Derivation, Compounding, and Borrowing Productivity in Kurdish (Sorani Dialect): A Corpus-based Study

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Abstract

Morphological productivity is defined in terms of how frequent a morphological rule produces distinct words. In Kurdish, a word formation process may be used to result in more new words than other processes. Thus, in this paper, the facilitators and the barriers of the concept of productivity in Kurdish (Sorani Dialect) is demonstrated with examples. Additionally, the three-word formation processes which are derivation (dařiştin), compounding (lêkdan), and borrowing (wergîran) are examined theoretically by providing a historical background concerning each process. Meanwhile, they are analyzed practically by classifying (sorting) the corpus data according to each word formation process distinctly. After taking each process's frequency of word production, the

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concluding points concerning the number of different words produced by each process is declared in the conclusion.

Keywords: Morphological Productivity, Compounding, Derivation, Conversion, Corpus-based

إنتاجية الاشتقاق والتركيب والاقتراض في اللغة الكردية (لهجة سوراني): دراسة قائمة على المدونات اللغوية

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الملخص

الإنتاجية الصرفية هي مدى التكرار الانتاجي لقاعدة صرفية معينة لكلمات مميزة. في اللغة الكردية، قد تُستخدم عملية تكوين الكلمات لإنتاج عدد أكبر من الكلمات الجديدة مقارنةً بالعمليات الأخرى. لذلك، تبحث هذه الدراسة كل من العوامل المساعدة والمعوقات لمفهوم الإنتاجية في اللغة الكردية (اللهجة السورانية) مع أمثلة . بالإضافة إلى ذلك، تدرس عمليات تكوين الكلمات الثلاث، وهي الاشتقاق والتركيب والاقتراض، نظريًا بتقديم خلفية تاريخية لكل عملية. وفي الوقت نفسه، يتم تحليلها عمليًا بتصنيف بيانات المدونة اللغوية وفقًا لكل عملية من عمليات تكوين الكلمات على حدة. وفي الخاتمة تُذكر النقاط الختامية المتعلقة بعدد الكلمات المختلفة التي تنتجها كل عملية بعد تحديد مدى التواتر الانتاجي لكل منها.

الكلمات المفتاحية: الإنتاجية المورفولوجية، التركيب، الاشتقاق، التحويل، القائم على المدونة

1. Introduction

This paper deals with the concept of morphological productivity in specific Kurdish word formation processes which are derivation (dařiştin), compounding (lêkdan), and borrowing (wergîran). The method used for the data analysis is meant to be mixed in terms of quantitative and qualitative procedure. Thus, it provides a theoretical background related to each process along with examining the data by illustrating the frequency of words which are produced by each process. Hence, the data is corpus-based because it is extracted from a (3000) words corpus that is designed by the researcher. The words of the corpus are taken from Kurdish dictionaries like (nanawazada, 2021), and (rohani, 2020) alphabetically. the researcher focuses only on Kurdish content words including (nouns, adjectives, adverbs, and nouns). Significantly, this paper is extracted from a Phd dissertation. So, it should be noted that the whole corpus cannot be stated here because of space limitation. Consequently, the results will be declared in the results and discussion section with a comprehensive figure.

2. Kurdish Morphological Productivity (Sorani Dialect)

The concept of productivity in Kurdish morphology refers back to the ability of a word formation process in producing new words. As, Muhammed (2019, P. 154) defines it and states that "Productivity in Morphology is the degree of an affix's capability for creating new words.".

Thus, sometimes, productivity in linguistics is referred to creativity because in a way or another it is related to speaker's innovation in making new words just as Ahmed (2010 Cited in Xdr, 2019) demonstrates that productivity makes reference to the ability of language users to build unlimited new words out of a limited number of rules or restrictions. Further, it is mentioned that productivity is related and tackled in phonology and syntax as well but here only morphological productivity is discussed.

In addition, productivity varies among the word formation processes and the distinct affixes. For way of illustration, some processes are more productive than the other ones plus this is true for affixes as well. For example, the suffix [-î] for making abstract nouns is more productive compared to the other suffixes as it can be found in the word examples [pirî (oldness), panî (width), tałî (bitterness), xoşî (pleasure), cwanî (beauty), tarikî (darkness), azadî (freedom), hajarî (poverty), řzgarî (liberation), çenebazî (talkative), twndî (toughness), şêtî (crazyness), fêłbazî (Cheating), saxtebazî (fraud), negbetî (misfortune), dłtengî (sadness), kem w kwrî (shortcomings), etc.]. Subsequently, morphological productivity has a variety of facilities which enhance its existence and it faces several barriers that restrict its occurrence at the same time. In the following lines, both the facilities and the barriers will be demonstrated with examples separately:

