English Derivational Morphology: Challenges and Teaching Considerations for Non-Native Speakers

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Abstract
This paper has a twofold purpose: to raise awareness on the complexity of the acquisition of English derivational morphology, and to suggest ways to approach its teaching in the language classroom. Understanding morphology is important because of its impact on other areas of language; however, some authors posit that its explicit instruction is limited in schools. Based on a thorough but comprehensible description of English morphology, we present eight aspects that may be challenging for English Language Learners followed by pedagogical strategies to address them. This way, we hope to offer linguistic insights that can aid the teaching of English as a foreign language and close the gap between linguistic research and the classroom setting.

Introduction

Derivational morphology is a word formation process in which the addition of affixes creates new lexemes (e.g., generous- generosity). The main word formation processes in English are compounding, conversion and derivation (Lieber, 2005). Compounding occurs when two stems are put together to form a lexeme (e.g., bus driver). Conversion, also known as zero-derivation and functional shift, refers to the syntactic and semantic change of a word that does not undergo a morphological change. Through this process, nouns frequently become verbs (e.g., Google- to google), verbs become nouns (e.g., to catch- a catch) and less frequently, adjectives become verbs (e.g., cool- to cool). In derivation, the creation of

new lexemes results from the addition of a derivational affix. For example, *amaze* (v) + the suffix *-ment* results in *amazement* (n). This paper focuses on suffixation, which is a central part of derivational morphology.

In the last decade, researchers have shown growing interest towards the study of derivational morphology because it has been suggested that it can aid other areas of language. Studies of English as a second language have found benefits on word recognition, word reading, reading comprehension, and even writing skills resulting from the knowledge of derivational morphology (Curinga, 2013; Diependaele et al., 2011; Khodadoust et al., 2013; Kieffer & Lesaux, 2008, 2012; Leontjev et al., 2016; Ramírez et al., 2010, 2013). Despite the importance of the matter, it seems that teaching morphology has not been fully incorporated in the curriculum. In what follows, we will present some evidence.

Although several researchers recommend the explicit instruction of English derivational morphology (Amirjalili & Jabbari, 2018; Khodadoust et al., 2013; Schmitt and Zimmerman, 2002; Varatharajoo et al., 2015), some other studies reveal that derivational morphology is not seriously considered when it comes to teaching. Tahaineh (2012) argues that word formation mechanisms are seen as a by-product of other types of learning and that it plays a secondary role compared, for instance, to grammar. He insists on the importance of teaching vocabulary in ways that promote learners' true understanding of the linguistic system and explicitly teaches them word formation mechanisms since, without such instruction, students are forced to memorize word forms which appear to be unrelated. He bases his arguments on a detailed analysis of a textbook of English as a second language in Jordan, where he found almost no activities related to word-formation processes and therefore he urges textbook designers to pay attention to this aspect.

The lack of morphological instruction has also been identified by Itmeizeh (2018), Badawi (2019) and Anwar & Rosa (2020). Itmeizeh (2018) studied Palestinian 10th graders' morphological analysis and found low results even after the experimental group had gone through morphological treatment. The author states that English is taught in Palestine with special emphasis on listening and speaking in the first grades and gradually focuses on reading and writing in higher grades (never on morphology). Badawi's (2019) study took place in Egypt where, he states, English instruction is totally dominated by Communicative Language Teaching. He believes that this approach has been misunderstood, making teachers and material developers believe that they should leave aside any focus on language form. After visiting 51 EFL classrooms in 17 secondary schools, he observed that "neither the objectives nor the content of the three assigned EFL secondary school textbooks are concerned with morphology instruction" (p.167). Likewise, Anwar & Rosa (2020) assert that "it is rare to find English teachers at junior high schools in Indonesia who teach morphology explicitly in the classroom" (p.29).

These classroom practices seem to contradict some research findings that highlight the benefits of understanding morphology for bilingual people. Based on the idea that students bring skills from their first language to the learning of a second language, Lam et al. (2019) investigated a type of morphological awareness specific to bilinguals: cross-language suffix correspondences; this is,

"awareness that suffixes can carry the same meaning and changes in grammatical class in two languages despite differences in appearance or sound in the two languages" (p. 30). This is not the same as cognate awareness, which commonly focuses on base forms like *fantastic/fantástico* in English and Spanish, respectively, but can also apply to suffixes alone (like English *–ous* and Spanish *–oso* in *dangerous/peligroso*). Cross-language suffix correspondences, unlike cognate awareness, refers to a semantic and grammatical overlap where word forms do NOT share orthography or phonology, as in the pairs of English-Spanish words *happi**ness**/felici**dad*** and *loneli**ness**/sole**dad*.** Lam et al. (2019) found that cross-linguistic suffix correspondence brought more benefits in reading comprehension than cognate awareness for English speakers learning French as a second language. Their study raises two important issues, one is that teachers should not treat bilingual students as monolinguals; in other words, teachers could and should take advantage of students' metalinguistic awareness in their two (or more) languages. Furthermore, if cross-language suffix correspondence is more beneficial than cognate awareness for reading comprehension in a second language, then we have at least one well founded reason to teach derivational morphology on its own right, and not as a by-product of vocabulary learning, grammar instruction or reading exposure.

