

UNIVERSITY OF JYVÄSKYLÄ

UNDERSTANDING ENGLISH WORD FORMATION
A study among 6th-grade pupils
in Finnish comprehensive school

A Pro Gradu Thesis in English

by

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UNDERSTANDING ENGLISH WORD FORMATION

A study among 6th-grade pupils in Finnish comprehensive school

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Tutkielman tarkoituksena oli selvittää 6.-luokkalaisten kykyä ymmärtää englannin kielen sananmuodostusta, sekä heidän mahdollisuuksiaan hyötyä sananmuodostuksen opetuksesta jo kieliopintojen alkamisvaiheessa alakoulussa. Materiaalina käytettiin 3-osaista koko tutkimusryhmälle laadittua sananmuodostukseen keskittyvää testiä, ja lisäksi kahdella oppilaalla teetettyä sananmuodostustehtävää, joka nauhoitettiin. Tutkimuksen päähypoteesit olivat: 1) Englannin kielen sananmuodostuksen perusteita olisi hyödyllistä opettaa jo nuorille kielenopiskelijoille, sillä sanavaraston kasvattaminen helpottaisi myöhempiä kieliopintoja. 2) Osalla kuudesluokkalaista ei ehkä ole vielä kypsyyttä ja kykyä ymmärtää ja omaksua vieraan kielen rakenteita ja sananmuodostusta. Tutkimuksen perusteena oli nykyisen oppimateriaalin niukkuus sananmuodostuksen kannalta, ja etenkin heikompien oppijoiden suppea sanavarasto, jonka kehittämiseen tulisi panostaa jo aikaisessa vaiheessa. Tutkimus oli kvantitatiivinen testin osalta ja kuvaileva nauhoitetun tehtävän osalta.

Tutkimuksessa esiteltiin englannin kielen keskeiset sananmuodostusmenetelmät sekä luotiin katsaus englannin kielen sanaston oppimiseen ja opetukseen. Testituloksien perusteella todettiin, että kuudesluokkalaisten oppijoiden sananmuodostuksen tuntemus oli ymmärrettävästi heikkoa. Testiosioittain havaittiin oppilaiden pystyvän sanatasolla tuottamaan joitakin derivaatioita, kun taas keksityn kielen osiossa tulos oli erittäin heikko, ja voitiinkin todeta, etteivät oppilaat vielä tunne affikseja eivätkä näin ollen pysty niiden avulla tuottamaan uusia sanoja. Kun oppilaille annettiin malliaffikseja, he onnistuivat tiedon, yrityksen ja arvauksen avulla jonkin verran paremmin. Paritehtävässä havaittiin, että englannin kielessä hyvin menestyvät oppilaat ymmärsivät kohtalaisesti sananmuodostuksen periaatteita. He pystyivät myös pääättelemään sanojen ja affiksien merkityksiä, osittain harrastuneisuutensa vuoksi. Yleisesti ottaen tutkimustulokset viittasivat siihen, että ylempää keskitasoa olevien oppilaiden kyky ymmärtää englannin kielen rakenteita ja sananmuodostusta on jonkin verran kehittynyt. Voidaan päätellä sananmuodostuksen opettamisen jo alakoulussa olevan perusteltua paitsi lahjakkaille, myös heikommille oppilaille, oppimisen helpottamiseksi jatkossa. Mahdollinen jatkotutkimus voisi selvittää, mikä oppilaiden tulostaso olisi, ja kasvaisiko heidän sanavarastonsa merkittävästi sananmuodostuksen opettamisen ansiosta.

Asiasanat: word formation, vocabulary learning, vocabulary teaching, learner strategies

TABLE OF CONTENTS

1	INTRODUCTION	6
2	WORD FORMATION IN ENGLISH	8
2.1	The inflectional method	12
2.2	Conversion and back-formation.....	13
2.3	Compounding.....	15
2.4	The derivational method	16
2.4.1	Prefixes.....	17
2.4.2	Infixes.....	19
2.4.3	Suffixes	20
3	VOCABULARY LEARNING AND TEACHING	22
	Vocabulary learning	22
	Individual differences in language learning success and their implications on vocabulary	23
	Receptive and productive learning.....	24
	Breadth and depth of vocabulary knowledge.....	26
	Inferencing, mnemonic techniques and derivation as language learning strategies.....	27
	Vocabulary teaching.....	30
	The teacher's facilitating role.....	32
	How to avoid unteaching	33
	Word formation in vocabulary learning and teaching.....	35
4	DATA AND METHOD	37
	The data.....	37
	Data gathering	39
	The method	41
	Evaluation of the tests	42
5	RESULTS	43
	Test results	43
	Test A.....	47
	Test B	48
	Test C	48

The recorded test	49
6 DISCUSSION	51
Test results	51
Test A	52
Test B	54
Test C	57
Individual answering strategies.....	58
The recorded test.....	60
School environment and word formation.....	64
7 CONCLUSION	66
BIBLIOGRAPHY	69
APPENDICES	72

List of Tables

Table 1	English nouns, adjectives and verbs showing inflectional contrasts.	13
Table 2	Minimum and maximum points scored and the means from parts A, B, and C.	43
Table 3	Male and female pupils' average test scores in tests A, B, C, and all combined.	44
Table 4	The test results for the groups divided by English numbers.	44
Table 5	Correlations between scores in tests A, B, and C	45

1 INTRODUCTION

There seems to reign a consensus about how important word formation processes are in the widening of the lexicon in English as well as the necessity of explicit instruction of derivation in L2 learning. Though the claim for attention to this particular part of vocabulary learning has long been expressed (Nation 1990), there are still few studies on how the acquisition of affixation proceeds and how special attention to word formation would and should affect L2 learning and teaching (Schmitt and Zimmerman 2002, 163). Numerous studies have been conducted on L1 vocabulary acquisition but the few dealing with L2 vocabulary are mainly concerned with university students, not with younger language learners. It is therefore the main aim of the present study to examine the current knowledge of word formation in English among 6th-grade pupils in comprehensive school based on the assumption that if the processes of derivation in particular were taught at school, specially in the lower grades, at least some proportion of the pupils would benefit by it. Schmitt and Meara (1997, cited in Mochizuki and Aizawa 2000: 292) assume that a high suffix knowledge entails a wider vocabulary. Verhoeven and Carlisle (2006: 645) refer to L1 acquisition when they raise the evident question about the role of morphological knowledge in reading development, as complex words keep growing in number when the learner progresses through the upper grades. Is the same question not worth asking with regard to L2 acquisition, not solely when reading skills are considered but when we think of the overall widening of views in the L2 classroom? The above-average pupils can be expected to have developed some knowledge of English structures, partly due to a problem-free understanding of their L1, but my presumption is that it could also be beneficial for the less advanced pupils to know the basics of word formation, if only to facilitate the use of help material, such as dictionaries or simply to facilitate the recognition of words in context. In my opinion the current teaching materials for English at our disposal more or less ignore the word building processes, offering only a narrow sample of derivatives let alone any exercises or additional knowledge on the matter. I shall therefore bring the school environment with its materials into the discussion at the end of this paper.

In my work I shall present the basics of word formation in the English language in chapter 2, shedding some light on the various word building processes that are used to expand the lexicon, also briefly touching concepts such as borrowing, although mostly concentrating on derivational word building processes. My account of word formation in English is largely based on books by Katamba (2005) and Jackson and Amvela (2007) both of which offer a clear and thorough presentation of the word building processes, in addition to V. Adams (2001) who presents a more detailed analysis of affixes, and can be recommended as a versatile source of examples. This study is concerned with young L2 learners and their ability to grasp the mechanisms of word formation at their current stage of learning. The aim is to demonstrate how well a homogenous group of 6th-graders managed in a word formation test consisting of largely unfamiliar material, and to contemplate whether it would be beneficial at such a stage to include some instruction on the subject of word building in the curriculum. It is consequently essential to the present study to include an overview of how vocabulary is learned, how it is taught and how and to what extent word formation is included in the current L2 learning. Nation (1990) is an indispensable reference book on second language learning and teaching, containing valuable background material as well as being a practical guide book for the language teacher. I have consulted Nation extensively on matters concerning e.g. learning strategies and vocabulary teaching. These topics will be covered in chapter 3. As to other source material, articles by Schmitt and Zimmerman (2002) and Mochizuki and Aizawa (2000) focus on vocabulary learning with specific focus on derivation, having thus greatly contributed to the present study.

Both quantitative and qualitative approaches were used in acquiring the data. First, a three-part test with gap-filling tasks for 56 pupils was conducted and run by a computer for analysis. Two days later a think-aloud task was arranged for two boys from the test group. Their task was recorded and afterwards analysed qualitatively. The aim of the first part (A) of the test was to find out whether pupils could create new words if given a clue both in English and in Finnish, a task where their existing vocabulary might have been of assistance. The second part (B) introduced made up words that were not proper English and thus unknown to the pupils. With just the stem in context and an explanation of the required word as clues, this part focused on the real understanding of affixation, ie whether the pupils knew any affixes at all. To

what extent the pupils could either by knowledge or guessing add the appropriate affixes to words and understand the differences in their meaning was the aim of part C, where the participants also received a list of the affixes needed to complete the task. The justification of the additional part of the study, ie the think-aloud, was to be able to record the strategies two above-average pupils might have at their disposal when trying to accomplish a word building task, creating new forms from stems and affixes. The think-aloud task attempted to find out what goes on in their minds. The data and method of this study are introduced in detail in chapter 4, and the results offered in the following chapter. I shall discuss the results of the testing in chapter 6, expecting to find out whether some 6th-grade pupils seem to understand the basics of word formation, and how the results could support my initial claim that even young L2 learners should receive some guidance on the word building processes and undoubtedly benefit from it. In conclusion I shall look beyond the current situation and make a few suggestions as to new studies in the area of extending vocabulary size and knowledge by learning about word formation.

As the different word formation processes in the English language are central to my study and pertain to my goals of showing how much or little the pupils know about these processes I shall now move on to discuss word formation and the multitude of word formation methods. First, a brief glance at lexicology and the definitions of 'word' before offering a more thorough description on how words are formed through various processes like the inflectional and derivational methods. As "derivation and compounding account for the great majority of word-formational patterns" (V. Adams 2001: 2), and as the derivational method is of major importance in my research, it deserves special emphasis in the chapters to follow.

2 WORD FORMATION IN THE ENGLISH LANGUAGE

Basically, the English language receives its new lexical items by internal creative processes such as compounding and derivation. However, borrowing from other languages has always been a significant means of expanding the lexicon. Katamba (2005: 135) reports there has been extensive borrowing from over 120 languages,

and sometimes the etymology of a word can be traced back through several languages, *chess* being an example of an originally Persian word that came to the English language by way of Arabic and French. Latin and French words have been widely borrowed, leading to a particular characteristic in modern English where sets of three words, slightly varied in style, can express the same idea, e.g. *ask*, *question* and *interrogate*, representing a colloquial (Old English), more literary (French) and more learned (Latin) word. Nation (1990: 18) states that most low-frequency words come to English from Latin, Greek, and French. (For more examples of borrowings from other languages, see Jackson and Amvela 2007:24-50.) Although marginal word building processes need not concern this study, some are nevertheless worth mentioning. Jackson and Amvela (2007: 51) add root creation, echoic words and ejaculations to the list of word building methods in modern English. Root creation can be considered a rare process as very few words have ever been coined this way, ie by creating a word with no connection with any existing word. *Kodak*, invented by George Eastman is one example. Echoic words imitate the sound they represent, and are either imitative (*meow*, *moo*) or symbolic (*flip*, *flop*). Also called natural utterances, ejaculations have become expressions used in response to emotional situations, for instance *phew* as a reaction to a narrow escape from a dire situation, or *uh-huh* as a sign of agreement. What is of primary interest here are the more traditional processes having to do with the widening of the lexicon by creating new lexical items in the English language.

Understanding what is meant by word formation includes knowledge of how a word is constructed as well as knowing how words function in a language, e.g. knowing how free and bound morphemes work in word building processes, the difference between so-called content words and function words, and the rules according to which the creation of new lexical items becomes possible. Jackson and Amvela (2007: 81) point out that studying word formation processes consists of examining the devices that exist in the English language which enable us to create novel words on the basis of those already in existence. Understanding word formation leads to a deeper knowledge of the word types in English and their analysis. We can chop complex lexical words into their constituent parts as well as the other way around: we identify complex words by their parts, e.g. the affixes. The thing to keep in mind is the fact that all affix-resembling parts of words are, in fact, not affixes at all and

can be identified as such only if the remainder of the word can be identified as a morpheme. If we consider the suffixes *-ance* and *-ment*, for example, it is easy to see that they can be added to *disturb* and *pay* respectively as suffixes but in some cases the similar ending cannot be classified as a suffix, as in *dance* and *comment*.

Before moving on to a closer examination of the multiple word formation processes, let us briefly consider the field of study called lexicology and the definition of 'word'. Lexicology, the study of lexis, is closely linked to other fields of study such as phonology, morphology, syntax, semantics, etymology, and lexicography (Jackson and Amvela 2007: 2, 23). What is relevant to the present study is the connection between lexicology and morphology. The following presentation of how words are constructed lays the ground for the discussion on the productivity of different word formation processes, particularly the derivational method. Katamba (2005: 15-44) states that while words are seen as the smallest meaningful units of language, they can in turn be severed into even smaller parts (morphemes) which are equally meaningful or serve a grammatical function in a language. For instance the word *unsafe* consists of the vocabulary item *safe* as well as the prefix *un*, containing the meaning 'not safe', just as the word *mended* consists of the word *mend* and the grammatical function 'past', ie *-ed*. Morphemes are free or bound, according to whether they can occur on their own or solely combined with other morphemes. *Child* in *childish* is able to occur by itself while *ish* in the same lexical item cannot. Free morphemes are mostly so-called content words - nouns, verbs, adjectives and adverbs which contain the main referential meaning of a sentence - or function words which fill a grammatical function, such as the articles *a/an* and *the*, or the personal pronouns *I*, *you*, *he* etc. The basic meaning of a word is carried by the stem which, if formed by a single morpheme is called a root or base, and to which affixes are added (Jackson and Amvela 2007: 81). According to Katamba (2005: 15-44) morphemes possess a relatively stable meaning or function present in not just a few but thousands of words. *Re-* means 'to do again the action denoted by the verb' and as such attaches to a various number of verbs whilst maintaining the same meaning (*rerun*, *rewrite*, *rebuild*).

The construction of words by the morphological rules of word formation is precisely what the present study is about. The results of the tests will show how much the 6th-

grade students understand of this process, and the discussion will suggest further research on derivation and the need for guidance in word formation processes on the lower levels of language education. We build words using morphemes and the knowledge of how they work to form new lexical items helps us to identify and figure out the meaning of even unfamiliar words by their constituent parts, claims Katamba (2005: 31). An English teacher can readily agree with such a statement, as the importance of vocabulary knowledge cannot be underestimated in language learning and teaching.

In the following chapters I shall discuss the word formation processes in English, starting with a brief account of the inflectional method, and introducing the basics of compounding, as well as other important ways of building new lexical items, such as conversion and back-formation. What is of interest here is the multitude of classification systems used for word formation processes by different researchers. Katamba (2005: 54) divides word formation first into inflection and derivation, and considers affixation, conversion, stress placement and compounding as the main forms of derivation, however he then proceeds to explain how other linguists would understand derivation as the creating of new words by affixation and thus separate from compounding which combines two bases to form a new complex word. (For an account of other word-formation methods outside derivation, see Katamba 2005: 168-196.) Jackson and Amvela (2007: 99) rely on a slightly different categorization of the phenomenon. Their basic division is three-fold: inflection, derivation and compounding. Apart from these methods they discuss conversion, blends and shortenings as additional processes. V. Adams (2001: 2) emphasizes the importance of derivation and compounding as the main word-building methods in the English language, adding backformation, blending and shortening on the list of processes worth mentioning. The derivational process will be specially focused on below, being the most productive method of building new words in English and the main point of interest in the present study.

2.1 The inflectional method

Before moving on to the word formation processes in English let us first take a quick look at the inflectional method, which is not strictly speaking considered a word formation process but rather a grammatical one. Jackson and Amvela (2007: 82) explain that by the inflectional process alternative grammatical forms are produced by adding affixes to words. In English these are always suffixes. For example, the plural morpheme *-s* and the comparative inflection *-er* when added to nouns and adjectives respectively do not give a completely new word but a variant of the same word, for instance *roses* and *colder*. Inflection is then compared to the derivational process which gives birth to new lexical items by the addition of a derivational affix to already existing word stems, as adding the suffix *-ure* to the verb *depart* which will give us the noun *departure*. Whereas derivation creates new words, Katamba (2005: 53) states that “typically inflection contributes a morpheme that is required in order to ensure that the word has a form that is appropriate for the grammatical context in which it is used”. He then continues to claim that obligatoriness is an essential characteristic of inflection. The speaker will not be able to randomly choose an affix, it is mandatory to pick a particular one which will fit a certain grammatical context. (ibid.)

