

**WORD FORMATION – USING SUFFIXES AND IDENTIFYING
DIFFICULTIES IN LEARNING NEWLY-FORMED WORDS
/FORMATION DES MOTS – UTILISATION DES SUFFIXES ET
IDENTIFICATION DES DIFFICULTÉS DANS
L'APPRENTISSAGE DES MOTS NOUVELLEMENT FORMÉS¹**

Abstract: *Word formation is a chapter of the English grammar which requires specific attention not only due to its complexity in forming new words, but also in terms of a variety of means by which it is expressed. Whether it is affixation, composition or derivation, the phenomenon is worth analyzing in order to understand the mechanisms of word formation. Therefore, the work under study aims to reveal the way our mental lexicon accesses thousands of words and word combinations for which we need a lot of linguistic skillfulness. At the same time, the study also focuses on potential difficulties that students meet in relation to the coinage or acquisition of new words which they use in everyday contexts.*

Keywords: *word formation, coinage, suffixation, morpheme, mental lexicon.*

Résumé: *La formation des mots est un chapitre de la grammaire anglaise qui nécessite une attention particulière non seulement en raison de sa complexité à former de nouveaux mots, mais aussi en termes de variété des moyens par lesquels il est exprimé. Qu'il s'agisse d'affixation, de composition ou de dérivation, le phénomène mérite d'être analysé pour comprendre les mécanismes de formation des mots. Par conséquent, le présent article vise à révéler la manière dont notre lexique mental accède à des milliers de mots et de combinaisons de mots pour lesquels nous avons besoin de beaucoup d'habileté linguistique. En même temps, l'étude cible les potentielles difficultés auxquelles se heurtent les étudiants quant à la création de nouveaux mots ou à l'acquisition de nouveaux mots dans des contextes quotidiens.*

Mots-clés: *formation des mots, création lexicale, suffixation, morphème, lexique mental.*

Introduction

Depending on our level of knowledge, our mental lexicon has access to hundreds or thousands of words which can be processed on a daily basis. We use words to communicate with the others but the way such words are created requires a lot of linguistic skillfulness. As a linguistic unit, the *word* deserves more attention than one might expect. Therefore, one question may arise. What do speakers have in mind when using words? From a simple perspective, the word can be thought of in terms of orthography or as a string of letters. However, this analysis seems incomplete, because a word also involves a semantic and syntactic dimension. Words belong to certain syntactic classes (nouns, verbs, adjectives, adverbs etc.) which are known as parts of speech or word classes.

The position of words is generally determined by various syntactic rules of the language. For example, *an* is an indefinite article and it may occur before nouns and their modifiers as in *a comfortable sofa*. Changing the order of words can affect meaning, therefore placing connectors or certain adverbs should be given much consideration. The following examples are relevant in this regard.

1. *The chairman genuinely needs to do that.*

2. *The chairman needs to do that genuinely.*

The two sentences use the same words, but they differ in meaning. The first sentence shows that it is essential for somebody to do something, whereas the second sentence means that the person must do something honestly.

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On the other hand, *I will show you my project in the café tomorrow* rightly follows the rule: subject-verb-indirect object-direct object-prepositional phrase-adverb of time. However, there are cases when English learners place time before prepositional phrases as in *I will show you my project tomorrow in the café*, under the consideration that this shift does not affect the content of the sentence.

According to Greenberg, there are six possible orders with three of them most commonly used: SOV, SVO and VSO. SVO order is universally used and it seems the most logical to English speakers. Preference for first position of the subject was explained as Agent First principle according to which the agent is the most prominent element in the discourse because it initiates the action itself. Subjects are usually animate and speakers' tendency is to place animates before inanimates when forming sentences. As regards the position of the other two elements, we could say that there is certain cohesion between verb and object, which makes them more semantically united. SVO-SOV order also allows communication to become less ambiguous from a semantic perspective. In order to convey a concrete message, SVO order seems the most convenient since utterances need to be easy to understand in order to render the most efficient communication fluency.

Establishing word-formation rules

The columns below consist of words in which smaller elements are added to form larger words with complex meanings.