We have presented some efforts that researchers have made to explore the importance of derivational morphology for second language learners, and what we find is a discrepancy between their findings and the classroom situation. In other words, although morphological knowledge is known to have a positive impact on other areas of language, its explicit instruction seems to be limited. We wish to close this gap by providing some teaching strategies based on concrete aspects of morphological knowledge. Our objectives are 1) to raise awareness on the complexity of the acquisition of English derivational morphology, and 2) to suggest ways to approach its teaching in the second language classroom.

Our methodology consisted of describing eight potential problematic areas for students' L2 morphological acquisition and treat those problems as teaching challenges in order to give pedagogical suggestions. The problems include: the processes involved in derivation, suffixes that can be both inflectional and derivational, pseudo-affixation, plurifunctional suffixes, meaning overlap, doublets, affix ordering and the difference between academic and non-academic language. The relevance of the study is its attempt to link theory to practice in the field of Second Language Acquisition by offering linguistic insights that can aid the teaching of English as a Foreign language.

We now turn to the description of eight problems of derivational morphology and then delve into some possible suggestions about how to deal with them in the classroom. The suggestions can apply to learners of different levels of proficiency and some recommendations can be taken not only for classroom practice, but also for testing purposes.

Challenges of English Derivational Morphology

Problem 1: The three processes involved in derivation are not always visible

It is claimed that derivation includes three simultaneous processes: a morphological one (the addition of a morpheme), a syntactic one (the change of a grammatical category) and a semantic one (the creation of a new meaning). Hurford et al. (2007) demonstrate this with a couple of examples (see Table 1, examples 1 and 2).

Table 1

The three processes involved in derivation (source: Hurford et al. (2007)

	Morphological process	Syntactic process	Semantic process
(1) Teach-teacher	Add suffix *-er*	Change verb to noun	Produce a word denoting an agent
(2) Red-redness	Add suffix *-ness*	Change adjective to noun	Produce a word denoting a property

However, these three processes are not always visible. Although derivational morphology, in contrast to inflectional morphology, generally changes the grammatical category of the word, sometimes the result of adding a suffix is a derived word with the same grammatical category (see 3), where we can see the addition of the suffix *–hood*, but the derived word is also a noun. Similarly, we can find examples of derivation which do not involve a morphological process as in *cook* (n) or (v), whose syntactic and semantic processes can only be distinguished in context (see 4a and b).

(3) child (n) → childhood (n).

(4a) The *cook* was granted a prize (n).

(4b) I don't like to *cook* (v).

In a classroom situation, we could deal with cases like (3) by explaining the syntactic process of the suffixes (for example, that the suffix *-hood* makes nouns) and give and elicit some examples from students (e.g., neighborhood, brotherhood). Cases like (4) can be managed by indicating the possible syntactic combinations of the grammatical categories. For example, nouns can be preceded by determiners such as ***a*** *house,* ***the*** *cats,* ***three*** *cooks*, while verbs in infinitive are preceded by the particle *to* or by a noun phrase or an auxiliary verb, when conjugated. Compare ***three*** *cooks* (n) vs ***my mom*** *cooks well* (v) / *my mom* ***is*** *cooking.*

Some of the words that do not suffer a morphological change present an additional problem related to stress shift. The word *report* in (5a) and (5b) below serves as an example. Generally, when these words work as nouns, the stress goes on the first syllable, and when they work as verbs, it is the second syllable that is stressed (RE-cord vs re-CORD)[1]. A quick explanation of stress to students may also give them clues to identify grammatical categories.

[1] More examples of this type of words are: increase, decrease, import, export, protest, insult, etc.

In addition, teachers can explain the difference between nouns and verbs by giving pairs of sentences and creating *wh-* questions with the help of students.

(5a) The *report* was prepared by the director. (Who prepared the report?)

(5b) They *report* that soil pollution has threatened local farmers. (What did they report?)

Problem 2: Is this a derivational or an inflectional morpheme?

There are some morphemes that can be either derivational or inflectional. For example, if you add the suffix *-er* to an adjective, you create a comparative form, so the suffix is inflectional (see 6); but if you add it to a verb, you create a noun, thus it is working as a derivational morpheme (see 7).

(6) cheap → cheaper (inflectional morpheme)

(7) paint → painter (derivational morpheme)

Bauer & Nation (1993), who propose a scale of difficulty for learning English morphemes, suggest that inflectional morphemes are acquired earlier than derivational morphemes. Nonetheless, they point out that some can be considered either, depending on the context they appear in, as in (8a) and (8b)[2]:

(8a) He is *shooting* clay-pigeons. (inflectional morpheme, progressive form).