According to Jackson and Amvela (2007: 83-85), inflectional suffixes “tend to lend themselves to paradigms which apply to the language as a whole”. A paradigm is made up of a single stem of a major word class and the inflectional suffixes that stem can take, thus making it a means of defining a certain word class. A word belonging to a particular word class has to take some of the suffixes which are grammatically appropriate to the class but not necessarily all of them. A good example of this process are verbs. Normally the class consists of a five-part paradigm, for example *eat - eats - ate - eaten - eating*, but some verbs only have a four-part paradigm because the past and the past participle inflections are identical in shape, but despite this, naturally perceived as two different morphemes (homonyms), such as *work - works - worked - worked - working*. Table 1 illustrates the inflectional suffixes of nouns, adjectives, and verbs.

Table 1. English nouns, adjectives and verbs showing inflectional contrasts

<i>Base form</i>	<i>stem + plural</i>	<i>stem</i> + <i>possessive</i>	<i>stem + plural +</i> <i>possessive</i>	
boy	boys	boy's	boys'	
<i>Base form</i>	<i>stem</i> + <i>comparative</i>	<i>stem</i> + <i>superlative</i>		
cold	colder	coldest		
<i>Base form</i>	<i>stem + 3rd</i> <i>person singular</i>	<i>stem + past tense</i>	<i>stem + past</i> <i>participle</i>	<i>stem + present</i> <i>participle</i>
eat	eats	ate	eaten	eating

It must be noted that the adjective paradigm lends itself to gradable, mono- or disyllabic adjectives, and verbs show the contrasts illustrated above with the exception of *be* and modals. The four-part paradigm has already been discussed in the preceding text paragraph. Pronouns (function words) and auxiliary verbs (a closed sub-class of verbs) also fit into the inflectional paradigms, the noun and the verb paradigm respectively, although pronouns do not take the derivational suffixes and auxiliary verbs only have two forms. Adverbs consisting of one or two syllables follow the adjective inflection pattern, e.g. *fast, faster, fastest*. There are certain irregularities in the inflection patterns though, like the irregular plurals of nouns (*man-men, mouse-mice*), and the past tense and past participle of quite a few verbs (*sing-sang-sung, write-wrote-written*). Even spelling and pronunciation may deviate from the norm: dropping the *e* from *-ed* as in *moved*, adding the *e* to *-s* as in *masses*, not to mention the pronunciation of the plural *-(e)s*, and the past tense *-ed*. (Jackson and Amvela 2007: 83-85).

2.2 Conversion and back-formation

Before concentrating on compounding and the derivational method, a brief look at two other word building processes, namely conversion and back-formation is in order. They are dealt with together as both are processes where new lexical items are in fact created without affixes, ie conversion changes the word class without adding anything and in back-formation the new word is created by a process of dropping the

affix. Jackson and Amvela (2007: 100) state that when no change occurs in the form of the base, including pronunciation and spelling, and the word class changes, the process is called conversion or zero derivation. This method of creating words is extremely productive in English, as there is practically no limit to the forms which can change word class through conversion. It seems to be the opinion of many a scholar that conversion should be considered a case of syntactic usage instead of word formation proper. Katamba (2005: 64-66), too, claims that we can often determine which word class a lexical item belongs to, not by its morphological appearance but on the basis of its syntactic function. When the same word form is used as either a verb or a noun, we have to look closely at the grammatical context where the form appears, to be able to determine the word class it represents, for instance *The pig will jump over the stile!* and *What a jump!* The former lexical item *jump* is clearly a verb as it is preceded by the subject *the pig* and the auxiliary verb *will*, whereas the latter is preceded by the indefinite article *a* which confirms it a noun. While conversion of English verbs into nouns and nouns into verbs is very productive, this method is by no means limited to two word classes, on the contrary. Jackson and Amvela (2007: 100) convincingly show with quite a few examples that given the right context, conversion can happen internally within the same word class, changing for instance one type of noun into another which is what happens when uncountable nouns are used as countables, cf. *some beer, two beers*. Also intransitive verbs can be converted into transitive ones, as in *How long can a pigeon fly?* and *Can this little boy fly a kite?* It is true though that more often than not conversion causes a change from one word class to another: noun to verb (*to bottle*), verb to noun (*a call*), adjective to verb (*to empty*) or, more rarely, adjective to noun (*a convertible*). Interestingly enough, the base for conversion can be an adverb, preposition, conjunction, interjection or even affix, as *the hereafter* (adverb to noun) and *to up prices* (preposition to verb), to mention but a few.

Sometimes new words are created by a process of dropping the affixes which is called back-formation. The reason is the evident need for a new lexical item which has to be created from an existing word, often seemingly an already affixed one though this may not be the case. The noun *juggler* is one example. There is usually a corresponding verb to a noun meaning 'someone who does X' where the ending is spelled either *-er/-or/-ar* but in this case the verb did not exist and had to be

invented, thus bringing us the verb *to juggle*. The new construction is created by dropping the suffix, and this way fills the need for some new words, e.g. *television* gives the verb *to televise*. (Katamba 2005: 185). Back-formation is a word building method going back to historical times, making it sometimes hard to know which words have been backderived. Although language history is not part of this study, an interesting account of the development of back-formation to be found in V. Adams (2001: 136-138) can be recommended.

2.3 Compounding

According to Harley (2006: 99-100), when two bases which alone are meaningful combine to form a new complex word, most likely a noun or an adjective, the process is called compounding. Examples like *headstrong*, *easygoing*, and *outspoken* (adjectives), *high school*, *rattlesnake*, and *afterthought* (nouns) are easy to list, because especially noun to noun compounding is extremely productive in English. It creates a new lexical item which in turn is also a noun and can be proved as such by trying unsuccessfully to insert an adjective between the two or more nouns in the compound: *the long committee meeting* is acceptable, whereas **the committee long meeting* is not. (For a more detailed account of this and other types of classification of compounds by word class, see Jackson and Amvela 2007: 96-99.) It is usual that the whole meaning of a compound cannot be comprehended by the meaning of its parts, thus forcing a deeper understanding of the connection between its elements. *Alligator shoes* are made from alligator skin, not for alligators, just as *a newspaper* is filled with printed items of news, and *wallpaper* is meant for decorating the walls. How is it possible then that speakers know what the meaning of the whole compound is? Harley (2006: 123) defines the process called *idiomatization*:

Inflectional affixes just “inflect” a stem to satisfy the grammar, leaving its core meaning essentially unchanged. Words formed with derivational affixes, however, sometimes gradually take on their own, unique meaning over time, in the same way that an oft-repeated metaphor can become an idiom. Such meaning drift is called **idiomatization**.

Jackson and Amvela (2007: 92-94) point out that compounds are orthographically inconsistent, either spelled as a single word, separate words, or with a hyphen. They can also be “simply juxtaposed” or contain modification by inflection, as in *bird’s-eye* or *driving-licence*. Stress patterns, word order, interruptibility, modification and inflectibility all characterize compounds and distinguish them from phrases. As opposed to phrases, a compound usually has one primary stress (*ˈback-board*), may have unusual word order such as in *sea-sick* (noun-adjective), is non-interruptible “by extraneous elements” as mentioned earlier, can be modified as a whole but not independently (John was *seriously air-sick* but not **air-very sick*) and can also be inflected “according to its grammatical class” (*textbooks, finger-prints*).

Having now discussed the essential word formation processes in English, including the inflectional method which can be seen more as a grammatical process, it is time to tackle the derivational method, my main focal point in word formation. The test conducted for the present study concentrated specifically on the derivational method. The pupils who took the test had to demonstrate their ability to form new English words by either knowing or guessing the correct affix. What follows is an overview of the affixes in the English language and the rules and restrictions in using them.

2.4 The derivational method

The importance of the derivational method as an extremely productive means of expanding the English vocabulary has been emphasized above. What then is the definition of productivity when we are discussing word formation? Plag (1999: 6) claims that “productivity is loosely referred to as the possibility to coin new complex words according to the word formation rules of a given language”. Lipka (1992: 92) explains two terms connected with word formation, namely productivity and creativity (coined by Lyons 1977, cited in Lipka 1992: 92), the former a set of rules in the language system, and the latter denoting the language-learners’ rule-free ability to expand the language system by instinctively creating new lexemes. The

former is seen as the system which covers processes such as compounding and affixation as well as clippings.

Jackson and Amvela (2007: 88-91) state that derivational affixes fall into two categories: class-changing and class-maintaining. Class-changing derivational affixes in English are for the most part suffixes. The verb *resign*, when fattened with the suffix *-ation* gives us *resignation*, a noun, but there are exceptions such as the word *child* which with the suffix *-hood* becomes *childhood*, although an abstraction still a noun just as the base the suffix was added to. Class-maintaining derivations, consisting mainly of prefixes, change the meaning of the stem they are added to while leaving the word class unchanged. For instance *ex+priest* (noun), *re+open* (verb), and *anti+social* (adjective). Jackson and Amvela do not think adverbs are worth discussing, forming a marginal group.

I am mainly concerned here with affixes present in the English language which can be added to words to form new ones, not the constructions and usage of new lexical items constantly being created in slang, jargon, rhyming slang, semantic widening or narrowing, clippings, acronyms and abbreviations, fads and copycat formations and Geek-speak (internet slang and jargon), all of which are classified by Katamba (2005: 168-196) as ways of manufacturing and recycling words, as is the expanding of the lexicon by borrowing from other languages. There is some confusion about whether infixes, ie affixes added inside a word instead of the beginning or the end, really exist in the English language. As there is evidence of their use, I have also included a brief comment on infixes.

2.4.1 Prefixes

Katamba (2005: 57-59) classifies affixes by their phonological properties into neutral and non-neutral. The former do not cause a modification of the base word, while the latter do. Prefixes tend to be stress neutral, ie regardless of the presence of the prefix the stress in the word always falls on the same syllable. The examples include, to

mention but a few, *mis-* meaning 'wrongly, badly' as in *misunderstand* and *misread*, *re-* meaning 'again' as in *rethink* and *replay*, and *dis-* meaning 'negative' (with adjectives) and 'negative, reversive' (with verbs) as in *dishonest* and *disagree*. Katamba (2005: 91) further explains that non-neutral prefixes cause changes in the words they are attached to, ie in the vowels, consonants, or stress patterns, that is to say they affect the phonology of the base. When *electric* changes into *electricity* we have an example where the change has affected the consonant /k/ → /s/. However, Katamba admits that there exist other systems of classifying affixes, for example one might consider negative prefixes such as *im-*, *un-*, *dis-*, *non-* (*impossible*, *unnecessary*, *disapprove*, *noncombatant*) as a specific group of prefixes. (Katamba 2005: 91). A dictionary example of prefixes is as follows:

Un- is a prefix, used at the beginning of a word. It turns an adjective or an adverb into another adjective or adverb with the meaning "not" [...] It also turns a verb into another verb [v -> v] with the meaning "showing the opposite action": **wrap** becomes **unwrap**. (Longman Dictionary of Contemporary English 1980: xxvii)

According to V. Adams (2001: 41) prefixes are added to verbal, adjectival or nominal bases, forming new words which usually belong to the same word class as their bases. *De-*, *dis-* and *un-* make an exception as they can be attached to both nominal and verbal bases, and parasynthetic prefixed adjectives with noun bases, like *non-stick* and *multi-racial* also exist. V. Adams (2001: 41) claims that prefixes have little significance in new formations, perhaps with the exception of specialized scientific and technical language, where adjectives and nouns are formed by such prefixes as *ante-*, *hyper-*, *supra-*, and *nano-*, among others. In language learning prefixes serve a purpose, as knowing the meaning of a prefix a learner may with ease form the opposite or negative meaning for a word thus also adding to his own word repertoire. V. Adams (2001: 41-42) further classifies prefixes by their semantic properties, grouping them into 'locative', 'quantitative', 'reversative', and 'negative'. These divisions are often overlapping or linked together, as in *an unlocked door*, which might mean the reversed result of an action (*unlock-ed*) or a negative state (*un-locked*) thus making it either reversative or negative. Most prefixes originate from Latin or Greek particles or quantifiers, thus appearing in a broad range of meanings in English nouns, adjectives and verbs. *Sub-* can be translated as 'below', 'subordinate', or 'falling short of a standard' in *subsoil*, *subplot*, and *subnormal*

respectively, to offer an example. Prefixes sometimes appear as words in their own right, due to their degree of semantic autonomy, as in *pro the idea* or *Whenever you're dissed, you're dealing with a bully*. (For an exhaustive list of English affixes, see e.g. Jackson and Amvela 2007: 88-92, or V. Adams 2001: 19-70.)

2.4.2 Infixes

There seems to be something of a controversy regarding the existence and use of infixes in English. While Jackson and Amvela (2007: 60) refuse to discuss infixes on the basis of their claim that such affixes are non-existent in the English language, Katamba (2005: 52-53) presents infixes as one type of an affix some languages possess which is placed inside the word instead of before or after the base, and states that although bound infix morphemes do not occur in English, it is possible to add expletives into words, presuming certain conditions are met. The use of the inserted affix is more or less restricted to expressive language. "Colourful four-letter words" which usually consist of two syllables are placed inside the base word typically consisting of at least three syllables, creating expressions like *My ex now lives in Minne-bloody-sota*. The infix has to be placed immediately before the syllable that has the main stress in the base.

McMillan (1980: 165, 167, cited in M. Adams 2001: 327) describes infixes as emotional stress amplifier[s] and claims that "some inserts which are not expletives and which add lexical meaning to their matrices rather than emotive intensity should not be classified as infixes". M. Adams (2001: 327-330), however, contradicts the above-mentioned rule by giving examples of infixing where the insert, while remaining expletive occasionally also adds lexical meaning to the expression. As an example he offers *absoschmuckinglutely*, where he describes the meaning as the speaker's inner sense of feeling like a schmuck and *US-fucking-A Today*, which occurred in the film *Heathers* (1988) and is meant as a warning of becoming common like the stories published in *USA Today*. (See M. Adams 2001: 327- 331 for a more detailed analysis and more examples.) M. Adams (2001: 329-330) also

believes that infixing, though at first glance a straight-forward rule-governed phenomenon, can yield “more complex and flexible” grammatical intrigue than previously expected, not to mention the subtle humour sometimes present when the infix can be seen as both meaningful and expletive. In a later article M. Adams (2004: 112) returns to McMillan’s earlier argument and decides that the non-expletive, meaningful infix is not to be pursued as it “lacks both the appropriate motivation and the desired effect”. As the use of infixes is quite rare and restricted to specific circumstances, it plays no significant role in the present study. It can be argued to form a marginal group among affixes, probably worth mentioning in the language classroom but most likely to be learned elsewhere through an extra-curriculum past time such as films or TV.

2.4.3 Suffixes

Particular affixes automatically change the word class of the derivative into either a noun, verb, adjective, or adverb (Jackson and Amvela 2007: 88). Nouns can be formed from verbs and adjectives, verbs from nouns and adjectives, adjectives from verbs and nouns, and though they themselves cannot be the base for derivations of other classes, adverbs can be created from nouns and adjectives (V. Adams 2001: 19). According to Jackson and Amvela (2007: 88- 92) “English class-changing affixes are mainly suffixes”. Affixes that help in building nouns are called nominalizers (*leak+age, disturb+ance, social+ist, free+dom*), consequently verbalizers build verbs, although they are relatively uncommon (*fright+en, legal+ize*). Adjectives are mostly formed from nouns by adjectivizers, verbs are not so productive (*suburb+an, passion+ate, tire+some*). Adverbializers form adverbs, frequently from adjectives, by the most productive of all affixes, namely –ly (*slow+ly, consistent+ly*), not so often from nouns (*home+ward, clock+wise*). The way I see suffixation affecting language acquisition from the learner’s perspective, it is the class-changing property of the suffix that makes it very useful, as it compels the learner to look closely at the word class of a derivative and with practice could facilitate the recognition of new words in context.

Suffixes, bound morphemes added after the base, do not usually have any meaning of their own, possessing only the meaning of the word they attach to or are part of, with the exception of adjective-forming suffixes *-ful*, *-like*, and *-less* which have developed from free morphemes with similar meaning (V. Adams 2001: 2). V. Adams (2001: 52-69) claims that suffixes in English are mostly noun-forming. It is possible to form adjectives from adjectives, for example with the addition of the suffix *-ish*, creating the meaning 'somewhat adjective' e.g. *cheapish*, and with the suffix *-ly*, creating adjectives like *deadly*, *poorly* etc. However, the latter class is not productive and the former word forms are sometimes claimed to belong to colloquial language only. Harley (2006:124) states that derivation can change the word class of the stem, but this is not always the case, though derivational suffixes always specify the word class of the new word. The suffix *-ness*, whether attached to an adjective or a noun, creates a noun, e.g. *goodness*. It must be noted that the suffix *-ness* is very rarely attached to nouns except in informal contexts. She cites an example from a website: "[...] many owners aren't paying enough attention to their dog's 'dogness'."