1a. <i>interviewee</i>	1b. <i>team leader</i>	1c. <i>table</i>
<i>creator</i>	<i>lorry driver</i>	<i>issue</i>
<i>useless</i>	<i>classroom</i>	<i>friend</i>
<i>kindness</i>	<i>mother-in-law</i>	<i>promise</i>
<i>unnecessary</i>	<i>workload</i>	<i>perfect</i>
<i>dehumanize</i>	<i>counterattack</i>	<i>offer</i>

Columns 1a and 1b contain certain elements which are known as morphemes. For example, *interviewee* is made up of the noun *interview* and three morphemes; *dehumanize* can be divided into smaller parts (*de-*, *human*, *-ize*). Words in column 1c, on the other hand, are independent elements, consisting of only one morpheme.

In order to clarify the elements that are added to words, a clear distinction is needed between *root*, *stem* and *base*. These terms are usually confused due to language differences in morphological structures. A *base* is a word that can form other words by means of affixes (*correct*, *help*, *ideal*). A *root* is a word from which other words grow by adding suffixes. For example, *change* is a root morpheme constituting a singular word. In contrast, *changeable* becomes a complex word by adding the bound morpheme *able*. A *stem* is usually responsible for the meaning of the word. The English word *childhood* contains the stem *child* to which the suffix *hood* is added to form a new stem *childhood*.

The phenomenon of word-formation may be analyzed from a grammatical perspective which makes reference, for instance, to how verbs are conjugated (inflection): third person singular *-s*, as in *creates*; participial *-ing*, as in *driving*; plural *-es*, as in *dictionaries*. Also, it can be analyzed in terms of derivation (lexeme formation), which arises certain difficulties depending on the complexity of words:

2a. inflection	2b. derivation
<i>focuses</i>	<i>useful</i>
<i>the writers</i>	<i>untruthfulness</i>
<i>is working</i>	<i>mentality</i>
<i>they stopped</i>	<i>dramatize</i>

Sam's intention

Communism

Column 2a indicates the use of morphemes including grammatical categories: person, number, tense or case, which are relevant for building sentences. If the two columns are compared, one can observe that by derivation (2b) words can add morphemes either at the beginning or at the end of the base, which is not the case for 2a where inflection is expressed by suffixes. On a more detailed analysis, the two columns also differ in terms of parts of speech. The suffix *-ful* makes an adjective out of a verb, *-ness* makes a noun out of an adjective, *-ity* makes a noun out of an adjective, and *-ize* turns the noun into a verb.

On the other hand, the inflection phenomenon based on the addition of various markers (past tense, participial) does not contribute to changing the morphological class of the word.

Unlike inflectional affixes, which usually pertain to the grammatical function of a word and are limited in number, their derivational counterparts are only limited by the scope of the vocabulary of a given speaker. In terms of productivity, inflectional affixes are fully productive since they occur in all verbs or nouns, whereas derivational morphemes are highly restricted. In the latter case, one may not attach certain suffixes, as indicated in the examples below:

3a. <i>*discern-ive</i>	3b. <i>construct-ive</i>
<i>*work-ive</i>	<i>detect-ive</i>
<i>*child-al</i>	<i>education-al</i>
<i>*computer-al</i>	<i>music-al</i>

Words in column 3a are attached specific suffixes: *discernible*, *workable*, *childish*, *computerization* which allow changing of words into different parts of speech: *discernible* (verb into adjective), *childish* (noun into adjective), *computerization* (noun into another noun).

In conclusion, inflection includes such features as: reference to grammatical categories, syntactic relevance, impossibility to change part of speech, full productivity. In contrast, derivation is more related to lexical meaning, often changes the part of speech and is restricted in its productivity.

Productivity and the mental lexicon. Productive versus unproductive affixes What is productivity

Productivity is the property of an affix to coin new complex words. Not all affixes are equally productive. For example, *th* can be considered unproductive as it occurs in only few words (*breadth*, *depth*, *length* etc.). In comparison, *ness* is more productive than *-ish* and this is explained either by the number of dictionary entries (739 according to Baayen and Renouf 1996:78) or by its high frequency among language users.

Language history has been marked by so many changes in the mechanisms of word formation that it is almost impossible to establish clear-cut rules that speakers may use to acquire new lexicon. One question that may arise in terms of productivity is why some affixes are more productive than others.

Most of the time we are used to catching a word by taking into account its semantic, morphological or phonological structure in compliance with the rules of the language. For example, transitive verbs can be turned into adjectives by adding the suffix *-able*: *washable*, *eatable*, *drinkable*, *likeable*, etc. These forms are semantically transparent, highly predictable in meaning and their frequent usage among speakers makes them actual words.