(8b) Clay-pigeon *shooting* is an expensive pastime (derivational morpheme denoting an activity).

English teachers and second language researchers should be aware of the flexibility of the suffixes since students' acquisition may indeed follow this kind of broad order. Author 1 et al. (in revision) report that beginners tend to use more inflectional morphemes than advanced students and that sometimes their answers are correct even if the sentential context is restricted (see 9a and 9b).

(9a) A more *bearable* life requires good attitude.

(9b) A more *bearing* life requires good attitude.

The first option in (9) is, without a doubt, a derivational morpheme since the suffix *-able* creates adjectives, while the second option has an inflectional form (*-ing*) that in this context works well to form an adjective. Thus, the suffix *–ing* can work as an inflectional morpheme by giving a progressive aspect (see 8a above and 10a below); as a derivational morpheme by naming an activity and working as a noun (see 8b above and 10b below) and even denoting a "type of", thus working as an adjective (see 10c below). However, the addition of *-ing* as a derivational morpheme can have ambiguous readings as in (10d)[3], where one interpretation refers to the act of smoking grass (verb), and another interpretation is the state of the grass (adjective).

(10a) She *is smoking.* (the verb is inflected with the suffix *-ing*).

(10b) *Smoking* is bad for your health. (*-ing* works as a nominalizer and thus, considered a derivational morpheme).

(10c) Some *smoking pipes* are not expensive. (*Smoking pipes* are a type of *pipes*, so the suffix *-ing* is adjectival and is thus considered a derivational morpheme).

(10d) *Smoking* grass is dangerous. (Ambiguous case).

Teachers can make inferences as to the process of acquisition of their students based on their answers. If a student answers

[2] Examples taken from Bauer & Nation (1993).

[3] Example taken from Hurford et al. (2007).

something like 9a, that may mean that he/she has a greater level of English proficiency than the student that answers something like 9b. In this case, the teacher knows that he/she has to work harder with the latter. One way to do this is to present the derived form to the student and make him/her aware of the function of the derivational morpheme. For example, by explaining that the suffix *-able* can attach to verbs to form adjectives (e.g., observable, respectable, unthinkable).

Problem 3: Pseudo-affixes and the three aspects of derivational knowledge

There are words whose endings resemble the form of some suffixes although they are not real suffixes, but part of the base of the word. This phenomenon can be problematic for language learners, as Diependaele et al. (2011) suggest. These researchers found a pattern of facilitation from transparent suffixes such as *viewer-view* to opaque suffixes or pseudo-suffixes such as *corner-corn.*

This finding goes in line with Tyler & Nagy's (1989) assertion that derivational knowledge includes three aspects: relational, syntactic, and distributional, and is developed accordingly. In the first type of knowledge, leaners have to decide if two words are related as in *argue-argument* as opposed to *off-offer*. The second aspect, called the syntactic knowledge, consists of knowing that derivational suffixes mark the grammatical category of English words; for example, being aware that the suffix *-ize* creates verbs like in *victim-victimize*. Finally, the third aspect is about knowing the restrictions of the addition of a suffix to certain roots. For example, the nominalizer *-ness* can be added to adjectives and nouns but not to verbs (e.g., quietness, childness vs *playness).

The problem of pseudo-suffixes has also been addressed by Schreuder & Baayen (1995), who point out that some of the factors that must be considered in the development of morphological acquisition are: conceptual complexity, semantic and phonological transparency, the complexity of the operations of word formation, pseudo-affixation and affixal homophony. Other non-morphological factors that the authors invite us to consider are word frequency and the morphological richness of languages, since they can create differences in acquisition, too.

A pseudo-suffix is explained by Ram (2013) as something that is not a suffix, but a combination that looks like a suffix, like *-er* in *corne*r. A more general term would be *pseudo-affixation*, as Schreuder & Baayen (1995) use it, because it can also occur with prefixes, as they exemplify with the words *reach* and *react*. While the word *reach* has no prefix, the word *react* includes the prefix *re-*. These authors warn us about word frequency because a high frequency word may be easier to acquire than a low frequency word, even if it is derived (for example, the word *punishment* in English is more frequent than the word *punish*[4]). Also, the morphological richness of the first language may affect the acquisition of the second language. For example, it may be easier for a Russian speaker to understand inflection in Spanish than for an English speaker, since Russian and Spanish have a rich inflectional system, but English does not.

Teachers can take advantage of research that has been done regarding the different aspects of derivational knowledge. For example, Carlisle (2000) developed a way to test the

[4] *Punishment* has 2191 ocurrences in the British National Corpus, while *punish* has 461 (January 30th, 2021)

relational and the syntactic knowledge of English native speakers that can be used with nonnative speakers and be further modified to evaluate their distributional knowledge. In her proposal, the relational knowledge is a judgement test, thus focusing on comprehension (see 14a and 14b); while the evaluation of the syntactic knowledge is divided in two parts: derivation and decomposition (see 15 and 16, respectively) and evaluates production. In doing so, the last two tasks also trigger semantic knowledge. Both in derivation and decomposition, the students are asked to complete sentences by modifying a given word. Author 1 et al. (2019) adapted Carlisle's derivation task and were able to successfully evaluate Spanish speakers' distributional knowledge of some English suffixes.