Harley (2006: 123) claims that some suffixes can be used both in inflection and derivation, for instance the verbal suffix *-ing* which can form the progressive participle of the verb as in *Sue is walking*, and in this case is used inflectionally. It has another function in turning verbs into nouns as in *The singing woke me up*, which is clearly derivational. So it seems there exist two suffixal endings *-ing*, one for forming the progressive participle and the other a class-changing derivational suffix. (For an exhaustive list of English suffixes and examples, see V.Adams 2001: 52-70.)

Having now covered the most common word-building processes in the English language, I shall move on to discuss vocabulary learning and teaching which are of equal importance for the present study. After introducing the basics of vocabulary learning, I shall discuss some factors affecting the learning processes, such as individual differences between the learners, receptive and productive learning, breadth and depth of vocabulary, and various learning strategies. Vocabulary teaching is also dealt with in the following chapters, which focus on the teacher's facilitating role in vocabulary learning, but also discuss the undesired possibility of unteaching.

3 VOCABULARY LEARNING AND TEACHING

There has been ample research on L2 acquisition and the learning and teaching of vocabulary during the past decades. Bogaards and Laufer (2004: vii-xii) list an impressive number of studies in the introduction to their compilation of articles on the subject, and raise questions regarding for instance the criterion for vocabulary selection, the correct use of an item which is known to have multiple meanings, word learnability and specific needs of particular learners, as well as incidental learning and the importance of instruction. In the following paragraphs I will try to assemble an overall image of the language learner, with thoughts on the dispute about the possible superiority of young over older language learners, different learning styles and needs, learning strategies and language instruction. Although not all of these topics are directly focused on vocabulary, they are linked to the present study, and will pave the way to for the discussion of the test results and the need for instruction on word formation in comprehensive school.

3.1 Vocabulary learning

Surely there must be as many views on vocabulary learning and teaching as there are learners and teachers. However, let us first study the language learner and the properties that seem to affect the whole learning process. Mitchell and Myles (2004: 23-28) state that a second language learner is a child or an adult learning the target language in a diverse environment (school, playground etc.) with different type of motivation, e.g. integrative, or instrumental. Linguists and psycholinguists have been studying the inner mental mechanisms of the individual learner during the language learning process. Their aim is to find out the sequences of acquisition which the learner goes through when he acquires a language. Kumaravadivelu (2006: 139) claims there is a difference between the processes of acquisition and learning, namely “learning [...] is developing language knowledge/ability intentionally”. In this study the two terms are used interchangeably. The question about a critical age,

and the overall influence of the learners' age on the acquisition process, ie are young learners better than older ones, still seems to divide opinions. Larsen-Freeman and Long (1991: 206) suggest that in order to have enough "time to establish a firm basis in the L1, which in turn has been claimed to benefit SLA and general school achievement", and yet to be able to attain a native-like competence, the second language should be started at the optimal age, around the age of nine. Overall, the common opinion seems to consider younger learners at an advantage over older ones. Reasons for differential success in language learning other than age, can be roughly divided into two categories, the cognitive and the affective factors (Gardner and MacIntyre 1992, 1993, cited in Mitchell and Myles 2004:25). I shall now take a closer look at these aspects of individual learning differences inasmuch as they are essential to the present study and the discussion on the results of the tests.

3.1.1 Individual differences in language learning success and their implications on vocabulary

As stated above, the age of the learner has at least some significance to the success in attaining language ability. Naturally there are other aspects worth considering. Mitchell and Myles (2004: 25) observe that it is hardly surprising that intelligence correlates positively with language success. Language aptitude implies 'talent' in language learning, and has been the subject of many studies. Language aptitude consists of four abilities: phonetic coding ability, grammatical sensibility, rote learning ability and inductive language learning ability (Carroll 1981, cited in Larsen-Freeman and Long 1991: 167). High scores in language aptitude tests can predict success especially in formal classroom study, but they lack the assessment of the ability to communicate which goes beyond the factors featured in the tests (Larsen-Freeman and Long 1991: 169). It is still unclear whether learning strategies feed successful language acquisition or vice versa (Mitchell and Myles 2004: 26). However, their importance can not be overlooked as the learners not only have to find the strategies that yield the best results but also discover those that will suit them best individually (Kumaravadivelu 2006: 37). Language attitudes, motivation,

language anxiety and willingness to communicate, listed by Mitchell and Myles (2004: 26) are affective factors that contribute towards successful or indeed unsuccessful language acquisition. Attitudes towards the target language and its speakers may explain differences in language achievement. Motivation, the desire to concentrate and focus on achieving a set goal, “has been consistently found [...] to correlate positively with successful learning outcome” (Kumaravadivelu 2006: 40). Anxiety, on the other hand, seems to either enhance language learning or create hindrances (Chastian 1975, cited in Larsen-Freeman and Long 1991: 187):

Facilitating anxiety motivates the learner to ‘fight’ the new learning task; it gears the learner emotionally for approval behavior. Debilitating anxiety, in contrast, motivates the learner to ‘flee’ the new learning task; it stimulates the individual emotionally to adopt avoidance behavior.

Clearly the above-mentioned factors that affect the individual’s language learning, do so in all the different areas, including the acquisition of vocabulary. Learning strategies, for instance being able to study words in various ways surely has a positive impact on how they are acquired. Anxiety, on the other hand, could become such an essential part of a learner’s experience that it profoundly either helps or obstructs his development. Debilitating anxiety might make it impossible for the learner to communicate in class and result in a poor retention of words through lack of elaboration, to give just one example. As can later be gathered from the results of this particular study, the affective factors are present and influence the test situation, and can be seen to affect the results as well.

3.1.2 Receptive and productive learning

Nation (1990: 30) considers what knowing a word means for the learner, and comes to the conclusion that the answer is different depending on whether the word needs to be learned for productive use or receptive use only. Let us first of all look at Nation’s (1990: 31-33) definitions of both the above terms. Receptive knowledge means the learner can recognize the word and distinguish it from other similar-looking words, as well as being able to infer the type of context where the particular word might occur. Receptive knowledge increases through time and experience and is facilitated

by instruction. For instance knowing the collocations, frequency, appropriateness, and shades of meaning of a word are all essential parts of receptive knowledge. Productive knowledge includes all of the above and additional knowledge. It must be emphasized though that the pronunciation, writing and spelling, and the appropriate usage of a word in varying situations are probably not always familiar even to native speakers, partly due to their vast receptive vocabulary, consisting to a great extent of low-frequency words. It can thus be argued that many learners of English as a second language have a wider vocabulary range in specialized areas than native speakers. As productive learning tends to be “substantially more difficult than receptive learning”, Mondria and Wiersma (2004: 79) conducted a study where they compared receptive learning, productive learning and the combination of the two to find out which method would lead to a better knowledge of vocabulary. They present studies about the effects of receptive and productive language learning, and come to the conclusion that productive learning first of all tends to overlap with receptive learning, which could lead to additional receptive learning. Secondly, productive learning is more difficult and thirdly, the overall retention of productively learnt material is poorer. It has to be pointed out that in Mondria and Wiersma’s (2004: 86-98) study receptive vocabulary learning is defined as learning to translate a word from L2 to L1, and likewise, receptive knowledge and the testing of the results as being able to translate a word from L2 to L1. Productive learning, in its turn, works the other way around. The results show that combining the two learning methods leads to a similar level of receptive knowledge as receptive learning alone, productive learning leads to an amount of receptive retention, receptive learning to an amount of productive retention, and that productive learning is more time-consuming and difficult. This seems to confirm what can be seen in the language class when typical word lists are studied and tested by traditional word tests, where some words have to be translated from L2 to L1, and vice versa. Long-term retention seems far from effective and even without experimental evidence it seems the teacher should certainly rethink the learning processes, keeping in mind the receptive and productive knowledge already learnt and to be learnt. A reasonably wide vocabulary knowledge is, after all, just the foundation on which the learner builds his entire L2 performance.

3.1.3 Breadth and depth of vocabulary

How is it possible for the teacher to know how many words the learner already knows and how well he knows them? It seems to be the teacher's task to determine what is known and what is needed, but how is the learner's vocabulary knowledge to be tested? Read (2004: 209) claims that the increased volume of vocabulary studies has created a need to assess the learners' lexical knowledge and ability. The methods of testing have to a large extent remained traditional: checklists, recognition tasks, gap-filling segments, translation, and interviews. The Vocabulary Levels Test, developed by Nation (1990), has been the chief instrument for testing word knowledge at different frequency levels. The theoretical basis consists of two key terms, namely the breadth and depth of vocabulary knowledge, the former being the number of words a person knows, the latter expressing the quality of his word knowledge. Read (2004: 209-224) is of the opinion that the breadth of vocabulary has been vastly yet sometimes superficially tested, and similarly, the depth of vocabulary has been somewhat inadequately defined. He suggests three approaches to the concept of the depth of vocabulary: the precision of meaning, comprehensive word knowledge, and network knowledge. Precision of meaning entails having specific knowledge of a word, not just a vague idea of what it means, comprehensive word knowledge also includes insights into the orthographic, phonological, morphological, syntactic, collocational and pragmatic aspects of a word. The ability to link the word into other words in the mental lexicon and being able to separate it from related words is what is called network knowledge. Greidanus et al. (2004: 206) found in their study about the depth of vocabulary knowledge focusing on network knowledge, a strong correlation between the depth and the breadth of vocabulary knowledge, which seems to suggest that the more words one knows the easier it is to understand the relationships between words (similar results are reported by Read 2004).

There is reason to continue developing various ways of assessing deep word knowledge to be able to broaden the view on lexical ability because "the question is

not what learners know about a word but what they can do with it". (Read 2004: 209-224). In my opinion the above quotation accurately describes the main aim of the present study, as indeed it should be the main aim in the classroom as well. I examine what pupils currently know about word formation with the intention of finding ways of assisting pupils to acquire more and to be eventually able to use their knowledge of English better.

3.1.4 Inferencing, mnemonic techniques, and derivation as learning strategies

Individual learners develop their own learning strategies, or should be introduced to different options by instruction. All learners have "different, yet successful, styles of acquiring unfamiliar vocabulary" (Sökmen 1997: 238). A few choices of strategy are introduced in this chapter, namely lexical inferencing, mnemonic techniques, and derivation, which are applicable, though by no means the only alternatives, for successful vocabulary acquisition and retention.

Blevins' (2006: 531) research on word-based morphology, where he examines how words often predict other word forms, seems to support "the traditional view that the mental lexicon is to a large degree word-based". Dictionaries seem to give the impression that words are something to be learnt in isolation, but the truth of the matter is that words are material to be put in context provided by grammar, thus making the relationships between words every bit as important as their single meaning (Cook 1991: 37). Cook further claims that learning words is not just memorizing items translated from one language to another (which some linguists consider an impossible task anyway) or defining words or indeed putting them in context, but it embraces the whole cultural context where meaning relationships have to be understood.

A frequently occurring problem in the language class quite possibly familiar to teachers and students alike regardless of geography, is the sinking feeling when a

new word you cannot figure out appears in the context, or a familiar word vanishes from your memory just when you need it the most. What ways are there to help the student to recognize new words or retrieve familiar ones from memory? Qian (2004: 155) finds evidence for the importance of context in lexical inferencing, as inferencing appears to be one of the most important techniques used when encountering an unfamiliar word in a text, in addition to using dictionaries, or consulting a teacher or a peer. Lexical guessing correlates highly with language proficiency, being a comprehension process that involves using all the learner's sources of knowledge and linguistic cues to make the guesses leading to the desired correct meaning of a word. There are some drawbacks to be found in inferring words from context, claims Sökmen (1997: 237). First of all, it is a very slow way of learning new words and second, there is always the chance of incorrect guessing. Thus it can be argued to be best used as just one of the many options the learner might need in the vocabulary learning process. Nation (1990: 160) claims that while some students can use this technique with relatively little effort, other learners can be taught to benefit from inferencing. (See Nation 1990: 160-166 for practical clues on how to proceed.)

Cook (1991: 40-44) reminds us of the essential truth that words still need to be remembered, a process which depends largely on how deep the processing is and how the word is practised. It seems clear from many studies that words learnt by fewer presentations and practised at intervals are better preserved in the memory than words that are repeated more often. Bogaards and Laufer (2004: xxii) call for adequate and efficient consolidation of vocabulary knowledge, otherwise the amount of words learnt will remain modest, as it is extremely difficult to remember new words after they have been practised just a few times or the learner has been exposed to them only a few times. Nation (1990: 166-168) calls for mnemonic techniques that can help in vocabulary retention. One of them is the key word technique where the learner tries to associate a word form and its meaning by combining the two in an unusual way, to make a lasting mental image. An example could be the word *helmet*, which in Finnish means 'pearl necklace', and has a pronunciation quite close to the English word, so all the learner needs to do is to picture someone wearing a helmet and some pearls to make the word more easily memorizable.

Cook (1991: 37) explains two techniques widely used in L1 acquisition study called the components approach and the prototype theory. The components approach claims that after words are split into components with meaning these components are learnt separately. Nation (1990:168-174) also explains how the recognizing of word parts and using prefixes, roots, and suffixes facilitates the understanding of unfamiliar words in context. A list of prefixes and root elements has been compiled, and by “learning these master words and the meaning of their parts, learners will know the most useful prefixes and roots”. The learner needs to be able to divide the word into the constituent parts, and to know the meanings of the parts, and understand how the parts and the meaning of the word are linked. This is precisely what the present study attempts to do, ie to find out whether the 6th-grade pupils grasp the idea that words have affixes attached to them, and furthermore that it is essential to know the meanings of the constituents in order to be able to understand the meaning of the whole word. Cook (2001: 38-40) presents the prototype theory of vocabulary, developed by Eleanor Rosch in 1977, which emphasizes the tendency for children to learn ‘basic’ words like *table* first simply because they are easy to use and learn. It is not until after this stage that they will be ready to learn more general and more specific words, for example *furniture* and *coffee table* respectively. (Cook 1991: 38-40). Nation (1990:174) claims that when the learner is trying to master independent learning strategies, he has to be provided with ample instruction and encouragement. Whatever the learning strategy, our current school material providers seem to ignore the theories and offer sets of words without as much as stating any reasons for their choices.

Having now dealt with the main issues of vocabulary learning, I turn to vocabulary teaching, consulting Nation (1990), among others, on the questions which are relevant when discussing the teaching of vocabulary. The terms direct and indirect learning, as well as receptive and productive learning have been introduced above but relate to language teaching also. The following chapter contains a few practical pointers on how the teacher can make language learning slightly easier by paying attention to the learning burden, as well as avoiding “unteaching”, the unfortunate process which could render the learning of new vocabulary even more strenuous for the student.

3.2 Vocabulary teaching

Second language teaching has increasingly started to emphasize the importance of learning vocabulary and despite developing teacher training and teaching materials, it remains the teachers' responsibility to try their best to assist their students in storing and retrieving words (Sökmen 1997: 237). Nation (1990: 1) starts his book about teaching and learning vocabulary by posing the most relevant questions about whether or not vocabulary should be taught, and if so, what learners need to know and how much they know now? The teaching of vocabulary ought to be directed towards teaching useful words and giving practice in useful skills. Inadequacy of vocabulary knowledge is an obstacle in learning a language, and when the situation demands it, Nation also gives credit to studying word lists. Sökmen (1997: 245), likewise promotes 'dictionary work' consisting of writing and copying words, creating index cards, matching words with definitions, and so forth, as useful independent techniques. McCrostie (2007: 254) is of the opinion that while writing word lists can be an effective way to vocabulary knowledge, it should not be left to the learner to choose which words to study, as "in students' minds all unknown words are created equal". He claims the student cannot know which are the important words worth learning, and needs guidance in the proper use of the technique.

When focus in the classroom is specifically on vocabulary learning, it is called direct vocabulary learning, as opposed to indirect learning where the learner's attention is directed on something else, e.g. delivering a message, and vocabulary is learnt incidentally. Krashen (1981, cited in Nation 1990: 2-3) calls this process the input theory of language learning and lists the conditions where indirect learning can take place. First, the learners must be interested in understanding and solving the task they have been given. Second, the teacher must provide comprehensible input just above the learners' current ability, and third, the learners should not feel threatened by the situation. Indirect learning should be the aim when teaching a language. It is a fact that language teaching today certainly contains both direct and indirect vocabulary teaching and learning, but although much of the current teaching material is geared

toward indirect learning, one cannot escape the feeling that sometimes words are still hanging in the air, separate entities out of context.

According to Nation (1990: 4-6), another challenge for the teacher is to decide what the vocabulary needs and goals of the students are and how to define and reach them. As words are divided into high-frequency words, low-frequency words and specialized vocabulary, the teacher has to know which type of vocabulary best meets the current needs. Then the teacher can choose how to teach the particular vocabulary and what type (receptive or productive) and amount of learning to expect from the students. Depending on the goals, different types of vocabulary will be taught with different means, be it books with simplified vocabulary or word lists. If receptive learning is aimed at, the emphasis should be on the quantity. However, when productive vocabulary is needed the focus should be on the quality of the relatively small vocabulary to be mastered. Productive learning calls for intensive practice in speaking and writing.

