5 Controlled writing

Controlled writing, as opposed to free writing, requires the learner to produce a piece of writing under restrictions imposed by the teacher.   An example of such exercise is answering a comprehension question and incorporating in the answer phrases provided by the teacher.   Another one is sentence completion where a part of the sentence is provided, which in turn restricts the learner's choice of vocabulary or structure in the part he has to complete.

e.g. If I had known this before ....
This particular case, whatever the message the student chooses to convey, will require a conditional construction.

In the case of synform practice, the part of the sentence provided by the teacher will include a synform, so that the learner has to show, in the part he will complete, that he has understood the synform.

e.g. Because he is a very sensible person he ....

If the learner completes this sentence with something like 'does everything with moderation', or 'he'll give you sound advice', it will show that 'sensible' has been correctly understood.   If, on

the other hand, he completes it with 'he's easily offended', it will show that 'sensible' was confused with 'sensitive'.

Another type of controlled writing exercise is translation from L1 into foreign language. In a monolingual class sentences containing synforms could be given for translation into English. The sentences should be kept relatively easy in order to avoid unnecessary translation problems.

8.3.3.6 An alternative to controlled writing - multiple choice

Sentence completion and translation can be changed from an open ended exercise to a discrete item one. The learner will be required to choose the correct completion/translation from the alternatives provided by the teacher.

e.g. Because he is a very sensible person he ....

A. eats with moderation.   B. is easily offended.

C. reacts passionately to women.   D. forgets quickly where he
                                      has put his things.

The choice of A would show an understanding of 'sensible'; the choice of B would point to the confusion of 'sensible' with 'sensitive'; C - confusion of 'sensible' with 'sensual'; D - possible confusion of 'sensible' and 'senile' (even though the two are not synforms), or a sheer misunderstanding of the word.

A multiple choice translation exercise would look as follows:

'Hu adam hegioni'(the Hebrew equivalent of 'He's a very sensible man')
The sentence could be translated by one of the following English
sentences:

A. He's a very sensible man B. He's a very sensitive man
C. He's a very sensual man   D. He's a very senile man

8.3.3.7 <u>Correctness judgement</u>

In such an exercise a sentence would be provided and the learner would have to state whether it was correct, or not. If not, he should explain why. For example, in 'Since he's a sensible person, he is easily offended', the explanation of incorrectness would involve pointing out that it is the sensitive people who get easily offended, not the sensible ones. This kind of explanation provides the means for contrasting the synforms in question.

As pointed out at the beginning of 8.3.3, all the above exercises have one principle in common: they make the learner aware of the other synform which is often a source of confusion. This, in turn, might help to eradicate the naive notion some learners have that similarity in form means also similarity in meaning.

8.3.4 <u>Some other teaching implications of synforms</u>

8.3.4.1 <u>Spelling practice.</u>

In the case of homophones - words identical in sound, spelling is one of the tools in distinguishing between them (in the written language at least). Teachers indeed pay attention to spelling in such cases because of its importance in providing the clue to the homophone meaning. The same importance should be attached to the spelling of synforms, particularly synphones. Since very often a pair of synphones sounds identical to the foreign learner (as if the two were homophones), good knowledge of spelling is just as important as in the case of homophones. For example, the learner who does not distinguish between the sounds of 'bold' and 'bald' could resort

to spelling as a clue to the meaning of the word.   Teachers who
do not emphasize spelling claim that context would provide the clue.
However, the effect of context is a debated issue (for a review,
see Bensoussan and Laufer 1984).   Particularly, in the case of synforms
it was shown to be ineffective (Laufer and Bensoussan 1982, Bensoussan
and Laufer 1984, Laufer and Sim 1985).

A simple spelling exercise is a short dictation of synforms
in isolation, or in strings of words.   Such exercise, specially
synforms in isolation, provides practice not only for spelling but
also for discrimination between foreign phonemes which sound identical
to the learner, but are in fact different.

Spelling could also be practised by means of letter filling,
a kind of 'word cloze'.   The letters deleted would be the ones that
distinguish the synforms from each other.   For example, the learner
could be asked to complete phrases or sentences like:

'He was not afraid of the enemy; he was b-ld';

'He was losing his hair and becoming b-ld'.

The word-cloze could consist of completing more than one letter, e.g.

'She was a kind and consider--- person';

'I can't come tomorrow, please c-nc-l my appointment'.

8.3.4.2 A possible supplement to the learner's dictionary

It has been recognized that a traditional dictionary, arranged
alphabetically, does not reflect the way in which people store words
in their mental lexicon.   Roget's (1969) Thesaurus and McArthur's

(1981)Lexicon, both of which are organized on the basis of semantic fields, attempt to provide a 'dictionary' which is closer to the actual representation of words in the human mind.

If words are organized on the basis of phonological similarity as well, the question arises whether a lexicon written for the learner should not reflect this phenomenon.   This would mean that words would be grouped together not only if they were related in meaning but also if they were homophones or synforms.   Such arrangement would seem at first irrelevant to the overall organization of the learner's lexicon.   For example, in the category of 'human qualities' which would include 'considerate', it would be irrelevant to include 'considerable' in the group since it is not a characteristic of human character.   We could, however, incorporate 'considerable' next to 'considerate' in special brackets which would indicate that the word in them did not belong to the semantic category in question, but was a likely candidate for confusion with the word preceding it. This way, the 'dictionary' would retain the overall semantic organization; the form element would be injected into it from time to time.

8.3.5 Implications for testing

Vocabulary sub-tests have been included in some of the well known standardized tests like Cambridge First Certificate of Proficiency, Cambridge Proficiency, TOEFL, Michigan Test of English Language Proficiency.   To my knowledge, similarity in form has not been considered as a principle behind the construction of these sub-tests unless it coincides with similarity in meaning (e.g. assure, insure, ensure).   Sometimes, it looks as though the selection of distractors

for each vocabulary item does not follow a definite principle, as
in the following example from the Michigan tests, Form G (reported
by Ard and Homburg 1983).

Why does Jack <u>shun</u> Betty?

A. avoid   B. fear   C. admire   D. trick

If the learner does not know the word 'shun', each of the four possible
meaning equivalents provided looks equally 'attractive', since each
one can form a correct sentence with 'Why does Jack ...... Betty?'.

Very often the correct answer and the distractors are semantically
related e.g.

Car insurance usually .... the car when it is being repaired
by a garage.

A. defends   B. guards   C. protects   D. provides   E. saves (FCE, June 1977)

In fact, on examining the vocabulary sections of the different tests,
we'll find that this is the most common pattern of testing the words:
most of the alternatives belong to the same semantic field, but only
one collocates with the other words in the sentence.

Since synformy is a pattern of difficulty in vocabulary it would
be sensible to consider synformy as an additional criterion for the
selection of distractors.   That is if a word which is tested happens
to have a synform, or synforms, this synform could be incorporated
into the distractors.   For example:

'He was very <u>sensible</u> of the delicate nature of the operation'.

'Sensible' means: A. *conscious*   B. clever   C. easily aroused

D. easily moved

Distractor B is semantically related to the correct answer (A);
C and D, the meaning alternatives of 'sensual' and 'sensitive', respectively,
are the synforms of 'sensible'.

Synformy can serve not only as a criterion for distractor construction,
but also for the selection of vocabulary items to be tested.   Since
the teacher/tester is aware of the fact that 'sensible' is a synform
of 'sensitive' and 'sensual', he might decide to test the item together
with other words which are problematic for various other reasons.

The choice of tested items and their distractors on the basis
of learners' errors might be contested by those who view elicitation
procedures as totally different from tests.   Corder (1973) specifically
says that the task of the test is to provide information about how
much of the target language the learner knows, not what rules he
is working with.   Therefore the distractors in each test item are
based on target language forms and not necessarily on the learners'
errors.

This view seems to disregard the similarity in the aim of elicitation
procedures to diagnostic tests which is the measurement of selected
areas of language difficulty.   It can also be argued that even when
measuring achievement or proficiency in language one should also
test the ability of the learner to deal with some problematic areas
of language.   If this is the case, then the selection of items and
their distractors should be based not only on the target language
forms, but also on learners' errors.[1]   And synformy could be one
of the principles behind vocabulary subtest construction.

1. It has been argued that if the group of testees comprises speakers
of different mother tongues the distractors cannot be based on the
learner's utterances.   This may be true in the case of L1 interference
errors.   However, the distractors could be based on the errors known
to be made by learners irrespective of their native language.

8.3.6 <u>Summary</u>

In this section (8.3) it has been argued that synforms would rate highly on error gravity scale since they might affect the meaning of the whole sentence/utterance and therefore disrupt communication. Because of their error gravity they should receive treatment in class in the form of exercises and tests.

The findings of the study, the various significance tests and synform error frequencies of the individual items, can provide guidelines as to which categories of synforms and synform items are problematic. The final decision about the selection of synforms for practice should, however, rest with the teacher.

The exercises that have been suggested for practising contrasts between synforms are: synform reminding, blank filling, paraphrase/ explanation, word family building, controlled writing and its alternative in the form of multiple choice and correctness judgement.

It has also been argued that an aid to overcoming synform confusion would be special attention to the spelling of synforms and a possible supplement to the learner's dictionary, a supplement where synforms would be incorporated next to each other within a general semantic organization.

Since synformy is a feature of difficulty in language learning, it should be tested both in diagnostic tests and in tests of achievement and proficiency. It could serve as a criterion for the selection of items to be tested and for the construction of the distractors of a particular item.

A common principle in the practice and the testing of synforms
is developing the learner's awareness of the problem.   Such principle
is based on the belief that language is learnt not only by intuitive
absorption, but that learning a language also requires a conscious
and systematic analysis of its structure, particularly in areas problematic
for the learner.   To use Krashen's terms, acquisition and learning,
it is believed that both processes are important to the development
of second language proficiency.   Teaching should therefore promote
both of them, using both the implicit and the explicit strategies
of teaching (Stern 1983). Synform practice is an example of the
latter.

Chapter Nine

Conclusion and Suggestions for Further Research

9.1 Conclusion

The study has set out to investigate an error pattern in the
vocabulary of language learners - the confusion of synforms. It
was assumed that such error pattern reflected a difficulty in vocabulary
acquisition, that it was a feature of Interlanguage.

Synformy was defined as shape similarity; similarity, in turn,
was defined in terms of general characteristics of all synforms and
particular characteristics of each of the postulated 10 categories.

The main aim of the empirical part of the study was to validate
the existence of the problem, i.e. to find out whether the confusion
of synforms was a common error made by learners. The study also
compared various synform categories in their difficulty, i.e. in
the number of synform errors they induced, and examined the relationship
between the L1 family of the foreign learner (Semitic, Germanic,
Romance) and synform error susceptibility.

The results of the study indicate that confusion of synforms
is indeed evident in the performance of language learners, whether
they are native speakers of English or foreign learners, more so,
however, with the foreign learner.

Even though the degree of difficulty of most synform categories
is greater for foreign learners than native speakers, the internal
order of difficulty of the 10 categories correlates highly in the

two groups of learners. The order of difficulty of the major groups

of synform categories (suffix synforms, prefix synforms, vocalic

and consonantal) is the same for native and non-native learners of

English. Thus, as far as the relative difficulty of synform categories

is concerned, the most problematic categories seem to be the suffix

synforms, then the vocalic synforms, then the prefix and the consonantal

ones.

The comparison of different L1 groups of foreign learners with

respect to synform susceptibility suggests the following: even though

no definite conclusion can be made about the differences in individual

synform categories, differences between L1 groups are evident in

the major groups of synform categories. Except for the consonantal

group, the Semitic learners are the most error prone, then the Germanic

then the Romance.

In addition to identifying a factor of difficulty in vocabulary

learning, the study may have contributed to our knowledge of the

learner's mental lexicon, language learning processes and language

pedagogy.

Synformic confusions provide information about the existence

of salient and non-salient features of lexical items in the mental

lexicon and about the organization of items relative to each other.

The salient features, according to the study, are the grammatical

category, stress pattern, initial parts of items and consonants.

With native speaking learners, the number of syllables is salient

too. The non-salient features are: the non-initial parts of items

for all learners; the number of syllables and vowels for foreign

learners. As for the organization of the lexicon, one of the

principles behind it is phonological, more so with foreign learners
than native speakers.   The word's near neighbours are the words
which sound most like it, including synforms.

The confusion of synforms as evidenced by the results of the
study lends support to both the L1 restructuring and the creative
construction hypotheses of L2 learning.   The L1 effect is reflected
in significantly better results in the performance of the Romance group
on synmorphs, confusion of vowel synforms by the Semitic learners
and general lower error susceptibility of the European learners,
whose languages are related to English.   The developmental aspect
of the synformic errors is manifested in the similarity between native
speakers and foreign learners in synform error susceptibility in
the case of suffix synforms, and in a similar order of difficulty
of the various synform categories.   If we adopt a broader notion
of transfer, as the use of L1 information in L2 acquisition, then
the problem of synform confusion can be viewed as an illustration
of how the two hypotheses can be reconciled: language learning is
likely to follow a similar developmental sequence for all learners;
however, a related L1 may facilitate the process, while an unrelated
L1 is likely to interfere with it.

Since synformy has been shown to be a pattern of difficulty
in vocabulary learning and since synform errors would probably rate
highly on error gravity scale, it is only reasonable that synforms
should receive pedagogical treatment in the form of exercises, materials
and tests.   The findings of the study can provide guidelines as
to what categories of synforms and which individual pairs/groups
of synforms are problematic and should therefore be selected for

practice.   Such practice can take the form of various exercises,
like synform reminding, blank filling, paraphrase/explanation, word
family building, controlled writing, multiple choice, correctness
judgement and various spelling exercises.   The practice can be aided
by special vocabulary material - a supplement to the learner's 'lexicon'
(dictionary), where synforms are incorporated into the already existing
semantic organization.   And finally, synform treatment should include
testing.   Synformy could serve as a criterion for the selection
of items to be tested and for the construction of the distractors
of a particular item.

The general principle behind the suggested practice is the development
of the learner's awareness of the synformy problem.   This principle
is based on the belief that a conscious and systematic analysis of
language contributes to language learning.

9.2 Some suggestions for further research

To my knowledge, the present study is the first attempt to define,
illustrate, classify and validate synformy and synform errors.
It was first necessary to demonstrate the existence of the phenomenon
and some of its general characteristics, like the relative difficulty
of synform categories and the relationship between synform errors
and the learner's mother tongue, before any further exploration of
the problem could be attempted.   It was, therefore, beyond the aim
and the scope of the present study to examine other factors related
to the topic.   These are suggested here as possible areas for further
investigation.

9.2.1 Synformic confusion as an Interlanguage universal

It was already mentioned in chapters 2 and 3 that confusions of words of similar form had been observed in the performance of learners of French and Hebrew.   This suggests that the problem of synformy might be a feature of any interlanguage, not only of English. It would be interesting to validate this impression empirically. Several such validations in different languages may indicate that the phenomenon of synform confusion is indeed an Interlanguage universal.

One could also check whether the collected pairs/groups of synforms in other languages can be classified into the categories suggested in Chapter 3, and whether the relative difficulty of the categories is similar to that in the study.   Such a study would test the hypothesis that the phenomenon of synform confusion is not only an Interlanguage universal, but also that different types of synforms have, as it were, the same difficulty index across learners of any language.

9.2.2 Sound and script effect on synform confusions

In the study, the elicitation of synform errors was done by means of written tests only.   Another study could elicit the same synforms using both written and listening tests.   Possibly, each test would be administered to the same learner in its listening version first and then in its written form.   Comparison of synform error scores in individual learners would reveal something about the different effects the spoken and the written language might have on synform confusion.   It is possible that some alleged synphones would turn out to be syngraphs that are confused when presented in writing only.

Some other items may induce a significant number of synform errors
in the listening test, but not necessarily in the written test.
It is even possible that we need two separate lists of error inducing
synforms and synform categories - one list of synform confusions
in listening comprehension, another - in the written language.

9.2.3 Variability in synform confusion

The present study tested synform confusions by foreign learners
at one particular language level in English and by one age group
of native speaking children. It was suggested that the distinction
between synforms in the allegedly easier categories probably occurred
at an earlier language learning stage than the distinction between
synforms in the more difficult categories. Further research could
confirm or refute this assumption. Foreign learners at different
levels and native speaking children of different ages could be tested
to see whether the more proficient testees made fewer errors in the
more difficult categories and whether the less proficient ones than
in the study made more errors in the easier synform categories.

9.2.4 Synformic versus semantic resemblance : comparison of error-provocativeness

Semantic resemblance between words has been recognized as an
error inducing factor (see Chapter 2). Words like 'space, room,
area, place' are often confused by foreign learners. It would be
interesting to see whether semantic similarity induced more errors
than the synformic one, or vice versa. This could be checked by
tests where for each vocabulary item there was a distractor semantically
similar to the correct answer and a distractor synformically similar

to it.   Error frequency induced by each type of the distractors

could then be compared.   The results would provide information about

the relative difficulty of synformy as a factor affecting vocabulary

learning.

9.2.5 Synformic and semantic resemblance as error inducing factors

It is common sense that the more similar words are to each other,

the more difficult it will be to distinguish between them.   In other

words, if they share semantic as well as synformic features, e.g.

'ensure, insure, assure, reassure', they will induce more errors

than words similar in meaning or form only.   A study could be designed

to examine whether this impression is correct.   In such a study,

a comparison would be drawn between synforms with semantic similarity,

on one hand, and synforms without semantic similarity, on the other.

The comparison would be between the number of errors each type of

synform will induce.   (The two types should be taken from the same

synform category to eliminate the effect of category difficulty.)

Results of such tests could provide the teacher with more detailed

information about synform difficulty than in the present study.

Appendix 1

List of Synforms

This appendix includes 11 categories of synforms arranged in 11 lists. Each list includes 1) synforms which were actually confused by my learners[1]; these are listed under 'collected error sample': 2) synforms which are alleged to induce errors since they are similar to those in 1); these are listed under 'expanded sample'.

Category 1 - Synforms which have the same root, productive in present-day English, but different in suffix.

Collected error sample

interested/interesting	departure/department
considerable/considerate	disposal/disposition
imaginary/imaginative	exhausted/exhaustive
expectant/expecting	gradual/graduate
successful/successive	industrial/industrious
hardship/hardness	objective/objectionable
agreed/agreeable	respective/respectable/respectful
sensitive/sensible/sensuous	
practical/practicable	
alternately/alternatively	
proposal/proposition	
virtually/virtuously	
favourable/favourite	
adulthood/adultery/adulteration	
comprehensible/comprehensive	
childlike/childish	

1. These confusions were collected in the course of my teaching. They are not necessarily the errors made by the learners in the elicitation part of the study.

Expanded sample (category 1)

affection/affectation

casualness/casualty

complexity/complexion

composition/composure

comparable/comparative

constructive/constructional

defendable/defendant/defended

definite/definitive

delivery/deliverance

descendant/descender

desirable/desirous

discriminating/discriminatory

erroneous/erratic

exactness/exaction

inflammatory/inflammable

graceful/gracious

homely/homelike

fixity/fixture

seasonal/seasonable

expeditionary/expeditious

executive/executioner

enviable/envious

destructive/destructible

deathly/deathlike

Category 2 - Synforms identical in root which is not productive in present-day English and different in suffix.

Collected error sample	Expanded sample
experiment/experience	beneficial/beneficiary
policy/politics	cession/cessation
effective/efficient	circuitous/circular
specification/specialization	civil/civic
inherent/inherited	consume/consummate
capacious/capable	corporal/corporate
census/censor	incident/incidence
credible/credulous	competence/competition
explicit/explicable	obliging/obligatory
integrity/integration	popular/populous
literal/literary/literate	judicial/judicious
numerous/numerical	compulsive/compulsory
primate/primary	
physician/physicist	
social/sociable	
special/specific	
imperial/imperious	

Category 3 - Synforms which differ from each other in a suffix present
in one of the synforms but absent in the other.

Collected error sample	Expanded sample
historic/historical	classic/classical
fact/factor	comic/comical
sect/sector	politic/political
front/frontier	content/contention
infinite/infinitesimal	defect/defection
bond/bondage	deposit/depository(n)
fancy/fanciful	figure/figurine
confident/confidential	part/partition
exact/exacting	past/pasture
moment/momentum	pill/pillar
novel/novelty	process/procession
object/objection	project/projection
hard/hardly	quarter/quarterly
economic/economical	lodge/lodging
	consequent/consequential

Category 4 - Synforms identical in root, which is not productive in present-day English, and different in prefixes.