(14a) happy – happiness (related)

(14b) cat – category (not related)

(15). Farm. My uncle is a … [farmer]

(16). Driver. Children are too young to... [drive]

The type of exercises shown in 14 to 16 can be used in the language classroom as practice, and not only as evaluation tools. Morphological exercises can be modified to prompt students' comprehension and at a later stage, production, which tends to be poorer than the receptive area. For example, a decontextualized exercise aiming to develop the relational knowledge of students could be a morphological segmentation task of isolated words (e.g., cleverness → clever -ness; unreliability → unrely -able - ity). This type of exercise makes students realize that the addition of some suffixes modifies the root orthographically and/or phonologically. In the case of *unreliability*, there is a stress shift between reLY and reliaBIlity, plus orthographic changes: switching -*y* to -*i* in *rely* and modifying -*able* to -*abil* to fit with -*ity*; so this exercise can also benefit students' spelling or pronunciation subskills. It is important to make clear that the segmentation should be morphological and not in syllables.

If teachers prefer to work with contextualized material, they can use short texts and have students underline all the derived words (identification). If students are able to identify the grammatical category of the derived words and guess meaning from context, they are showing their syntactic and semantic knowledge (comprehension), which can be evaluated through comprehension questions. If students can use the derived words, they have moved to the productive area. This can be accomplished by eliciting synonymous phrases (see 17).

(17) Karla didn't see the point of making an effort to convince her parents. Karla's efforts to convince her parents seemed ***pointless*** to her.

One same exercise can be adapted to trigger receptive and productive knowledge. Teachers can prepare multiple choice exercises where students choose the correct derived form to complete the sentences (see example 22 below). If they wish to move to the productive area, this same kind of sentences would be presented in a fill in the blanks format (see 15 above). If teachers want to work only on the syntactic area, the exercise can look like example 20 below, but with real words.

A less controlled production in communicative activities can be achieved by connecting morphology to other areas of language. For example, after a listening activity, teachers can lead an oral exercise that forces students to rephrase ideas and use derived words. By doing so, teachers can check listening comprehension and promote the development of morphology and grammar at the same time. The listening activities are regularly included in the

textbooks, so the teacher would only be adding the morphological part (see dialogue and follow-up in 18, as an example).

(18) [An extract of a dialogue between a boss and one of his employees]

Boss: I'm sorry, but you will not be promoted this year.

Employee: May I ask why?

Teacher's question: What were the boss and the employee talking about?

Student's expected response: about the employee's *promotion*.

Free production can be attained by asking students to write a short text with a minimum number of derived words to make it look more academic. It is also possible that more advanced students start adding known suffixes to new roots both in spoken and written speech. Sometimes, students that have encountered words like *homeless, pointless,* and *childless* are able to produce words like *motherless, meaningless* or *effortless*.

Problem 4: Plurifunctional morphemes

Some morphemes have more than one grammatical category, and therefore, create different meanings. For example, the suffix *-al* can form adjectives from nouns (see 19a), nouns from verbs (see 19b), and adjectives from adjectives (see 19c).

(19a) music (n) → musical (adj)

(19b) arrive (v)→ arrival (n)

(19c) periodic (adj) → periodical (adj)

When this happens, generally one grammatical category is more productive than the rest. In the case of the suffix *-al*, it has been claimed that the function of denominal adjectivizer (example 19a) is the most productive. This can have a positive impact on acquisition since the most productive function of a morpheme is thought to be the first one to be acquired by second language learners. However, teachers cannot be certain that the derivational suffix *-al* has been acquired because students are able to recognize it or produce it in a word such as *musical*, since the high frequency of this word and/or the frequency of its root (*music*) may have an effect on its recognition. As a matter of fact, some researchers claim that certain derived words are recognized as a whole and not understood in a compositional manner because of their high frequency (Clahsen et al., 2010; Karlsson, 2015; Schreuder & Baayen 1995; Silva & Clahsen, 2008). Others alert us on the fact that knowing one derivative form of a word family does not mean knowing them all, although it may facilitate the receptive knowledge of other members. In Schmitt and Zimmerman's words: "teachers cannot assume that learners will absorb the derivative forms of a word family automatically from exposure". (2002, p. 162).