Nation (1990: 6-7) reflects that although the teacher may occasionally want to direct attention to a specific word, for instance when the word is frequent, causes difficulty, is needed for another activity or is a good example of a regular pattern to be learned, “most vocabulary learning [...] will happen when the learners use the language for other purposes”. What the teacher is compelled to do is to pay attention to the increasing of vocabulary as opposed to the establishing of vocabulary, because returning to previous learning and old material already taught is of utmost importance. If the old material the students already have knowledge about is not actively revised, it will be forgotten and time wasted in the classroom. As the students are already acquainted with the previous material, it will be beneficial to focus on contextual features and generalizations. The increasing of vocabulary simply means starting the learning process, whereas establishing vocabulary involves the strengthening and expanding the existing knowledge whether, for instance, by reading or word games.

3.2.1 The teacher's facilitating role

What then can the teacher do to make the learning process easier? There are many practical pieces of advice Nation (1990: 33) offers for lightening the burden. "The learning burden of a word is the amount of effort needed to learn and remember it". When the English words do not share characteristics with L1, it is possible to compose "minimum difficulty" lists to ease pronunciation, and gradually introduce more demanding sounds and clusters. As regards the written form, the learners' attention should be directed to the regularities avoiding the exceptions to the rule, keeping in mind that high-frequency words are often irregular. A grammatical pattern may have similarities with the L1, but when the structure is not predictable from the mother tongue, it should be avoided, focusing on the structures where the usage is similar. An example of a challenging verb that is an exception to the rule is *suggest*, because it needs no preposition like the related verbs *talk*, *argue* and *joke* do. As the learner would say *We talked about it*, he might also construct the sentence **We discussed about it*. Sökmen (1997: 240) states that instruction must not ignore the teaching of the less frequent, difficult words, keeping in mind that if a word is taught before the student has been exposed to it in context this might cause problems (cf. the word lists in current text books, which according to the teacher's manual should be studied before the chapter in which they first appear). Nation (1990: 33) observes that teaching words in collocations seems plausible as it is an established fact that words are best learned in context and easily adopted if associated with each other. If the teacher overuses a low frequency word in class it distorts the learner's view of its usefulness, as a higher frequency word would probably be more common in everyday speech. Thus it is clear that time spent teaching a certain word should be in direct proportion to its frequency. How to use words appropriately according to the context and situation presents another problem for the language class. The teacher not only needs to explain the usage but also the situation where the particular word could be used and the values added to it. Bodily functions seem to present problems when learning to use the associated words appropriately.

Nation (1990 :33-43) claims that word meaning can be discovered from its similar form with an L1 word, possible known parts, and a form which sounds similar to its meaning. Some European languages spring from the same source, thus a French student would easily associate *table*, *elementaire*, and *dentiste* with the English words *table*, *elementary*, and *dentist*. The meanings of the parts of *un-govern-able* are relatively straight-forward, and where possible the teacher should try to explain the words by their parts. Onomatopoeic words sound like their meaning, but these words are by no means always agreed upon by speakers of different languages, English hens *cluck* but Indonesian hens *ketuk*! If two words are associated with each other, this might mean they are stored together in the brain and perhaps make it more readily available when needed, however this seems not always to be the case, as the associations might also cause interference.

3.2.2 How to avoid unteaching

The teacher's role is demanding and sometimes things do not work out quite as planned, thus it is necessary to look at some risks in language teaching. Nation (1990: 43-49) points out that despite the teacher's best intentions in assisting the learning process, it is possible for the instruction to result in "unteaching", ie there are certain procedures the teacher should avoid in order not to confuse the student and make previous learning instances null and void. Different research shows that the average number of repetitions needed for a word to be remembered is between six and seven, which raises the question whether textbooks are offering enough repetitions. According to Nation (ibid.) the results from counting the *density index*¹ in textbooks are quite alarming, the number of repetitions being so low as to bring the index close to unsimplified English. For the teacher this presents the challenge of keeping a register on the words and adding the number of words needed to keep the level of repetition high. It is worth remembering that similarities between words can either be facilitating or cause additional difficulties, thus "opposites and free associates are more difficult to learn than unrelated words", for instance *short* and

¹ Density index is the ratio of different words to total words (see Nation 1990: 249)

long, while seemingly understandable opposites, would make the learning process more complicated when taught together instead of being taught separately. Exceptions to the rule should also not be introduced before the rule itself is properly learned. Ignoring the above-mentioned pointers, the teaching situation might well result in “unteaching”, the nullifying of past results. However, intrinsic difficulties exist in language teaching, such as the codability of words which is affected by the relationship between L1 and L2, as well as the fact that words are 50 to 100 percent more difficult to learn productively than receptively, an aspect of language learning the teacher has very little control over.

McCrostie (2007: 253) claims that students cannot work totally independently when they are to acquire a proper style and range of vocabulary, not to say anything about learning collocations. There is a “need for teachers to train students to view words not as individual units but as pieces of a jigsaw puzzle”. Students do not instinctively know which words are the most useful and tend to select more words from a particular word class (nouns), choosing words from the other classes more or less randomly. McCrostie (*ibid.*) criticizes modern textbooks for their inadequate and poor selection of vocabulary and claims that the challenge remains for the teacher to pay attention to collocations and appropriate choice of words to be learned. According to Cook (1991: 42-43) learning vocabulary should mean learning the multitude of meanings words possess, not solely the one given in word lists. He considers learning how to use the word in the structure of the sentence of equal importance.

The above account on the teaching of vocabulary shows the significance of the teacher’s role in determining the type and amount of vocabulary to be taught, taking into consideration the goals set for language learning and teaching. Krashen (1982, cited in Kumaravadivelu 2006: 145) is of the opinion that we can only teach what is learnable and what the learner has capacity for, and what has not yet been learned, and in general, he claims that we do not at present know what those aspects are. However, in vocabulary teaching, there has been extensive research and information is available as to which way to go (Nation 1990: 1). The current view of how the language teacher operates is concisely summed up by Kumaravadivelu (2006: 142-145), in his presentation of the learning-centered method. The teacher follows

meaningful activities, letting the learner concentrate on problem-solving tasks and not on grammar. Thus, the teacher provides comprehensible input according to Krashen's model, presenting a reasonable challenge for the learner. Furthermore, he integrates language skills whenever this is possible, so the different aspects of language are not taught separately or in a predestined order, and makes incidental instead of systematic corrections. It is the teacher who is responsible for making the necessary adjustments to the teaching materials, in order for them to be suitable and practical.

3.3 Word formation in vocabulary learning and teaching

What is the role of word formation in vocabulary learning and teaching? I shall first look at a few opinions about how morphological knowledge might be of assistance in language learning. Verhoeven and Carlisle (2006: 643-649) cite various results from studies concerning morphology, and the main point that is clearly proven is that "the reading and spelling of words or the vocabulary size is associated with the extent of morphological awareness the learner has built up". As the complexity of words increases steadily over the years and children tend to analyse new words by their constituent parts, it is important to find out to what extent they can identify morphemes in complex words. The articles reviewed by Verhoeven and Carlisle are mainly concerned with L1 learning, whereas Schmitt and Zimmerman (2002) raise a similar question about L2 learning. Can it be expected that knowledge of derivative forms necessarily results in the L2 learner's mastery of other derivative forms of the same family and thus contributes to the size of their lexicon or their productive language skills?

Schmitt and Zimmerman (2002: 147) claim that inflections and derivations create different learning burdens. The majority of English words take inflections in a regular manner, making it easy for the learner to form new ones just by following the rules, whereas derivation is not rule-governed and different derivatives have to be formed separately, leading to difficulties in having to memorize each item. Gardner

(2007: 249) observes that as L1 learners acquire inflections before derivations, the same applies to L2 adult learners, ie inflections are acquired before derivations. Schmitt and Zimmerman (2002: 147) claim that native speakers seem to recognize unknown complex words by the stem word, ie use it for access to the whole item, therefore making it easier to recognize an unknown derivative if both the stem and the derivative are made salient. In contrast to this type of receptive recognition, little research has been done on L2 productive derivational knowledge, but it seems plausible to claim that the process is more complicated. It can be expected that L2 learners find derivations rather difficult until they have been exposed to a lot of reading material, which happens gradually, if at all. The level of challenge is most probably the reason why derivational suffixes are seldom presented to L2 learners. It has also not been confirmed to what extent receptive exposure leads to productive ability as regards derivations.

The assumption that productive use of English derivatives presents a problem for L2 learners has not been proven due to lack of sufficient research on the matter. Mochizuki and Aizawa (2000: 291) share the view presented by Schmitt and Zimmerman (2002) in claiming that although affix knowledge clearly forms an important factor in vocabulary learning, “little is known as to how L2 affix knowledge develops”. Derivative knowledge without a doubt contributes to the recognition of unfamiliar words and the widening of the lexicon. Studies show how L1 learners continue to build their affix knowledge all through their school years, from basic knowledge to syntactic knowledge, yet there is no clear understanding how L2 learners’ affix knowledge deepens. Schmitt and Meara’s (1997, cited in Mochizuki and Aizawa 2000: 292) study on affix and word association knowledge found that the two were indeed linked and both correlated with vocabulary size and word association also correlated with general language proficiency. Mochizuki cites his own study (1998) about L2 affix knowledge where he sees prefixes as attaching meaning to a base, and suffixes as class-changing elements. The results of the study support the view that affix knowledge is linked with vocabulary size. The success in recognizing affixes seems to depend on frequent loan words, instruction, word frequency and the polysemous nature of a prefix, though Mochizuki himself criticizes the study for being “linguistically biased toward Japanese learners of English”. Nation’s opinion that the learner should have some knowledge of affixes

and roots, as this can facilitate the learning of new words and the checking of whether or not a new word has been inferred from context (Nation 1990: 168), is to be discussed after the data, method, and results have been presented.

4. DATA AND METHOD

Having now introduced the theoretical background to English word formation, and some aspects of the learning and teaching of vocabulary, I shall move on to discuss the data and method of the research at hand, focusing on the 6th-grade pupils and their understanding of derivation. A test consisting of three separate tasks was conducted in the 6th-grade pupils' class room, and an additional think-aloud task was arranged for two male pupils selected out of the bigger test group. The two different test types were chosen in order to gather information about the pupils' knowledge of word building processes from two slightly different points of view.

The data

The testing was done in December 2007, with a group of 56 pupils in the 6th grade of comprehensive school. The group consisted of two separate classes with altogether 30 male and 26 female participants, aged between eleven and twelve. The pupils live in a small industrial town and due to the socio-economical structure, come from extremely varied social backgrounds, have a wide range of interests: ice hockey, choir, theatre, football, and computers amongst the most popular ones. They all started to study English in the 2nd grade, and the reason for choosing 6th-grade pupils was simply because they had been studying English for three and a half years, in addition to which some had also started German or French as a second foreign language. The background factors taken into account in this study were the participants' age, grade, sex and the latest report card evaluation in English (December 2007), the numbers varying from four to ten. One of the reasons for concentrating on 6th-grade pupils was also the fact that they seemed the right age for testing the maturity for understanding word formation, and drawing conclusions

about possible future needs in the teaching and learning of this essential part of the English language.

The test consisted of three parts and it was modified from a similar test used in the CEFLING Project which focuses on the linguistic basis of the common European framework levels ie “how foreign and second language proficiency develops and how that development could be described as stages of achievement” (CEFLING homepage). As the above-mentioned test concentrated mainly on the upper grades of comprehensive school, the original test seemed too demanding for 6th-grade pupils, and some changes had to be made. The test was slightly shortened and some of the more demanding vocabulary was made easier by choosing more appropriate words and verb forms. Test A consisted of 17 English sentences with 19 gaps to be filled in. In addition to a clue in Finnish given in parenthesis the surrounding sentences also contained other forms of the required word, such as *It’s difficult to believe* when the next gap was to be filled with the word *unbelievable*. The three-part test was chosen for its versatility and appropriateness for the current aims. The different parts were not equally demanding, for instance test A included tasks where it was possible to manage by remembering vocabulary, whereas part B with its nonsense words was for testing the participants’ affix knowledge, when they would not know the meaning of the word stems at all. In part C, however, the knowledge of the meaning of the various affixes was emphasized. If the types of tests used here were compared to using written material produced by the testees, it is safe to assume that the resulting text would not have included but occasional, if indeed any, derivational forms, which were the focal point of the study.

Part B had an example given both in Finnish and in English, and the task was to find either prefixes or suffixes for nonsense words, resembling English verbs and adjectives. The first sentence contained some form of the nonsense word and a clue was given in Finnish as to which meaning the word in the second sentence should have, such as

- (1) They **prinkled** the cake but it was no good.
Luckily, they can **reprinkle** it.

the hint being 'to do again the action denoted by the verb'. In this section there were seven sentences with fourteen gaps on either side of the word, the idea being to leave one of the gaps unfilled. In part C a somewhat similar task was offered but this time the pupils were given a list of prefixes only and they were able to choose one they thought most suitable for the words in the sentences which were in English with no other help available. Part C consisted of eight gaps to be filled. (See Appendix 1 for the whole test.)

Apart from testing the group of 56 students, I also chose two boys from the same groups to participate in a think-aloud where they had to complete a task on English word formation and simultaneously discuss what they thought they were doing. The two particular pupils were selected because of their good knowledge of Finnish and their apparent interest and skill in the English language. Both had high scores on the regular English exams at school and showed extra-curricular desire to learn more and more English. The idea was to test on a pair of such above-average pupils on what level their understanding of the English word formation lay. Also the earlier gap-filling written test could not give any indication about what really goes on in the pupils' minds when they create new words. The aim was to find out if they had any prior understanding of the word formation process, the possible source of the knowledge, and the ways they would solve the task. The boys' names have been changed and they will from now on be called Matti and Pekka.

4.2. Data gathering

The test consisting of parts A, B, and C was conducted in two groups of pupils, 28 in each, in a regular class room with the participants seated individually in rows. Prior to the test they had been told that the test did not require any advance studying or revision on their part, and would not in any way influence their evaluation at school. They were also told that the purpose of the test was to gain insight to 6th-grade pupils' knowledge of English. They were also not revealed the particular area of knowledge that was being examined. The time reserved for the whole test was 45 minutes, 30 minutes for the first two parts and 15 minutes for part C, with some extra

time for the seating arrangements, instructions, and the delivering and gathering of the papers.

At the beginning of test A the testees were given the following instructions in Finnish: This is a test about building words in English, it comes in three parts which will all be completed during approximately 45 minutes. First you will be given papers A and B, for which you will be given 30 minutes to complete, then the papers will be collected and you will get paper C, for which you will have 15 minutes. In part A you are asked to fill in the gaps in the sentences paying attention to the surrounding sentences which contain clues for what is expected. The main clues are given in Finnish and there might be words you will not recognize but feel free to have a guess. The idea here is not to know everything but to be able to reason and even guess.

The instructions for part B were also given before the first part of the test began: You are to fill in the appropriate prefix or suffix (prefixes and suffixes were explained as the small pieces of words that are placed either in the beginning or at the end of a word to make it change a bit in meaning) to words which look odd because they are not “proper” English, but have been invented and made to look a bit like English. There are examples both in Finnish and in English which are by no means the only alternatives for the gaps in this test. Notice that you can also add something before the word not just after, as in the examples here. There is also an explanation of the word in Finnish in parenthesis. The pupils were asked to write their names on all the papers and begin, unless there were any questions.

After the first papers had been gathered, part C was dealt out with the following instructions: You are asked to fill in the gaps in front of the words with the right prefix. There is a list of prefixes that are available for this test and you may need some of them more than once and some of them not at all. If you do not know the correct prefix you can have a guess. Fill in all the gaps not leaving any empty. I shall read the list of prefixes out loud before you start.

The second test was conducted with two boys from the group which had already done the first three-part test two days earlier. The think-aloud took place in the

pupils' English classroom to minimize the nervousness sometimes caused by an unfamiliar situation and surroundings. The whole 20-minute-test was recorded. The pupils were given ten English word stems and ten affixes on pieces of laminated cardboard. They were then instructed to start building new words with the affixes, using all of the affixes, creating exactly ten new words. They were told to use all the affixes for the words and to think aloud about their decisions. They were encouraged to discuss the task while they were doing it. They were also told that otherwise the situation resembled a normal exam, so they were not to consult the teacher in any way regarding the completion of their task. The new words they created were compiled like a cross-word puzzle on the desk and after completing the task, the list was checked together. The words and suffixes given to the pupils were partly familiar, but for the most part their base form or the affixed form had not been present in a text or vocabulary list on their English lessons, but none of the words they were suppose to create had been presented in that particular form. Neither had they been taught anything of word formation, either in their text books or in the lessons.

4.3 The method

The research was conducted by using both quantitative and qualitative methods. First of all a statistical analysis was made on the test scores, and then the qualitative method was used for the two boys' think-aloud and its analysis. School text books were read through and notes taken on the occurrences of affixed and other words that could be considered valuable for this research.