Speakers' mental lexicon and their ability to form complex words are not identical. In more concrete terms, any use of words is tightly related to their frequency. The enrichment of the mental lexicon is based on three important elements: memory, storage and retrieval. Words are found in the lexicon waiting for the speakers to use them in speech production. The more complex they are, the less likely is to be used on a daily basis.

When processing concepts, speakers activate all the lexical entries. One word is analyzed phonologically, grammatically, semantically either in isolation or in combinations with other words. If we consider the word *horse*, our mental lexicon does not only operate its main meaning in the dictionary, but it extends to a more complex analysis which may include its contextual use or any potential phrases: *from the horse's mouth, eat like a horse, never look a gift horse in the mouth, put the cart before the horse*, etc.

Defining affixes and the use of suffixes

According to Matthews (1991, an affix is "any element in the morphological structure of a word rather than a root." In the word *dysfunctional*, *dys-* and *-al* are affixes, whereas *function* is the root. Affixes comprise prefixes and suffixes which are useful for learners to get better knowledge of the word structure. Suffixes play an important role in language since they help to recognize grammar structures (singular vs. plural, verbal time morphemes) and to expand vocabulary, peculiarly specialized terminology.

As Aartset *al.* (2014) state, a suffix is "an affix added at the end of a word or base to form a new word or an inflectional form of a word": *variance*, *writer*, *fruitful*, *visualise*, *homeless*, *agreement* etc. Some of them are derivational in nature: *formality*, *useless*, *appearance*, *dictation*, etc., while others are inflectional: plural *-s/-es* (*bus-buses*), comparative *-er* (*clearer*), possessive (*Dean's relative*), *-s* (third person singular, present simple), present participle *-ing* (*working*), past participle *-en* (*broken*) etc.

Suffixes are divided into more categories: nominal, adjectival, verbal and adverbial.

Nominal suffixes

They are often used to derive abstract nouns from verbs, adjectives and nouns and are highly productive in language. Depending on the field they are used in, nominal suffixes express a variety of meanings as shown in the analysis below.

-ance (*ence/ency*) is attached productively to verbs in order to produce nouns. The most problematic issue related to this suffix is its spelling, because speakers find it difficult to differentiate between *-ance* and *-ence*. Such words as *perseverance* - **perseverance*, *existence* - **existance*, *reliance* - **relience*, *dependence* - **dependance* are easily confused due to their almost identical pronunciation. Clarification of spelling can be done either by checking the dictionary or following the rule: verbs ending in *-y*, *-ure*, or *-earare* spelled as *-ance* when turned into nouns (*endure*-*endurance*, *appear*-*appearance*). On the other hand, if the verb ends in *-ere*, the noun will be spelled as *-ence* (*adhere*-*adherence*, *interfere*-*interference*).

-Ant is highly used in technical or biology terminology: *defendant*, *consultant*, *dispersant*, *deviant*, *malignant* etc., and can be associated with persons or substances used in chemical or physical processes. It helps the formation of adjectives and nouns from verbs and its meaning refers to causing or performing an action or existing in a specific condition: *claimant*, *protestant*, *servant* etc.

-Cy/-Ce is another productive suffix attached to adjectives or nouns denoting properties, states or qualities. It also includes a metaphorical extension especially when

an institution is referred to (*presidency, vice-regency, sergeancy* etc.) These suffixes are mostly used in academic or technical language (*meritocracy, prolificacy, malignancy* etc.) but can also be common in our daily language: *transparency, discrepancy, sufficiency* etc.

Morpho-semantically, *-ee* is a French origin morpheme denoting a human being. According to Mühleisen (2010:62), the suffix was used "towards the end of the Middle English period in the 14th and 15th centuries," with a high productivity in legal terminology denoting the recipient of an action: *guarantee, bailee, attendee* etc. In the 20th century the suffix went through a growing expansion when dictionaries recorded a series of nouns such as: *appraisee, contactee, conferee, retiree*, etc. *-Ee* is common with transitive and intransitive verbs as in *sign-signee* (someone signing a document), *escape-escapee* (someone escaping from a place).

-ity is usually added to adjectives to form nouns denoting a quality or a state (*legality, brutality, irrationality, individuality*). Both *-ity* and *-ness* have been subject to controversy as regards their productivity. Scholars found it difficult to come to a common agreement due to the variety of morpho-phonological alternations specific to *-ity*, but not to *-ness*.

Bases with Germanic suffixes use *-ness*, whereas bases with Latinate suffixes oscillate between *-ity* and *-ness*. The syntactic category of the base seems to influence the choice of one suffix over the other. *-Ness* is more often attached to nouns, pronouns or phrases as in *kindness, otherness, know-nothingness* while *-ity* usually occurs with nominal bases (*directionality, suggestibility, intentionality*).