The recommendation here is to try to separate vocabulary knowledge from morphological knowledge. One way to do this is by testing students' derivational knowledge in low and high frequency words. If the students only get good results in high frequency words, this means that they are not decomposing the words, and therefore, may not know the morphemes involved in them. Another way to evaluate morphological knowledge is by using non-words. The inconvenience of it is that it only evaluates the syntactic knowledge of the suffix, leaving aside its distributional knowledge (discussed in problem 3) and the possibility of doublets (discussed in problem 6). In addition, it focuses only on receptive knowledge. Mochizuki & Aizawa (2000) used this technique in a decontextualized multiple-choice format with the grammatical categories *noun, verb, adjective* and *adverb* as options (see 20), while in Lardiere's study (2006) the options were words to complete a sentence (see

21). This last author also included real words in her study (see 22), which would be our recommendation for teachers who want to evaluate the syntactic knowledge of the suffixes because we believe that working with non-words is not equivalent to working with real words.

(20[5]) Rombortable quifable slomitable n. v. a.ad.

(21) The committee is too _____ to deal with that project.
a. vorincible b. vorintism c. vorintiousness d. vorincify

(22) I tried to _____ his motives for doing that.
a. analysis b. analytical c. analyse d. analytically

One way to teach smoothly the several functions of suffixes is to work first with those that have some correspondence with students' L1. The creation of bilingual dictionaries can trigger students' knowledge and comprehension in both their L1 and L2 by means of comparison. If students detect a pattern between suffixes in different languages either through cognates or cross-linguistic suffix correspondences, the teacher can elicit other forms that fit into that pattern, and the class can start its dictionary. For example, students notice that *responsibility* matches with *responsabilidad* in Spanish and search additional pairs such as *sincerity/sinceridad, authority/autoridad, mentality/mentalidad*. Or they notice that the English suffix *-al* is cognate with Spanish. It is then the teacher's job to make students realize that the cognate status holds only when *-al* forms adjectives from nouns as in *natural* and *cultural*, in which the roots of the words are also cognates. When this suffix creates adjectives form adjectives, the suffix will be different in Spanish but consistent (*rethorical/retórico; hysterical/histérico; allegorical/alegórico*). Once students recognize this, it is likely that they rapidly increase their receptive vocabulary because the roots of the words are cognates, and now students know that *-al* is forming adjectives. Finally, the nominalizing function of *-al* does not correspond so strongly to Spanish words neither in roots nor in a single suffix (*arrival/llegada; proposal/propuesta; removal/eliminación; approval/aprovación*), so this will be probably the last function Spanish speakers acquire. If the entries of the dictionary are made by suffix, and not by word, students can add the functions of a morpheme as they discover them, so they can develop their morphological knowledge gradually and meaningfully.

Problem 5: One meaning generated by different morphemes

An additional problem occurs when we find different morphemes with the same syntactic process that create the same semantic value. An example of this, cited in Lowie (1998), is the case of the suffixes *-ation, -ment, -al* and Ø, which are all deverbal nominalizers that create the meaning of "abstract result of an action" as in (23 a-d).

(23a) expect → expectation
(23b) resent → resentment
(23c) approve → approval
(23d) regret (v) → regret (n)

Our recommendation would be to consider again the first language of the students because that may partially explain their choices. For example, English and Spanish have the cognate suffixes *-ation/-ación* and -

[5] The options in Mochizaki & Aizawa's study were originally given in Japanese. In addition, they included another type of items to evaluate prefixes. This was likewise done with the use of non-words, but their intention was to test the semantic knowledge of the prefix. A sample item is: Antislimad / antikiofic / antirachy with the options (a) human, (b) of antenna, (c) opposed, (d) ancient.

ment/-miento (e.g.,proclamtion/proclamación; resentment/resentimiento). This may affect the order of acquisition of morphemes and teachers can expect the use of the cognate morphemes over the non-cognate. As a matter of fact, an overuse of this type of morphemes can occur as in using *approvation* instead of *approval*. In this case, the teacher can infer that the student has already acquired the syntactic knowledge of the morpheme and is only struggling with the distributional one. Amirjalili & Jabbari (2018) tested the distributional knowledge as in example (24)[6]

(24) [In each set determine which word does not exist in English]

a. childable b. equality c. characterize d. measureless

[In the above test "childable" is an incorrect word since *-able* cannot attach to nouns].

Teachers can complement this type of exercise in a group discussion where he/she asks for the correct form of the incorrect words. Example: "So how do we call someone who behaves like a child?" (childish), and further explain that the suffixes *-ish*, and *-able* create adjectives, but *-ish* can be added to nouns (e.g., devilish, stylish, womanish) while *-able* is commonly added to verbs (e.g., printable, drinkable, laughable).