Tests A, B, and C were evaluated according to a scoring system described in more detail in chapter 4.3.1, the data was then fed into an SPSS 16.0 data editor program. This method was chosen as it seemed an accurate way of getting cross-references on different aspects of the data collected by a gap-filling test, as well as knowledge of statistically significant factors. The variables consisted of the following information: the participant's name, sex, latest English school report number falling into one of

three categories (4-6, 7-8, 9-10), and naturally the scores from the test answers. The data was processed at the Centre of Information Management at Jyväskylä University. First, descriptive statistics of the three parts of the test were printed with minimum and maximum points and the average score. Then the scores for the separate parts with the percentage of the pupils who received a certain amount of points. Group statistics tell us how the boys and the girls did compared to each other, and the English numbers were contrasted with the scores of the test and against the other English number variables (the three groups), to see if there were any results that could be considered statistically significant. Lastly, I wanted to find out how the three parts of the tests and their scores correlated.

The whole think-aloud was recorded on a Sony ICD-B500 dictation device. The choice of method was based on the assumption that the higher-than-average pupils would probably be mature enough to reflect on their own task and give valuable insights into their personal way of thinking about building new English words. Later the whole think-aloud was written down and the script was used as a basis for a quantitative analysis. (Appendix 2 has the whole script of the think-aloud.)

4.3.1 The evaluation of the tests

The three-part tests were evaluated by giving 0 to 2 points for each gap to be filled. Despite the different type of exercises included in each test, the scoring remained rather similar for all of them. I evaluated the items based on the following criteria, mainly to do with the facts I was interested in discovering, not paying too much attention to irrelevant details such as spelling mistakes.

The first part, test A, consisted of 17 sentences with 19 gaps to be filled with the help of clues given in Finnish in parenthesis and clues given in the surrounding English context. No attention was paid to spelling mistakes. Even though the written forms of the words varied considerably (for *unbelievable* the children wrote *anboliveboul*, *umbolivebule*, *ambelivebol*) my main aim was to recognize the word and the affix as

the correct one. The pupils were given 2 points for each item that was completely correct or had the right type of affix, e.g. when a negative prefix was called for they had written the negative prefix although it might not have been exactly correct (*disunderstood* for *misunderstood*). 1 point was given if the answer was a word with an affix though not the correct one (*coloured* for *colourful*). 0 points were given if the word was not what was expected even though it might have been the correct synonym (*incredible* for *unbelievable*). The maximum points for part A were 38.

Test B had seven sentences with a nonsense word as a clue in the first one. The second sentence had the same word stem to which the pupil had to add either a prefix or a suffix according to the meaning required. The required meaning was explained in Finnish in parenthesis. The pupils were given an example both in Finnish and in English. 2 points were given for the exactly correct performance, 1 point for the right type of affix (*inskey* for *unskey*). 0 points were given for an incorrect performance or an empty slot. No points were deducted if there was an extra affix in either slot if the one required was in the right place. The maximum points were 14.

In test C the pupils were given a list of affixes and had to fill the gaps in eight sentences with the right affix. They were told to use the same affix in more than one slot if necessary while some affixes might not be needed at all. Again the same system was applied in evaluating the pupils' responses. They got 2 points for the exact correct alternative, 1 point for the right type of prefix (*unlegal* for *illegal*) and 0 for an incorrect answer, making the total score of test C 16 points. The maximum score for the whole test was 68 points.

5 THE RESULTS

5.1 Test results

In this chapter I shall report the direct results of the three test parts A, B, and C. Furthermore the results of the think-aloud including the two male pupils will be

reported. First, I shall look at the scores from all the three tests combined. The relevant tables concerning the combined results are given in the present chapter and whenever needed will be referred to in the later chapters, when the scores for the separate parts of the test are presented and analyzed. The minimum score from the whole tests was 4 points, scored by one participant while the best result was 66, also scored by a single pupil. The maximum points for the whole test would have been 68 which none of the pupils could reach. The mean for the whole test was 19.89 as can be seen from Table 2 below.

Table 2. Minimum and maximum points scored and the means from parts A, B, and C

	N	Minimum	Maximum	Mean	Std. Deviation
test A	56	0	38	12.66	8.071
test B	56	0	14	2.23	2.750
test C	56	2	15	5.00	2.608
combined	56	4	66	19.89	11.750

Those who scored 34 or less, ie 50 percent of the total 68 or less, formed 94.6 percent of the participants (53 individuals). 5.4 percent were among the top half, and their scores were far apart, from 44 to 66 and received by three pupils only. 50 percent of the participants got 17 points or less, with the largest number of pupils (8.9 percent) at 15 points. Similar clusters can be observed at 6, 13 and 21 points (7.1, 7.1, and 8.9 respectively) (See Appendix 3). Of the combined test score, female pupils got an average of 15.85 (see Table 3) as opposed to the male pupils' average of 23.40 which seems to be a somewhat unexpected result, to be discussed later. The means for male and female pupils for the three separate parts of the test and the tests combined are shown below. Note how wide the gap between male and female pupils remains in tests A and B.

Table 3. Male and female pupils' average test scores in tests A, B, C, and all combined

	sex	N	Mean	Std. Deviation	Std. Error
test A	male	30	15.07	8.077	1.475
	female	26	9.88	7.257	1.423
test B	male	30	3.03	3.285	.600
	female	26	1.31	1.569	.308
test C	male	30	5.30	3.153	.576
	female	26	4.65	1.788	.351
combined	male	30	23.40	12.864	2.349
	female	26	15.85	8.943	1.754

As Table 4 demonstrates, the pupils in the 4-6 number bracket gained an average of 10.54 from the entire test. The intermediate group 7-8 had an average of 18.46, and the group with the highest report numbers an average of 29.24. Naturally this type of result was no surprise, and will also be discussed in a later chapter.

Table 4. The test results for the groups divided by English numbers

		N	Mean	Minimum	Maximum
		Lower Bound	Upper Bound	Lower Bound	Upper Bound
test A	4-6	13	4.77	0	19
	7-8	26	12.12	2	23
	9-10	17	19.53	8	38
	Total	56	12.66	0	38
test B	4-6	13	1.08	0	4
	7-8	26	1.77	0	6
	9-10	17	3.82	0	14
	Total	56	2.23	0	14
test C	4-6	13	4.69	2	8
	7-8	26	4.58	2	8
	9-10	17	5.88	2	15
	Total	56	5.00	2	15
combined	4-6	13	10.54	6	27
	7-8	26	18.46	4	34
	9-10	17	29.24	12	66
	Total	56	19.89	4	66

The overall results of the whole test showed no statistical significance when the lowest and the intermediate group were considered but showed considerable statistical significance between the lowest and the highest number groups, as well as

some significance between the intermediate group and the highest group (see Appendix 4). The correlations between the three separate parts were statistically significant, which can clearly be seen in Table 5.

Table 5. Correlations between scores in tests A, B, and C.

		test A	test B	test C
test A	Pearson Correlation	1	.679(**)	.450(**)
	Sig. (2-tailed)		.000	.001
	N	56	56	56
test B	Pearson Correlation	.679(**)	1	.662(**)
	Sig. (2-tailed)	.000		.000
	N	56	56	56
test C	Pearson Correlation	.450(**)	.662(**)	1
	Sig. (2-tailed)	.001	.000	
	N	56	56	56

The differences between the three test parts which might have influenced the results by causing various difficulties for the participants, will be discussed in a forthcoming chapter.

I shall now concentrate on presenting the test results one part at a time. A discussion will follow about the different aspects of the tests, and the separate parts are linked together and compared to each other in order to make observations and find possible suggestions for future research on word formation for younger pupils in comprehensive school. In addition to briefly discussing the results from the point of view of word formation, I shall present the pupils' individual choices of answering strategies, because in my opinion they enlighten us about the attitudes pupils have towards this type of testing and may also reveal something about the individual learning strategies chosen. The participants' own views on the test situation were collected as extra material in connection with their regular English test a week after this test was conducted. The pupils were asked to describe their feelings before, during and after taking the tests A, B, and C, and as these insights are always valuable, they will be commented on in the discussion. Keeping in mind that the modest aim of the present study is a small-scale experiment to find out some aspects of 6th-grade pupils' understanding of English word formation, the findings can only be a scratch on the surface. The wider implications of knowing the basics of word

formation and how this knowledge could affect the instruction of word formation for younger pupils and their learning of new vocabulary, remain the subject of a different study.

5.1.1 Test A

The first part of the test consisted of 17 sentences in English where the pupils were required to fill in 19 gaps with the appropriate words, including prefixes and suffixes when and if needed. They were offered clues in the context, either within the same construction or elsewhere in the text. In addition to these clues in English, the Finnish translation of the required word was given in parenthesis. The maximum points for test A were 38. The results showed that among the 56 testees, one pupil reached the highest score, ie 38 points while at the opposite end two scored 0 points, the mean for the whole group being 12.66. 50 percent scored 13 or less Table 2 above shows the minimum and maximum scores for parts A to C, the minimum and maximum scores for all the parts combined, and the means.

In test A male pupils had an average of 15.07 while female pupils remained at 9.88. It should be noted that the mean for male pupils including all three tests was 23.40 and for female pupils 15.85. All the test scores according to the sex of the participants are shown in Table 3 above.

One of the variables was the pupils' latest English number given in December 2007 in their school reports, showing that 13 testees had a number between 4 and 6, 26 testees had a number between 7 and 8, and 17 had a number between 9 and 10. When compared with the numbers, the test scores for test A gave a mean of 4.77 to the lowest group, 12.12 to the intermediate group and 19.53 to the group with the highest numbers. The scores from part A were then cross-referenced between the groups with different English numbers and there was a statistical significance of .003 between the scores of the lowest and the intermediate group, and the scores between the lowest and the highest group showed a statistical significance of .000. As can be

seen from Appendix 3, the scores between the highest, intermediate and highest group show statistical significance all the way.

5.1.2 Test B

Test B proved to be the most difficult one, at least as far as the results are concerned. While the maximum points were 14, the mean remained at 2.23 with one third of the participants scoring no points at all. Most testees scored 4 points or less. Nevertheless, the test showed a considerable difference between female and male pupils, the respective means being 1.31 and 3.03 making one suspect the highest scorers must have been boys. The test had seven sentences in English with a nonsense word as a clue in the first sentence, the task being to add either a prefix or a suffix to the same word in the second sentence according to a Finnish definition of the acquired meaning in parenthesis. This part also gave the testees an example in both Finnish and English. The scores varied between the lowest 2 to the highest 14. No points were scored by 18 pupils which means a total 32.1 percent of the whole group. 91.1 percent of the group scored between 0 and 4 points. One pupil each scored 5, 6, 9, 12, and 14 points. (See Tables 2 and 3 above.)

The mean score for the group with English numbers ranging from 4 to 6 was 1.08 while it was 1.77 for the intermediate group (7 to 8) and 3.82 for the highest group (9 to 10). The correlations between the different level groups in test B can be seen in Appendix 3, where they do not show any statistical significance even between the lowest and the highest level groups. Cross-referenced with parts A and C, there is small to considerate statistical significance showing.

5.1.3 Test C

In test C the overall results varied between 2 and 15 points, the mean being 5.00. 12.5 percent (7 pupils) scored 2 points, 1.8 percent (one pupil) scored 15. 94.6 percent (53 pupils) of the participants scored 8 or less points, and 5.4 percent (3

pupils) received the highest scores, ie 10, 14, and 15 points. The male pupils had a mean of 5.30 while the female pupils had a mean of 4.65. The lowest number group had a mean of 4.69, the intermediate group 4.58 and the highest group 5.88. The results between the three various groups arranged on the basis of the English numbers showed no statistical significance. These results can be considered slightly surprising and will be commented on in the discussion. As regards the overall correlation between the tests, the results showed slight statistical significance between C and A, and considerable statistical significance between C and B.

The results of parts A, B, and C have been presented above and will be discussed in detail in later chapters. The suitability of this type of testing in order to study the derivational knowledge of young English learners will also be discussed in the following analysis. However, before a comprehensive analysis of the whole study, the results of the think-aloud with the two male pupils will be reported below

5.2 The recorded test

The words given to Matti and Pekka comprised of *talent, child, child, gold, care, support, agree, write, awful, and certain*, ie four nouns, two items that can be categorized as either nouns or verbs, two verbs and two adjectives respectively. The affixes were *hood, en, ful, ed, dis, un, re, ish, er, and ly*. The boys started by quickly arranging most of the words and the affixes without much discussion, mumbling to themselves, nodding heads, but both working separately to accomplish the task. After some encouragement to think out loud and talk to one another about what they were trying to do, they started talking, guessing the meanings of the words and the possible affixes that could be added to each to form new lexical items. At first, their method consisted of testing the words by saying them out loud, and either accepting the new word or dismissing the form as inappropriate. The following examples can be found in their context in Appendix 2.

- (1) Pekka: no ne childhood ja childish ne on varmasti oikein
 Pekka: disagree
 Matti: golden on ainaki oikein...golden cap tuli mieleen

Pekka: sitähän se...unawful? kuulostaa jotenkin hassulta vähän
 Pekka: no ei se kyllä ja eikä se kyllä se un tuu tänne supporttiinkaan sen paremmin
 Matti: awfully ei kyllä käy

Pekka: well childhood and childish must be right
 Pekka: disagree
 Matti: I'm sure golden is right...I thought of golden cap
 Pekka: you would...unawful? sounds a bit funny
 Pekka: no that won't do and and that un doesn't go with support either
 Matti: awfully won't do

They went through the affixes to see which ones they thought they knew the meaning of, not directly translating the affixes.

(2) Matti: vaikka mä tiään tän re un dis ja ihs ja ly ja ful mutta en oikein näitä er...

Matti: although I know these re un dis and ihs and ly but not really this er...

When they began to examine their answers more thoroughly, they ended up trying to translate the words with the affix they had added, and tested by inventing examples to see if their guess might be right. Further on they were trying to remember a context where they might have encountered the word before and validate the meaning through personal experience.

(3) Pekka: no nää on disagree...I disagree with you...just
 Matti: niin toi on aika tuttu mulle tuo disagree
 Pekka: I agree, rewrite tulee mieleen joku kun meinaa vahingossa painaa...melkein tulee mieleen joku tylsä vanhanaikainen peli mikä on pakko kysyä aina haluatko rewrite pyyhkiä sen vanhan tallennuksen ja pistää uuen

Pekka: well these are disagree..I disagree with you..yeah
 Matti: yes that is pretty familiar that disagree
 Pekka: I agree, rewrite comes to mind when someone is about to press by mistake...almost brings to mind some boring old-fashioned game where you always get the question do you want to rewrite...erase the old and save again

The possible new forms that were expected were *talented*, *childish*, *childhood*, *golden*, *careful*, *supporter*, *disagree*, *rewrite*, *awfully* and *uncertain*. The forms the boys created differed slightly from the above-mentioned list, partly due to the fact that they presented different or unacceptable forms. The words the testees constructed were *talented*, *childish*, *childhood*, *golden*, *career*, **supportful*, *disagree*, *rewrite*, **unawful*, and *certainly*.

As Nation (1990: 174) so well expresses it, a “good way to test if learners can apply a strategy is to sit next to them while they use it and get them to explain, in English

or in their mother tongue, what they are doing”. My aim was to do what Nation suggests, and gain information on whether the relatively young pupils in the 6th grade already have some knowledge they might be able to apply when encountering word building dilemmas, and use the understanding of affixation to help them further their vocabulary knowledge. I now move forward to find out if this seems to be the case as the results of the present study are analyzed in the following chapter. The results of the first test, parts A, B, and C are dealt with under the heading test results. I shall compare the tests to each other, and try to draw conclusions about the usefulness of certain features of the tests as well as their suitability to the specific type of testing in the present study. The scores and means for the separate parts will be commented in view of what they reveal about the 6th-grade pupils’ current ability to understand word formation. If the tests fail to show useful results, I shall also look into possible reasons for that. There will be examples of the individual answers, when they clearly present aspects relevant to my initial hypothesis. The second test, the think-aloud of the two male pupils will be discussed in its own chapter.

6 DISCUSSION

6.1 The test results

Various studies on vocabulary acquisition and more precisely derivation and word formation state that although acknowledged as important in vocabulary learning, word formation and derivation in L2 learning and teaching remain largely an unstudied field. Most studies, also some cited in the present one, have concentrated mainly on L1 learners, thus yielding a limited view of L2 vocabulary learning. There seem to exist various opinions on how derivation is learned and to what extent it is teachable for L2 learners. Mochizuki and Aizawa (2000: 291) claim that the way L2 affix knowledge develops is not well known. Schmitt and Zimmerman (2002: 149) state that extensive reading is probably responsible for adequate L1 derivational knowledge, and expect that in L2 as well, the process is a lengthy one and reading is of similar value. They also observe that while the derivational system in English is

seemingly regular, it is in fact quite a complex one, which makes it surprising that not more derivational errors have been recorded in the studies concerning derivational knowledge (see Schmitt and Zimmerman 2002: 145-171). Schmitt and Zimmerman (2002: 165) come to the conclusion that learners may resort to avoiding structures which they are not completely confident with, such as the appropriate derivatives. Let us look more closely at the results of the present study, where the young L2 learners' knowledge of English word formation was tested without any prior instruction of the derivational forms.