Collected error sample	Expanded sample
attribution/contribution/distribution	obtain/contain
presumption/assumption/consumption	sufficient/deficient/efficient
subject/object	ascribe/subscribe
subjection/objection	auspicious/suspicious
apply/supply	approach/reproach
attend/intend	concede/precede
persist/insist/consist	conform/reform
instant/constant	conscription/subscription/inscription
oppress/repress/depress/suppress	decrease/increase
superficial/artificial	deflate/inflate
subsequent/consequent	detract/extract/distract
affluence/influence	eccentric/egocentric
apprehend/comprehend	eject/project/reject
compartment/apartment/department	explore/implore
confirm/affirm	inversion/perversion
constitute/substitute	prefer/defer/refer/confer
deduce/induce	profess/confess
announce/denounce	permission/remission
detain/retain	persecute/prosecute
emigrate/immigrate	
incidentally/accidentally	
consequently/subsequently	
incriminate/discriminate	
inspiration/aspiration	
perspective/prospective	

Category 5 - Synforms which differ from one another in prefix present in one of the synoforms but not in the other.

Collected error sample	Expanded sample
passion/compassion	brace/embrace
respond/correspond	motion/commotion
caution/precaution	current/concurrent
mission/commission	script/conscript
found/confound	cease/decease
genial/congenial	cry/decry
fault/default	note/denote
light/delight	count/discount
mobilize/demobilize	course/discourse
nationalize/denationalize	tradition/extradition
prove/approve	providence/improvidence
print/reprint	mission/intermission
prove/improve	scene/obscene
firm/infirm	meditate/premeditate
severe/persevere	claim/proclaim
date/predate	
determine/predetermine	
judicial/prejudicial	
root/uproot	

Category 6 - Synforms which differ from one another in one vowel or diphthong.

Collected error sample	Expanded sample
affect/effect	bait/bite
except/excerpt[1]	bawdy/body
lack/lake/luck	brawny/brownie
adapt/adopt	bloke/block
flow/flaw	cap/cape
staff/stuff	command/commend
erratic/erotic	dot/dote
later/latter	imminent/eminent
council/counsel[2]	foul/fool
fad/fade	fund/fond
bald/bold	gap/gape
bitch/beach	hurt/heart
curse/course	hop/hope
exorcise/exercise	libel/lable
expansive/expensive	mat/mate
further/farther	mass/mess
inhibit/inhabit	proceed/precede
space/spice	lag/leg
nurture/nature	lunch/launch
plane/plan	snub/snob
sole/soil	proscription/prescription
proposition/preposition	difference/deference
arise/arouse	

1. Even though, according to one pronunciation, 'excerpt' [ɛksɜ̩pt] and 'except' [iksept] are different in two vowels, they can also be pronounced as [eksəpt] and [eksept] differing in one vowel only.
2. Though, according to one pronunciation, the two words are identical [kaunsl], they can also be pronounced as [kaunsil] and [kaunsəl] respectively, differing in one vowel.

Category 7 - Synforms which differ in one vowel which is present in one synform but absent in the other.

Collected error sample	Expanded sample
live/alive	defy/deify
cute/acute	late/elate
sense/essence	emergence/emergency
beware/be aware	state/estate
rise/arise	move/movie
rousing/arousing	minster/minister
personal/personnel[1]	press/oppress
quite/quiet	quality/equality
coping/copying	
data/date	

Category 8 - Synforms which differ from one another in one consonant.

Collected error sample	Expanded sample
extend/extent	fuzzy/fussy
price/prize	grateful/graceful
reflect/reflex	pluck/plug
fateful/faithful	petal/pedal
advise/advice	plead/bleed
cart/card	
contend/content	
taught/thought	
lose/loose	

1. Although 'personal' can be pronounced $[p\vartheta\text{!}s\vartheta n\vartheta l]$ thus being distinguished from 'personnel' $[p\vartheta\text{!}s\vartheta n\epsilon l]$ in one vowel, it can also be pronounced as $[p\vartheta\text{!}s\vartheta n l]$. This pronunciation makes it different from 'personnel' in one missing vowel.

Category 9 - Synforms which differ from each other in one additional consonant - a consonant present in one synform and absent in the other.

Collected error sample	Expanded sample
conscious/conscience	defy/define
phase/phrase	event/invent
simulate/stimulate	celerity/celebrity
addition/addiction	climatic/climactic
former/formal	decree/decrease
instance/instants	flatter/flatten
defy/define	net/nest
mean/means(n)	latitude/platitude
contest/context	power/powder
enjoy/enjoin	revision/prevision
eternal/internal	patter/pattern
ethic/ethnic	ledge/pledge
evasion/invasion	septic/sceptic
evolve/involve	
statue/statute	

Category 10 - Synforms identical in consonants but different in vowels.

Collected error sample	Expanded sample
ingenious/ingenuous	prefect/perfect
base/bias	embrace/embarrass
propose/purpose	impress/empress
legible/eligible	excursion/excretion
manual/menial	fairy/fiery
merely/merrily	human/humane
valuable/available	quit/quite/quiet
cancel/conceal	complexion/complication
dairy/diary	
moral/morale	

Appendix 2

Preliminary Study - Samples of Tests

Name ....   Test 1.A.

Mother Tongue ....

Translate the following words into Hebrew or paraphrase them in English.

1. considerable ....   a. b. c. d.

2. casualness ....   a. b. c. d.

3. comparable ....   a. b. c. d.

4. admittance ....   a. b. c. d.

5. virtually ....   a. b. c. d.

6. comprehensive ....   a. b. c. d.

7. imaginative ....   a. b. c. d.

8. successive ....   a. b. c. d.

9. hardship ....   a. b. c. d.

10. sensible ....   a. b. c. d.

11. practicable ....   a. b. c. d.

12. alternately ....   a. b. c. d.

13. favourable ....   a. b. c. d.

14. adulteration ....   a. b. c. d.

15. complexion ....   a. b. c. d.

16. conformation ....   a. b. c. d.

17. defendant ....   a. b. c. d.

18. definitive ....   a. b. c. d.

19. deliverance ....   a. b. c. d.

20. composure ....   a. b. c. d.

21. compulsive ....   a. b. c. d.

22. constructional ....   a. b. c. d.

23. gracious ....   a. b. c. d.

Test 1.B.

Name ....

Mother Tongue ....

Translate the underlined word in each sentence into Hebrew or paraphrase
it in English.

1. He had acquired <u>considerable</u> wealth by shrewd investments.

    ....   a. b. c. d.

2. <u>Casualness</u> in manners became more pronounced after the two world wars.

    ....   a. b. c. d.

3. The two things are as <u>comparable</u> as chalk and cheese.

    ....   a. b. c. d.

4. This land is private property and there is no <u>admittance</u> except on business.

    ....   a. b. c. d.

5. Though she is only a secretary, she is <u>virtually</u> running the business.

    ....   a. b. c. d.

6. Her study was a clear and a <u>comprehensive</u> account of the subject.

    ....   a. b. c. d.

7. Only a very <u>imaginative</u> writer could write such a story.

    ....   a. b. c. d.

8. This house has belonged to the same family for five <u>successive</u> generations.

    ....   a. b. c. d.

9. After the floods in India the people suffered great <u>hardship</u>.

    ....   a. b. c. d.

10. He was very <u>sensible</u> of the delicate nature of the operation.

    ....   a. b. c. d.

11. It may be <u>practicable</u> in the future to generate electricity by sea power.

    ....-355-...   a. b. c. d.

12. In the dance both partners turned <u>alternately</u> right and left.

.... a. b. c. d.

13. If the wind is <u>favourable</u> we should be able to sail there in two days.

.... a. b. c. d.

14. He was fined for <u>adulterating</u> what he described as pure wine.

.... a. b. c. d.

15. The resignation of the favourite candidate put a new <u>complexion</u> on the

elections. .... a. b. c. d.

16. The <u>conformation</u> of the dancers on the floor was very original.

.... a. b. c. d.

17. Despite the skill of the prosecuting attorney the <u>defendant</u> was

acquitted of the charge.

.... a. b. c. d.

18. This is the most up-to-date <u>definitive</u> edition of Shakespeare's plays.

.... a. b. c. d.

19. They prayed for the <u>deliverance</u> from the epidemic.

.... a. b. c. d.

20. Throughout the emergency the passengers displayed remarkable <u>composure</u>.

.... a. b. c. d.

21. He used to be a <u>compulsive</u> smoker but managed to cure himself.

.... a. b. c. d.

22. Many children prefer playing with <u>constructional</u> toys.

.... a. b. c. d.

23. The President's wife was renowned for her <u>gracious</u> hospitality.

.... a. b. c. d.

Name ....   Test 7.A.

Mother Tongue ....

Translate the following words into Hebrew or paraphrase them in English.

1. live (adjective) ....   a. b. c. d.

2. beware ....   a. b. c. d.

3. rousing ....   a. b. c. d.

4. personnel ....   a. b. c. d.

5. quite ....   a. b. c. d.

6. coping ....   a. b. c. d.

7. emergence ....   a. b. c. d.

8. estate ....   a. b. c. d.

9. minster ....   a. b. c. d.

10. oppress ....   a. b. c. d.

11. equality ....   a. b. c. d.

12. essence ....   a. b. c. d.

13. acute ....   a. b. c. d.

14. data ....   a. b. c. d.

15. deify ....   a. b. c. d.

16. elate ....   a. b. c. d.

17. espy ....   a. b. c. d.

Name ....   Test 7.B.

Mother Tongue ....

Translate the underlined word in each sentence into Hebrew or paraphrase in English.

1. A teacher should have a live and attractive personality.

    ....   a. b. c. d.

2. The public are warned to beware of the danger of going too close to

    animals.   ....   a. b. c. d.

3. His speech got a rousing reception.

    ....   a. b. c. d.

4. Workers are reminded that individual safety checks must be carried

    out by all personnel.   ....   a. b. c. d.

5. The patient passed quite a peaceful night after the operation.

    ....   a. b. c. d.

6. The new secretary is coping very well.

    ....   a. b. c. d.

7. A serious situation has arisen with the emergence of a number of

    countries with nuclear weapons.

    ....   a. b. c. d.

8. He retired from business to an estate in the country.

    ....   a. b. c. d.

9. The city of York is renowned for its Minster.

    ....   a. b. c. d.

10. The aristocrats used to oppress the poor people.

    ....   a. b. c. d.

11. Is there any true <u>equality</u> in practice ?

....   a. b. c. d.

12. The two things are alike in outward form but different in <u>essence</u>.

....   a. b. c. d.

13. The balance of payments problem is <u>acute</u> for many countries today.

....   a. b. c. d.

14. Please get the <u>data</u> interpreted by tomorrow.

....   a. b. c. d.

15. There is a tendency to <u>deify</u> popular heroes of sport and music.

....   a. b. c. d.

16. He was <u>elated</u> by his success.

....   a. b. c. d.

17. The security authorities have failed to <u>espy</u> a secret agent.

....   a. b. c. d.

Name ....

Mother Tongue ....

Translate the following words into Hebrew or paraphrase them in English.

1. extent ....   a. b. c. d.

2. prize ....   a. b. c. d.

3. loose ....   a. b. c. d.

4. cart ....   a. b. c. d.

5. taught ....   a. b. c. d.

6. graceful ....   a. b. c. d.

7. reflect ....   a. b. c. d.

8. faithful ....   a. b. c. d.

9. contend ....   a. b. c. d.

10. pluck ....   a. b. c. d.

11. thrust ....   a. b. c. d.

12. petal ....   a. b. c. d.

Name ....   Test 8.B.

Mother Tongue ....

Translate the underlined word in each sentence into Hebrew or paraphrase
it in English.

1. The full <u>extent</u> of the damage was not clear until the ship had been

    examined.   ....   a. b. c. d.

2. He became well-known for his <u>prize</u>-winning book on psychology.

    ....   a. b. c. d.

3. The dog is too dangerous to be left <u>loose.</u>

    ....   a. b. c. d.

4. To put the <u>cart</u> before the horse means to do something the wrong way

    round.   ....   a. b. c. d.   .

5. He <u>taught</u> for thirty years before retiring.

    ....   a. b. c. d.

6. She made a <u>graceful</u> speech of thanks for all her birthday gifts.

    ....   a. b. c. d.

7. Before making a decision it can be useful to <u>reflect</u> first and think

    things over.   ....   a. b. c. d.

8. After he lost the election only a few <u>faithful</u> people stayed with him.

    ....   a. b. c. d.

9. Before accepting office she had to <u>contend</u> with strong opposition

    from her family.   ....   a. b. c. d.

10. Determination, hard work, and plenty of <u>pluck</u> will get you through

    successfully.   ....   a. b. c. d.

11. He has <u>thrust</u> himself into a well-paid position.

    ....   a. b. c. d.

12. The child destroyed the cyclamene <u>petal</u> by petal.

    ....   a. b. c. d.

Appendix 3

Synform Tests

Test 1.   synforms with similar roots, meaningful in English + different suffixes.

   2.   synforms with similar roots, meaningless in English + different suffixes.

   3.   synform a = synform b + suffix.

   4.   synforms with similar roots, meaningless in English + different prefixes.

   5.   synform a = synform b + prefix.

   6.   two synforms differing in one vowel.

   7.   synform a = synform b + one vowel.

   8.   two synforms differing in one consonant.

   9.   synform a = synform b + consonant.

   10.   synforms similar in consonants, different in vowels (more than one).

   11.   general test of synforms - 29 items, 2-3 from each category.

Each test has two versions:

   Test Version A - fill in; sentences.

   Test Version B - multiple choice; words in isolation.

Student ....

Mother Tongue ....

1. A.

In each sentence below a word is missing.   From the four alternatives
which follow each sentence, decide which word best fits that sentence.
Put a cross in the corresponding box.

1. He had acquired .... wealth
   by shrewd investments.

   a. ( ) considering
   b. ( ) considerable
   c. ( ) considerate
   d. ( ) combined

2. This land is private property
   and there is no .... except
   on business.

   a. ( ) admittance
   b. ( ) admission
   c. ( ) adhesion
   d. ( ) admonition

3. Only a very .... writer could
   write in such a beautiful way.

   a. ( ) imaginable
   b. ( ) imaginative
   c. ( ) imaginary
   d. ( ) impatient

4. This house has belonged to the same
   family for five .... generations.

   a. ( ) excessive
   b. ( ) successive
   d. ( ) successful
   d. ( ) extensive

5. Though at first sight rather ....,
   she had an attractive personality.

   a. ( ) homelike
   b. ( ) homely
   c. ( ) homeward
   d. ( ) holy

6. The President's wife was renowned
   for her .... hospitality.

   a. ( ) grateful
   b. ( ) graceful
   c. ( ) gracious
   d. ( ) graded

7. This is the most up-to-date
   .... edition of Shakespeare's
   plays.

   a. ( ) definitive
   b. ( ) definite
   c. ( ) defined
   d. ( ) defiant

8. The three men were given work
   according to their ....
   abilities.

   a. ( ) respectful
   b. ( ) respective
   c. ( ) respectable
   c. ( ) respected

9. After the floods in India the
   people suffered great ....

   a. ( ) hardiness
   b. ( ) hardship
   c. ( ) hardness
   d. ( ) hardihood

10. Any boss would be happy with
    .... workers.

    a. ( ) indulgent
    b. ( ) industrial
    c. ( ) inductive
    d. ( ) industrious

11. After .... search, the
    source of noise was discovered
    to be underneath the car.

    a. ( ) excluding
    b. ( ) exhausted
    c. ( ) exhaustive
    d. ( ) existent

12. He was very .... of the
    delicate nature of the operation.

    a. ( ) sensory
    b. ( ) sensible
    c. ( ) sensuous
    d. ( ) sensitive

13. If the wind is .... we
should be able to sail in
two days.

   a. ( ) faulty
   b. ( ) fatal
   c. ( ) favourite
   d. ( ) favourable

14. The trade-union leader made
.... speeches at the local
elections.

   a. ( ) inflammatory
   b. ( ) inflammable
   c. ( ) inflecting
   d. ( ) inflationary

15. .... of taxes is a
painful business.

   a. ( ) exactness
   b. ( ) exaltation
   c. ( ) exactitude
   d. ( ) exaction

16. He was fined for the ....
of what he described as pure
wine.

   a. ( ) adulteration
   b. ( ) adultery
   c. ( ) adulthood
   d. ( ) adulation

17. In some cases one suspects
that smoking a pipe is a
form of ....

   a. ( ) effect
   b. ( ) affection
   c. ( ) affectation
   d. ( ) effectiveness

18. Her study was a short but
..... account of the subject.

   a. ( ) confused
   b. ( ) comprehensive
   c. ( ) comprehensible
   d. ( ) compulsory

19. His spelling and punctuation
were .... but more often
wrong than right.

   a. ( ) erotic
   b. ( ) erroneous
   c. ( ) erratic
   d. ( ) rating

20. They prayed for .... from
the epidemic.

   a. ( ) delight
   b. ( ) deliverance
   c. ( ) delivery
   d. ( ) delusion

21. Throughout the emergency the
passengers displayed remarkable
....

   a. ( ) composition
   b. ( ) composer
   c. ( ) component
   d. ( ) composure

22. .... in manners became more
pronounced after the two world
wars.

   a. ( ) casualness
   b. ( ) casualty
   c. ( ) case
   d. ( ) causality

Student ....

Mother Tongue ....

1. B.

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. CONSIDERABLE

   a. ( ) taking into account
   b. ( ) a lot of
   c. ( ) thoughtful, kind
   d. ( ) put together

2. ADMITTANCE

   a. ( ) permission to enter
   b. ( ) fee for being admitted
   c. ( ) becoming attached
   d. ( ) warning

3. IMAGINATIVE

   a. ( ) that can be imagined
   b. ( ) having imagination
   c. ( ) existing only in mind, unreal
   d. ( ) having no patience

4. SUCCESSIVE

   a. ( ) extreme
   b. ( ) coming one after the other
   c. ( ) having success
   d. ( ) extending far

5. HOMELY

   a. ( ) like home
   b. ( ) simple
   c. ( ) towards home
   d. ( ) sacred

6. GRACIOUS

   a. ( ) showing gratitude
   b. ( ) having grace
   c. ( ) kind and agreeable
   d. ( ) arranged in grades

7. DEFINITIVE

   a. ( ) final
   b. ( ) not doubtful
   c. ( ) explained
   d. ( ) disobedient

8. RESPECTIVE

   a. ( ) showing respect to
   b. ( ) belonging to each of those in question
   c. ( ) having respect

9. HARDSHIP

   a. ( ) strength
   b. ( ) difficulty
   c. ( ) suffering
   d. ( ) boldness

10. INDUSTRIOUS

   a. ( ) inclined to satisfy desires
   b. ( ) related to trade and manufacture
   c. ( ) based on reasoning
   d. ( ) hard-working

11. EXHAUSTIVE

   a. ( ) not including
   b. ( ) very tired
   c. ( ) thorough
   d. ( ) actual

12. SENSIBLE

   a. ( ) of the senses
   b. ( ) reasonable, conscious
   c. ( ) appealing to the senses
   d. ( ) easily hurt

13. FAVOURABLE

   a. ( ) imperfect
   b. ( ) causing disaster
   c. ( ) helpful
   d. ( ) preferred above others

14. IMFLAMMATORY

   a. ( ) tending to make angry
   b. ( ) easily set on fire
   c. ( ) giving disease
   d. ( ) caused by inflation

15. EXACTION

    a. ( ) being free from error
    b. ( ) spiritual delight
    c. ( ) precision
    d. ( ) demanding payment

16. ADULTERATION

    a. ( ) making poorer in quality
    b. ( ) unfaithfulness to marriage
          vows
    c. ( ) maturity
    d. ( ) giving too much respect

17. AFFECTATION

    a. ( ) impression on someone
    b. ( ) kindly feeling
    c. ( ) unnatural behaviour
    d. ( ) producing the result
          intended.

18. COMPREHENSIVE

    a. ( ) unclear
    b. ( ) full
    c. ( ) that can be understood
    d. ( ) that must be done

19. ERRATIC

    a. ( ) of physical love
    b. ( ) incorrect
    c. ( ) irregular
    d. ( ) giving marks

20. DELIVERANCE

    a. ( ) pleasure
    b. ( ) rescue
    c. ( ) bringing letters,
          goods, etc.
    d. ( ) false opinion

21. COMPOSURE

    a. ( ) art of composing
    b. ( ) person who composes
          music
    c. ( ) part
    d. ( ) calmness

22. CASUALNESS

    a. ( ) informality
    b. ( ) person injured in an
          accident
    c. ( ) state of affairs
    d. ( ) relation of cause and
          effect

Student ....

Mother Tongue ....