Problem 6: The doublets

Zacarías (2010) studies the Spanish suffixes *-ción* and *-miento* that add to the same root, create the same grammatical category and, in some cases, generate the same meaning. He calls *rivalry* when both derivations are possible for the same grammatical category as *aburrición* and *aburrimiento* (both forms meaning *boredom*) and argues that there is *opposability* when the meaning of the derived forms is different as in *población* and *poblamiento*[7]. This same phenomenon has been discovered in English. For example, Bauer *et al*. (2013) point out that it is common to find doublets with *-ness* and *-ity* (e.g., purity/pureness; exclusivity/ exclusiveness). From a Second Language Acquisition perspective, Author 1 et al. (2019) found that English learners have the tendency to add the English suffix *-ation* to roots that can take another nominalizer like *-al* or *-y* (e.g., dismission vs dismissal; advocation vs advocacy). They argue that this preference is due to the greater productivity of the suffix *-ation*, the greater word frequency of the derived form, and the influence of the participants' mother tongue, which in their study was Spanish and thus has the suffix *-ación*. They also found cases of opposability like *treatment* vs *treaty* where, although both suffixes create a noun, the meaning of the derived form is quite different. Finally, they account for the creation of novel forms like *adjournation* instead of *adjournment*.

The suggestion here is to correct beginner or intermediate students only when there is a difference in meaning that obstructs communication (cases of opposability) and leave the deep explanations of subtle differences of meaning to advanced students (cases of rivalry). This is because we believe that morphological knowledge is more optimally linked to vocabulary size than vocabulary depth[8].

For advanced students, a meaningful and collaborative way to work with doublets is the creation of English-English dictionaries using

[6] Example taken from Amirjalili & Jabbari (2018)

[7] Zacarías argues that *población* means "human settlement" or "a group of inhabitants" while *poblamiento* refers to the activity of inhabiting.

[8] Vocabulary size is defined as the number of words known, while vocabulary depth refers to how well those words are known (Schmitt, 2014).

peer feedback as a tool to increase morphological awareness. If after a fill in the blanks derivational exercise, the teacher sees that students' answers for an item varies between *treatment* and *treaty*, but the correct answer is only *treatment* (a case of opposability), he/she can ask students to look up the meanings in a dictionary and write them down with a sample sentence for each word. This would force students to check the meaning of the word against the context which, as mentioned in Oz (2014), is a step to promote morphological awareness as a cognitive strategy. If the pair of words are a case of rivalry, students may also find examples and have a group discussion to discover use or meaning differences between words. In this case, the teacher can explain that different users may use different forms; for example, some people prefer to use *bravery* over *braveness.* These variations may be a matter of generational or dialectal preferences, sematic change (pejoration or amelioration), or caused by the etymological background of words, as mentioned in Kaunisto (2009).

Problem 7: Derived words with more than one affix

Some derived words do not contain only one affix but can be formed by a prefix plus a suffix (e.g., un-respons-ive), or a combination of suffixes. In the latter case, the order of the suffixes in not arbitrary. This is, while *respons-ive-ness* is accepted, **response-ness-ive* is not. There is a large body of research in this area, especially theoretical, in which researchers have tried to categorize the suffixes to predict/explain their ordering (e.g., Aronoff & Fuhrhop, 2002; Hay & Plag, 2004; Manova & Aronoff, 2010). The empirical work shows poorer performance of English Language Learners on derived words that imply affix ordering than those with a single suffix (Friedline, 2011).

Friedline's (2011) ideas may be useful for developing the acquisition of multi-suffixed words, since one of his objectives was to see the role of instruction on suffix knowledge and suffix ordering, focusing on the following combinations: *able+ity* (e.g., reliability); *ful+ness* (e.g., hopefulness); *tion+al* (e.g., additional). The participants in Friedline's study were pre-tested and post-tested after 5 sessions of morphological training. Some of the exercises included in the pretest and post-test were a fill in the blanks exercise that required the addition of one or more suffixes to a given word (see 25 and 26) and a grammatical judgement task (see 27)[9].

(25) Brief: The speech's ***briefness*** was refreshing.

(26) Tough: The athlete's ***thoughfulness*** came from his intense training.

(27) *Truthfulness* (correct) vs **forceness-ful* (incorrect)

He had two kinds of training that he called input and output training. Input training included multiple choice exercises after a listening and a reading task, while output training did not include a listening task, and the activities after the reading task required more production from students. Examples of the output training are shown in 28 and 29:

(25) [After reading a short story]

(26) People believe that Choice is a (base: sense) sensat __ __ n __ __ science fiction movie.

(27) [Sentence writing]

Politicians / lack / accountable / when /use / government money. (make changes to the

[9] Examples form Friedline (2011)

words provided in order to make them fit in the sentence and use *accountable* as a noun.)

As we can see with the examples shown so far, morphological exercises can vary from a multiple choice to a fill in the blanks format or even to sentence transformation, and this can be done with multi suffixed words as well. It is also worth noticing that they can be done after practicing some other skills. We think that group games can further help practice word formation and affix ordering by, say, having students play dominoes with roots and affixes. Games have the advantage of making learners practice the language without the worries of formal learning.