6.1.1 Test A

Test A consisted of a gap-filling test with Finnish clues and English prompt words in the surrounding sentences. Test A did not evaluate the knowledge of derivation as such as it was possible to get a high score simply by possessing a relatively good knowledge of vocabulary. I suspect, however, that the pupils tried to figure out the forms of the required words by checking the Finnish clues, and using their skills of deduction. If the required word was *sure* (gap 1), then the required word for gap 2 could not be the same, as the Finnish clues given were *varma* and *varmasti*. Consequently the pupils could be quite certain that you needed to add something to the second word to make it come out right. The same goes for *understand* and *understandable*, as well as *wind* and *windy*, to mention but a few examples. Interestingly enough, *follow* (gap 16) did not result in anything close to the correct form, as 47 participants wrote *next* instead of *following*, which is an understandable answer, possibly due to L1 influence, as *seuraava* can mean both *next* and *following* in Finnish. *Next* is also a common word they have been exposed to on several occasions. Yet, this being a study on understanding English word formation, the individual words the pupils filled in are not of great importance, if indeed they lack the appropriate affixes. In the following paragraphs I shall take a closer look at some of the results, trying to comment on the significant ones and find explanations to some. I shall refer to some of the tables and appendices shown above.

The maximum points for test A were 38, obtained by a single pupil. Zero to 27 points were scored at regular intervals by clusters of 1 to 5 pupils. This seems to suggest that the differences between the pupils are not great from the weakest score to the upper end, with the one exceptionally skillful pupil. When compared to test B and C (Appendix 3) it is easy to suspect that the differences between the test types are reflected in the results, as test B has a cluster of pupils scoring the lower numbers and test C has a relatively large conglomerate of mid-level scores. Test A was probably more challenging for the weaker pupils, as the scores show that the 4 to 6 number group had a mean of 4.77, as opposed to the 12.12 average of the 7 to 8 group, and the 19.53 of the 9 to 10 group (see Table 4). It is my guess that the lexicon of the lowest group must be relatively limited. This group of pupils would have problems in their L1 and possibly other types of learning difficulties. Not much can be said as to the understanding of word formation on the basis of test A, as the answers on the test sheet consist of the type of errors not necessarily connected with derivational problems, more likely with the pupil's not being able to recall the right word. There were not many wrong affixes, rather if there was an affix it was usually correctly placed. The type of error present in test C, where the pupil might have recognized a negative affix but filled in the wrong one, is practically non-existent in test A. Gap 14 is an exception, as instead of the required *colourful* the word *coloured* was used 16 times.

My conclusion of test A is that while many pupils knew and filled in the correct words, this was mostly due to the fact that they had learned the words as such either at school or in other situations, e.g. playing computer games, travelling, listening to music, and watching TV and videos. As to the huge difference in the mean score between male and female pupils, ie 15.07 for boys and 9.88 for girls, an explanation is quite easy to find when one considers how the school numbers are divided between the boys and the girls. There are an equal number of pupils in the intermediate group (numbers 7-8), whereas in the lowest group (4-6) the girls outnumber the boys by 9 to 4. The highest group (9-10) is male-dominated with 13 boys and just 4 girls. The disproportion seems to be quite notable as it is a common view that girls do better in language studies than boys, but the above has not necessarily been the case in the school where the tests were conducted, and in the present study the number of boys in the group was higher than the girls, which might

contribute to the means. 23.2 percent of the pupils belonged to the lowest group (4-6), 46.4 percent to the intermediate group (7-8) and 30.4 percent formed the highest group (9-10), and as more than two thirds of the last group were male pupils it might be an indication of what kind of results can be expected when male and female pupils' means are compared. The means for test B follow the same pattern, while test C, interestingly enough, shows the lowest number group with a higher means than the intermediate group.

There is statistical significance when the three different number groups are compared (see Appendix 4). It hardly comes as a surprise that while there was .003 statistical significance between the lowest and the intermediate group, there was even more statistical significance between the lowest and the highest group. This naturally means that the pupils belonging to the lowest group had scores much lower than those of the highest group, as could be expected. The pupils who manage well at school in general, and in their English studies in particular, probably have a larger vocabulary which was of utmost importance in test A. I cannot venture to many conclusions about the participants' understanding of word formation as a process, because of the nature of test A, which only allows us to note which words were correct (with or without the affixes), but does not reveal why they were correct or incorrect. Thus, it must be stated that this type of testing, while giving some indication as to the pupils' command of vocabulary, does not yield results that might tell us if the 6th-grade pupils recognize affixed words let alone if they can understand the process of derivation. At this point of discussion it could be observed, though, that the most skilled pupils certainly have developed effective strategies for learning vocabulary.

6.1.2 Test B

Test B differed from the other parts as it contained a nonsense word as a clue in one sentence and a Finnish prompt sentence given in brackets to implicate which type of verb or adjective was required when the same nonsense word appeared in the second

sentence with gaps on either side. The pupils were asked to fill in either a prefix or a suffix and leave the extra gaps empty. This test seemed predestined to be the most challenging, as it contained nonsense words and just two examples, one in Finnish and one in English (see Appendix 1). The example sentences might have been slightly misleading as it seemed quite a few pupils used the suffix from the example all the way through the task to fill in the gaps. Another interference probably originated from recent English studies at school, as the 6th-grade pupils had been studying the past tense during the autumn term and possibly after recognizing most of the nonsense words as verbs, which is not in any way proved but merely a guess, were eager to fill in the suffix gaps with the past tense *-ed*. Schmitt and Zimmerman (2002: 148) state that when native speakers can recognize a familiar word stem in an otherwise unknown, complex affixed word, this ability helps them to identify the meaning of the whole derivative. Gardner (2007: 248) also reports that students first tend to learn the stem in complex words and the contribution of the suffixes only after the stem has been identified. Similarly, a study by Taft (1994, cited in Schmitt and Zimmerman 2002: 148) offers this fact as the reason why native speakers are “sensitive to the difference between stem morphemes and nonsense morphemes”. For Finnish 6th-grade pupils the nonsense words must present an unsurmountable problem, which I suspect is one reason for the very low average of 2.23 in a test where the maximum points were 14, scored by only one pupil. Most participants scored 4 or less, ie 78.6 percent consisting of 44 pupils (Appendix 3). Of these pupils 44.6 percent scored only two points (25 testees), and 32.1 percent scored zero points (18 testees). As it seems obvious how difficult the test was due to the nonsense words, the idea of which perhaps seemed like an incomprehensible idea for the majority of the testees, it was by no means the only reason for the low scores in test B. Compared with test A and C, there was no other help available than the two examples and the Finnish prompt sentences, which means the pupils were supposed to know what English affixes look like, how many different kinds there are, what their meanings are and how to spell them. No wonder most scored next to no points, as could be expected, when the fact remains that the pupils had been taught nothing about derivation nor affixes as such. Why three pupils managed to score 9, 12, and 14 points, is perhaps best explained by their well-developed understanding of word classes and their functions in context, as well as a high level of language aptitude and vocabulary knowledge.

The considerable difference between the means of male and female pupils are probably due to the facts explained above. The means were 3.03 and 1.31 respectively, but what is more interesting is the fact that in all three number groups there were pupils scoring zero points, even the highest group with a mean of 3.82. In the other tests no pupils in the highest or the intermediate groups scored zero, which seems to be proof enough of the difficulty of test B. The statistics do not show any significance between the number groups, another sign of an overall low achievement, a fact proven by Table 5, which shows statistical significance between both test A and test C. Test B proved to be by far the most challenging, and was also commented by the participants as very difficult. One pupil claimed it was extremely difficult to try and add something to a nonsense word, while another one confessed to just guessing in part B. In the test situation pupils commented test B after hearing what they had to do, as 'impossible' because of the lack of proper English words. There is no way of guessing what the results would have been like, had the test contained 'proper' words instead of nonsense ones. It might still have proven way too demanding for pupils with no prior knowledge of the English affixes. Test B focused specifically on affixes, and how they attach to stem words, not forgetting that knowledge of affixation also includes understanding how words operate in context, ie knowledge of word classes and affixation rules is required. Test B then proves that as far as the present study is concerned, it is wishful thinking that 6th-grade pupils would have acquired such knowledge of word formation, including the knowledge of affixes and how they function in English, as to be able to create new words just by seeing what the stem looks like and what the requirements are, let alone create new words from nonsense words. Whether being able to choose from a list of affixes brings better results, will be the topic of the following chapter, and the aim of test C. The main outcome of test B could be said to have proven the point that if pupils do not have an understanding of English word formation, there is certainly no possible way they might gain any such understanding without instruction concerning derivation.

6.1.3 Test C

As opposed to the previous two test parts, test C contained a list of affixes among which the participants could choose the ones they thought appropriate for filling the eight gaps with prefixes. Again, only one pupil scored the highest points, ie 15 of the possible 16, but test C was the only part where no one scored zero points. The mean was 5.00 for the whole group and the means for male and female pupils were not as far apart as in tests A and B: 5.30 for male and 4.65 for the female pupils. A remarkable result from test C shows that the lowest number group had a mean of 4.69 which is in fact higher than the 4.58 mean of the intermediate group. The highest group had a slightly higher mean of 5.88. Thus the statistics do not show any significance between the three number groups, indicating a rather even score for test C (see Appendix 4).

Why were the results unlike the ones in tests A and B? First of all, test C differed from the other parts as it, in my opinion, emphasized the participants' receptive vocabulary skills, which in turn might be considerably higher even for the weaker pupils than their productive knowledge, required in test A. Comparisons between tests C and B are of no great value as the fact has been stated above to what high extent the pupils were confused by the test type and the nonsense words in test B. A careful analysis of the relatively even scoring in part C would seem to indicate that the testees had both the tools to complete the task as they were given the affixes, and the opportunity to guess when unsure of the correct prefix. I would not underestimate the importance of being able to try out different prefixes to see which one looks or perhaps sounds familiar. Given the extremely small number of prefixed words the participants have been exposed to at school, at least judging by their English books, one might suspect that the correct prefixed words in test C, and also the large number of words to which the testees had been able to add a near-correct prefix, such as a negative prefix where one was required, have become familiar to the pupils by appearing in some other context. Naturally, many of the prefixes presented in the task are also used in Finnish, often in loan words in specialized language. However, some of them are quite common and familiar to even school children, such as *inter-*,

mega-, and *mini-*. The case of *pro-* will be discussed in the forth-coming chapter about individual answering strategies, so let me just point out that perhaps it would seem like a proper prefix for describing someone on the verge of becoming very famous, like a professional sportsman, thus *prostar* instead of the expected *megastar* was chosen seven times for gap 5.

It is worth some reflection whether the participants would have been more successful in completing test B if they had had a similar list of affixes at their disposal as in test C. In that case it might have been possible to draw some conclusions as to their understanding of word formation and knowledge of the meaning of affixes. An interpretation of the results of test C could be that at some level some of the 6th-grade pupils may have an intuition about affixes and their meaning, and even some idea about how derivation works, however, they probably pay no attention to word formation unless their attention is deliberately directed at it. Which brings us to the conclusion I was aiming at in the beginning of the present study: at least some 6th-grade pupils seem mature enough to understand word formation and use it to broaden their vocabularies, but the fact remains that it will not be beneficial without proper attention to the matter as well as guidance and instruction given by the teacher.

6.1.4 Individual answering strategies

It was the aim of the testing to obtain certain types of responses from the participants, however, as always when dealing with pupils I was surprised to obtain some rather unexpected results, too. The individual answering strategies, for want of a better word for this colourful mixture of responses, are worth a mention and some analysing. It is possible to comment the pupils' choices but I for one am unable to provide any plausible grounds for why this diversity appeared. At best I can venture to guess what could have affected the sometimes quite extraordinary types of errors or indeed clever responses. Most comments and examples derive from test A, but I

will also look into tests B and C. The think-aloud will be analyzed in the following chapter 6.2.

Most of the diversity was present in test A where there was more freedom to formulate the answer, as the clues were given in context and also in Finnish but they did not rule out, for instance, the use of a synonym. The variation in orthography was bewildering, nevertheless I can think of many reasons why the spelling of the words might have presented problems. There must have been some anxiety connected with the test situation which steers the attention away from aspects of language ordinarily mastered by the pupil. It must be admitted, though that it was expected that the weaker pupils would not be able to spell the words right and thus all the participants were told that spelling was a minor issue not to be worried about. For instance the required word in gap 3 *possible* wound up being written in no less than eight different ways (*pousibul, pousible, bossible, pacebul, boesbul, passible, possiple*) including the correct spelling, which was found in ten papers. The incorrect ones were found in twelve papers.

The choice of words in some gaps were synonyms, possibly due to the fact that the pupils knew the meaning of the required word instantly and wrote the first word that popped into their heads not considering an alternative. Thus when in gap 4 where *travels* was expected, they wrote *holidays* and *vacations*, two words which are much more common and have appeared in their text books. Some took the next clue and wrote *visits*. For *unbelievable* some wrote *incredible* or *amazing*, probably for the above reasons or sheer ambition, not wanting to repeat the clue and to demonstrate their knowledge of the synonym. Some took the following clue and wrote *visits*. There was confusion about which word class some of the required words belonged, and instead of the required (gap 11) *windy* with the preceding clue *wind*, they filled in *winder, windest, or winds*, while some also tried the synonym trick again with *stormy*. When the suffix was clearly unknown there was some inferencing, such as *understanding* for the required *understandable* (gap 6), whereas for gap 17 most testees (47) chose *next* instead of *following*, an answer that might be traced to the pupils' L1 because, as mentioned earlier, the Finnish word *seuraava* means both *next* and *following*. The most creative responses were undoubtedly chosen by three participants for gap 15 where the required word was *foreign*. Not knowing the exact

word but trying hard to find the corresponding meaning they wrote *abroad*, *outside*, and *Swedish*. By far the most diversity could be found in answers for gap 14. The correct answer was *colourful*, but most chose to answer either by adding the endings *-s*, *-’s*, *-ies*, or *-es*, signifying to my understanding the plural morpheme (23 pupils), while ten pupils decided to add the suffix *-ed*, rendering the meaning a near match but not quite right.

A notable feature in test B, apart from very low scores all around, was the possible influence of the Finnish and English examples given at the beginning as well as the fact that the focus on 6th grade grammar is learning the past tense of the verb. Due to the high level of difficulty of the test, with the nonsense clues and the total absence of others, the participants tended to fill in the blanks with either the suffix presented in the examples, ie *-er*, or the familiar verb ending *-ed*. What confirms the suspicion that the testees were mainly considering verb forms, is the answer *didn’t skey* for *unskey*. In test C where there was a list of affixes at the pupils’ disposal, the scores also turned out to be higher. Quite a few answers were either completely correct or at least the meaning of the prefix had been understood, e.g. *inlegal* for *illegal*. The *intercity* train became *intracity*, though, and a *megastar* was changed into *prostar*, an understandable mix-up, as the meaning is close and the prefix *pro* has infiltrated the Finnish language and is used daily. (Cf. Mochizuki and Aizawa 2000, on English loan words in Japanese and how they affected their study.) A creative choice for *antisocial* was the prefix *mini-*, denoting something tiny, thus ‘not very social’.

6.2 The recorded test

The results of the think-aloud were in correlation with the expectations. The two boys were selected for the task because of their apparent interest in English and the above average results in the language class, furthermore they are both doing well in Finnish which implies that their overall language ability is well-developed. They were chosen to do the think-aloud task prior to their participating in the first test. Their scores in tests A, B, and C are worth a mention before looking at their think-aloud results in more detail.

Matti scored 44 points out of the possible 68, and Pekka got very near the maximum score with 66. The difference between the two boys seemed surprisingly big but a closer analysis showed that Matti gave quite a few near-correct answers, especially in parts A and C. Sometimes the forms were actually correct, as in test A, when he wrote *incredible* for *unbelievable*, but in this test the synonymous word was not accepted. Matti's inclination to think of alternative ways of expressing himself was apparent also in this type of a test, as he is often unwilling to be satisfied with the first word that evidently comes to mind. Another example of this quality is his use of *vacations* for *travels*, the latter word being the obvious choice. In test B Matti got 9 points (the maximum score was 14), and it seemed he had a reasonably clear idea of the word classes and the meanings of some required prefixes, and failed to give the right affix only three times, one of which was a close call with *disskey* for *unskey*. In comparison, Pekka got the maximum points from tests A and B. Both boys gave only one incorrect answer in test C, Matti wrote *prostar* for *megastar* and Pekka used *polycity train* for *intercity train*. These answers can perhaps be explained by, first of all, the already-mentioned usage of the word *pro* in the Finnish language, and in Pekka's case probably a memory lapse, as the *intercity train* is also a well-known concept in Finnish. Matti found the right type of affix in four places, including *illegal* for *illegal* and *nonattractive* for *unattractive*. The high scores in tests A, B, and C seemed to confirm the fact that their language skills are on a relatively advanced level for their age and grade, thus making them a promising pair for the think-aloud where they needed to analyse the task while they were doing it

Matti and Pekka managed to complete the think-aloud task effortlessly within the time frame given to them and managed to create eight grammatically acceptable words of the possible ten. The reason for their failure to put together the two remaining words can perhaps be explained by the choice of the test words, as the list of affixes and stem words was more flexible than I would have thought, yielding more combinations than expected. The boys showed considerable creativity in putting together new forms I had not anticipated. This naturally led to a situation where they had completed most words but were left with a few tricky affixes that did not quite match the remaining word stems. At this point they rigorously went over the list again and still agreeing on the new forms they had created, could not decide

what to do with the odd pairs still on their hands. They hazarded a guess with the remaining *awful*, *support*, *un* and *ful*, but ended up with two unacceptable word forms, **supportful* and **unawful*. The participants put together eight new words by clearly using their existing knowledge of some complex words they might have seen or heard when at school, listening to music, playing and programming the computer, or watching TV and videos. In addition they used a clever inferencing technique where they tried to think of examples of how the new form could be used.