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. Only people with .... of office work need apply for the position.

   a. ( ) expense
   b. ( ) experience
   c. ( ) experiment
   d. ( ) exhibition

2. The country's foreign .... is inconsistent with its aims and needs.

   a. ( ) politeness
   b. ( ) poll
   c. ( ) policy
   d. ( ) politics

3. The .... membership of the society was much smaller than we thought.

   a. ( ) effective
   b. ( ) efficient
   c. ( ) proficient
   d. ( ) defective

4. John was the chief .... of his uncle's will.

   a. ( ) benefactor
   b. ( ) beneficial
   c. ( ) benefaction
   d. ( ) beneficiary

5. She lost the game because her play was .... and full of mistakes.

   a. ( ) erroneous
   b. ( ) erratic
   c. ( ) ironic
   d. ( ) emphatic

6. This is a luxurious car with a .... interior.

   a. ( ) captious
   b. ( ) capacious
   c. ( ) capable
   d. ( ) capital

7. The missile crashed on launching due to .... instability.

   a. ( ) inherent
   b. ( ) inherited
   c. ( ) inhibited
   d. ( ) inhuman

8. The national .... revealed some surprising changes in population.

   a. ( ) certainty
   b. ( ) season
   c. ( ) censor
   d. ( ) census

9. The road leading up to the mountain town followed a .... route.

   a. ( ) circus
   b. ( ) circular
   c. ( ) circuitous
   d. ( ) citrus

10. All the military officials were present at the .... reception to celebrate the anniversary.

    a. ( ) civilian
    b. ( ) civic
    c. ( ) civil
    d. ( ) circle

11. Her happiness was .... when her father took her to Paris.

    a. ( ) consummated
    b. ( ) contemplated
    c. ( ) contracted
    d. ( ) consumed

12. A big international company is, in the legal sense, a .... body.

    a. ( ) corporal
    b. ( ) corporate
    c. ( ) choral
    d. ( ) coloured

13. Doctors expressed concern at the growing .... of small pox cases.

    a. ( ) incense
    b. ( ) incentive
    c. ( ) incident
    d. ( ) incidence

14. In business and politics he was almost .... because of his inexperience.

    a. ( ) creative
    b. ( ) credulous
    c. ( ) credible
    d. ( ) creature

15. He declared that the project was outside his official ....

    a. ( ) composition
    b. ( ) congruence
    c. ( ) competition
    d. ( ) competence

16. The businessman's .... was damaged because he was linked with bribery.

    a. ( ) integrity
    b. ( ) integer
    c. ( ) integration
    d. ( ) instruction

17. In poetry one cannot always place too .... an interpretation on the words.

    a. ( ) literate
    b. ( ) literary
    c. ( ) literal
    d. ( ) illiterate

18. The law was passed but .... members of the government voted against it.

    a. ( ) numb
    b. ( ) numerable
    c. ( ) numerical
    d. ( ) numerous

19. A .... city is one with the highest population density.

    a. ( ) popular
    b. ( ) populous
    c. ( ) polished
    d. ( ) posterior

20. Whenever she has a headache she sees her ....

    a. ( ) physician
    b. ( ) physicist
    c. ( ) phonetician
    d. ( ) physiologist

21. A public relations officer must be polite and ....

    a. ( ) sociological
    b. ( ) sociable
    c. ( ) social
    d. ( ) socialistic

22. You were .... warned by your doctor not to eat fat food.

    a. ( ) spaciously
    b. ( ) speechlessly
    c. ( ) specially
    d. ( ) specifically

23. As soon as financial compensation was mentioned their intentions stopped being unclear and became ....

    a. ( ) implicit
    b. ( ) explicit
    c. ( ) explicable
    d. ( ) exploited

24. He'll help you because he is a very .... kind of person.

    a. ( ) obliging
    b. ( ) obligatory
    c. ( ) oblique
    d. ( ) obsessed

25. No .... except man has ever been able to communicate in a language.

    a. ( ) primer
    b. ( ) primary
    c. ( ) primate
    d. ( ) prime

Student ....

Mother Tongue ....

2. B.

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. EXPERIENCE

    a. ( ) cost
    b. ( ) knowledge gained
    c. ( ) a carefully carried out test
    d. ( ) collection of things shown publicly

2. POLICY

    a. ( ) being polite
    b. ( ) survey
    c. ( ) statement of aims
    c. ( ) the art of government

3. EFFECTIVE

    a. ( ) actual or existing
    b. ( ) able to perform duties well
    c. ( ) expert
    d. ( ) incomplete

4. BENEFICIARY

    a. ( ) person who has given help
    b. ( ) having good effect
    c. ( ) doing good
    d. ( ) person who receives a benefit

5. ERRATIC

    a. ( ) incorrect
    b. ( ) irregular
    c. ( ) using irony
    d. ( ) stressed

6. CAPACIOUS

    a. ( ) finding faults
    b. ( ) able to hold a lot
    c. ( ) gifted, able
    d. ( ) wealth

7. INHERENT

    a. ( ) existing as a natural part of
    b. ( ) received as heir
    c. ( ) restrained
    d. ( ) not human

8. CENSUS

    a. ( ) having no doubt
    b. ( ) time of the year
    c. ( ) official with authority to examine books, films, etc.
    d. ( ) official counting of the population, of traffic, etc.

9. CIRCUITOUS

    a. ( ) space where number of streets meet
    b. ( ) round in shape
    c. ( ) going a long way round
    d. ( ) a kind of tree

10. CIVIC

    a. ( ) person not serving with the armed forces
    b. ( ) of the official life of a town
    c. ( ) of human society
    d. ( ) ring

11. CONSUMMATE

    a. ( ) make perfect
    b. ( ) look at
    c. ( ) get in touch
    d. ( ) use up

12. CORPORATE

    a. ( ) of the body
    b. ( ) united in one group
    c. ( ) sung by choir
    d. ( ) with colour

13. INCIDENCE

    a. ( ) substance producing a sweet smell
    b. ( ) that which rouses a person to do something
    c. ( ) event
    d. ( ) occurrence

14. CREDULOUS

    a. ( ) having power to create
    b. ( ) ready to believe things
    c. ( ) that can be believed
    d. ( ) person or animal

15. COMPETENCE

    a. ( ) that which is composed
    b. ( ) agreeing with
    c. ( ) activity in which people
           compete
    d. ( ) ability to do something

16. INTEGRITY

    a. ( ) being honest
    b. ( ) whole number
    c. ( ) combining parts into a
           whole
    d. ( ) direction

17. LITERAL

    a. ( ) able to read and write
    b. ( ) of literature or authors
    c. ( ) taking words in their
           obvious sense
    d. ( ) unable to read and write

18. NUMEROUS

    a. ( ) unable to move
    b. ( ) that can be numbered
    c. ( ) standing for a number
    d. ( ) very many

19. POPULOUS

    a. ( ) liked and admired
    b. ( ) densely inhabited
    c. ( ) smooth and shiny
    d. ( ) later in order

20. PHYSICIAN

    a. ( ) doctor of medicine
    b. ( ) expert on physics
    c. ( ) expert on phonetics
    d. ( ) expert on physiology

21. SOCIABLE

    a. ( ) of sociology
    b. ( ) fond of company of others
    c. ( ) of relations in society
    d. ( ) tending towards socialism

22. SPECIFIC

    a. ( ) roomy
    b. ( ) without speech
    c. ( ) of a particular sort
    d. ( ) detailed and precise

23. EXPLICIT

    a. ( ) suggested
    b. ( ) clear
    c. ( ) that can be explained
    d. ( ) used

24. OBLIGING

    a. ( ) willing to help
    b. ( ) necessary
    c. ( ) slanting
    d. ( ) having a fixed idea

25. PRIMATE

    a. ( ) first school textbook
    b. ( ) most important .
    c. ( ) one of the highest
           order of mammals
    d. ( ) state of highest
           perfection

Student ....

Mother Tongue ....

3. A.

In each sentence below a word is missing.   From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. The last literature exam included several questions on the Greek .... writers.

   a. ( ) comedian
   b. ( ) comic
   c. ( ) comical
   d. ( ) comfy

2. This is a ...... occasion; the first woman has returned from space.

   a. ( ) histrionic
   b. ( ) hysterical
   c. ( ) historical
   d. ( ) historic

3. I could give you reasons, but it wouldn't be .... to go into this matter at the moment.

   a. ( ) politic
   b. ( ) political
   c. ( ) polluted
   d. ( ) pompous

4. The critical .... in the struggle was the intervention of the army.

   a. ( ) fraction
   b. ( ) factor
   c. ( ) fact
   d. ( ) factory

5. Most major religions are divided into many minor ....

   a. ( ) securities
   b. ( ) secretaries
   c. ( ) sects
   d. ( ) sectors

6. Drug-smuggling between the two countries took place along the ....

   a. ( ) front
   b. ( ) frock
   c. ( ) frontier
   d. ( ) friend

7. Most vitamins are needed by the human body in .... quantities.

   a. ( ) infinitesimal
   b. ( ) infirm
   c. ( ) infinite
   d. ( ) infamous

8. Working hard for other people may seem like a form of economic ....

   a. ( ) boundary
   b. ( ) bond
   c. ( ) bondage
   d. ( ) board

9. Our .... is that people should be given equal opportunity to develop themselves.

   a. ( ) contest
   b. ( ) contention
   c. ( ) content
   d. ( ) context

10. This story sounds to me more like a .... exaggeration.

   a. ( ) famous
   b. ( ) fancy
   c. ( ) fanciful
   d. ( ) furious

11. Employees are required to lock all .... files.

   a. ( ) confused
   b. ( ) confidential
   c. ( ) confident
   d. ( ) conditional

12. Furniture may be stored in the .... for not more than 30 days.

   a. ( ) deposit
   b. ( ) depository
   c. ( ).depression
   d. ( ) direction

13. She was a very .... person, but gave little in return.

a. ( ) expert
b. ( ) exact
c. ( ) exacting
d. ( ) excusing

14. A number of valuable marble .... were stolen from the museum.

a. ( ) figs
b. ( ) figurines
c. ( ) figures
d. ( ) fights

15. Scientists have proved that falling objects gain ....

a. ( ) momentum
b. ( ) model
c. ( ) money
d. ( ) moment

16. The .... of his surroundings soon wore off.

a. ( ) novice
b. ( ) novel
c. ( ) novelty
d. ( ) notice

17. He always takes .... to what I say.

a. ( ) obligation
b. ( ) oblivion
c. ( ) objection
d. ( ) object

18. The two classes were separated by a thin ....

a. ( ) partition
b. ( ) participation
c. ( ) park
c. ( ) part

19. His property included houses, land and ....

a. ( ) paste
b. ( ) past
c. ( ) pasture
d. ( ) passage

20. He was regarded as a .... of the establishment.

a. ( ) pile
b. ( ) pillar
c. ( ) pill
d. ( ) poll

21. The pacifists were walking in .... through the streets.

a. ( ) procession
b. ( ) probation
c. ( ) process
d. ( ) procreation

22. The .... of missiles into space requires manpower and resources.

a. ( ) profession
b. ( ) projection
c. ( ) profile
d. ( ) project

23. Today everybody tries to be .... with time and energy.

a. ( ) ecumenical
b. ( ) careless
c. ( ) economic
d. ( ) economical

24. We had .... got into the country when it began to rain.

a. ( ) hard
b. ( ) hardly
c. ( ) hurriedly
d. ( ) herd

25. Every shooting season the family moves to their hunting .... in the Highlands.

a. ( ) lodging
b. ( ) lodge
c. ( ) luggage
d. ( ) lodger

Student ....

Mother Tongue ....

3. B.

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. COMIC

   a. ( ) person who behaves in an amusing way
   b. ( ) of comedy
   c. ( ) odd, amusing
   d. ( ) comfortable

2. HISTORIC

   a. ( ) theatrical
   b. ( ) suffering from hysteria
   c. ( ) belonging to history
   d. ( ) famous in history

3. POLITIC

   a. ( ) well judged
   b. ( ) of government
   c. ( ) made dirty
   d. ( ) full of self-importance

4. FACTOR

   a. ( ) small bit
   b. ( ) influence that has caused something
   c. ( ) something accepted as true, reality
   d. ( ) buildings where goods are made

5. SECT

   a. ( ) safety
   b. ( ) employee in an office
   c. ( ) group with special beliefs
   d. ( ) branch of industry, society, etc.

6. FRONTIER

   a. ( ) part where the fighting is taking place
   b. ( ) woman's dress
   c. ( ) border between two countries
   d. ( ) person whom one knows and likes

7. INFINITESIMAL

   a. ( ) very small
   b. ( ) weak
   c. ( ) endless
   d. ( ) shameful

8. BONDAGE

   a. ( ) limit
   b. ( ) link
   c. ( ) slavery
   d. ( ) piece of wood

9. CONTENTION

   a. ( ) competition
   b. ( ) argument
   c. ( ) being satisfied
   d. ( ) what comes before and after

10. FANCIFUL

    a. ( ) well-known
    b. ( ) not plain or ordinary
    c. ( ) unreal
    d. ( ) very angry

11. CONFIDENTIAL

    a. ( ) mixed up
    b. ( ) secret
    c. ( ) certain
    d. ( ) having confidence in

12. DEPOSITORY

    a. ( ) money that is deposited
    b. ( ) storehouse
    c. ( ) being depressed
    d. ( ) course

13. EXACTING

    a. ( ) skillful
    b. ( ) precise
    c. ( ) demanding
    d. ( ) forgiving

14. FIGURINE

    a. ( ) a kind of fruit
    b. ( ) small statue
    c. ( ) shape of body
    d. ( ) quarrel

15. MOMENTUM

    a. ( ) speed
    b. ( ) shape
    c. ( ) bank-notes
    d. ( ) period of time

16. NOVELTY

    a. ( ) person who is still
        learning
    b. ( ) story in prose
    c. ( ) strangeness
    d. ( ) warning

17. OBJECTION

    a. ( ) duty
    b. ( ) being forgotten
    c. ( ) disapproval
    d. ( ) material thing

18. PARTITION

    a. ( ) division
    b. ( ) having a share
    c. ( ) garden
    d. ( ) some but not all of
        a thing

19. PASTURE

    a. ( ) mixture for pastry
    b. ( ) time before the present
    c. ( ) grassland for cattle
    d. ( ) passing

20. PILLAR

    a. ( ) heap
    b. ( ) upright column
    c. ( ) tablet of medicine
    d. ( ) survey

21. PROCESSION

    a. ( ) number of people
        moving forward in an
        orderly way
    b. ( ) testing of a person's
        conduct
    c. ( ) connected series of actions,
        changes, etc.
    d. ( ) generating offsprings

22. PROJECTION

    a. ( ) occupation
    b. ( ) throwing
    c. ( ) side view
    d. ( ) plan for an undertaking

23. ECONOMICAL

    a. ( ) of the Christian world
    b. ( ) not careful
    c. ( ) connected with commerce,
        business, etc.
    d. ( ) not wasteful

24. HARDLY

    a. ( ) with effort
    b. ( ) only just
    c. ( ) in a hurry
    d. ( ) number of animals

25. LODGE

    a. ( ) rooms rented to live in
    b. ( ) country house for
        temporary use
    c. ( ) bags taken on a journey
    d. ( ) person paying for a room

Student ....

Mother Tongue ....

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. The .... of college diplomas will take place next week.

   a. ( ) attributing
   b. ( ) tribute
   c. ( ) contribution
   d. ( ) distribution

2. .... of oil increased when the prices fell.

   a. ( ) consumption
   b. ( ) presumption
   c. ( ) resumption
   d. ( ) assumption

3. I'd like to discuss the matter now, unless someone wishes to ....

   a. ( ) eject
   b. ( ) reject
   c. ( ) object
   d. ( ) subject

4. Candidates who wish to .... will be provided with the necessary forms.

   a. ( ) supply
   b. ( ) comply
   c. ( ) apply
   d. ( ) rely

5. The people were in a state of .... to the new regime.

   a. ( ) protection
   b. ( ) subjection
   c. ( ) projection
   d. ( ) abjection

6. Members of the committee must .... most of the meetings.

   a. ( ) contend
   b. ( ) extend
   c. ( ) attend
   d. ( ) intend

7. Although their first experiment failed they decided to .... with the same method.

   a. ( ) desist
   b. ( ) persist
   c. ( ) exist
   d. ( ) consist

8. After taking the medicine he felt .... relief.

   a. ( ) extant
   b. ( ) constant
   c. ( ) instant
   d. ( ) distant

9. Having lost six games in a row, the players were .... by a sense of failure.

   a. ( ) compressed
   b. ( ) suppressed
   c. ( ) repressed
   d. ( ) oppressed

10 How can we .... enough water to keep the reservoir full?

   a. ( ) obtain
   b. ( ) attain
   c. ( ) detain
   d. ( ) contain

11. Even though it was cold, the motor was still ....

   a. ( ) deficient
   b. ( ) efficient
   c. ( ) sufficient
   d. ( ) proficient

12. His knowledge of history is not good; it is very ....

   a. ( ) artificial
   b. ( ) superficial
   c. ( ) official
   d. ( ) unofficial

13. I didn't like him at first, but warmed towards him ....

    a. ( ) consequently
    b. ( ) eventfully
    c. ( ) subsequently
    d. ( ) obsequisly

14. The expensive nature of the house pointed to considerable ....

    a. ( ) affluence
    b. ( ) confluence
    c. ( ) influence
    d. ( ) eloquence

15. After a struggle the police managed to .... the leader of the group.

    a. ( ) reprehend
    b. ( ) reprimand
    c. ( ) apprehend
    d. ( ) comprehend

16. The authorship of Shakespeare's plays is sometimes .... to other writers.

    a. ( ) subscribed
    b. ( ) prescribed
    c. ( ) described
    d. ( ) ascribed

17. Young officers have to .... their loyalty to their country before graduating.

    a. ( ) inform
    b. ( ) infer
    c. ( ) affirm
    d. ( ) confirm

18. Nothing would .... the shy child to talk.

    a. ( ) reduce
    b. ( ) induce
    c. ( ) deduce
    d. ( ) produce

19. They .... their children not to experiment with drugs.

    a. ( ) explored
    b. ( ) deplored
    c. ( ) implored
    d. ( ) applauded

20. Although he was interested in politics he had no .... for political office.

    a. ( ) aspiration
    b. ( ) expiration
    c. ( ) inspiration
    d. ( ) aspersion

21. The human heart is divided into a number of ....

    a. ( ) departments
    b. ( ) compartments
    c. ( ) apartments
    d. ( ) particles

22. We cannot .... you the right to cross our land.

    a. ( ) recede
    b. ( ) concede
    c. ( ) precede
    d. ( ) accede

23. He was .... for exceeding the speed limit.

    a. ( ) persecuted
    b. ( ) executed
    c. ( ) prosecuted
    d. ( ) dessicated

24. No .... of examination fees is allowed.

    a. ( ) commission
    b. ( ) permission
    c. ( ) remission
    d. ( ) omission

25. This person seems like a .... client

    a. ( ) respective
    b. ( ) prospective
    c. ( ) perspective
    d. ( ) defective

Student ....

Mother Tongue ....