Problem 8: Differences between academic and non-academic language

We have seen that derivational suffixes tend to (but do not always) change the grammatical category of the words to which they attach. However, we have not pointed out that derivational affixes add to content words, and when these are nouns, they are regularly common nouns. It is strange to see derivational affixes added to function words such as conjunctions, articles or prepositions, which are considered a closed set of words, since there is a fixed number of items. For example, it would be perfectly normal to see or hear the noun *intensity* formed by the adjective *intense* + the suffix *-ity*, but not **inity* as the combination of preposition *in* + the suffix *-ity*. Van Goethem (2017) points out that occasionally words belonging to the closed set can be used in nominal slots as in (30) and that some category changes are nothing similar to what we can encounter in a textbook (see 31). Other peculiarities are shown in Bochnak & Csipak's (2014) work. Although these authors carried out a semantic analysis not discussed in this paper, their examples show how the derivational suffix *-ish* changes its status from a bound to a free morpheme (see examples 32a-d and the explanation below the examples)[10]

(28) all the *ifs, maybes,* and *wherefores* of Survivor scramble-time politics.

(29) (https://www.yahoo.com/, April 2016)

(30) Ted: She said it'd take three days. It's been five days. Should I be worried?

Lily: Oh, just play it cool. Don't *Ted out* about it.

Ted: Did you just use my name as a verb?

Barney: Oh, yeah, we do that behind your back. *Ted-out*: to overthink. Also see *Ted-up*. *Ted-up*: to overthink something with disastrous results. Sample sentence: Billy *Tedded up* when…

Ted: OK, I get it. Don't worry, I'm not gonna *ted* anything *up* or *out*. I'll just give it a few more days.

(How I Met your Mother, Season 1, Episode 7, 2005, quoted in Mattiello 2013: 246)

(32a) He was driven by his *childish* enthusiasm.

(32b) He said a fantastically Donald *Trump-ish* thing

(32c) Let's meet at Starbucks at *3-ish*

(32d) Mac: You've got a plan, right?

Veronica: …*ish*

In example 32a, *-ish* adds to nouns or adjectives, which is probably the most common use of this suffix and the most likely to be taught at schools. When the suffix adds to nouns, it creates adjectives that give the sense of "belonging to" (e.g., Spanish), "relating to", "typical of" or "like" (e.g., childish, girlish,

[10] Examples 30, 31 and 32b belong to Van Goethem (2017), while examples 32c and 32d are taken from Bochnak & Csipak (2014). 32a is a made-up example by the authors of this paper.

babyish); "inclined to" (e.g., bookish); or "approximately" (e.g., fiftyish). When *-ish* adds to other adjectives, it also gives the meaning of approximation (e.g., yellowish, brownish). All these uses would be the typical ones, exemplified in 32a. However, example 32b shows that suffixation with *-ish* is not restricted to common nouns, but also applies to proper names; 32c shows that the suffix can add to temporal expressions; and 32d shows that the suffix is evolving from bound to free morpheme. We doubt that uses such as 32 b-d are taught to second language learners despite being used by native speakers. This leaves teachers the task to complement their teaching materials with more natural instances of spoken language of both native and nonnative speakers.

Recapitulation and teaching considerations

This paper had a twofold purpose: to raise awareness on the complexity of the acquisition of English derivational morphology, and to suggest ways to approach its teaching in the language classroom. Throughout the text, we accounted for eight aspects of English derivational morphology that may be problematic for non-native speakers of English. All of them have been dealt with in linguistic research, but scarcely taken to the classroom atmosphere. After each aspect, we provided the reader with some suggested activities that can be done as classroom practice or testing material. The implementation of such activities in class takes only a few minutes but can be greatly beneficial for students as it forces them to think and talk about language. Likewise, their application in testing may push students to develop metalinguistic awareness, and thus improve their language proficiency[11].

The teaching recommendations that we presented in the paper go in line with the thoughts of Tahaineh (2012), Itmeizeh (2018), Badawi's (2019) and Anwar & Rosa (2020), who claim that morphological explicit instruction is desirable, if not necessary, in the classroom setting.

With regard to teaching considerations, we would like to highlight the following aspects:

1) Students' progress will be enhanced if they enjoy the activities they are performing (Agbayani, 2021). For this reason, we suggested activities in which teachers invite students to create their own materials (such as the dictionaries proposed in problems 4 and 6) and enjoy their learning through games (proposed in problem 7 when dealing with derived words with more than one affix). Bilingual dictionaries, as we mentioned, can be useful to identify the cross-language suffix correspondence proposed by Lam et al. (2019), while English-English dictionaries with

2) contextualized examples of derived words can be used as a device to work with doublets to promote morphological awareness, as stated by Oz (2014).

In our view, teaching morphology is conceptually similar to teaching grammar: in essence, we want students to develop the ability to identify and relate how different affixes function, so they can assimilate the rules and focus on using the language. A problem-solving approach to teaching and learning can be of great use in the language classroom, as it

[11] Amirjalili & Jabbari (2018), Kieffer & Lesaux (2007, 2010) and Schmitt & Zimmerman (2002) offer additional tools that can be adopted by teachers to build morphological understanding.

promotes learning as a process of self-discovery and meaningfulness.