The main aim of conducting the second test in the form of a think-aloud was to gain some insight into what goes on in the pupil's mind when trying to complete a demanding word forming task. As can be seen by the script (Appendix 2), the discussion circles around the topic of creating words and is spiced up with a bit of regular conversation. It has to be remembered that the boys had taken part in the first test two days prior to this one, but they did not have any advance information about what their test was going to be like, so they had not been able to prepare for it. It is very likely that the knowledge they displayed in the think-aloud was already possessed by them prior to the first testing, where both did extremely well, as reported above.

As for the usefulness of the test, it seems in retrospect that selecting two above-average pupils was a successful idea, as they were able to both understand what the test was about, and complete it according to the instructions. Furthermore, their English skills were good enough to show some expected results in recognizing the affixes and understanding their use, which was the assumption before the test. What they achieved is a good implication as to what can be expected from the other 6th-grade pupils, not forgetting the fact that there were some surprisingly high results in the first test for weaker pupils as well. A drawback of a test like this has to do with the participants' age and perhaps character as well. Young learners tend to complete tasks very quickly even if they are told to take their time and concentrate, for instance in this particular task, after having been encouraged to go over the words and think again, the testees lost some of the concentration and started to modify the list of words in a more haphazard fashion, which could in similar circumstances lead to new but wrong conclusions when the existing one would have been correct. Furthermore, at least in this case, the two pupils' different characters became

apparent, Pekka being the more analytical one, always willing to take his time and carefully weigh the alternatives before deciding. Matti, on the other hand, seems more emotional and care-free, eager to complete tasks but not worry so much about whether the result is completely correct or not. The most important qualities required for this kind of test, which both testees in the present study possessed, would probably be enthusiasm and commitment to the task, to ensure proper results.

The recorded test shows promising results as to a young learner's ability to grasp the basics of word formation in English. It looks like the two boys understood the concept of creating new forms by adding affixes, in addition to which they could also be said to know some of the meanings of the affixes in the test. Their guesses about the meaning of the new word forms suggests that their receptive vocabulary knowledge is quite well-developed, as they tended to create the new word and test it by translating it into Finnish, as the following examples clearly show.

- (4) Matti: childhood on niinku lapsuus
 Pekka: kyllä, childish lapsellinen vähän niinku sinä välillä...disagree niinku sillai ei myötä sillai vaan eri mieltä sillai [...]
 Pekka: golden no kultainen [...]
 Matti: career
 Pekka: no se on niinkui sellainen ammatti tai työ...tai ura [...]
 sit on toi no toi talented on niinku kyvykäs [...] rewrite uudelleenkirjoittaa
- Matti: childhood means childhood
 Pekka: yes, childish is childish just like you sometimes...disagree is like not with you like when you don't agree [...]
 Pekka : golden well it means golden [...]
 Matti: career
 Pekka: well it's like a profession or a job...or career [...]
 Then we have talented it's like with able [...] rewrite is to write again

The testees were above average students in English with high competence in L1, which seems to suggest a correlation between the two. However, the fact that some derivational knowledge was demonstrated by two skillful pupils, does not have to mean instruction of word formation to younger pupils of varying skill-levels would be a waste of time. On the contrary, I feel confident that even a moderate amount of guidance in derivation could help and encourage also the pupils who are experiencing some lack of confidence, anxiety and generally low motivation. The challenge this type of instruction presents for the teacher, remains to be seen. Teaching affixes and word roots in English is by no means unheard of, though the

studies and experiments seem to be concerned with high school or university students, or native speakers. Schmitt and Zimmerman (2002: 149-150) state the fact that derivational knowledge is not encoded in the learner's L2 lexicon and even if the learner is exposed to different derivational forms it is doubtful that this receptive contact would lead to their productive knowledge. Moreover, even native speakers experience problems in derivational knowledge and usage, so it is problematic to say what type of difficulties L2 learners face when confronted with derivation.

6.3 School environment and word formation

One of the essential motives for this research arose from the existing English teaching materials in comprehensive school, and the apparent lack of any mention of word formation and very few derivatives in the books. I therefore read through the current teaching materials, ie text books and exercise books used at the moment in our school in grades three through six including the participants of this study, to see what kind of examples on word formation I might find. The examination of the books remains of marginal value here, as it was done without any scientific method, merely by taking notes on the vocabulary and exercises somehow related to word formation. Nevertheless, I think teaching material is such an important tool in the language class room that it is certainly worth mentioning.

The Wow! series covers the most important basic communicative situations a beginner might encounter starting from greetings and introductions, moving on to telling about yourself and your family, hobbies and interests. The emphasis lies heavily on learning useful basic words, e.g. colours, numbers, animals, objects from the home, later on concentrating more and more on various word classes, such as learning verbs and adjectives, and their functions. Here I am more interested in which words appear in the vocabulary lists presented in each new chapter and the types of exercises where derivational words might occur. On the whole, it can be noted that derivatives appear throughout the books, if only sporadically. They are presented in word lists and are supposed to be learned as such, there are no exercises

where derivation is practised. With the exception of inflections, which appear quite early in the books, e.g. in the form of the third person, or the plural forms, there are few instances of derivatives that catch the eye. Derivation is not explicitly introduced in any of the books. Furthermore, there are no explanations for derivative forms, nor is there any guidance as to how they are constructed and identified.

In Wow!3, sports and other interests are presented and, as stated above by (Harley 2006: 123) the *-ing* suffix in these types of words can be considered a class-changing derivational affix, as in *running*, *playing*, and *swimming*. Class-maintaining derivative suffixes also occur, for instance *rollerblading* and *snowboarding*, which remain nouns even after the suffix is added to a noun form. Compounds are understandably numerous in the word lists, and they are presented in their various orthographic forms without an explanation as to why they are sometimes spelled as one word (*homesick*), two words (*a sports shop*) or hyphenated (a confusing example for the pupils has always been the word *icecream* vs. *ice-cream*, as the reason for the difference in spelling is not explained). The exercise books contain a few tasks where compounds are practised by connecting two stems together to form a new lexical item. As to derivation proper which I consider relevant to the present study, the following types of examples appear in the books, but the only derivational process taught is the forming of adverbs from adjectives in Wow!6, although the forming of adverbs is most likely to remain untouched since it appears very late in the book, and it remains the teacher's choice whether to include it in the curriculum or not. As Jackson and Amvela (2007: 88-91) stated, derivational affixes are either class-changing or class-maintaining, the former group containing mostly suffixes while the latter makes use of prefixes. Examples of class-changing derivatives found in the school books in any systematic way are scarce, among them for instance adjectives connected with weather (*windy*, *stormy*, *foggy*), words denoting a person's profession (*a teacher*, *a photographer*, *a dentist*, *an artist*), adjectives ending in *-al* (*digital*, *tribal*, *national*, *musical*), *-en* (*frozen*, *golden*), and *-ful* (*beautiful*, *careful*, *colourful*). The ending *-ess*, denoting femininity appears in *an actress*, *a waitress* and *a lioness*. Some other forms with derivational suffixes include *hopeless*, *a piglet* (class-maintaining), *allergic*, *electricity*. A slightly larger selection of derivatives appears in the Wow!6 books, mostly in the additional reading sections. A few examples of the derivatives found are *a difference*, *poverty*, *traditional*, *jewellery*,

and *independent*. The only instance that might be called presenting an example of the derivational process occurs when *charity* and *charitable* appear in the same context.

As for prefixes, the examples in the school books are few and far between. The prefix *super-* appears once in Wow!3, *extra-* appears once in Wow!4, and *re-* also once in Wow!5. In Wow!6 there are some occurrences of prefixes, such as *unhappy*, *reuse*, *recycling*, *international*, *disagree* and *a superhero*. I believe there is no obstacle for teaching prefixing right from the beginning of the pupils' English studies. Considering for instance Nation's (1990: 43-49) claim about the difficulties presented by teaching opposites and free associates together, would it not be easier to teach *happy* and *unhappy* together than *happy* and *sad*, ie to start with the prefixed forms? And keeping in mind what the above manual listings of derivatives in the currently used text books show, perhaps a materials package including the basics of word formation for younger learners of English might be in order?

7 CONCLUSION

I started the present study with the hypothesis that knowing the basic concepts and processes of word formation in English could be beneficial and could in fact be taught at school for even young learners of English. This would undoubtedly widen their vocabulary somewhat, and even partial knowledge of word building would help them in their further language studies through the following years. The second hypothesis, born out of the first one, was that it might be too early for a 6th-grade pupil to grasp the principles of word formation, that they might not be ready to learn it. My initial thought was that the above-average pupils might be linguistically and mentally mature enough to be able to understand the system and use it to their advantage in their language studies, whereas even the less advanced, weaker pupils would, with proper attention drawn to the matter, see the point in adding affixes to familiar words to gain new ones which in turn would be helpful for instance in identifying unknown words in context or in using dictionaries. And, as Nation (1990: 30) implies, the teaching of facilitating regularities of language will eventually help

both the language learner and the teacher by reducing the “amount of learning and teaching effort needed”. In a way, the knowledge of word formation strengthens the learner’s ability to have the courage to enter the unknown area of guessing, testing, trying, and eventually, succeeding.

One observation to inspire all of the above work was that the current English teaching material for the lower classes (grades 3 through 6) in comprehensive school does not offer support for the teaching of word formation. Gardner (2007: 250) observes that there is enough research material available to conclude that “direct instruction of the relationships between root forms and their affixed family members” increases the learner’s morphological knowledge. Thus, in my opinion, word formation should be presented in our English books, and should be given proper attention to. The producing of new material is a lengthy and expensive process, and will no doubt never result in the creation of the ultimate school book that would include all essentials to suit every taste, so it is of utmost importance that we as the instructors have an understanding of what the most important contents of teaching are. While it is true that on the individual level, the teacher cannot decide what is taught in our schools and when it is done, which is a responsibility given to authorities, it is “the responsibility of the teacher to add to, omit, adapt, or adopt any of the contexts created by the materials designer depending on specific language and teaching needs, wants, and situations” (Kumaravadivelu 2006: 145).

Overall results show, not surprisingly, that pupils who do well in English usually get higher scores than the ones who are experiencing difficulties, originating either from problems with their L1 or other factors affecting language learning in general. The results of this study showed similar tendencies. Although the present study was small-scale, it turned out to be revealing also from the teacher’s point of view. In addition to confirming that what has not been taught can not have been acquired, the study also cautions the teacher to be extra-careful when assessing the amount of knowledge the pupils already possess. It might well be the case that, while having been taught something, they are still processing the information, which may take longer than the teacher anticipated. For example, due to problems in L1 a pupil might be at a loss with much of the material presented in the English classroom. The above-average, linguistically talented pupils are not the ones to worry about, they seem to

manage well, also when presented a challenge in an unfamiliar situation, as the test was for many. It is the weaker pupils who need additional instruction, for instance the teaching of word formation in order to do better in the years to come. Although these pupils may face a multitude of different problems during their years as learners of English, resulting from anxiety, the L1, lack of motivation, laziness, poor vocabulary knowledge, inadequate teaching materials, teaching methodology and so forth, they are the ones who could benefit from focusing on a particular area of language, such as word formation. This study could only show to what extent the current teaching takes word formation into consideration, and came to the conclusion that the topic is practically non-existent in vocabulary teaching for younger pupils. It remains to be seen whether future studies will show how much it could mean for the developing of the vocabulary and the understanding of the structures of the English language if word formation was given proper attention.

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Appendix 1: Test parts A, B, and C

NIMI _____

A. Täydennä kukin aukko yhdellä sanalla. Jos et ole varma tai et muista, arvaa!

1. I am _____ (varma) that Michael Jordan is the best basketball player in the world.

2. He will _____ (varmasti) get into the American Hall of Fame.

3. It is difficult to believe that your mum is 40 years old. She looks much younger.

It is _____ (uskomaton) that she has grown-up (aikuisia) children.

4. She likes to travel abroad on her holiday. She is an experienced _____ (matkaaja). On her _____ (matkat) she has visited 18 countries.

5. I don't _____ (ymmärtää) why I made a stupid mistake like that.

6. That is an _____ (ymmärrettävä) mistake.

7. It is _____ (mahdollinen) that we will have a white Christmas.

8. Finland and Sweden differ only a little bit from each other but the _____ (ero, eroavaisuus) between Finland and Egypt is big. For instance, the food is very _____ (erilainen).

9. It is _____ (mahdoton) to know the weather for the whole summer.

10. The _____ (tuuli) is blowing hard and it looks like it's going to rain, too.

11. The weather has been really _____ (tuulinen) today.

12. My dad won in the lottery which was a wonderful surprise. Now, I _____ (ihmetellä) what he is going to do with the money.

13. Red is my favourite _____ (väri).

14. She likes to wear _____ (värikäs) clothes.
15. I was the only foreigner working in our school in London. My friends there showed me _____ (ulkomaalainen) coins, and I showed them Euros.
16. The dog started to _____ (seurata) the fox.
17. The hunter caught the fox the _____ (seuraava) day.

NIMI:

B. Täydennä annetut sanat lisäämällä niihin sopiva **etu- tai jälkiliite**. Lihavoidut 'sanat' eivät ole oikeita englannin sanoja, vaan keksittyjä.

Seuraavat esimerkit kertovat, miten tehtävään vastataan.

Tehtävä:

Hän oli hyvä **rakentamaan** taloja eli hän oli hyvä **rakenta** .
(= henkilö joka tekee lihavoidun sanan ilmaisemaa toimintaa / työtä)

He could **build** houses very well so he was a good **build** .

Vastaus:

Hän oli hyvä **rakentamaan** taloja eli hän oli hyvä **rakenta ja** .

He could **build** houses very well so he was a good **build er** .

Huomaa, että joihinkin sanoihin voi liittää etuliitteen, eikä jälkiliitettä kuten tässä esimerkissä. Tehtäviin jää siten myös tyhjiä viivoja.

1. She can **bourble** animals very well because she is a good **bourble** . (= henkilö joka tekee lihavoidun sanan kuvaamaa toimintaa / työtä)
2. They **prinkled** the cake but it was no good. Luckily, they can **prinkle** it. (= tehdä uudestaan toiminta, jota lihavoitu sana kuvaa)
3. They don't want to **skey** the ticket, they want to **skey** it. (= tehdä päinvastoin / vastakohta sille, mitä lihavoitu sana kuvaa)
4. It was easy to **pranelit** this textbook but the **pranelit** of that book is very hard. (= sen asian tekeminen, jota lihavoitu sana kuvaa)
5. Before we can **honch** this car, you need to **honch** it. (= tehdä ennen / etukäteen toiminta, jota lihavoitu sana kuvaa)
6. I like this flower; it is very **liffear** but that flower over there is **liffear** . (= vastakohta lihavoidulle sanalle)
7. I didn't **monadate** the story that your friend told me yesterday but what you tell me now is much more **monadate** . (= sisältää asiaa, jota lihavoitu sana kuvaa)

NIMI _____

C. **Täydennä** seuraavat lauseet valitsemalla aukkoon sopiva etuliite laatikosta. Kirjoita jokaiseen aukkoon vain yksi etuliite. Voit tarvita jotakin etuliitettä yhden tai useamman kerran. Joitakin et tarvitse kertaakaan. Jollet tiedä, arvaa!

anti-	inter-	non-
de-	intra-	poly-
dis-	mega-	post-
in-	mini-	pre-
im-	mis-	pro-
ill-	mono-	re-
ir-	neo-	un-

1. There's a law on smoking in Finland. It is _____ legal to smoke near the school.
2. I don't like our new school uniform. I think its ugly colour makes us look _____ attractive.
3. He did not follow the instructions. He _____ understood them.
4. She doesn't study any foreign languages. She can only speak Finnish and that means that she is _____ lingual.
5. The winner of the first American Idol is very famous. She wants to become a _____ star.
6. There is a fast train service between Glasgow and Edinburgh. This _____ city train goes from Glasgow to Edinburgh twice a day.
7. He does not like other people. You can even say that he is _____ social.
8. There was a small kiosk near the station. It's closed now but the new owners want to _____ open it.