4. B.

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. DISTRIBUTION
   a. ( ) considering something as the quality of
   b. ( ) something done to show respect
   c. ( ) having a share in
   d. ( ) giving out

2. CONSUMPTION
   a. ( ) using up
   b. ( ) taking up
   c. ( ) taking for granted
   d. ( ) going on after stopping

3. OBJECT
   a. ( ) expel
   b. ( ) be opposed to
   c. ( ) throw away as not good enough
   d. ( ) bring under control

4. APPLY
   a. ( ) give, provide
   b. ( ) ask for
   c. ( ) act in accordance with
   d. ( ) look to for help

5. SUBJECTION
   a. ( ) keeping safe
   b. ( ) making plans for
   c. ( ) being under control
   d. ( ) being opposed to

6. ATTEND
   a. ( ) argue
   b. ( ) enlarge
   c. ( ) give thought to
   d. ( ) have in mind

7. PERSIST
   a. ( ) stop
   b. ( ) continue
   c. ( ) be real
   d. ( ) be made up of

8. INSTANT
   a. ( ) still in existence
   b. ( ) unchanging
   c. ( ) immediate
   d. ( ) reserved

9. OPPRESS
   a. ( ) condense
   b. ( ) force out of mind
   c. ( ) put an end to
   d. ( ) cause to feel troubled

10. OBTAIN
    a. ( ) get
    b. ( ) achieve
    c. ( ) keep back
    d. ( ) hold within itself

11. EFFICIENT
    a. ( ) not having enough
    b. ( ) producing a result
    c. ( ) enough
    d. ( ) skilled

12. SUPERFICIAL
    a. ( ) not natural
    b. ( ) not thorough
    c. ( ) done with authority
    d. ( ) done without authority

13. SUBSEQUENT
    a. ( ) following as a result
    b. ( ) full of events
    c. ( ) following
    d. ( ) showing excessive respect

14. AFFLUENCE
    a. ( ) wealth
    b. ( ) flowing together
    c. ( ) effect
    d. ( ) fluent speaking

15. APPREHEND

    a. ( ) rebuke
    b. ( ) tell off
    c. ( ) arrest
    d. ( ) include

16. ASCRIBE

    a. ( ) write at the foot of
           a document
    b. ( ) advise the use of
    c. ( ) give a picture of
           something in words
    d. ( ) consider as belonging to

17. AFFIRM

    a. ( ) give knowledge to
    b. ( ) conclude
    c. ( ) declare
    d. ( ) agree definitely to

18. INDUCE

    a. ( ) make less
    b. ( ) cause
    c. ( ) reach a conclusion
    d. ( ) create

19. IMPLORE

    a. ( ) examine thoroughly
    b. ( ) express regret
    c. ( ) request earnestly
    d. ( ) express approval of

20. ASPIRATION

    a. ( ) desire
    b. ( ) ending
    c. ( ) influence arousing creativity
    d. ( ) slander

21. COMPARTMENT

    a. ( ) a division of government,
           business, etc.
    b. ( ) a division of a structure
    c. ( ) flat
    d. ( ) smallest possible quantity

22. CONCEDE

    a. ( ) go back from an earlier
           position
    b. ( ) come or go before
    c. ( ) grant
    d. ( ) agree to something

23. PROSECUTE

    a. ( ) punish, treat cruelly
    b. ( ) start legal action against
    c. ( ) put to death
    d. ( ) dry out all the moisture
           from

24. REMISSION

    a. ( ) body of people with
           supreme authority
    b. ( ) act of allowing
    c. ( ) freeing from debt,
           punishment, etc.
    d. ( ) leaving out

25. PROSPECTIVE

    a. ( ) each of those in question
    b. ( ) who is one day to be
    c. ( ) relations between aspects
           of a problem
    d. ( ) imperfect

Student ....

Mother Tongue ....

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. People give to charity from feelings of ....

   a. ( ) patience
   b. ( ) passion
   c. ( ) compassion
   d. ( ) combination

2. Fearing a crash he .... himself for the shock.

   a. ( ) embarrassed
   b. ( ) embraced
   c. ( ) braced
   d. ( ) breathed

3. The new government .... the citizens to pay additional taxes.

   a. ( ) joined
   b. ( ) enjoined
   c. ( ) jailed
   d. ( ) endured

4. The U.N. appointed a special .... to report on hunger in Africa.

   a. ( ) commission
   b. ( ) commiseration
   c. ( ) mission
   d. ( ) mansion

5. The two courses of study are .... but not of the same length.

   a. ( ) occurring
   b. ( ) current
   c. ( ) concurrent
   d. ( ) carried

6. In the results of the research one factor seems to .... the others.

   a. ( ) compound
   b. ( ) confound
   c. ( ) found
   d. ( ) fund

7. A companion who is .... to you is very helpful on long journeys.

   a. ( ) congenital
   b. ( ) congenial
   c. ( ) genial
   d. ( ) general

8. Before his .... he remained active and retained all his faculties.

   a. ( ) decease
   b. ( ) cease
   c. ( ) seize
   d. ( ) decrease

9. Don't .... the value of money; it's better to have it than not to.

   a. ( ) deprive
   b. ( ) cry
   c. ( ) decry
   d. ( ) pry

10. If there is .... on payments the car can be repossessed by the dealer.

    a. ( ) default
    b. ( ) defeat
    c. ( ) fault
    d. ( ) fate

11. To .... a large army after a war is a complex operation.

    a. ( ) mobilize
    b. ( ) molest
    c. ( ) demonstrate
    d. ( ) demobilize

12. The new government will .... a number of industries and return them to their private owners.

    a. ( ) demobilize
    b. ( ) denationalize
    c. ( ) nationalize
    d. ( ) naturalize

13. In military operations one cannot .... the value of the unexpected.

   a. ( ) discount
   b. ( ) discover
   c. ( ) count
   d. ( ) cover

14. The members of Parliament voted whether to .... the budget or not.

   a. ( ) prove
   b. ( ) probe
   c. ( ) approve
   d. ( ) appease

15. He found himself without property as a result of many years of ....

   a. ( ) impertinence
   b. ( ) improvidence
   c. ( ) providence
   d. ( ) provision

16. .... of criminals can be a complex process because of differences in international law.

   a. ( ) extradition
   b. ( ) expedition
   c. ( ) tradition
   d. ( ) transition

17. It often pays to .... even when there seems little hope of success.

   a. ( ) severe
   b. ( ) persevere
   c. ( ) perceive
   d. ( ) secure

18. According to the laws of heredity certain human characteristics are ....

   a. ( ) determined
   b. ( ) predetermined
   c. ( ) preconceived
   d. ( ) dedicated

19. Rising costs in the medical services are penalizing the ....

   a. ( ) form
   b. ( ) firm
   c. ( ) infirm
   d. ( ) affirm

20. The steam engine .... the modern engines.

   a. ( ) dotes
   b. ( ) dates
   c. ( ) prescribes
   d. ( ) predates

21. He was .... as President by the army.

   a. ( ) exclaimed
   b. ( ) proclaimed
   c. ( ) claimed
   d. ( ) cleared

22. Nothing .... to the case must be published before the trial.

   a. ( ) judicial
   b. ( ) prejudicial
   c. ( ) prehistoric
   d. ( ) jovial

23. They found it impossible to .... themselves and settle in another country.

   a. ( ) rot
   b. ( ) root
   c. ( ) uproot
   d. ( ) upright

24. Do the job quietly; we do not want any .... which might cause alarm.

   a. ( ) commotion
   b. ( ) commutation
   c. ( ) motion
   d. ( ) mission

Student ....

Mother Tongue ....

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. COMPASSION

    a. ( ) power of enduring trouble
    b. ( ) strong feeling
    c. ( ) pity
    d. ( ) putting together

2. BRACE

    a. ( ) cause discomfort
    b. ( ) take into one's arms
    c. ( ) fasten tightly
    d. ( ) respire

3. ENJOIN

    a. ( ) put together
    b. ( ) command
    c. ( ) put in prison
    d. ( ) suffer

4. COMMISSION

    a. ( ) people given the duty to make an inquiry
    b. ( ) expression of sympathy
    c. ( ) special task
    d. ( ) large and stately house

5. CONCURRENT

    a. ( ) happening
    b. ( ) generally accepted
    c. ( ) happening together
    d. ( ) moved

6. CONFOUND

    a. ( ) put together
    b. ( ) confuse
    c. ( ) look for and get back
    d. ( ) supply

7. CONGENIAL

    a. ( ) belonging to one from birth
    b. ( ) having common interests
    c. ( ) sympathetic
    d. ( ) affecting all

8. DECEASE

    a. ( ) death
    b. ( ) stop
    c. ( ) taking
    d. ( ) becoming smaller

9. DECRY

    a. ( ) take away
    b. ( ) shout
    c. ( ) belittle
    d. ( ) inquire curiously

10. DEFAULT

    a. ( ) failure to pay a debt
    b. ( ) winning a victory over someone
    c. ( ) defect
    d. ( ) destiny

11. DEMOBILIZE

    a. ( ) collect together for service in war
    b. ( ) annoy intentially
    c. ( ) show
    d. ( ) release from military service

12. DENATIONALIZE

    a. ( ) release from military service
    b. ( ) transfer to ownership again
    c. ( ) transfer from private to state ownership
    d. ( ) give someone rights of citizenship

13. DISCOUNT

    a. ( ) refuse to believe
    b. ( ) find out
    c. ( ) say numbers in order
    d. ( ) protect

14. APPROVE

    a. ( ) supply proof of
    b. ( ) investigate
    c. ( ) agree to
    d. ( ) make calm

15. IMPROVIDENCE

    a. ( ) not showing proper respect
    b. ( ) wastefulness
    c. ( ) being careful
    d. ( ) preparation for future
           needs.

16. EXTRADITION

    a. ( ) handing over
    b. ( ) journey
    c. ( ) customs
    d. ( ) change from one condition
           to another

17. PERSEVERE

    a. ( ) strict
    b. ( ) continue
    c. ( ) become aware of
    d. ( ) make safe

18. PREDETERMINE

    a. ( ) decide
    b. ( ) decree beforehand
    c. ( ) form an idea in advance
    d. ( ) devote

19. INFIRM

    a. ( ) shape
    b. ( ) strong
    c. ( ) weak
    d. ( ) declare firmly

20. PREDATE

    a. ( ) show too much affection
    b. ( ) exist since
    c. ( ) order
    d. ( ) come before

21. PROCLAIM

    a. ( ) cry out
    b. ( ) make known publicly
    c. ( ) say that something is
           a fact
    d. ( ) make clear

22. PREJUDICIAL

    a. ( ) of justice
    b. ( ) causing injury
    c. ( ) before recorded history
    d. ( ) full of fun

23. UPROOT

    a. ( ) decay by process of nature
    b. ( ) send out roots
    c. ( ) pull up with roots
    d. ( ) honourable

24. COMMOTION

    a. ( ) noisy confusion
    b. ( ) reduced punishment
    c. ( ) manner of moving
    d. ( ) undertaking

Student ....

Mother Tongue ....

6. A.

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. The two competitors greeted each other with .... politeness.

   a. ( ) affected
   b. ( ) effected
   c. ( ) factual
   d. ( ) fixed

2. For all his efforts it was hard for him to .... to the situation.

   a. ( ) adapt
   b. ( ) adjure
   c. ( ) adopt
   d. ( ) adore

3. I can't accept your argument; there is a basic .... in it.

   a. ( ) flu
   b. ( ) fly
   c. ( ) flaw
   d. ( ) flow

4. The factory .... included fifteen workers.

   a. ( ) staff
   b. ( ) stiff
   c. ( ) stuff
   d. ( ) stove

5. John and Dick are very different; the former likes nature and the .... science.

   a. ( ) letter
   b. ( ) later
   c. ( ) latter
   d. ( ) late

6. On important matters, they take .... together.

   a. ( ) counsel
   b. ( ) council
   c. ( ) console
   d. ( ) conceal

7. This new technique will not last long; it's just a ....

   a. ( ) fade
   b. ( ) fad
   c. ( ) fee
   d. ( ) feed

8. Whatever he did to his hair he couldn't help becoming ....

   a. ( ) belt
   b. ( ) bald
   c. ( ) bold
   d. ( ) bolt

9. His work was highly .... by his employer.

   a. ( ) committed
   b. ( ) commanded
   c. ( ) commended
   d. ( ) commenced

10. He believed he was failing all the exams because of a .... laid on him.

   a. ( ) corpse
   b. ( ) course
   c. ( ) chorus
   d. ( ) curse

11. The dog .... the child; we could see the teeth-marks on his leg.

   a. ( ) beat
   b. ( ) bit
   c. ( ) bet
   d. ( ) bat

12. She .... on her grandson.

   a. ( ) doubts
   b. ( ) dotes
   c. ( ) dots
   d. ( ) dates

13. We didn't like the speaker because his speech was so ....

a. ( ) expiring
b. ( ) expeditious
c. ( ) expensive
d. ( ) expansive

14. He argued that he hadn't committed a ....

a. ( ) full
b. ( ) foul
c. ( ) fool
d. ( ) foil

15. The triple jump in modern athletics used to be called the ...., skip and jump.

a. ( ) hope
b. ( ) hop
c. ( ) heap
d. ( ) harp

16. I felt a sense of .... at not being considered for the job.

a. ( ) hat
b. ( ) heart
c. ( ) hurt
d. ( ) hut

17. In every known human society adults give .... to their children.

a. ( ) nurture
b. ( ) nature
c. ( ) nocturne
d. ( ) narration

18. Not only did she .... me; she behaved as though I wasn't there at all.

a. ( ) snoop
b. ( ) snooze
c. ( ) snob
d. ( ) snub

19. We are the .... owners of the business and we don't intend to sell.

a. ( ) sole
b. ( ) soil
c. ( ) solo
d. ( ) soul

20. ...., she used to smile when we met; now she ignores me.

a. ( ) fortunately
b. ( ) forcefully
c. ( ) formerly
d. ( ) formally

21. .... of money created a lot of problems for the family.

a. ( ) lark
b. ( ) lake
c. ( ) lack
d. ( ) luck

22. The fish swallowed the ....

a. ( ) bet
b. ( ) bait
c. ( ) bite
d. ( ) bat

23. If you publish that statement about us we'll sue you for ....

a. ( ) liable
b. ( ) libel
c. ( ) label
d. ( ) labial

24. Thousands came to watch the .... of the space shuttle.

a. ( ) leech
b. ( ) launch
c. ( ) lunch
d. ( ) lurch

Student ....

Mother Tongue ....

6. B.

Choose the alternative which means most nearly the same as the word(s)
in block letters, and put a cross in the corresponding box.

1. AFFECTED

    a. ( ) pretended
    b. ( ) accomplished
    c. ( ) concerned with facts
    d. ( ) unchanging

2. ADAPT

    a. ( ) adjust
    b. ( ) ask solemnly
    c. ( ) take into one's family
    b. ( ) admire

3. FLAW

    a. ( ) disease with fever and
          cold
    b. ( ) a kind of insect
    c. ( ) something that lessens the
          value
    d. ( ) smooth movement e.g. of
          water.

4. STAFF

    a. ( ) group of people working
          together
    b. ( ) not easily changed in
          shape
    c. ( ) material of which something
          is made
    d. ( ) apparatus used for warming
          rooms.

5. LATTER

    a. ( ) written message
    b. ( ) afterwards
    c. ( ) recent
    d. ( ) dead

6. COUNSEL

    a. ( ) advice
    b. ( ) group of people appointed
           to make rules
    c. ( ) bracket to support a shelf
    d. ( ) hide

7. FAD

    a. ( ) lose colour
    b. ( ) fashion
    c. ( ) charge
    d. ( ) give food ·

8. BALD

    a. ( ) strip or band
    b. ( ) having no hair
    c. ( ) without fear
    d. ( ) metal fastening for a door.

9. COMMEND

    a. ( ) bind oneself
    b. ( ) order
    c. ( ) praise
    d. ( ) begin

10. CURSE

    a. ( ) dead body
    b. ( ) series of lessons
    c. ( ) group of singers
    d. ( ) word calling for someone's
          punishment

11. BIT

    a. ( ) hit
    b. ( ) cut into with the teeth
    c. ( ) risk money
    d. ( ) mouse-like animal

12. DOTE

    a. ( ) feel uncertain
    b. ( ) show too much respect
    c. ( ) mark with dots
    d. ( ) go out

13. EXPANSIVE

    a. ( ) ending
    b. ( ) acting quickly
    c. ( ) highly priced
    d. ( ) extensive

14. FOUL

    a. ( ) filled
    b. ( ) something contrary to
         the rules
    c. ( ) a stupid person
    d. ( ) very thin metal

15. HOP

    a. ( ) feeling of trust and
         confidence
    b. ( ) short jump
    c. ( ) number of things piled
         up
    d. ( ) stringed musical instrument

16. HURT

    a. ( ) covering for the head
    b. ( ) part of the body which
         pumps blood
    c. ( ) injury, harm
    d. ( ) small house or shelter

17. NURTURE

    a. ( ) upbringing
    b. ( ) universe, world
    c. ( ) dreamy piece of music
    d. ( ) telling a story

18. SNUB

    a. ( ) pry into someone's life
    b. ( ) short sleep
    c. ( ) person who pays attention
         to position and wealth
    d. ( ) treat with contempt

19. SOLE

    a. ( ) only
    b. ( ) ground
    c. ( ) performance by one person
    d. ( ) spirit

20. FORMERLY

    a. ( ) luckily
    b. ( ) with force
    c. ( ) in an earlier period
    d. ( ) officially

21. LACK

    a. ( ) a kind of bird
    b. ( ) large area of water
    c. ( ) shortage
    d. ( ) fortune

22. BAIT

    a. ( ) agreement to risk money
    b. ( ) food made to catch prey
    c. ( ) cutting into with teeth
    d. ( ) mouse-like animal

23. LIBEL

    a. ( ) responsible
    b. ( ) statement that damages
         someone's reputation
    c. ( ) piece of paper that
         describes what something is
    d. ( ) of the lips

24. LAUNCH

    a. ( ) a kind of worm
    b. ( ) setting afloat
    c. ( ) meal taken in the middle
         of the day
    d. ( ) move with a change of weight
         to one side

Student ....

Mother Tongue ....

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. A teacher should have ....
    and attractive personality.

    a. ( ) a living
    b. ( ) alive
    c. ( ) a live
    d. ( ) lifelong

2. The balance of payments problem
    is .... for many countries
    today.

    a. ( ) active
    b. ( ) acute
    c. ( ) cute
    d. ( ) coat

3. The two things are alike in
    details but different in ....

    a. ( ) essence
    b. ( ) sense
    c. ( ) nonsense
    d. ( ) presence

4. The public are warned to ....
    of the danger of going too close
    to animals.

    a. ( ) be weary
    b. ( ) beware
    c. ( ) be aware
    d. ( ) bewail

5. International disputes have
    .... over who controls the
    minerals underneath in oceans.

    a. ( ) risen
    b. ( ) arisen
    c. ( ) arrested
    d. ( ) rose

6. Workers are reminded that
    individual safety checks must
    be carried out by all ....

    a. ( ) person
    b. ( ) personal
    c. ( ) personnel
    d. ( ) personality

7. The patient passed .... a
    peaceful night after the operation.

    a. ( ) quite
    b. ( ) quiet
    c. ( ) quit
    d. ( ) quote

8. The new secretary seems to be
    .... very well with the job.

    a. ( ) cooking
    b. ( ) coping
    c. ( ) copying
    d. ( ) cooling

9. His speech received ....
    reception.

    a. ( ) a rising
    b. ( ) a rousing
    c. ( ) arousing
    d. ( ) erasing

10. Please get the .... interpreted
    by tomorrow.

    a. ( ) data
    b. ( ) date
    c. ( ) diet
    c. ( ) debt

11. There is a tendency to ....
    popular heroes of sport and music.

    a. ( ) defy
    b. ( ) deny
    c. ( ) deify
    d. ( ) defeat

12. He was .... by his success.

    a. ( ) loathed
    b. ( ) elated
    c. ( ) late
    d. ( ) elite

13. A serious situation has developed
    with the .... of a number of
    countries with nuclear weapons.

    a. ( ) expense
    b. ( ) emergence
    c. ( ) emergency
    d. ( ) expectancy

14. He retired from business to his
    .... in the country.

    a. ( ) statue
    b. ( ) state
    c. ( ) esteem
    d. ( ) estate

15. Do you know all the ....
    in chess?

    a. ( ) mauve
    b. ( ) moves
    c. ( ) movies
    d. ( ) mavis

16. Architects all over the world admire
    York and its ....

    a. ( ) minster
    b. ( ) minstrel
    c. ( ) minister
    d. ( ) miser

17. The aristocrats used to ....
    the poor people.

    a. ( ) oppress
    b. ( ) operate
    c. ( ) press
    d. ( ) prize

18. Is there in practice any true
    .... between people?

    a. ( ) quantity
    b. ( ) quality
    c. ( ) equality
    d. ( ) equipment

Student ....

Mother Tongue ....

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. A LIVE PERSON

   a. ( ) a living person
   b. ( ) a person who is alive
   c. ( ) a person full of life
   d. ( ) continuing for a long time

2. ACUTE

   a. ( ) doing things
   b. ( ) sharp
   c. ( ) charming
   d. ( ) cover

3. ESSENCE

   a. ( ) most important quality
          of a thing
   b. ( ) what the thing means
   c. ( ) meaningless words
   d. ( ) being present

4. BEWARE

   a. ( ) be tired
   b. ( ) be careful
   c. ( ) have knowledge
   d. ( ) express sorrow over

5. ARISE

   a. ( ) get up
   b. ( ) come into existence
   c. ( ) seize by the authority of law
   d. ( ) reach a higher position

6. PERSONNEL

   a. ( ) human being
   b. ( ) private, individual
   c. ( ) people employed in any work
   d. ( ) qualities that make up a
          person's character

7. QUITE

   a. ( ) relatively
   b. ( ) not noisy
   c. ( ) left
   d. ( ) repeat words used by another

8. COPING

   a. ( ) making food
   b. ( ) managing
   c. ( ) reproducing
   d. ( ) making cool

9. A ROUSING RECEPTION

   a. ( ) an increasing reception
   b. ( ) an enthusiastic reception
   c. ( ) a reception that woke
          people up
   d. ( ) a reception that rubbed
          all out

10. DATA

    a. ( ) things certainly known
    b. ( ) day of the calendar
    c. ( ) sort of food usually eaten
    d. ( ) payment owed

11. DEIFY

    a. ( ) resist
    b. ( ) say that something is not true
    c. ( ) make into gods
    d. ( ) overcome

12. ELATE

    a. ( ) hate
    b. ( ) make high-spirited
    c. ( ) opposite of early
    d. ( ) the best

13. EMERGENCE

    a. ( ) spending money
    b. ( ) making an appearance
    c. ( ) situation of crisis
    d. ( ) the state of expecting

14. ESTATE

    a. ( ) figure of a person in
           wood, stone etc.
    b. ( ) situation
    c. ( ) high regard
    d. ( ) piece of property

15. MOVES

    a. ( ) pale purple
    b. ( ) changes of place
    c. ( ) the cinema
    d. ( ) song-thrush

16. MINSTER

    a. ( ) large church
    b. ( ) travelling composer
    c. ( ) person in the government
    d. ( ) person who spends as little as possible

17. OPPRESS

    a. ( ) rule cruelly
    b. ( ) be in action
    c. ( ) push against
    d. ( ) value highly

18. EQUALITY

    a. ( ) amount
    b. ( ) worth
    c. ( ) being the same
    d. ( ) things needed for a purpose

Student ....