3) In line with Karimi (2012) and Oz (2014), we believe that teaching morphology can aid students' self-confidence as students might feel more at ease in learning the L2 if they are able to break down the word to a more understandable form. An aspect related to this point concerns the feelings of the students and the teachers, which should not be set aside. Teachers must attempt to create a safe environment where students can receive feedback without feeling they are being put on the spot and where teachers feel comfortable to provide corrective feedback (CF). Author 2 et al. (2017) found scarcity of CF in spite of its benefits to second language learners. They argue that this may be because of the conflicting beliefs that teachers and students have about it. Teachers should not be afraid of giving feedback. Instead, they should make sure to create learning environments where students welcome feedback and thus take advantage from it.

4) Teachers should also attempt real communication step by step, and they should always consider factors such as the students' age, learning experiences and proficiency level to design the most adequate and appealing activities. Again, we agree with Agbayani (2021), who states that students are more likely to comprehend a word if they are interested in what they are doing, so she emphasizes the importance of providing students with activities that attract their attention. We also highlight the value of context for learning and testing meaningfully since "morphemes have semantic, phonological and syntactic properties that clearly express the role of a particular word in its linguistic context" (Karimi, 2012, p. 452).

5) In addition, teachers need to observe what students do in the classroom in order to guide their learning. For example, in problem 1 (derivation is not always visible), we showed how a quick explanation of word stress can help students improve their pronunciation and develop their grammatical knowledge with little effort, while in problem 2 (derivational or inflectional morpheme), we emphasized that teachers must be attentive towards the knowledge students show through their answers. Given that a single task is insufficient to identify what the learner knows or does not know -just as the production of a correct word form does not mean that the learner knows the complete family of words (Schmitt and Zimmerman, 2022)-, teachers must be ready to ask relevant questions and/or provide the necessary assistance to help the learner advance. For this, the teacher needs to be a good observer, which will also be useful when dealing with word frequency (mentioned in problem 4: plurifunctional morphemes) if the teacher is interested in developing morphological knowledge and not only assessing students' vocabulary. The advantage of developing morphological awareness is that it can help students increase their vocabulary without having to memorize long lists of related words, as Tahaineh (2012) claims. Making in our students the habit of mentally decompose words may help them figure out the meaning of new words when they encounter them.

6) From the introduction and then in problems 3 (pseudo-affixes) and 5 (one meaning generated by different morphemes), we mentioned the importance of considering the students' mother tongue, as Lam et al. (2019) and Author 1 et al. (2019) suggest. This can occur, of course, only when the teacher is working with a group of students that shares the same first language. The relevance of the first language emerges because it allows students to

use their L1 metalinguistic knowledge and make comparisons between the L1 and the L2.

7) The pedagogical suggestions to problem 3 (pseudo-affixes) show the variety of ways in which a teacher can work with morphology: form identification/comprehension to controlled or free production, with a wide range of exercises such as multiple choice, fill in the blanks, open questions, sentence transformation and writing assignments that allow teachers to connect morphological knowledge to other linguistic or communicative aspects of the target language. It is important, though, to select the correct type of exercises because some of them, although being apparently morphological, risk testing vocabulary knowledge instead, as the example (24) taken from Amirjalili & Jabbari (2018) which supposedly tested the distributional knowledge of morphology.

8) Problems 7 (derived words with more than one affix) and 8 (differences between academic and non-academic language) make us think about language from a descriptivist view in contrast to a prescriptivist one because they discuss the way in which people really use language (not just in academic settings) and the innovative forms that may emerge. Regarding problem 7, we can point out that in addition to the 'regular' derived words, we can encounter compound nouns as bases to which both prefixes and suffixes can be added, like the word *un-sportsman-like.* This word is frequently used when narrating sports events, but words like this are probably never taught formally to students. Problem 8 highlights the need to present students with written material that shows a variety of registers in language use because through this, students will be exposed to differences between oral and written English, academic and everyday English, as well as native and nonnative English. This will additionally help reduce the stigma of taking the second language learners' creative forms as mistakes, when the native speakers also produce them and are taken as acceptable. Authors like Author 1 et al. (2019), Karlsson (2015) and Schmitt y Zimmerman (2002) have reported the creation of invented English words by nonnative speakers, and Schmitt y Zimmerman (2002) claim that even proficient speakers produce them based on a partial knowledge of derivational morphology.

9) In conclusion, we invite teachers to explicitly teach morphology, regardless of the strategies they decide to adopt, and to take into consideration the learners' first language and previous knowledge. Our recommendation, in line with many of the authors mentioned in this text, would be to teach morphology in a meaningful, gradual and systematic way. We hope that this thorough revision links linguistic research to language teaching.

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