Appendix 2: The script of the interview with Matti and Pekka

Pekka: kagoon...mmm... talented?
 Matti: varmaa...tai awful (laughs)... cold...kaks childii
 Pekka: ni puhutaanks täs niinku englan... onks tarkoitus puhua englanniks vai?
 Opettaja: tarkoitus on puhua suomeksi
 Pekka: okkei
 Opettaja: puhukaa kuuluvalla äänellä että se tulee nauhalle
 Matti: quicker
 Pekka: no!
 Matti: rehood...
 Pekka: eii
 Matti: resupport...
 Pekka: no niin heh öö
 Matti: coldly?
 Pekka: en mä oikein tiää, childly eiks se oo vähä niinku lapsellinen...voi nää toki laittaa aina eteenki
 Matti: dis like
 Pekka: disagree eiks se oo vähä niinku.
 Matti: joo toi on tuttu...er
 Pekka: childhood lapsuus ..er
 Matti: career...? minneköhän tää un tulee..
 Pekka: rewrite
 Matti: unsupport
 Pekka: no en oikeen tiää
 Matti: uncertain
 Pekka: no toisaalta childish
 Matti: hmm (accepts)
 Pekka: se ois itse asiassa vielä parempi
 Matti: coldly
 Pekka: en tiää täytyy kattoo jos siihen keksii jonkun paremman
 Matti: unawful
 Pekka: supported eiks siihen tuu kaks t:tä
 Matti: täällä ois enää tällaset sanat jäljellä support ja certain
 Pekka: just
 Matti: certained
 Pekka: en oikein tiää
 Matti: en support?
 Pekka: eee-eeei taija oikein
 Matti: vaikka mä tiään tän re un dis ja ihs ja ly ja ful mutta en oikein näitä er...
 Pekka: golden
 Matti: höh ois pitäny keksii
 Pekka: certainly
 Matti: varmaan ...supported
 Pekka: emmä oikein tiää eiks se pitäs olla...onks se yhellä vai kahella t:llä
 Matti: yhellä!
 Pekka: niin taitaa olla ...käyäänks me vielä läpi nää? rewrite, no se on ainaki, career, no se nyt ei o
 niin talented
 Matti: childish
 Pekka: no ne childhood ja childish ne on varmasti oikein...
 Pekka: disagree
 Matti: golden on ainaki oikein...golden cap, tuli mieleen
 Pekka: sitähan se ... unawful? kuulostaa jotenkin hassulta vähän
 Matti: mm
 Pekka: no ei se kyllä ja eikä se kyllä se un tuu tänne supportiinkaan sen paremmin
 Matti: awfully ei kyllä käy
 Pekka: no ei ei ei awfulful
 Matti: niin awfulful untalent
 Pekka: kyllä (unclear) se talented ois

Matti: no eiköhän tää oo tässä
 Pekka: en tiä mietitääs katotaas vielä...toi unawful se vaikka ja toi certainly on aika varma nää on aika varmasti varmaan oikein
 Matti: unfulled
 Pekka: kyllää toi supportedkin on...unawful..
 Matti: no pitää sen olla
 Pekka: hood awful..
 Matti: robin hood
 Pekka: just
 Matti: eiks se oo tässä
 Pekka: nooo en ainakaan parempaa keksi siihen..jep...tää vois olla valmis sillai..aikalaila
 Opettaja: mä ehdottaisin, että laitatte vielä jonkin aikaa siihen, että luette niitä sanoja mietitte vielä
 Matti: no mieluummin vaikka suomennokset
 Opettaja: tai millä lailla haluatte...
 Matti: childhood on niinku lapsuus
 Pekka: kyllä, childish lapsellinen vähän niinku sinä välillä...disagree niinku sillai eimyötä sillai vaan eri mieltä sillai
 Matti: niin ja sillai
 Pekka: golden no kultainen
 Matti: mmm
 Pekka: certainly...se on sellanen, hm no
 Matti: et se on niinku yleinen tai
 Pekka: no en tiä sillai yleinen kyllä mää sen tiän kans mitä se tarkoittaa mut
 Matti: career
 Pekka: no se on niinku sellainen ammatti tai työ...tai ura
 Matti: talented
 Pekka: supported..niinku kannatettu ...
 Matti: mm
 Pekka: tai tän tyylistä ...sit on toi no toi talented on niinku kyvykäs..career, höh no sehän sanottiinkin..rewrite uudelleenkirjoittaa tai sehän oli ... niin no voihan sen nyt suomentaa paremminkin mutta eiks se oo vähän niinku silleen
 Matti: mm
 Pekka: no vois paremminkin suomentaa...unawful..tää mua vähän mietityttää, se kuulostaa jotenkin kummalliselta
 Matti: se kuulostaa jotenkin tyhmältä
 Pekka: unawful..ei surkea?
 Matti: ni
 Pekka: joo
 Matti: no ei tää oikein käy mihkään tuo epä-epäsana un
 Pekka: ei kyllä mihkään..unchild?
 Matti: unagree?
 Pekka: ei kyllä se on
 Matti: uncertain? untalent? uncare? unwrite? unsupport?
 Pekka: kyllä sen pakko eihän mihkään muuallekaan kyllä sovi...toisaalta
 Matti: niin ...unchild unchild
 Pekka: childhood childish..supported...sitä mihkään muualle...
 Matti: careed? talented? certained?
 Pekka: itseasiassa hei...talented..mietis...talented, sehän on kans jotenkin kyvykäs..se vois olla melkein parempi siihen
 Matti: unful.
 Pekka: supported...eiks se oo vähän niinku kannattavaa tai hurraa me suomi...sillai kannattavaa
 Matti: ly ly
 Pekka: öö fulawful?
 Matti: unfulawful
 Pekka: unawful. ..no tuo no varmaan aika varmasti oikein
 Matti: no tämä on ihan varmana...
 Pekka: tuo
 Matti: childhood on yks
 Pekka: childish sen mä nyt sitä ishiä muuallekaan keksi
 Matti: disagree

Pekka: joo ne on ainakin varmasti...certainly...
 Pekka: kyllä...se no toi rewrite se on varmaan aika lailla kanssa
 Matti: meillä jää enää...
 Pekka: talented kävis nyt paljo paremmin ku talented..talented
 Matti: joo, laitetaan se
 Pekka: pistäppä vaan ...nää menee nyt näitä
 Matti: unsupported..unfulful
 Pekka: no tää ful ei ainakaan tuu tohon awful
 Matti: niin se täytyy olla tälle
 Pekka: niin se vähän niinku pakko ois ollakin..no supportful (unclear) vaikka se menis englantiin ja siel ois joku tyyppi ja sit se sanos vaikka supportfully ni kai se nyt vähän sentään ymmärtäis mitä sitä sanoo vois sen nyt paljon järkeväminkin varmaan sanoo..no emmä tiää
 Matti: supportly
 Pekka: no ei ..no toi...certainful...no (unclear) certainly, disagree, golden, childhood
 Matti: tää unawful on ärsyttävä
 Pekka: no niin on mut kai se nyt on oikeesti jätettävä
 Matti: no joo otetaan se
 Pekka: pakkohan se on...
 Matti: (unclear)
 Pekka: (unclear) no emmä nyt sit mitään muutakaan keksi
 Matti: emmäkään toi talented on parempi ku talented untalent
 Pekka: no ei se se ole
 Matti: awfulled
 Pekka: nyt sää nyt sää sotket taas niin ihan täydellisesti sen koko homman...sää et kohta enää muista mistä nää otit ne, sit meillon hauskaa
 Matti: joo mä otan kaikki nää liitteet täältä pois ja
 Pekka: tirsuttaa siinä vieressä...no on hauskaa
 Matti: niinpä..on on (unclear)
 Pekka: no supportful, sellanen..(unclear)
 Matti: resupport
 Pekka: sanos nyt ihan järkevästi mikä se support taas...kannattaa
 Matti: niin
 Pekka: kannattava
 Matti: jee hyvä suomi ou jee
 Pekka: sen sä matkit mua toistit..supportful vähän niinku
 Matti: jee hyvä matti nykänen hyppää hyppää
 Pekka: yhy hmm no nää on disagree...I disagree with you..just
 Matti: niin toi on aika tuttu mulle tuo disagree
 Pekka: I agree, rewrite tulee mieleen joku kun meinaa vahingossa painaa.. melkein tulee mieleen joku tylsä vanhanaikainen peli mikä on pakko kysyä aina haluatko rewrite pyyhkiä sen vanhan tallennuksen ja pistää uuen
 Matti: niitä on nykyäänkin hei
 Pekka: niin no ei ne nyt niin vanhanaikasia o mutta
 Matti: tulee mieleen around around around...
 Pekka: mut ei kaikissa ainakaan oo
 Matti: talent
 Pekka: joo just joulujuhla ois lähellä...niin joulujuhla ?
 Matti: golden cup
 Pekka: no siitä sen ainaki muistaa, childhood se musta jotenkin näyttää ihan chill..no täällä ei oo sellasta sanaa ku robin joten eiköhän toi childhood käy ihan hienosti yhteen
 Pekka: no niin just nyt pistä kohalleen sinne, ihan pakko...no antaa olla
 Matti: no joo...näin sen on oltava
 Pekka: childish..no se ois lapsellinen, mitä tulee mieleen..career, career, ura, lähinnä tulee careeristä mieleen sellanen hiukkaseenka typerä sellanen joku ihmeen rallipeli jossa oli..se pistää ihan oikeesti sinne muistiin sen tallettaa pelitallennuksen missä lukee jotain että career
 Matti: oho nyt kolahti
 Pekka: no nyt kolahti
 Opettaja: miltäs näyttää
 Pekka: no eiköhän ne aika lailla ole (unclear) on vähän hassu mutta eiköhän ne muuten, (unclear) ei jää jäljelle

Matti: tää un ei käy oikein mihkään

Pekka: niin ja toi supportfulkin on vähän hassu mutta ku parhaiten nää kaks jotka on vähän sillai parhaiten ne näin käy

Matti: koska ei se ois tällenkään mitenkään hyvä

Pekka: awfulful, se on mahtava sana

Opettaja: eli onko ne teillä valmiit

Matti: joo

Pekka: no sanotaan vaikka että on

Appendix 3: Table showing results from test A, B, and C combined

Test A

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	3.6	3.6	3.6
	2	3	5.4	5.4	8.9
	3	5	8.9	8.9	17.9
	4	1	1.8	1.8	19.6
	5	1	1.8	1.8	21.4
	6	4	7.1	7.1	28.6
	7	2	3.6	3.6	32.1
	8	3	5.4	5.4	37.5
	9	2	3.6	3.6	41.1
	10	1	1.8	1.8	42.9
	11	1	1.8	1.8	44.6
	12	2	3.6	3.6	48.2
	13	1	1.8	1.8	50.0
	14	4	7.1	7.1	57.1
	15	3	5.4	5.4	62.5
	16	4	7.1	7.1	69.6
	17	1	1.8	1.8	71.4
	18	1	1.8	1.8	73.2
	19	4	7.1	7.1	80.4
	20	2	3.6	3.6	83.9
	21	2	3.6	3.6	87.5
	22	1	1.8	1.8	89.3
	23	2	3.6	3.6	92.9
25	2	3.6	3.6	96.4	
27	1	1.8	1.8	98.2	
38	1	1.8	1.8	100.0	
	Total	56	100.0	100.0	

Test B

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	18	32.1	32.1	32.1
	1	1	1.8	1.8	33.9
	2	25	44.6	44.6	78.6
	4	7	12.5	12.5	91.1
	5	1	1.8	1.8	92.9
	6	1	1.8	1.8	94.6
	9	1	1.8	1.8	96.4
	12	1	1.8	1.8	98.2
	14	1	1.8	1.8	100.0
	Total	56	100.0	100.0	

Test C

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	7	12.5	12.5	12.5
	3	11	19.6	19.6	32.1
	4	8	14.3	14.3	46.4
	5	11	19.6	19.6	66.1
	6	7	12.5	12.5	78.6
	7	7	12.5	12.5	91.1
	8	2	3.6	3.6	94.6
	10	1	1.8	1.8	96.4
	14	1	1.8	1.8	98.2
	15	1	1.8	1.8	100.0
	Total	56	100.0	100.0	

Tests combined

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	1	1.8	1.8	1.8
	6	4	7.1	7.1	8.9
	7	2	3.6	3.6	12.5
	8	1	1.8	1.8	14.3
	9	3	5.4	5.4	19.6
	10	1	1.8	1.8	21.4
	12	2	3.6	3.6	25.0
	13	4	7.1	7.1	32.1
	14	1	1.8	1.8	33.9
	15	5	8.9	8.9	42.9
	16	1	1.8	1.8	44.6
	17	3	5.4	5.4	50.0
	18	1	1.8	1.8	51.8
	20	3	5.4	5.4	57.1
	21	5	8.9	8.9	66.1
	23	2	3.6	3.6	69.6
	24	2	3.6	3.6	73.2
	25	1	1.8	1.8	75.0
	26	1	1.8	1.8	76.8
	27	1	1.8	1.8	78.6
	28	2	3.6	3.6	82.1
	29	1	1.8	1.8	83.9
	30	1	1.8	1.8	85.7
	31	3	5.4	5.4	91.1
	34	2	3.6	3.6	94.6
	44	1	1.8	1.8	96.4
	54	1	1.8	1.8	98.2
66	1	1.8	1.8	100.0	
	Total	56	100.0	100.0	

Appendix 4. Table showing correlation between test A, B, C, and different school numbers.

Dependent Variable		(I) English number 12/2007	(J) English number 12/2007	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Upper Bound	Lower Bound
Test A	Scheffe	4-6	7-8	-7.346(*)	2.067	.003	-12.55	-2.14
			9-10	-14.760(*)	2.242	.000	-20.41	-9.11
		7-8	4-6	7.346(*)	2.067	.003	2.14	12.55
			9-10	-7.414(*)	1.898	.001	-12.20	-2.63
		9-10	4-6	14.760(*)	2.242	.000	9.11	20.41
			7-8	7.414(*)	1.898	.001	2.63	12.20
	Tamhane	4-6	7-8	-7.346(*)	1.798	.001	-11.90	-2.80
			9-10	-14.760(*)	2.142	.000	-20.20	-9.32
		7-8	4-6	7.346(*)	1.798	.001	2.80	11.90
			9-10	-7.414(*)	2.050	.003	-12.58	-2.24
		9-10	4-6	14.760(*)	2.142	.000	9.32	20.20
			7-8	7.414(*)	2.050	.003	2.24	12.58
Test B	Scheffe	4-6	7-8	-.692	.873	.732	-2.89	1.51
			9-10	-2.747(*)	.947	.020	-5.13	-.36
		7-8	4-6	.692	.873	.732	-1.51	2.89
			9-10	-2.054(*)	.802	.045	-4.07	-.04
		9-10	4-6	2.747(*)	.947	.020	.36	5.13
			7-8	2.054(*)	.802	.045	.04	4.07
	Tamhane	4-6	7-8	-.692	.496	.434	-1.95	.56
			9-10	-2.747(*)	1.038	.045	-5.45	-.05
		7-8	4-6	.692	.496	.434	-.56	1.95
			9-10	-2.054	1.027	.168	-4.73	.62
		9-10	4-6	2.747(*)	1.038	.045	.05	5.45
			7-8	2.054	1.027	.168	-.62	4.73

Test C	Scheffe	4-6	7-8	.115	.879	.991	-2.10	2.33
			9-10	-1.190	.953	.464	-3.59	1.21
		7-8	4-6	-.115	.879	.991	-2.33	2.10
			9-10	-1.305	.807	.279	-3.34	.73
		9-10	4-6	1.190	.953	.464	-1.21	3.59
			7-8	1.305	.807	.279	-.73	3.34
	Tamhane	4-6	7-8	.115	.589	.996	-1.40	1.63
			9-10	-1.190	1.067	.621	-3.93	1.55
		7-8	4-6	-.115	.589	.996	-1.63	1.40
			9-10	-1.305	1.007	.507	-3.93	1.32
		9-10	4-6	1.190	1.067	.621	-1.55	3.93
			7-8	1.305	1.007	.507	-1.32	3.93
Tests combined	Scheffe	4-6	7-8	-7.923	3.272	.062	-16.16	.32
			9-10	-18.697(*)	3.549	.000	-27.64	-9.76
		7-8	4-6	7.923	3.272	.062	-.32	16.16
			9-10	-10.774(*)	3.005	.003	-18.34	-3.21
		9-10	4-6	18.697(*)	3.549	.000	9.76	27.64
			7-8	10.774(*)	3.005	.003	3.21	18.34
	Tamhane	4-6	7-8	-7.923(*)	2.209	.003	-13.51	-2.34
			9-10	-18.697(*)	3.730	.000	-28.31	-9.09
		7-8	4-6	7.923(*)	2.209	.003	2.34	13.51
			9-10	-10.774(*)	3.671	.023	-20.24	-1.30
		9-10	4-6	18.697(*)	3.730	.000	9.09	28.31
			7-8	10.774(*)	3.671	.023	1.30	20.24