Mother Tongue ....

8. A.

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. The full .... of the damage was not clear until the ship had been

    a. ( ) extension
    b. ( ) extend
    c. ( ) extent
    d. ( ) extract

2. He became well-known for his ....-winning book on cancer.

    a. ( ) price
    b. ( ) prize
    c. ( ) priest
    d. ( ) press

3. Before making a decision it can be useful to .... first.

    a. ( ) reflect
    b. ( ) reflex
    c. ( ) inflect
    d. ( ) flex

4. After he lost the election only a few .... people stayed with him.

    a. ( ) faulty
    b. ( ) fatal
    c. ( ) fateful
    d. ( ) faithful

5. The dog is too dangerous to be left ....

    a. ( ) loss
    b. ( ) loose
    c. ( ) lose
    d. ( ) lass

6. To put the .... before the horse means to do something the wrong way round.

    a. ( ) card
    b. ( ) cord
    c. ( ) cart
    d. ( ) court

7. Before accepting office she had to .... with strong opposition from her family.

    a. ( ) content
    b. ( ) contend
    c. ( ) consume
    d. ( ) context

8. He .... children for thirty years before retiring.

    a. ( ) tasted
    b. ( ) thought
    c. ( ) taught
    d. ( ) fraud

9. There's another .... I want to ask you.

    a. ( ) thing
    b. ( ) think
    c. ( ) sink
    d. ( ) sing

10. The cook .... the gravy.

    a. ( ) sickened
    b. ( ) tickled
    c. ( ) thickened
    d. ( ) tinkered

11. He was disappointed because his photographs came out ....

    a. ( ) fussy
    b. ( ) fuzzy
    c. ( ) fusty
    d. ( ) foxy

12. .... what I do and how I do it.

    a. ( ) wish
    b. ( ) watch
    c. ( ) wash
    d. ( ) witch

13. If help does not come, we must
.... to the end.

    a. ( ) injure
    b. ( ) inject
    c. ( ) endure
    d. ( ) endue

14. She made a .... speech of thanks
    for all her birthday gifts.

    a. ( ) graceful
    b. ( ) grateful
    c. (·) grave
    d. ( ) graded

15. He has .... himself into a well-
    paid position.

    a. ( ) thought
    b. ( ) thrust
    c. ( ) trusted
    d. ( ) tried

16. If you want to watch the programme
    .... in the TV.

    a. ( ) plug
    b. ( ) pluck
    c. ( ) plague
    d. ( ) plead

17. The child destroyed all the ....
    of the flower.

    a. ( ) pedals
    b. ( ) petals
    c. ( ) pedlars
    d. ( ) pets

18. In his defence, the thief decided to
    .... poverty.

    a. ( ) plead
    b. ( ) bleed.
    c. ( ) blurred
    d. ( ) pleat

Student ....

Mother Tongue ....

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. EXTENT

    a. ( ) additional part
    b. ( ) make longer
    c. ( ) range
    d. ( ) that which has been taken out

2. PRIZE

    a. ( ) value
    b. ( ) award
    c. ( ) clergyman
    d. ( ) pressure

3. REFLECT

    a. ( ) think
    b. ( ) action independent of the will
    c. ( ) change the form of a word
    d. ( ) bend

4. FAITHFUL

    a. ( ) having a fault
    b. ( ) causing death
    c. ( ) controlled by fate
    d. ( ) loyal and true

5. LOOSE

    a. ( ) being lost
    b. ( ) not tied up
    c. ( ) have no longer
    d. ( ) girl

6. CART

    a. ( ) piece of paper with a person's name, greeting, etc.
    b. ( ) thick string
    c. ( ) a kind of carriage
    d. ( ) place where lawcases are heard

7. CONTEND

    a. ( ) satisfy
    b. ( ) struggle
    c. ( ) use up
    d. ( ) what comes before and after

8. TAUGHT

    a. ( ) was aware of the taste
    b. ( ) was of opinion
    c. ( ) gave instruction
    d. ( ) deception

9. THING

    a. ( ) subject
    b. ( ) have an opinion
    c. ( ) basin under water-taps
    d. ( ) make musical sounds with the voice

10. THICKEN

    a. ( ) feel disgusted
    b. ( ) cause an itching sensation
    c. ( ) make less liquid
    d. ( ) repaired in an inexpert way

11. FUZZY

    a. ( ) full of nervous excitment
    b. ( ) indistinct in shape
    c. ( ) stale-smelling
    d. ( ) crafty

12. WATCH

    a. ( ) have a desire
    b. ( ) look at
    c. ( ) make clean
    d. ( ) woman said to use magic

13. ENDURE

    a. ( ) hurt
    b. ( ) fill with liquid
    c. ( ) suffer
    d. ( ) supply

14. GRACEFUL

    a. ( ) pleasant and attractive
    b. ( ) showing thanks
    c. ( ) serious
    d. ( ) arranged in grades

15. THRUST

    a. ( ) have an opinion
    b. ( ) push forward
    c. ( ) have confidence in
    d. ( ) attempt

16. PLUG IN

    a. ( ) make connection with
    b. ( ) pull, pick
    c. ( ) cause of trouble
    d. ( ) ask earnestly

17. PETAL

    a. ( ) part of a machine worked by feet
    b. ( ) the leaf-like division of a flower
    c. ( ) person who peddles small articles
    d. ( ) animal treated with affection

18. PLEAD

    a. ( ) offer as an explanation
    b. ( ) lose blood
    c. ( ) unclear
    d. ( ) make pleats

Student ....

Mother Tongue .... | 9. A.

In each sentence below a word is missing.   From the four alternatives which
follow each sentence, decide which word best fits that sentence.   Put a
cross in the corresponding box.

1. He was not used to ....
    procedure in the U.S.

    a. ( ) costume
    b. ( ) custom
    c. ( ) customs
    d. ( ) custard

2. He says he was .... of his
    responsibilities and would do his
    best to discharge them.

    a. ( ) conscious
    b. ( ) conscience
    c. ( ) consensus
    d. ( ) consequent

3. The flights of Columbia are part
    of a new .... in space travel.

    a. ( ) face
    b. ( ) phase
    c. ( ) phrase
    d. ( ) freeze

4. Since robots can .... many of the
    activities of human beings, they
    often replace people at work.

    a. ( ) simulate
    b. ( ) silhouette
    c. ( ) stimulate
    d. ( ) stipulate

5. He was famous for his .... to
    long speeches and strong drink.

    a. ( ) diction
    b. ( ) addiction
    c. ( ) edition
    d. ( ) addition

6. Parliament passed this .... over
    a hundred years ago.

    a. ( ) state
    b. ( ) status
    c. ( ) statute
    d. ( ) statue

7. If you .... the law, you might
    find yourself in jail.

    a. ( ) define
    b. ( ) defy
    c. ( ) defile
    d. ( ) defer

8. It is highly debatable that the
    end always justifies the ....

    a. ( ) main
    b. ( ) means
    c. ( ) mean
    d. ( ) mine

9. Complete secrecy was .... on all
    the judges.

    a. ( ) endured
    b. ( ) enjoined
    c. ( ) enjoyed
    d. ( ) engine

10. Many religious people believe in
    .... life.

    a. ( ) eternal
    b. ( ) evasive
    c. ( ) internal
    d. ( ) external

11. A social .... is determined by
    the members of that community.

    a. ( ) ether
    b. ( ) essay
    c. ( ) ethnic
    d. ( ) ethic

12. His answers to my questions were
    all ....

    a. ( ) evasions
    b. ( ) invasions
    c. ( ) evaluations
    d. ( ) inflations

13. New designs of small personal
    computers have already begun
    to ....

    a. ( ) revolve
    b. ( ) evolve
    c. ( ) involve
    d. ( ) invoke

14. The substance can be ground into
    a fine .... and dissolved in
    water.

    a. ( ) pour
    b. ( ) power
    c. ( ) powder
    d. ( ) purr

15. With no good reason he had a
    sudden .... of danger.

    a. ( ) prevision
    b. ( ) revision
    c. ( ) reverse
    d. ( ) pretension

16. He slipped from a .... while
    climbing and hurt his leg.

    a. ( ) sledge
    b. ( ) pledge
    c. ( ) ledge
    d. ( ) ledger

17. If this cut is not cleaned soon
    it is likely to become ....

    a. ( ) septic
    b. ( ) setting
    c. ( ) sceptic
    d. ( ) scenic

18. As an example of this process
    you will see that the gas ignites
    a few .... later.

    a. ( ) insides
    b. ( ) insights
    c. ( ) instants
    d. ( ) instance

19. The most .... moment in the
    play was the final scene.

    a. ( ) clearing
    b. ( ) climatic
    c. ( ) climactic
    d. ( ) clinical

20. He won the tennis championship
    mainly by superior play at the
    ....

    a. ( ) net
    b. ( ) nest
    c. ( ) neat
    d. ( ) nut

21. The nuclear arms .... is exciting
    public opinion in Europe and America.

    a. ( ) content
    b. ( ) contest
    c. ( ) context
    d. ( ) contempt

22. To reduce the price of exports
    .... of the currency may be
    necessary.

    a. ( ) devaluation
    b. ( ) deviation
    c. ( ) evaluation
    d. ( ) evolution

23. In the .... it was decided to
    create a new rocket system.

    a. ( ) evict
    b. ( ) event
    c. ( ) invent
    d. ( ) intend

Choose the alternative which means most nearly the same as the word(s) in block letters, and put a cross in the corresponding box.

1. CUSTOMS

    a. ( ) style of dress
    b. ( ) habit
    c. ( ) import tax
    d. ( ) kind of sweet dish

2. CONSCIOUS

    a. ( ) aware
    b. ( ) awareness of the choice between good and bad
    c. ( ) common agreement
    d. ( ) following as a result

3. PHASE

    a. ( ) the front part of the head
    b. ( ) stage of development
    c. ( ) group of words
    d. ( ) turning of water into ice

4. SIMULATE

    a. ( ) pretend to have
    b. ( ) outline
    c. ( ) excite
    d. ( ) insist upon

5. ADDICTION

    a. ( ) style of speaking or writing
    b. ( ) being given up to a habit
    c. ( ) form in which a book is published
    d. ( ) process of adding

6. STATUTE

    a. ( ) condition
    b. ( ) person's position
    c. ( ) law passed by a law-making body
    d. ( ) figure of a person in wood, stone, etc.

7. DEFY

    a. ( ) explain the meaning of
    b. ( ) resist openly
    c. ( ) make dirty
    d. ( ) give way

8. MEANS

    a. ( ) most important
    b. ( ) method
    c. ( ) the middle between two extremes
    d. ( ) belonging to me

9. ENJOIN

    a. ( ) suffer
    b. ( ) command
    c. ( ) get pleasure from
    d. ( ) machine that produces power

10. ETERNAL

    a. ( ) lasting forever
    b. ( ) trying to evade
    c. ( ) of inside
    d. ( ) of outside

11. ETHIC

    a. ( ) liquid used as anaesthetic
    b. ( ) piece of writing
    c. ( ) of the races of mankind
    d. ( ) system of moral principles

12. EVASION

    a. ( ) finding a way of not doing something
    b. ( ) entering a country with armed forces
    c. ( ) deciding on value
    d. ( ) filling something with air

13. EVOLVE

    a. ( ) go round in circle
    b. ( ) develop
    c. ( ) mixed up in something
    d. ( ) request earnestly

14. POWDER

    a. ( ) flow in a continuous
          stream
    b. ( ) strength
    c. ( ) substance that has been
          crushed to dust
    d. ( ) make a vibrating sound

15. PREVISION

    a. ( ) foresight
    b. ( ) correction version
    c. ( ) opposite
    d. ( ) claim

16. LEDGE

    a. ( ) vehicle used on snow
    b. ( ) agreement, promise
    c. ( ) narrow shelf
    d. ( ) book in which accounts
          are kept

17. SEPTIC

    a. ( ) causing infection
    b. ( ) environment
    c. ( ) person who tends not
          to believe
    d. ( ) of scenery

18. INSTANTS

    a. ( ) inner sides
    b. ( ) seeing with the mind
    c. ( ) moments
    d. ( ) example

19. CLIMACTIC

    a. ( ) making clear
    b. ( ) of climate
    c. ( ) of climax
    d. ( ) of clinic

20. NET

    a. ( ) material of knotted string
    b. ( ) place made by a bird for
          its eggs
    c. ( ) tidy
    d. ( ) kind of fruit

21. CONTEST

    a. ( ) substance
    b. ( ) competition
    c. ( ) what comes before and after
    d. ( ) despising

22. DEVALUATION

    a. ( ) making the value less
    b. ( ) turning away
    c. ( ) finding out the value
    d. ( ) development

23. EVENT

    a. ( ) throw out
    b. ( ) happening
    c. ( ) create something new
    d. ( ) have intention

Student ....

Mother Tongue ....

10.A.

In each sentence below a word is missing. From the four alternatives
which follow each sentence, decide which word best fits that sentence.
Put a cross in the corresponding box.

1. The characters in the play
    were too .... to be
    interesting.

    a. ( ) ingrained
    b. ( ) ingenious
    c. ( ) ingenuous
    d. ( ) infectious

2. It is hard to discuss politics
    without personal ....

    a. ( ) base
    b. ( ) basis
    c. ( ) bias
    d. ( ) bathe

3. They criticised our terms but
    failed to ..... an alternative.

    a. ( ) propose
    b. ( ) purpose
    c. ( ) prose
    d. ( ) purse

4. Students over thirty years of age
    are not .... for these
    scholarships.

    a. ( ) eligible
    b. ( ) legible
    c. ( ) legislated
    d. ( ) elevated

5. He had to accept any job he could
    get, even the most .... ones.

    a. ( ) manual
    b. ( ) menial
    c. ( ) main
    d. ( ) medium

6. He did not mean to be rude; he was
    .... trying to mind his own
    business.

    a. ( ) markedly
    b. ( ) merely
    c. ( ) merrily
    d. ( ) meagerly

7. Not many candidates turned up;
    therefore anyone .... was
    accepted for the job.

    a. ( ) available
    b. ( ) valuable
    c. ( ) veiled
    d. ( ) avoidable

8. He tried to .... the fact that
    he was poor.

    a. ( ) council
    b. ( ) cancel
    c. ( ) conceal
    d. ( ) cancer

9. The local .... employed sixty
    workers.

    a. ( ) dainty
    b. ( ) deary
    c. ( ) dairy
    d. ( ) diary

10. The ink has .... on the desk.

    a. ( ) spilt
    b. ( ) split
    c. ( ) spelled
    d. ( ) spoiled

11. They .... other teams to reach
    the Cup Final.

    a. ( ) illuminated
    b. ( ) eliminated
    c. ( ) illustrated
    d. ( ) elevated

12. He held her to him and ....
    her warmly.

    a. ( ) engrossed
    b. ( ) engraved
    c. ( ) embraced
    d. ( ) embarrassed

13. .... of currency restrictions
    is considered a criminal offence.

    a. ( ) deface
    b. ( ) defiance
    c. ( ) defence
    d. ( ) fence ·

14. Mention of sex and ....
    were taboo in Victorian literature.

    a. ( ) exercise
    b. ( ) excursion
    c. ( ) excretion
    d. ( ) expectation

15. Saving the life of an enemy
    in distress in particularly
    ....

    a. ( ) humourous
    b. ( ) humid
    c. ( ) human
    d. ( ) humane

16. Something must be done to raise
    the .... of these troops
    after defeat.

    a. ( ) morale
    b. ( ) moral
    c. ( ) mural
    d. ( ) more

17. Candidates are required to write
    a .... of this text in no more
    than one third of its length.

    a. ( ) précis
    b. ( ) precise
    c. ( ) precious
    d. ( ) press

18. I don't like my boss, so here's my
    notice to ....

    a. ( ) quiet
    b. ( ) quite
    c. ( ) quit
    d. ( ) quiz

19. His appearance was deceptively mild
    because he had a .... temper.

    a. ( ) fairy
    b. ( ) fiery
    c. ( ) fair
    d. ( ) far

Student ....

Mother Tongue ....

10.B.

Choose the alternative which means most nearly the same as the word(s) in block letters and put a cross in the corresponding box.

1. INGENIOUS

   a. ( ) deeply fixed
   b. ( ) clever and skillful
   c. ( ) innocent
   d. ( ) spreading disease

2. BIAS

   a. ( ) place where armed forces
       have their tents, stores, etc.

   b. ( ) foundation
   c. ( ) prejudice
   d. ( ) put in water

3. PROPOSE

   a. ( ) suggest
   b. ( ) aim
   c. ( ) language not in verse form
   d. ( ) small bag

4. ELIGIBLE

   a. ( ) suitable
   b. ( ) readable
   c. ( ) made laws
   d. ( ) raised

5. MENIAL

   a. ( ) done with the hands
   b. ( ) suitable for a servant
   c. ( ) principal
   d. ( ) middle quality

6. MERELY

   a. ( ) clearly
   b. ( ) only
   c. ( ) happily
   d. ( ) poorly

7. AVAILABLE

   a. ( ) that may be obtained
   b. ( ) of great worth or use
   c. ( ) covered
   d. ( ) that can be escaped

8. CONCEAL

   a. ( ) group of people appointed
       to manage affairs
   b. ( ) cross out
   c. ( ) hide
   d. ( ) disease growth in the body

9. DAIRY

   a. ( ) delicate
   b. ( ) darling
   c. ( ) building where milk products
       are made
   d. ( ) daily record of events

10. SPLIT

   a. ( ) ran over the side of the
       container
   b. ( ) broke into two
   c. ( ) named the letters of a word
   d. ( ) made useless

11. ELIMINATE

   a. ( ) give light to
   b. ( ) remove
   c. ( ) explain by examples
   d. ( ) raise

12. EMBRACE

   a. ( ) write in large letters
   b. ( ) cut words on a hard surface
   c. ( ) take into one's arms
   d. ( ) cause confusion

13. DEFIANCE

   a. ( ) spoil the appearance
   b. ( ) open disobedience
   c. ( ) protection
   d. ( ) wooden barrier

14. EXCRETION

   a. ( ) practice
   b. ( ) short journey
   c. ( ) discharge from the system
   d. ( ) awaiting

15. HUMANE

    a. ( ) funny
    b. ( ) damp
    c. ( ) of man
    d. ( ) kind-hearted

16. MORALE

    a. ( ) state of mind and spirit
    b. ( ) concerning principles of
        right and wrong
    c. ( ) of a wall
    d. ( ) greater in quantity

17. PRÉCIS

    a. ( ) restatement in shortened form
        of the chief ideas
    b. ( ) exact, correctly stated
    c. ( ) of great value
    d. ( ) the newspapers

18. QUIT

    a. ( ) not noisy
    b. ( ) relatively
    c. ( ) leave
    d. ( ) test

19. FIERY

    a. ( ) small imaginary being with
        supernatural powers
    b. ( ) flaming
    c. ( ) just
    d. ( ) distant

Student ....

Mother Tongue ....

11.A.

In each sentence below a word is missing. From the four alternatives which follow each sentence, decide which word best fits that sentence. Put a cross in the corresponding box.