Another category of suffixes includes *-hood, -ion, -ist, -ism* or *-ment* with a significantly lower frequency in the language, which generally occur with concepts denoting states, events, processes, or beliefs (*childhood, starvation, nutritionist, Communism*, etc.)

Verbal suffixes

These suffixes have the role to turn words into adjectives, nouns or verbs and are limited in number: *-ate, -en, -ify, -ize*. Words ending in *-ate* are more common with chemical compounds (*gluconate, carbonate, oxidate, acetylate*) and they usually provide resultative meanings. However, this pattern is not general, since *-ate* occurs with other idiosyncratic formations as in *regulate, moderate, overestimate, insulate*, etc.

-En is a derivational suffix used to form adjectives denoting size, colour or verbs (*golden, silken, threaten, shorten*, etc.). In Modern English there is a clear tendency towards loss of this suffix, since most forms in *-en* have been replaced with bare adjectives both in British and American English. However, such forms as *golden* and *wooden* are used on a large scale due to their high frequency in language.

-Ify shows that something is in a particular state or condition: *clarify, amplify, falsify* etc. It attaches to monosyllabic words or words stressed on the final syllable and, in some cases, it may be used pejoratively as in *Frenchify* or *preachify*. In terms of its semantics, the suffix shows a wide polysemy with causative, resultative, locative or performative meanings (*purify, trustify, codify, speechify*, etc.)

Mostly common in academic prose, *-ize/-ise* is used with transitive or intransitive verbs and produces meanings such as become, perform, make into or provide with (*computerize, hospitalize, randomize, visualize*, etc.). It is necessary to make a clear distinction between words containing *-ize* in their base (*advise, exercise, improvise*) and those in which *-ize* is a suffix generating other meanings (*legalize, hypnotize, economize*).

Adjectival suffixes

This category of suffixes is worth mentioning in relation to two classes: relational and qualitative adjectives. The former class expresses a relation to a corresponding noun (*modal, cultural*), whereas qualitative adjectives are used to identify qualities or features of a person or thing (*courageous, hesitant, homogeneous, etc.*).

–*Able* is attached either to nouns (*measurable, fashionable, comfortable* etc.) or transitive and intransitive verbs (*enjoyable, breakable, blamable* etc.). Its semantics include such meanings as: able to be done, in accordance with, subject to, due to happen, etc. In terms of spelling, there are some changes to be considered before attaching the suffix. Words ending in one consonant double it before adding –*able* (*regret-regrettable*), but this rule does not hold for words ending in double consonant, as in *predict-predictable*. Another spelling change occurs with words ending in –*y* preceded by a consonant, as in *levy-leviable*, which is not the case for those ending in a vowel and –*y*, as in *employ-employable*.

–*Ful* is rare in Old English and Middle English, while in Modern English it is more productive and refers to the quality of something or causing something (*restful, painful, hopeful, etc.*). It is typically attached to abstract nouns such as *purposeful, insightful*, or to verbal bases: *resentful, useful, respectful, etc.*

–*Ic* is usually used with nouns and adjectives as in *scientific, individualistic, opportunistic* etc. When combined with nouns it describes a particular condition or a mental illness (*alcoholic, shopaholic, workaholic, etc.*), whereas with adjectives it shows that something is related to a particular thing as in *photographic, allergic, angelic, etc.* Its productivity is supported by the fact that it is combined with other suffixes (*personificationic+ation, authenticity – ic+ity*).

–*Al/-ial/u*al is combined with Latin bases (*cultural, functional, federal, etc.*) and is highly frequent in different corpuses to form adjectives. The stress of the derivatives is either on their penultimate or antepenultimate syllable. Its addition creates adjectives from nouns (having the form, character of): *natural, autumnal, proportional, etc.*, or nouns from verbs with the meaning *the act of* (*denial, refusal, renewal, etc.*). Coinages in –*ial* arose in the 16th century and included examples such as *ensorial, dictatorial, amatorial, etc.*

The prevailing meanings of –*ish* are “belonging to somebody” and “changing the nature of something”. It usually derives gradable or non-gradable adjectives from countable nouns (*stylish, childish, girlish, etc.*). The suffix also shows nationality or origin, as in *Polish, Jewish*, and can also be used with a derogatory meaning (*slavish – critical that somebody behaves like a slave*). On the other hand, –*ish* also conveys the sense of “nearly but not exactly” when combining with colours: *brownish, reddish, blackish, etc.*

A clear distinction should be made between the –*ish* suffix and words containing *ish* in their root (*establish, admonish, punish* etc.). Its frequency in informal contexts is also a reference to vagueness or approximation (*I think the manager is fortyish, possibly older*).