1. This house has belonged to the same family for five .... generations.

   a. ( ) excessive
   b. ( ) successive
   c. ( ) successful
   d. ( ) extensive

2. The President's wife was renowned for her .... hospitality.

   a. ( ) grateful
   b. ( ) graceful
   c. ( ) gracious
   d. ( ) graded

3. The three men were given work according to their .... abilities.

   a. ( ) respectful
   b. ( ) respective
   c. ( ) respectable
   d. ( ) respected

4. Today everybody tries to be .... with time and energy.

   a. ( ) ecumenical
   b. ( ) careless
   c. ( ) economic
   d. ( ) economical

5. The .... of missiles into space requires manpower and resources.

   a. ( ) profession
   b. ( ) projection
   c. ( ) profile
   d. ( ) project

6. A number of valuable marble .... were stolen from the museum.

   a. ( ) figs
   b. ( ) figurines
   c. ( ) figures
   d. ( ) fights

7. The road leading up to the mountain town followed a .... route.

   a. ( ) circus
   b. ( ) circular
   c. ( ) circuitous
   d. ( ) citrus

8. In poetry one cannot always place too .... an interpretation on the words.

   a. ( ) literate
   b. ( ) literary
   c. ( ) literal
   d. ( ) illiterate

9. You were .... warned by your doctor not to eat fat food.

   a. ( ) spaciously
   b. ( ) speechlessly
   c. ( ) specially
   d. ( ) specifically

10. Having lost six games, the players were .... by a sense of failure.

    a. ( ) compressed
    b. ( ) suppressed
    c. ( ) repressed
    d. ( ) oppressed

11. I didn't like him at first, but warmed towards him ....

    a. ( ) consequently
    b. ( ) eventfully
    c. ( ) subsequently
    d. ( ) obsequisly

12. This person seems like a .... client.

    a. ( ) respective
    b. ( ) prospective
    c. ( ) perspective
    d. ( ) defective

13. The U.N. appointed a special
.... report on hunger in
Africa.

a. ( ) commission
b. ( ) commiseration
c. ( ) mission
d. ( ) mansion

14. If there is a .... on payments
the car can be repossessed by the
dealer.

a. ( ) default
b. ( ) defeat
c. ( ) fault
d. ( ) fate

15. According to the laws of heredity
certain human characteristics are
....

a. ( ) determined
b. ( ) predetermined
c. ( ) preconceived
d. ( ) dedicated

16. For all his efforts it was hard for
him to .... to the situation.

a. ( ) adapt
b. ( ) adjure
c. ( ) adopt
d. ( ) adore

17. The factory .... included fifteen
workers.

a. ( ) staff
b. ( ) stiff
c. ( ) stuff
d. ( ) stove

18. On important matters, they take
their .... together.

a. ( ) counsel
b. ( ) council
c. ( ) console
d. ( ) conceal

19. The public are warned to ....
of the danger of going close
to animals.

a. ( ) be weary
b. ( ) beware
c. ( ) be aware
d. ( ) bewail

20. His speech received ......
reception.

a. ( ) a rising
b. ( ) a rousing
c. ( ) arousing
d. ( ) erasing

21. A serious situation has developed
with the .... of countries with
nuclear weapons.

a. ( ) expense
b. ( ) emergence
c. ( ) emergency
d. ( ) expectancy

22. After he lost the election only a
few .... people stayed with him.

a. ( ) faulty
b. ( ) fatal
c. ( ) fateful
d. ( ) faithful

23. The dog is too dangerous to be
left ....

a. ( ) loss
b. ( ) loose
c. ( ) lose
d. ( ) lass

24. He was .... of his responsibilities
and did his best to discharge them.

a. ( ) conscious
b. ( ) conscience
c. ( ) consensus
d. ( ) consequent

25. It is highly debatable that the end
always justifies the ....

a. ( ) main
b. ( ) means
c. ( ) mean
d. ( ) mine

26. Complete secrecy was ...... on
the judges.

a. ( ) endured
b. ( ) enjoined
c. ( ) enjoyed
d. ( ) engine

27. It is hard to discuss politics
without personal ....

a. ( ) base
b. ( ) basis
c. ( ) bias
d. ( ) bathe

28. The characters in the play were too
    .... to be interesting.

    a. ( ) ingrained
    b. ( ) ingenious
    c. ( ) infenuous
    d. ( ) infectious

29. Saving the life of an enemy in distress
    is particularly ....

    a. ( ) humourous
    b. ( ) humid
    c. ( ) human
    d. ( ) humane

Student ....

Mother Tongue ....

11.B.

Choose the alternative which means most nearly the same as the word(s)
in block letters, and put a cross in the corresponding box.

1. SUCCESSIVE

   a. ( ) extreme
   b. ( ) coming one after the other
   c. ( ) having success
   d. ( ) extending far

2. GRACIOUS

   a. ( ) showing gratitude
   b. ( ) having grace
   c. ( ) kind and agreeable
   d. ( ) arranged in grades

3. RESPECTIVE

   a. ( ) showing respect to
   b. ( ) belonging to each of those
        in question
   c. ( ) treated with consideration
   d. ( ) deserving respect

4. ECONOMICAL

   a. ( ) of the Christian world
   b. ( ) not careful
   c. ( ) connected with commerce,
        business, etc.
   d. ( ) not wasteful

5. PROJECTION

   a. ( ) occupation
   b. ( ) throwing
   c. ( ) side view
   d. ( ) plan for an undertaking

6. FIGURINE

   a. ( ) a kind of fruit
   b. ( ) small statue
   c. ( ) shape of body
   d. ( ) quarrel

7. CIRCUITOUS

   a. ( ) space where number of
        streets meet
   b. ( ) round in shape
   c. ( ) going a long way round
   d. ( ) a kind of tree

8. LITERAL

   a. ( ) able to read and write
   b. ( ) of literature or authors
   c. ( ) taking words in their
        obvious sense
   d. ( ) unable to read and write

9. SPECIFIC

   a. ( ) roomy
   b. ( ) without speech
   c. ( ) of a particular sort
   d. ( ) detailed and precise

10. OPPRESS

   a. ( ) condense
   b. ( ) force out of mind
   c. ( ) put an end to
   d. ( ) cause to feel troubled

11. SUBSEQUENT

   a. ( ) following as a result
   b. ( ) full of events
   c. ( ) following
   d. ( ) showing excessive respect

12. PROSPECTIVE

   a. ( ) each of those in question
   b. ( ) who is one day to be
   c. ( ) relations between aspects
        of a problem
   d. ( ) imperfect

13. COMMISSION

   a. ( ) people given the duty to
        make an inquiry
   b. ( ) expression of sympathy
   c. ( ) special task
   d. ( ) large and stately house

14. DEFAULT

   a. ( ) failure to pay a debt
   b. ( ) winning a victory over someone
   c. ( ) defect
   d. ( ) destiny

15. PREDETERMINE

    a. ( ) decide
    b. ( ) decree beforehand
    c. ( ) form an idea in advance
    d. ( ) devote

16. ADAPT

    a. ( ) adjust
    b. ( ) ask solemnly
    c. ( ) take into one's family
    d. ( ) admire

17. STAFF

    a. ( ) group of people working
        together
    b. ( ) not easily changed in shape
    c. ( ) material of which something
        is made
    d. ( ) apparatus used for warming
        rooms

18. COUNSEL

    a. ( ) advice
    b. ( ) group of people appointed
        to make rules
    c. ( ) bracket to support a shelf
    d. ( ) hide

19. BEWARE

    a. ( ) be tired
    b. ( ) be careful
    c. ( ) have knowledge
    d. ( ) express sorrow over

20. A ROUSING RECEPTION

    a. ( ) an increasing reception
    b. ( ) an enthusiastic reception
    c. ( ) a reception that woke people
        up
    d. ( ) a reception that rubbed all
        out

21. EMERGENCE

    a. ( ) spending money
    b. ( ) making an appearance
    c. ( ) situation of crisis
    d. ( ) the state of expecting

22. FAITHFUL

    a. ( ) having a fault
    b. ( ) causing death
    c. ( ) controlled by fate
    d. ( ) loyal and true

23. LOOSE

    a. ( ) being lost
    b. ( ) not tied up
    c. ( ) have no longer
    d. ( ) girl

24. CONSCIOUS

    a. ( ) aware
    b. ( ) awareness of the choice
        of good and bad
    c. ( ) common agreement
    d. ( ) following as a result

25. MEANS

    a. ( ) most important
    b. ( ) method
    c. ( ) the middle between two
        extremes
    d. ( ) belonging to me

26. ENJOIN

    a. ( ) suffer
    b. ( ) command
    c. ( ) get pleasure from
    d. ( ) machine that produces power

27. BIAS

    a. ( ) place where armed forces have
        their tents, stores, etc.

    b. ( ) foundation
    c. ( ) prejudice
    d. ( ) put in water

28. INGENUOUS

    a. ( ) deeply fixed
    b. ( ) clever and skillful
    c. ( ) innocent
    d. ( ) spreading disease

29. HUMANE

    a. ( ) funny
    b. ( ) damp
    c. ( ) of man
    d. ( ) kind-hearted

Appendix 4

The analysis of the results in chapter 6 was performed with
the aid of computer.   The programme used was SPSS (Statistical
Package for Social Sciences).

Printout 1 is an example of 'frequencies run' which was the
source of the information about the synform error frequencies presented
in the various frequency tables in sections 1-11.   22 such runs
were performed: two frequency runs for each test: one for native
speakers, one for foreign learners.

Printout 2 is an example of 'totals run' which was the source
of the information about the synform error susceptibility of individual
testees presented in the various synform susceptibility tables
in sections 1-11.

The 'breakdown' section in printout 2 provided some of the
information necessary for the various χ^2 tests.   'Total 1' is
the total number of synform errors in the test;   'total 2' - the
number of non-synform errors;   'total 4' - the number of correct
responses.   The 'totals run' was also the source of information
for section 12 - comparison of categories since, as mentioned before,
it provided the total number of synform errors in the test in question.
22 'totals runs' were performed: two for each of the 11 tests:
one for native speakers, one for foreign learners.

CURRENT DOCUMENTATION FOR THE SPSS BATCH SYSTEM

ORDER FROM MCGRAW-HILL: SPSS, 2ND ED. (PRINCIPAL TEXT)
SPSS PRIMER (BRIEF INTRO TO SPSS)   ORDER FROM SPSS INC.: SPSS STATISTICAL ALGORITHMS
SPSS UPDATE (USE W/SPSS,2ND FOR REL. 7 & 8)   SPSS POCKET GUIDE, RELEASE 8
KEYWORDS: THE SPSS INC. NEWSLETTER

DEFAULT SPACE ALLOCATION..   ALLOWS FOR..   100 TRANSFORMATIONS
WORKSPACE   70000 BYTES   400 RECODE VALUES + LAG VARIABLES
TRANSPACE   10000 BYTES   1600 IF/COMPUTE OPERATIONS

```
1 RUN NAME          SYNOFORMS TEST2
2 FILE NAME         SYNO2
3 VARIABLE LIST     STUDNO,L1,SUB,TESTV,ANS1 TO ANS25
4 INPUT FORMAT      FIXED (F3.0,2X,F1.0,F2.0,A1,2X,25A1)
```

ACCORDING TO YOUR INPUT FORMAT, VARIABLES ARE TO BE READ AS FOLLOWS

VARIABLE	FORMAT	RECORD	COLUMNS
STUDNO	F 3.0	1	1- 3
L1	F 1.0	1	5- 6
SUB	F 2.0	1	7- 8
TESTV	A 1	1	9- 9
ANS1	A 1	1	12- 12
ANS2	A 1	1	13- 13
ANS3	A 1	1	14- 14
ANS4	A 1	1	15- 15
ANS5	A 1	1	16- 16
ANS6	A 1	1	17- 17
ANS7	A 1	1	18- 18
ANS8	A 1	1	19- 19
ANS9	A 1	1	20- 20
ANS10	A 1	1	21- 21
ANS11	A 1	1	22- 22
ANS12	A 1	1	23- 23
ANS13	A 1	1	24- 24
ANS14	A 1	1	25- 25
ANS15	A 1	1	26- 26
ANS16	A 1	1	27- 27
ANS17	A 1	1	28- 28
ANS18	A 1	1	29- 29
ANS19	A 1	1	30- 30
ANS20	A 1	1	31- 31
ANS21	A 1	1	32- 32
ANS22	A 1	1	33- 33
ANS23	A 1	1	34- 34
ANS24	A 1	1	35- 35
ANS25	A 1	1	36- 36

THE INPUT FORMAT PROVIDES FOR 29 VARIABLES. 29 WILL BE READ
IT PROVIDES FOR 1 RECORDS ('CARDS') PER CASE. A MAXIMUM OF 36 'COLUMNS' ARE USED ON A RECORD.

```
ANS24    A 1    1    35- 35
ANS25    A 1    1    36- 36
```

THE INPUT FORMAT PROVIDES FOR 29 VARIABLES. 29 WILL BE READ
IT PROVIDES FOR 1 RECORDS ('CARDS') PER CASE. A MAXIMUM OF 36 'COLUMNS' ARE USED ON A RECORD.

```
 5 N OF CASES        28
 6 INPUT MEDIUM      DISK
 7 VALUE LABELS      TESTV('A')FILL IN SENTENCES ('B')
                     MULTIPLE CHOICE ISOLATION
 8 MISSING VALUES    ALL(M)
10 PRINT FORMATS     TESTV(A)ANS1 TO ANS25(A)
11 *SELECT IF        (TESTV EQ 'A')
12 FREQUENCIES       GENERAL=ANS1 TO ANS25
```

GIVEN WORKSPACE ALLOWS FOR 3500 VALUES AND 2100 LABELS PER VARIABLE FOR 'FREQUENCIES'

SYNOFORMS TEST2   30/01/85   PAGE   2

FILE SYV02   (CREATION DATE = 30/01/85)

ANS1

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	4	28.6	29.5	28.6
	B	4	28.6	28.6	57.1
	C	3	21.4	21.4	78.6
	D	3	21.4	21.4	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 3

FILE SYN02 (CREATION DATE = 30/01/85)

ANS2

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
C	6	42.9	42.9	42.9
D	8	57.1	57.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 4

FILE SYN02 (CREATION DATE = 30/01/85)

ANS3

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
B	11	78.6	78.6	78.6
C	2	14.3	14.3	92.9
D	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYN02   (CREATION DATE = 30/01/85).   30/01/85   PAGE   5

ANS4

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	1	7.1	7.1	7.1
B	9	64.3	64.3	71.4
C	4	28.6	28.6	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYN02   (CREATION DATE = 30/01/85)   30/01/85   PAGE   6

ANS5

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	2	14.3	14.3	14.3
B	1	7.1	7.1	21.4
C	4	28.6	28.6	50.0
D	7	50.0	50.0	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 7

FILE   SYND2   (CREATION DATE = 30/01/85)

ANS6

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	3	21.4	21.4	21.4
	C	11	78.6	78.6	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 8

FILE   SYND2   (CREATION DATE = 30/01/85)

ANS7

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	2	14.3	14.3	14.3
	B	2	14.3	14.3	28.6
	C	9	64.3	64.3	92.9
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   9

FILE   SYNO2   (CREATION DATE = 30/01/85)

ANS8

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	3	21.4	21.4	21.4
B	1	7.1	7.1	28.6
C	10	71.4	71.4	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   10

FILE   SYNO2   (CREATION DATE = 30/01/85)

ANS9

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	4	28.6	28.6	28.6
B	3	21.4	21.4	50.0
C	2	14.3	14.3	64.3
D	5	35.7	35.7	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 11

FILE SYVD2 (CREATION DATE = 30/01/85)

ANS10

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	3	21.4	21.4	21.4
	B	2	14.3	14.3	35.7
	C	8	57.1	57.1	92.9
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2   30/01/85   PAGE 12

FILE SYVD2 (CREATION DATE = 30/01/85)

ANS11

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	B	12	85.7	85.7	85.7
	D	2	14.3	14.3	100.0
	TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2   30/01/85   PAGE   13

FILE   SYND2   (CREATION DATE = 30/01/85)

ANS12

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	4	28.6	28.6	28.6
	B	9	64.3	64.3	92.9
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   14

FILE   SYND2   (CREATION DATE = 30/01/85)

ANS13

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	4	28.6	28.6	28.6
	B	4	28.6	28.6	57.1
	C	1	7.1	7.1	64.3
	D	5	35.7	35.7	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

FILE   SYN02   (CREATION DATE = 30/01/85)

ANS14

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	B	4	28.6	28.6	35.7
	C	9	64.3	64.3	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   16

FILE   SYN02   (CREATION DATE = 30/01/85)

ANS15

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	13	92.9	92.9	92.9
	C	1	7.1	7.1	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNDFORMS TEST2   30/01/85   PAGE 17

FILE SYND2   (CREATION DATE = 30/01/85)

ANS16

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	3	21.4	21.4	21.4
	C	10	71.4	71.4	92.9
	D	1	7.1	7.1	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNDFORMS TEST2   30/01/85   PAGE 18

FILE SYND2   (CREATION DATE = 30/01/85)

ANS17

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	7	50.0	50.0	50.0
	C	7	50.0	50.0	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   19

ANS1B

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	11	78.6	78.6	78.6
	B	2	14.5	14.3	92.3
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

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

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   20

ANS1B

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	C	12	85.7	92.3	92.3
	D	1	7.1	7.7	100.0
	M	1	7.1	MISSING	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   13   MISSING CASES   1

SYNOFORMS TEST2   30/01/85   PAGE 21

FILE SYNO2   (CREATION DATE = 30/01/85)

ANS20

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
B	10	71.4	71.4	71.4
C	1	7.1	7.1	78.6
D	3	21.4	21.4	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 22

FILE SYNO2   (CREATION DATE = 30/01/85)

ANS21

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	10	71.4	76.9	76.9
B	2	14.3	15.4	92.3
D	1	7.1	7.7	100.0
M	1	7.1	MISSING	
TOTAL	14	100.0	100.0	

VALID CASES   13   MISSING CASES   1

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)

30/01/85   PAGE 23

ANS22

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	2	14.3	14.3	14.3
	C	8	57.1	57.1	71.4
	D	4	28.6	28.6	100.0
TOTAL		14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)

30/01/85   PAGE 24

ANS23

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	C	2	14.3	14.3	21.4
	D	11	78.6	78.6	100.0
TOTAL		14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2 30/01/85 PAGE 25

FILE SYN02 (CREATION DATE = 30/01/85)

ANS24

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	B	13	92.9	92.9	92.9
	C	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2 30/01/85 PAGE 26

FILE SYN02 (CREATION DATE = 30/01/85)

ANS25

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	B	12	85.7	85.7	92.9
	C	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2   30/01/85   PAGE   27

TRANSPACE REQUIRED..   100 BYTES
     1 TRANSFORMATIONS
     2 RECODE VALUES + LAG VARIABLES
     3 IF/COMPUTE OPERATIONS

CPU TIME REQUIRED..   1.11 SECONDS

     13 *SELECT IF   (TESTV EQ *3*)
     14 FREQUENCIES   GENERAL=ANS1 TO ANS25

GIVEN WORKSPACE ALLOWS FOR   3500 VALUES AND   2100 LABELS PER VARIABLE FOR *FREQUENCIES*

SYNOFORMS TEST2   30/01/85   PAGE   28

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS1

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	9	64.3	64.3	64.3
	B	4	28.6	28.6	92.9
	C	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)   30/01/85   PAGE 29

ANS2

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
B	1	7.1	7.1	7.1
C	3	21.4	21.4	28.6
D	10	71.4	71.4	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)   30/01/85   PAGE 30

ANS3

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	1	7.1	7.1	7.1
B	13	92.9	92.9	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 31

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS4

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	3	21.4	21.4	21.4
	B	5	35.7	35.7	57.1
	C	6	42.9	42.9	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 32

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS5

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	2	14.3	16.7	16.7
	B	1	7.1	8.3	25.0
	C	6	42.9	50.0	75.0
	D	3	21.4	25.0	100.0
	M	2	14.3	MISSING	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   12   MISSING CASES   2

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)   30/01/85   PAGE 33

AVS6

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	6	42.9	42.9	42.9
C	7	50.0	50.0	92.9
D	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE SYNO2 (CREATION DATE = 30/01/85)   30/01/85   PAGE 34

AVS7

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	6	42.9	42.9	42.9
B	3	21.4	21.4	64.3
C	5	35.7	35.7	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

FILE SYN02 (CREATION DATE = 30/01/85)

ANS9

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	1	7.1	7.1	7.1
B	11	78.6	78.5	85.7
C	2	14.3	14.3	100.0
TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES. 0

SYNOFORMS TEST2   30/01/85   PAGE 36

FILE SYN02 (CREATION DATE = 30/01/85)

ANS9

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	3	21.4	21.4	21.4
B	1	7.1	7.1	28.6
C	9	64.3	64.3	92.9
D	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES 14   MISSING CASES 0