The French-derived suffix –*ous* (having a specific quality) gained its productivity in the 14th century. It attaches to foreign nouns to derive adjectives (*famous, tremendous, poisonous, etc.*). It also occurs with further variants –*ious, -eous* and –*uous* (*prestigious, simultaneous, sinuous*). The spelling of these variants has always been problematic among learners, since there is no firm rule regarding their usage. Focus on practice and pronunciation may set a clear boundary between words containing these suffixes.

Adverbial suffixes

Among the adverbial suffixes, *-ly* (connected to, the action of) is the most common and fully productive in Present Day English. Collins Dictionary entry shows that *-ly* can be added to adjectives to form adverbs or nature of something: *They were badly injured; Sharon has typically fair skin. -Ly* is also added to nouns to form adjectives describing someone or something (*manly, saintly, lordly*, etc.). It may occur with nouns referring to periods of time to form adjectives (*weekly, daily, yearly*). The dual nature of this suffix adjectival (*lovely*) and adverbial (*fluently*) highlights a higher productivity for its adverbial function.

There is no clear answer regarding the status of *-ly* as inflectional or derivational suffix. Miller (1991:95) recognizes it as inflectional: "Since the distinction between adjective and adverb (between say *bright* and *brightly*) depends on a syntactic condition – namely the syntactic category of the word that is being modified – it seems reasonable to regard *-ly* suffix as an inflection, not a derivation."

On the other hand, O'Grady et al. (1991:121) and Robins (1989:242) consider the relationship between words like *rapid- rapidly* as derivational, based on the idea that category-changing morphology is derivational (adjective turned into adverb). However, the unanimous opinion of linguists is that both interpretations hold true. *-Ly* is derivational because it relates two classes of lexemes and it can also be inflectional because it is sensitive to the syntactic position of the adverb and differentiates two forms of the same lexeme.

-Wise is registered in the dictionary as an autonomous word or a suffix (in the form or manner of) added to nouns to form adverbs indicating that something is the case (*Career-wise, this illness couldn't have come at a worse time*) or to form adverbs showing that someone behaves in the same way as the person that is mentioned (*We were housed student-wise in dormitory rooms*). Despite its wide usage, it is not considered appropriate in formal writing, but can be found in informal contexts with the meaning "concerning", "with respect to" (*Security-wise, there are few problems*).

Learning difficulties in newly-formed words

My professional path in teaching specialized English has been marked by a series of teaching and learning challenges regarding the phenomenon of word formation. Not infrequently, students encountered difficulties in receiving and processing newly formed words, due to a variety of elements specific to this lexical phenomenon. It was problematic for them to acquire the peculiarities of word formation and to infer the correct forms, especially in the exercises that required both the presence of suffixes and negative prefixes in specialized texts. Ambiguity in meaning of words was another obstacle that students had to face in the learning process. Besides the standard meaning found in the dictionary, words also provide learners with other different meanings which are not easily identified in the context. The prevailing difficulties encountered by students include: lack of clear grammar or lexical rules, comparison and taking over certain lexical patterns from the mother tongue, word spelling and misunderstanding of meanings.

There are no standard language rules to derive or coin new words, but students have the possibility to design "a web of associations", as stated by Tickoo (2003: 216), in order to better understand the lexicon dynamics. Self-reliance, learning autonomy and dictionary guidance are other important elements which help learners to recognize complex lexical structures and use them appropriately.

Conclusions

As a linguistic phenomenon, suffixing is widespread among human languages and has an important role in forming new words. Suffixes have functional

characteristics such as grammatical function because they convert words from one grammatical class to another, and semantic function based on adequacy of meaning. They also have formal characteristics including phonetic forms, stress and phonetic changes.

The word-formation phenomenon is an extensive subject which remains open to new approaches. Language is a living organism in continuous change; therefore, its understanding requires linguistic skillfulness, insight and a high capacity of retention. Students need to know how to use words to fit various grammatical contexts since words can change their shape and grammatical value. Increased attention to syntactic, semantic or phonological changes, continuous practice on typical exercises and designing word associations are key to mastering word-formation processes.

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