SYNOFORMS TEST2 30/01/85 PAGE 37

FILE SYNO2 (CREATION DATE = 30/01/85)

ANS10

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	3	21.4	21.4	21.4
B	8	57.1	57.1	78.6
C	3	21.4	21.4	100.0
TOTAL	14	100.0	100.0	

VALID CASES 14 MISSING CASES 0

SYNOFORMS TEST2 30/01/85 PAGE 38

FILE SYNO2 (CREATION DATE = 30/01/85)

ANS11

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
B	8	57.1	57.1	57.1
C	1	7.1	7.1	64.3
D	5	35.7	35.7	100.0
TOTAL	14	100.0	100.0	

VALID CASES 14 MISSING CASES 0

SYNOFORMS TEST2   30/01/85   PAGE 39

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS12

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	5	35.7	35.7	35.7
	B	7	50.0	50.0	85.7
	C	1	7.1	7.1	92.9
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 40

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS13

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	3	21.4	21.4	21.4
	B	8	57.1	57.1	78.6
	C	3	21.4	21.4	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS14

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	B	6	42.9	42.9	50.0
	C	6	42.9	42.9	92.9
	D	1	7.1	7.1	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

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

SYMPTOMS TEST2   30/01/85   PAGE   42

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS15

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	4	28.6	30.8	30.8
	B	3	21.4	23.1	53.8
	D	6	42.9	46.2	100.0
	M	1	7.1	MISSING	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   13   MISSING CASES   1

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   43

ANS16

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	2	14.3	14.3	14.3
	B	7	50.0	50.0	64.3
	C	5	35.7	35.7	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   44

ANS17

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	C	14	100.0	100.0	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   45

ANS13

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	8	57.1	57.1	57.1
	B	4	28.6	28.6	85.7
	D	2	14.3	14.3	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2

FILE   SYNO2   (CREATION DATE = 30/01/85)   30/01/85   PAGE   46

ANS13

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	B	2	14.3	14.3	21.4
	C	11	78.6	78.6	100.0
TOTAL		14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   47

FILE   SYN02   (CREATION DATE = 30/01/85)

AVS20

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	1	7.1	7.1	7.1
B	12	85.7	85.7	92.9
C	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   48

FILE   SYN02   (CREATION DATE = 30/01/85)

AVS21

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	12	85.7	85.7	85.7
C	2	14.3	14.3	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   49

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS22

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	A	1	7.1	7.1	7.1
	B	9	64.3	64.3	71.4
	C	2	14.3	14.3	85.7
	D	2	14.3	14.3	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE   50

FILE   SYV02   (CREATION DATE = 30/01/85)

ANS23

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	C	9	64.3	64.3	64.3
	D	5	35.7	35.7	100.0
	TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 51

FILE SYNO2 (CREATION DATE = 30/01/85)

ANS24

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	3	21.4	21.4	21.4
B	10	71.4	71.4	92.9
C	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

SYNOFORMS TEST2   30/01/85   PAGE 52

FILE SYNO2 (CREATION DATE = 30/01/85)

ANS25

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
A	3	21.4	21.4	21.4
B	10	71.4	71.4	92.9
D	1	7.1	7.1	100.0
TOTAL	14	100.0	100.0	

VALID CASES   14   MISSING CASES   0

```
        15 READ INPUT DATA

TRANSPACE REQUIRED..    100 BYTES
    1 TRANSFORMATIONS
    2 RECODE VALUES + LAG VARIABLES
    3 IF/COMPUTE OPERATIONS

CPU TIME REQUIRED..   0.89 SECONDS

        16 SAVE FILE

FILE SYN02   HAS BEEN SAVED WITH   32 VARIABLES..

SEQNUM   SUBFILE   CASWGT   STUDNO   L1      SUB      TESTV    ANS1     ANS2     ANS3
ANS4     ANS5      ANS6     ANS7     ANS8    ANS9     ANS10    ANS11    ANS12    ANS13
ANS14    ANS15     ANS16    ANS17    ANS18   ANS19    ANS20    ANS21    ANS22    ANS23
ANS24    ANS25

                THE SUBFILES ARE..

                          NO OF
              NAME        CASES

              SYN02         28

        17 FINISH

CPU TIME REQUIRED..   0.20 SECONDS

NORMA_ END OF JOB.
    17 CONTROL CARDS WERE PROCESSED.
     0 ERRORS WERE DETECTED.
```

```
CONTROL=TOTAL_T2,LISTING=FSUMS2OUT,GETFILE=SYNOFOR_SF2,
WORKSPACE=206
```

Unit assignments:

```
3      SYNOFOR_SF2
5      TOTAL_T2
6      FSUMS2OUT,1023,C
10     FLULIB.SPSSAUDC
```

SPSS BATCH SYSTEM   05/07/84   PAGE   1

SPSS FOR ICL 2900, VERSION H, RELEASE 8.1, APRIL 1, 1980

```
                    CURRENT DOCUMENTATION FOR THE SPSS BATCH SYSTEM
ORDER FROM MCGRAW-HILL:  SPSS, 2ND ED. (PRINCIPAL TEXT)        SPSS STATISTICAL ALGORITHMS
                         SPSS PRIMER (BRIEF INTRO TO SPSS)     SPSS POCKET GUIDE, RELEASE 8
                         SPSS UPDATE (USE W/SPSS,2ND FOR REL. 7 & 8)   KEYWORDS: THE SPSS INC. NEWSLETTER
                                                              ORDER FROM SPSS INC.:
```

```
DEFAULT SPACE ALLOCATION..   ALLOWS FOR..   250 TRANSFORMATIONS
WORKSPACE    175000 BYTES                  1000 RECODE VALUES + LAG VARIABLES
TRANSPACE     25000 BYTES                  4000 IF/COMPUTE OPERATIONS
```

```
        1 RUN NAME        TOTALSYNO2
        2 GET FILE        SYNOFOR_SF2
```

EXPECTED FILE SYNOFOR_ FOUND FILE SYNOFOR2

FILE SYNOFOR2 HAS   32 VARIABLES

THE SUBFILES ARE..

```
                NO OF
NAME            CASES

SYNOFOR2        52
```

CPU TIME REQUIRED..   0.04 SECONDS

CPU TIME REQUIRED.. 0.04 SECONDS

```
 3 RECODE      ANS1('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
 4 RECODE      ANS2('C'=1)('D'=4)('A'=2)('B'=2)(ELSE=0)
 5 RECODE      ANS3('B'=1)('A'=4)('C'=2)('D'=2)(ELSE=0)
 6 RECODE      ANS4('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
 7 RECODE      ANS5('D'=1)('C'=4)('A'=2)('B'=2)(ELSE=0)
 8 RECODE      ANS6('A'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
 9 RECODE      ANS7('C'=1)('A'=4)('B'=2)('D'=2)(ELSE=0)
10 RECODE      ANS8('B'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
11 RECODE      ANS9('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
12 RECODE      ANS10('B'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
13 RECODE      ANS11('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
14 RECODE      ANS12('A'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
15 RECODE      ANS13('B'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
16 RECODE      ANS14('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
17 RECODE      ANS15('D'=1)('A'=4)('B'=2)('C'=2)(ELSE=0)
18 RECODE      ANS16('B'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
19 RECODE      ANS17('D'=1)('C'=4)('A'=2)('B'=2)(ELSE=0)
20 RECODE      ANS18('D'=1)('A'=4)('A'=2)('C'=2)(ELSE=0)
21 RECODE      ANS19('B'=1)('C'=4)('A'=2)('D'=2)(ELSE=0)
22 RECODE      ANS20('C'=1)('B'=4)('A'=2)('D'=2)(ELSE=0)
23 RECODE      ANS21('C'=1)('A'=4)('A'=2)('C'=2)(ELSE=0)
24 RECODE      ANS22('D'=1)('B'=4)('A'=2)('B'=2)(ELSE=0)
25 RECODE      ANS23('C'=1)('D'=4)('A'=2)('D'=2)(ELSE=0)
26 RECODE      ANS24('A'=1)('B'=4)('C'=2)('D'=2)(ELSE=0)
27 RECODE      ANS25('A'=1)('B'=4)('C'=2)('D'=2)(ELSE=0)
28 COMPUTE     TOTAL1=0
29 COMPUTE     TOTAL2=0
30 COMPUTE        TOTAL4=0
31 DO REPEAT   TOT=ANS1 TO ANS25.
32 IF          (TOT EQ 1)TOTAL1=TOTAL1+TOT
33 IF          (TOT EQ 2)TOTAL2=TOTAL2+TOT
34 IF          (TOT EQ 4)TOTAL4=TOTAL4+TOT
35 END REPEAT

36 COMPUTE     TOTAL2=TOTAL2/2
37 COMPUTE       TOTAL4=TOTAL4/4
38 LIST CASES  CASES=52/VARIABLES=TESTV,TOTAL1,TOTAL2,TOTAL4,L1
39 BREAKDOWN   TABLES=TOTAL1,TOTAL2,TOTAL4 BY TESTV
```

***** GIVEN WORKSPACE ALLOWS FOR 5467 CELLS AND 1 DIMENSIONS FOR SUBPROGRAM BREAKDOWN *****

#					
1	1.	A	15.	2.	8.
2	1.	B	11.	2.	11.
3	1.	A	4.	13.	8.
4	1.	B	5.	4.	8.
5	1.	A	8.	14.	3.
6	1.	B	7.	7.	11.
7	1.	A	12.	4.	9.
8	1.	A	4.	2.	15.
9	1.	A	8.	8.	8.
10	1.	B	2.	0.	3.
11	1.	A	8.	10.	7.
12	1.	B	8.	7.	10.
13	1.	A	10.	4.	11.
14	1.	B	8.	3.	14.
15	1.	A	11.	5.	8.
16	1.	B	6.	9.	9.
17	1.	A	12.	6.	7.
18	1.	B	13.	1.	10.
19	1.	A	9.	6.	7.
20	1.	B	10.	4.	6.
21	1.	A	7.	10.	7.
22	1.	B	6.	6.	13.
23	2.	A	11.	8.	6.
24	2.	B	11.	6.	8.
25	2.	A	7.	8.	10.
26	2.	B	8.	9.	8.
27	3.	A	11.	6.	8.
28	3.	B	10.	2.	13.
29	3.	A	10.	5.	10.
30	3.	B	15.	2.	8.
31	3.	A	13.	3.	9.
32	3.	B	15.	3.	7.
33	3.	A	13.	5.	7.
34	3.	B	15.	3.	8.
35	4.	A	10.	7.	9.
36	4.	B	10.	6.	9.
37	4.	A	8.	8.	8.
38	4.	B	11.	6.	7.
39	6.	A	7.	11.	7.
40	6.	B	13.	4.	9.
41	6.	A	11.	5.	10.
42	2.	B	12.	2.	8.
43	2.	A	9.	8.	12.
44	2.	B	10.	3.	4.
45	3.	A	20.	1.	4.
46	3.	A	18.	3.	4.
47	3.	B	16.	5.	7.
48	3.	A	16.	2.	9.
49	3.	B	9.	7.	9.
50	3.	A	14.	2.	10.
51	3.	B	6.	5.	7.
52	3.	B	9.	3.	

TOTALSYND2

FILE SYNOFOR2 (CREATION DATE = 12/06/84)   05/07/84   PAGE 3

D E S C R I P T I O N   O F   S U B P O P U L A T I O N S

CRITERION VARIABLE TOTAL1
BROKEN DOWN BY   TESTV

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	VARIANCE	N
FOR ENTIRE POPULATION			435.0000	8.3654	2.5051	6.2756	(52)
TESTV	B	MULTIPLE CHOICE ISOL	234.0000	9.0000	2.8844	8.3200	(26)
TESTV	A	FILL IN SENTENCES	201.0000	7.7308	1.9091	3.6446	(26)

TOTAL CASES =   52

TOTALSYNO2

FILE SYNOFOR2 (CREATION DATE = 12/05/84)   05/07/84   PAGE 4

D E S C R I P T I O N   O F   S U B P O P U L A T I O N S

CRITERION VARIABLE TOTAL2
BROKEN DOWN BY   TESTV

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	VARIANCE	N
FOR ENTIRE POPULATION			275.0000	5.2885	3.0955	9.5818	(52)
TESTV	B	MULTIPLE CHOICE ISOL	101.0000	3.8846	2.3888	5.7062	(26)
TESTV	A	FILL IN SENTENCES	174.0000	6.6923	3.1211	9.7415	(26)

TOTAL CASES =   52

TOTALSYN02   05/07/84   PAGE   5

FILE   SYNOFOR2 (CREATION DATE = 12/06/84)

- - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - - - - -
CRITERION VARIABLE   TOTAL4
   BROKEN DOWN BY   TESTV

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	VARIANCE	N
FOR ENTIRE POPULATION			532.0000	10.2308	3.6540	13.3575	(52)
TESTV	D	MULTIPLE CHOICE ISOL	267.0000	10.2692	3.9654	15.7246	(26)
TESTV	A	FILL IN SENTENCES	265.0000	10.1923	3.3943	11.5215	(26)

TOTAL CASES =   52

TOTALSYN02   05/07/84   PAGE   6

TRANSPACE REQUIRED..   10500 BYTES
   105 TRANSFORMATIONS
   150 RECODE VALUES + LAG VARIABLES
   462 IF/COMPUTE OPERATIONS

CPU TIME REQUIRED..   3.02 SECONDS

49 BREAKDOWN   TABLES=TOTAL1,TOTAL2,TOTAL4 BY TESTV BY L1

***** GIVEN WORKSPACE ALLOWS FOR 4860 CELLS AND   2 DIMENSIONS FOR SUBPROGRAM BREAKDOWN *****

FOR ENTIRE POPULATION

	SUM	MEAN	STD DEV	VARIANCE	(N
	435.0000	8.3654	2.5051	6.2756	(52)

TESTV   MULTIPLE CHOICE ISOL   B

CODE	SUM	MEAN	STD DEV	VARIANCE	(N
L1 1.	234.0000	9.0000	2.8844	8.3200	(26)
L1 2.	110.0000	10.0000	3.4928	12.2000	(11)
L1 3.	45.0000	9.0000	3.6056	13.0000	(5)
L1 4.	45.0000	7.5000	0.8367	0.7000	(6)
L1 .	17.0000	8.5000	0.7071	0.5000	(2)
L1 6.	17.0000	8.5000	2.1213	4.5000	(2)

TESTV   FILL IN SENTENCES   A

CODE	SUM	MEAN	STD DEV	VARIANCE	(N
L1 1.	201.0000	7.7308	1.9091	3.6446	(26)
L1 2.	83.0000	7.5455	1.9164	3.6727	(11)
L1 3.	36.0000	7.2000	2.2804	5.2000	(5)
L1 4.	49.0000	8.1667	2.3165	5.3667	(6)
L1 .	17.0000	8.5000	0.7071	0.5000	(2)
L1 6.	16.0000	8.0000	1.4142	2.0000	(2)

TOTAL CASES = 52

TOTALSYNO2   05/07/84   PAGE 8

FILE   SYNOFOR2   (CREATION DATE = 12/06/84)

D E S C R I P T I O N   O F   S U B P O P U L A T I O N S

CRITERION VARIABLE   TOTAL2
BROKEN DOWN BY   TESTV
          BY   L1

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	VARIANCE	(N

FOR ENTIRE POPULATION

	SUM	MEAN	STD DEV	VARIANCE	(N
	275.0000	5.2885	3.0955	9.5818	(52)

TESTV   MULTIPLE CHOICE ISOL   B

CODE	SUM	MEAN	STD DEV	VARIANCE	(N
L1 1.	101.0000	3.8846	2.3888	5.7062	(26)
L1 2.	45.0000	4.0909	2.8445	8.0909	(11)
L1 3.	23.0000	4.6000	2.8810	8.3000	(5)
L1 4.	15.0000	2.5000	0.5477	0.3000	(6)
L1 .	12.0000	6.0000	0.0000	0.0000	(2)
L1 6.	6.0000	3.0000	1.4142	2.0000	(2)

TESTV   FILL IN SENTENCES   A

CODE	SUM	MEAN	STD DEV	VARIANCE	(N
L1 1.	174.0000	6.6923	3.1211	9.7415	(26)
L1 2.	82.0000	7.4545	3.8824	15.0727	(11)
L1 3.	31.0000	6.2000	3.0332	9.2000	(5)
L1 4.	30.0000	5.0000	1.2649	1.6000	(6)
L1 .	15.0000	7.5000	0.7071	0.5000	(2)
L1 6.	16.0000	8.0000	4.2426	18.0000	(2)

TOTAL CASES = 52

FILE   SYNOFOR2 (CREATION DATE = 12/06/84)

```
- - - - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - -
CRITERION VARIABLE   TOTAL4
        BROKEN DOWN BY   TESTV
                   BY   L1
```

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	VARIANCE	N
FOR ENTIRE POPULATION			532.0000	10.2308	3.6548	13.3575	(52)
TESTV	B	MULTIPLE CHOICE ISOL					
L1	1.		267.0000	10.2692	3.9654	15.7246	(26)
L1	2.		80.0000	7.2727	3.1966	10.2182	(11)
L1	3.		57.0000	11.4000	3.8471	14.8000	(5)
L1	4.		84.0000	14.0000	2.5298	6.4000	(6)
L1	5.		21.0000	10.5000	0.7071	0.5000	(2)
L1	6.		25.0000	12.5000	0.7071	0.5000	(2)
TESTV	A	FILL IN SENTENCES					
L1	1.		265.0000	10.1923	3.3943	11.5215	(26)
L1	2.		104.0000	9.4545	2.9787	8.8727	(11)
L1	3.		58.0000	11.6000	4.9800	24.8000	(5)
L1	4.		67.0000	11.1667	3.5449	12.5667	(6)
L1	5.		18.0000	9.0000	1.4142	2.0000	(2)
L1	6.		18.0000	9.0000	2.8284	8.0000	(2)

TOTAL CASES =   52

05/07/84   PAGE 10

TOTALSYN02

CPU TIME REQUIRED.. 0.55 SECONDS

41 FINISH

NORMAL END OF JOB.
41 CONTROL CARDS WERE PROCESSED.
0 ERRORS WERE DETECTED.

End of run: SPSS H 8.1 (PLU release 44 02/03/82)
Result: Completed
Elapsed time: 162 Secs
CPU time: 7 Secs
Cost: 39 Pence

Appendix 5

Sample of synform exercises

This appendix provides some examples of synform exercises, where the selected synforms are practised in isolation or in sentence context. It does not, however, show how synforms can be practised in text context. Exercises like synform reminding, rational cloze, controlled writing - answers to comprehension questions are all text dependent. It was considered beyond the scope of this appendix to provide texts as a starting point for synform practice.

Blank filling

Sentences 1-5 contain four alternatives each, from which the correct answer can be chosen; sentences 6-10 provide two alternatives each - the two synforms only.

1. .... in manners became more pronounced after the two world wars.

   a. casualness b. casualty c. case d. causality

2. This is a luxurious car with a .... interior.

   a. captious b. capacious c. capable d. capital

3. If you publish that statement about us we'll sue you for ....

   a. liable b. libel c. label d. labial

4. He was not used to the .... procedure in the U.S.

   a. costume b. custom c. customs d. custard

5. The nuclear arms .... is exciting public opinion in Europe and America.

   a. content b. contest c. context d. contempt

6. He didn't mean to be rude; he was .... (merely/merrily) trying to mind his own business.

7. It is hard to discuss politics without personal (bias/base).

8. They prayed for .... (delivery/deliverance) from the

    epidemic.

9. After .... (exhaustive/exhausted) search, the source

    of noise was discovered to be underneath the car.

10. He had acquired .... (considerable/considerate) wealth

    by shrewd investments.

Explanation/paraphrase[1]

Sentences 1-5 require the learner to choose the best explanation
of the word in isolation; in sentences 6-10 - the best explanation
of the underlined words in the sentences.

1. ERRATIC

    a. incorrect b. irregular c. using irony d. passionate

2. INCIDENCE

    a. substance producing a sweet smell b. something that happened
    c. event d. amount of occurrence   unintentionally

3. OPPRESS

    a. condense b. force out of mind c. put an end to d. govern
                                                            tyranically

4. AFFLUENCE

    a. wealth b. effect c. fluent speaking d. having flu

---

1. This exercise could take the form of explanation, in English
   or the learner's mother tongue, of the underlined items, not
   necessarily choosing from the alternative explanations provided
   by the teacher.

5. LATTER

    a. written message b. afterwards c. second mentioned d. dead

6. They prayed for deliverance from the epidemic.

    a. salvation b. sending out c. help d. liberty

7. He was very sensible of the delicate nature of the operation.

    a. clever about b. understanding about c. passionate with

    d. easily offended by

8. A serious situation has arisen with the emergence of nuclear

    weapons.

    a. crisis b. appearance c. existence d. danger

9. The two things are alike in details but different in essence.

    a. meaning b. intrinsic nature c. principle d. appearance

10. The characters in the play were too ingenuous to be interesting.

    a. innocent b. artificial c. clever and contriving d. real

Word family building

        The following instructions would be given to the learner in

this exercise: Complete the table (whenever the required grammatical

forms exist). In some cases there are more than one alternative

to a particular grammatical form. Note the difference in meaning

these alternatives have.

	Verb	Noun	Adjective	Adverb
1.		grace		
2.		industry		
3.	comprehend			
4.	admit			
5.		sense		

	Verb	Noun	Adjective	Adverb
6.		economy		
7.		history		
8.		confidence		
9.			hard	
10.		policy		

Controlled writing

In sentences 1-5, the learner is required to complete the sentences; in sentences 6-10 - to translate from Hebrew into English.

1.   In order to cope well in the exam ....

2.   An industrious person is someone who ....

3.   Being sensible by nature, he ....

4.   According to the data, ...

5.   To raise the morale of the troops, ...

In the following sentences, the learners would be given the Hebrew equivalent of the sentences below (the synforms are underlined).

6.   He had to accept any job he could, even the most menial ones.

7.   Many religious people believe in eternal life.

8.   His knowledge of history is superficial.

9.   I can't accept your argument; there is a basic flaw in it.

10. The ink has spilt on the desk.

An alternative to controlled writing - multiple choice

In sentences 1-5, alternatives are provided for sentence completion and the learner has to choose the correct one; in sentences

6-10, alternative English translations are given of Hebrew sentences and the learner has to choose one.

1. Teachers think that in order to cope well in the exam ....

    a. you must improve your cheating techniques

    b. you must study hard

    c. you must finish quickly

    d. you must be joking

2. An industrious person is someone who ....

    a. works in industry

    b. works hard

    c. manufactures clothes

    d. is willing to help others

3. Being sensible by nature, he ....

    a. eats with moderation

    b. is easily offended

    c. reacts passionately to women

    d. forgets things easily

4. According to the data, ...

    a. it is Independence Day today

    b. more people die of cancer than 100 years ago

    c. he and I will be going steady forever

    d. there will be no war in the future

5. To raise the morale of the troops, ...

    a. a weekend leave was given to each soldier

    b. lectures by priests and psychologists were planned

    c. fables were taught

    d. soldiers were sent to a dangerous battle

In the following sentences, the learners would be given the Hebrew translation equivalent of the English sentence which, for convenience, is in answer a) here. They would be given four English translations and required to choose the correct one.

6.   He had to accept any job he could, even the most menial one.

    b. ....   manual one.

    c. ....   physical one.

    d. ....   dirty one.

7.   a. Many religious people believe in eternal life.

    b. ....   long.

    c. ....   internal.

    d. ....   spiritual.

8.   a. His knowledge of history is superficial.

    b. ....   artificial.

    c. ....   sufficient.

    d. ....   inefficient.

9.   a. I can't accept your argument; there is a basic flaw in it.

    b. ....   flow in it.

    c. ....   mistake in it.

    d. ....   mismatch in it.

10. a. The ink has spilt on the desk.

    b. ....   split on the desk.

    c. ....   flown on the desk.

    d. ....   poured on the desk.

Correctness judgement

This exercise requires the learner to decide whether the following sentences are correct or not, and if not, to explain why.

1. If the wind is favourite we should be able to sail in two days.

2. The aristocrats used to oppress the poor people.

3. A popular city is one with the highest population density.

4. The intentions stopped being unclear and became implicit.

5. Furniture may be stored in the deposit for not more than 20 days.

6. His work was highly commanded by his employer.

7. The factory stuff included 15 workers.

8. The balance of payments problem is cute for many countries today.

9. The cook sickened the gravy.

10. He tried to conceal the fact that he was poor.

Word cloze

In this exercise, the learner is required to fill in the missing letters. A blank may represent one or more omitted letters.

1. The dog is too dangerous to be left l...se.

2. On important matters they take coun...l together.

3. A serious situation has developed with the emergenc... of nuclear weapon.

4. He was consci...s of his responsibilities.

5. Saving the life of an enemy in distress is particularly huma... .

6. This person seems like a ...spective client.

7. In poetry one cannot always place too liter... an interpretation on the words.

8. The projec... of missiles into space requires manpower and resources.

9. Today everybody tries to be econom... with time and energy.

10. It is highly debatable that the end always justifies the mean... .

Appendix 6.

Possible Changes in Attitude towards Vocabulary Acquisition Research. [1]

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Summary

The first part of the paper argues that language acquisition studies have not devoted enough scope and effort to vocabulary acquisition. A brief examination of the content of some classical books and articles in the field confirms this claim.

This neglect is considered paradoxical since lexical errors have been shown to outnumber grammatical ones; to be judged as more serious and disruptive by native speakers and to be considered as problematic by the learners themselves.

The possible causes of this neglect of vocabulary in research are ascribed to: a) the influence of linguistics which prefers research in phonology and grammar (closed systems) to vocabulary (an open set); b) reaction of psychologists against associative learning and behaviourism which have been associated with vocabulary acquisition; c) methodological interest in the beginning stages of language learning.

In the second part of the paper, it is argued that vocabulary has a good chance of gaining importance in Applied Linguistics for the following reasons:

a) With the development of Semantics, Sociolinguistics and Pragmatics, the view of language has changed from abstract and idealised to more social and functional.

b) Holistic view of language acquisition accepts the importance of habit formation together with the assimilation of rules.

1. This paper is based on a part of the author's Ph.D. Thesis being done at the University of Edinburgh, under the supervision of Dr A. Davies and Mr A.P.R. Howatt.

c) The pedagogical interest has shifted from elementary learners to more advanced ones, in age and level.

d) Most of the impetus to vocabulary research is likely to stem from some principles of communicative language teaching: fluency rather than accuracy; focussing on meaning; thematic/situational organization of teaching material; assigning a major importance to the learner's needs. All these, it is believed, will change the step-child status of vocabulary to that of the natural child of the field.

Possible Changes in Attitude towards Vocabulary Acquisition Research

1   Neglect of lexis in second language acquisition research

1.1   Evidence from literature

No language acquisition[1], whether first, second, or foreign; child, or adult, can take place without the acquisition of lexis. Sound patterns of a language which do not form a lexical item are no more than meaningless noise; grammatical rules in themselves, unless they relate particular sounds to particular meanings, are only interesting abstractions with insufficient communicative value.

If then, the learning of vocabulary lies at the heart of language learning, it would be reasonable to assume that language acquisition studies should devote no less scope and effort to vocabulary than to phonology or grammar.   However, until very recently, the reality has pointed to the contrary.   A brief examination of the content of some classical books and articles in the field will illustrate this.

The abstract section in Hatch (1978) Second Language Acquisition - A Book of Readings, lists and summarizes about 100 studies most of which focus on the acquisition of morphology and syntax.   Few papers in this section which deal with error analysis in general mention lexical errors, but none of them is specifically devoted to lexis.

1. 'Acquisition', in this study, will be used interchangeably with 'learning'. Though Krashen's distinction between the two might be valid for grammar, it seems difficult to draw the line between 'acquisition' and 'learning' in the case of vocabulary.

Part III of Richards' (1974) Error Analysis is entitled 'Developmental studies of a second language acquisition in children'. (Underlining is mine.) But what it actually reports is longitudinal studies of the development of syntax in children learning English as a second language. For example, Richards' paper in this section studies the acquisition of verb groups, prepositions, articles, question forms. Jain's article discusses the errors in plurals, aspect, subject-verb inversion, noun clauses and article.

Corder's (1975) extensive bibliography of 114 references on error analysis, interlanguage and second language acquisition, in a survey article entitled: Error Analysis, Interlanguage and Second Language Acquisition includes only one article specifically devoted to vocabulary, which deals with lexical characteristics of Swedish students' written work.

Research in Second Language Acquisition, edited by Scarcella and Krashen (1980), is a collection of selected papers of the Los Angeles language acquisition research forum. The second half of the book, entitled 'Aspects of second language development', includes papers on communicative competence, prosodic development and syntactic development. But no vocabulary development.

Most of the papers in Ritchie (1978) Second Language Acquisition Research seem to deal with language acquisition in general, judging by their titles, e.g.: 'Some remarks on creativity in language acquisition', 'Order of difficulty in adult second language acquisition', 'Evidence of the need for a second language acquisition index of development'. Yet none of the 13 papers in the book talks about vocabulary acquisition, as if 'language acquisition' meant only the acquisition of morphemes and syntax.

Language 2 by Dulay , Burt and Krashen (1982), which is described
as "one of the most comprehensive course texts on second language
acquisition" does not deal with vocabulary as if vocabulary was not
part of second language acquisition.

The content of the above mentioned studies seems to suggest
that vocabulary has not been a good source of inspiration for
investigators of language acquisition, error analysis, or interlanguage.
Whether the research carried out has dealt with the acquisition of
a single feature in language, or with the order in which several
features are acquired, it has mostly studied the acquisition of morphemes
and syntactic structures. No hypotheses, for example, have been
made as to the possibility of a 'natural' order, or indeed any kind
of order, for vocabulary acquisition. Is it surprising then that
Meara's (1980) survey article on lexis is called: 'Vocabulary acquisition
: a neglected aspect of language learning'? For Levenston 'neglect'
is an understatement. He argues that "second language lexical acquisition
has been a victim of discrimination", and justifies this loaded statement
by "the frequency with which investigators refer to 'language' or
'interlanguage' when all they mean is 'grammar' or 'interlanguage
grammar' (using grammar in its old, pre-Chomsky sense of syntax and
morphology)"(1979:147).

1.2 Paradoxality of the neglect

This neglect or discrimination of lexis can hardly be justified.
It is not only common sense that without adequate lexis there is
no proper language competence or performance. Recent findings point
to the fact that lexical problems might be even more important than
those in phonology and syntax. Meara (1984) reports on a large
collection of errors in Utrecht university which showed that lexical

errors outnumbered grammatical errors by three or four to one.

Moreover, learners themselves often claim that lexis is their greatest difficulty in L2.   Any experienced teacher knows that even after students have more or less mastered grammar, they still face masses of unknown words as they continue to study.   The same, by the way, is true for L1 acquisition.   A child who has internalized all the grammatical rules of his mother tongue will go on expanding his lexis until adulthood.

As for error gravity, it seems that lexical errors are more serious than the phonological or grammatical.   In Johanson's (1978) study and in Politzer's (1978), native speakers of English and German, respectively, graded lexical errors of learners of these languages as most serious and disruptive.   Thus, the use of the right words seems to be the most important aspect of communication.   And yet, it is the least researched one.

1.3 Possible reasons for the neglect

One can speculate about the possible causes of this lack of enthusiasm about vocabulary, bearing in mind that language acquisition studies have been influenced by trends in linguistic theories, language psychology and interests of methodologists.

The linguists have preferred to study grammar and phonology since these are closed systems and therefore lend themselves to much more abstraction and generalization than vocabulary, which is not a closed system but an open set.   Every statement in lexis would have to be based on many observations and yet account for fewer events than a statement made in grammar.   And since a good theory is the one that accounts for the largest number of events as simply as possible,

this means that the theory of grammar is more powerful than the theory of lexis. Halliday et al. explicitly say that "in making a description of any language we try to bring as much as we can within the framework of the grammar" (1964:23). It is probably because of the influence of linguistics on language acquisition studies that researchers have concentrated their efforts on the same phenomena that have interested the theoretical linguists.

As for psychology of language, Levenston points out that psycholinguists "have been reacting against the earlier tendency of learning-theory-oriented linguists to concentrate of vocabulary learning, explainable as associative learning, rather than grammar acquisition which needed rules" (1979:148). Indeed, since the rise of Chomskyan hypothesis of linguistic universals, the inductive theory of language learning, which is a modified form of stimulus-response learning theory, has lost a lot of its attraction. And as vocabulary learning has been associated with imitation, practice, generalization and reinforcement rather than with processes of hypothesis formation and testing, which is characteristic of grammar, it lost its attraction too. If it could only be shown that vocabulary learning is a rule governed behaviour, not a matter of habit, and that what we learn while learning words is not responses but rules for making responses, the attitude of psycholinguists might have been different.

As for the interaction between methodologists and language acquisition researchers, until recently the main interest of both seemed to be in the beginning stages of language learning (Marton) 1977). It was assumed that at those stages it was more important to concentrate on grammar. Vocabulary teaching could be delayed

until later.   Besides, it is only at more advanced stages, with
the 'lexical explosion' that vocabulary problems arise.   If, therefore,
teaching beginners was considered more interesting than teaching
intermediate and advanced learners, then again, it was the learning
and teaching of grammar that induced interest in language acquisition
research, not vocabulary.

2   A possible change in the step-child status of vocabulary acquisition research

2.1   Evidence from literature

There is a good chance that vocabulary acquisition will gain
importance in the Applied Linguistics research in the near future.
Among the recent empirical studies on vocabulary are studies on
lexical simplification (Blum and Levenston 1977 and 1978);   on
transferability based on learners' intuition by Kellerman (1978);
in interference in L2 vocabulary learning (Ringbom 1978 and 1982);
learners' word associations (Meara 1984);   concept learning and
vocabulary learning (Af Trampe 1982);   lexical inferencing (Haastrup
1984).

Methodologists too are beginning to openly state the importance
of vocabulary though, intuitively, they must have recognized it
long ago.   Rivers says that the time has come to "consider carefully
how we can provide even our elementary learners, and much more
so our advanced learners, with the means to 'get across meaning',
even before they can express discriminatingly fifteen ways to ask
that the door be opened" (1983:120).   Allen (1981) says that in
the 1980's vocabulary is likely to receive more attention than
in the recent past.   Students will be given more responsibility
for vocabulary learning, teachers will help them develop their

own mnemonic strategies, more time will be spent on context clues and the use of dictionaries; there will be a revival of interest in lists designed to show which words are most useful.

If such is the feeling among educators, language acquisition researchers will have little choice, but to relate to it by investigating the area of vocabulary learning.

2.2 Possible reasons for the change

a. Development of semantics

Linguistic theories of grammar have given impetus to work on grammar acquisition.   It is plausible that the recent work on semantics (Fodor 1977, Lyons 1977   ) will provoke a wealth of research on vocabulary acquisition since, as was mentioned earlier, language acquisition studies are inspired by linguistic theories.   The development of semantics, sociolinguistics and pragmatics changed the view of language from abstract and idealized to more social and functional.   Therefore the interest has shifted from sounds and structures to meaning, discourse and speech acts. Since all these involve an adequate use of words, an interest in the learning of word-use is bound to develop.

b. Holistic view of language acquisition

There has also been a change in psychologists' view on language acquisition.   Current theories of language learning accept the importance of habit formation together with the assimilation of language rules.   They recognize the importance of inductive learning (the creation and storage of linguistic information through a process of generalization, classification and association) together with deductive learning (the discovery of linguistic information by a process of applying linguistic universals to particular data).

If vocabulary acquisition was given inferior status in the past because it was considered to involve inductive learning and habit formation, there is a good chance nowadays that such attitude will not persist.

c. Interest in the advanced learner

In the late seventies the focus of interest shifted from FLES (foreign language in the elementary school) to more advanced learners, advanced in age and in language level. This change is reflected, for example, in the second edition of Valette's Modern Language Testing (1977), as compared with the first edition of the same book (1967). In the first edition, a portion of the book is devoted to special tests for FLES and beginning classes in general; the second edition does not treat beginning language learning separately from the intermediate and the advanced.

Such change in interest is bound to draw attention to vocabulary learning since, as was mentioned earlier, most of the interesting lexical problems occur at more advanced stages of language learning.

d. Communicative approach to language teaching

But the most important source of the possible impetus to vocabulary acquisition research in the future is the rise of communicative approach to language teaching, specifically the principles which will be discussed below.

i. Fluency rather than accuracy

Brumfit and Widdowson (1981), Krashen and Terell (1983) stress the importance of the development of fluency- even at the possible expense of grammatical correctness. Brumfit even suggests two different syllabi - one for fluency, one for accuracy, the former

being more important.   Valdman states that semantic notions should

be given the highest priority in language teaching since these

are essential for communicative competence.   For Krashen and Terell

fluency is the manifestation of knowing the language, which is

not the same as knowing about the language.   The latter would

lead to accuracy but not necessarily to fluency.

If fluency means the ability to convey a message with relative

ease and comprehensibility, then it is vocabulary correctness and

adequacy that matter more than grammatical accuracy.   Widdowson

(1978) points out that native speakers could understand ungrammatical

utterances which had the correct lexis better than utterances correctly

structured with the wrong words.   It is reasonable, therefore,

to assume that those who advocate the supremacy of fluency over

accuracy will also realize the supremacy of lexis over grammar.

ii.   The input hypothesis

This hypothesis presumes that we acquire language only when

we understand the input that contains some language items a bit

beyond our current level of competence.   By 'understand' Krashen

means understanding for meaning, focusing on the message, and not

form.   Processing the input for meaning is likely to occur when

the input is interesting and/or relevant for the learner.   Grammatical

sequencing of the input is not necessary.   It would be hard to

constantly expose learners to comprehensible, interesting and relevant

input without expanding their vocabulary.   Comprehensibility seems

to be severely hampered without adequate vocabulary (Laufer and

Sim, forthcoming);   interest and relevance of the input are created

when the content and the activities based on the input "strike

'deep' enough", to use Krashen's own words (1981:103).   And what

strikes 'deep' is words, not structures.

iii. The development of functional and notional syllabi

The argument that the input or a syllabus should not necessarily be grammatically sequenced is not new.   Functional and notional syllabi have used thematic and situational criteria as the guiding principles of the organization of the teaching material, or input[1]. And the decision as to what to include in each unit of such materials must have been semantic more than grammatical.

A concomitant development of the switch from structurally-graded to notionally-functionally-based syllabi is the LSP (language for specific purposes) curricula and courses.   An important feature of such courses is vocabulary pertinent to the special area: academic, technological, vocational, etc.

iv. Focus on the learner

It has been recognized that a lot of success in language learning depends on the participation of the learner in the learning process. A proper model of language learning, according to Titone (1981), is holodynamic, i.e. consisting not only of behavioural and cognitive components but also of personality features.   So, researchers have investigated affective factors that seem to influence language acquisition, such as personality type, world-view, learning style and especially motivation.   Motivation, it is argued, can be increased if the students feel that their specific needs and wants are being catered to by their teachers and teaching materials.   Rivers regards

1. In practice, it is hard to imagine a syllabus without any grammatical
   basis.   Therefore the most recent programmes are a synthesis
   of grammars, themes and situations.

needs analysis as essential in the future instruction.   "Unless
the students, with their needs and wants become central to our
planning and implementation, we will be re-echoing the old adage:
the more things change, the more they stay the same" (1981:87).
It was already mentioned that students, particularly in the intermediate
and advanced stages, feel that lexis is their greatest difficulty
and need.   In my own teaching experience, students reported a
feeling of achievement most often when a particular lesson or unit
of material increased their vocabulary control.   If the current
methodological trend is to focus on and satisfy the learner's needs,
then vocabulary instruction and consequently research into vocabulary
learning are bound to gain importance.

3 Conclusion

Until very recently vocabulary has suffered from step-child
status in language acquisition research.   The reasons for this
plight might have been the linguists' preference of closed systems
describable by rules, the reaction of psycholinguists against the
associative and the stimulus-response theories of learning and
the interest of the methodoligists in the beginning stages of language
learning.

There is a good chance, however, that, in the near future,
vocabulary learning will be given at least equal, if not greater,
attention in language acquisition research.   Developments in semantics,
a more balanced view of language learning and interest in more
advanced learners are some of the causes of the possible change.
But most of the impetus to future research on vocabulary acquisition
is likely to stem from some principles of communicative language

teaching.   There can be no fluency without a solid vocabulary
base;   no comprehensible, interesting and relevant input with poor
lexis.   Notional and functional syllabi and the various LSP's
reflect the shift from emphasis on grammar to emphasis on meaning.
Learner-oriented approach to teaching and work on motivation gave
rise to the analysis of learner's needs by both the teacher and
the learner.   Such an analysis is bound to show the need for better
vocabulary learning;   and the realisation of particular needs usually
results in their research.

Research is beginning to show that the lexical errors outnumber
all other errors, that lexical errors are judged most serious and
disruptive by native speakers, that learners themselves feel that
without adequate vocabulary there can be no communication or
comprehension.   Vocabulary acquisition,   the step-child of language
acquisition research in the past decades, has now all the hope
of attracting attention and care, of becoming the natural child
of the field.

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