The first facilitator point for productivity is transparency (expectedness) of a word formation process. In other words, when a word results from a clear procedure that can cause expected meaning and forms, then the procedure is meant to be productive. For instance, nouns which are made from a process where the suffix [-î] is added to adjectives like in [pir + î] (oldness), [drêj + î] (length), [pan + î] (width), [tał + î] (bitterness), [řast + î] (trueness), [xoş + î] (joy), [çwan + î] (beauty), etc., are clear examples and their production process is also obvious and expected. Also, their new meanings are quite transparent which can be noticed they are derived from their original word's meaning that are [pîr (old), drêj (long), pan (wide), tał (bitter), řast (right), xoş (fun), cwan (beautiful), etc.]. (Muhammed, 2019).

The second facilitator is lexicalization. This process directs toward making words which their meanings and forms are different from their original components' meanings. So, the lexicalization process enriches productivity. For examples, words such as [demewer (blabbermouth), xincile (cute), serçił (top of the tree's branch), nanewa (baker), pêşewa (leader), serbaz (soldier), mastawçy (flatterer), kilawçî (cracker), sexteçî (cheater), quřmiş (setting up a clock), etc.] possess unexpected meanings. In other terms, the meaning of the resulted words from lexicalization process cannot be revealed from its (the words') components. (Muhammed, 2019).

The third facilitator is the frequency of a process. Whenever the frequency of a word formation process is high, its productivity degree will be higher. The more is used, the more productive will be. In Kurdish, there are affixes which are used once in the lexicon like [taqîkirdinewe (examination), tembêkrdin (chasten), fisezman (lisp), xotêhełqwrtandin (intruder), etc.] which can be called less productive because of their lower level of frequency. On the other hand, the occurrence of these suffixes [-î, -ayetî, -êtî, and -etî] in Kurdish lexicon is high, as a result they are more productive comparing to the other affixes. (Muhammed, 2019)

Oppositely, there are obstacles which encounter productivity of word formation processes. These barriers are categorical, phonological, semantic, etymological, syntactic, pragmatic, and blocking causes. (Muhammed, 2019)

Thus, firstly, the categorical barrier causes restrictions for word formation processes. As, affixes may choose certain bases to be linked with and reject others like suffixes [-ger, -dar, -saz, -çî, -baz, etc.] are added only to simple nouns such as [asinger (blacksmith), dwkandar (shopkeeper), didansaz (dentist), çayçî (tea maker (seller)), kotirbaz (bird keeper), etc.]. whereas, other suffixes such as [-î, -e, -êne, -in, -emenî, etc.] take only simple adjectives like [cwanî (beauty), xrape (badness), zerdêne (yolk), nermin (narmin (it is a name)), sardemenî (cold beverages), etc.]. while, there are affixes may link with more than one category such as (nouns, adjectives, and verbal base.) like in [mindałî (childhood), cwanî (beauty), koke (cough), etc.] which shows that they are less restricted. So they will be more productive comparing to the previous affixes which link with only one category. (Muhammed, 2019)

Secondly, semantic barriers restrict productivity concept in a way which a base's meaning affects the affix type that is added to it. For way of illustration, the negative prefix [na-] takes only those bases which have a positive meaning because if the base owns a negative meaning, then the negative prefix cannot be added. For instance, the prefix [na-] links with a base like [xoşewist] and becomes [naxoşewist] but it cannot be linked with a base like [naxrap]. (Muhammed, 2019)

Thirdly, the etymological restriction limits the addition of specific affixes to particular bases. For example, some affixes acquire borrowed bases and produce occupational words like the suffix [-çî] is added to borrowed bases and result in [kebabçî (kebab seller), çayçî (tea maker), pençerçî (tire repairman), lebxçî (cement plasterer), leĥimçî (welder), etc.]. Although, these affixes may be linked to Kurdish bases for idiomatic uses because of societal developments and changes plus, they result in idiomatic adjectives instead of occupational words like [mastawçî (flatterer), sexteçî (cheater), tałançî (robber), fitneçî (seditionist), etc.]. (Muhammed, 2019).

 Fourthly, the syntactic barrier refers to the sensitivity of certain affixes to their base's syntactic feature. In other words, some affixes are linked only with transitive verb bases such as [křyar (buyer), froşyar (seller), pirsyar (question), zanyar (knowledgable), etc.]. On the other hand, there are other affixes which take intransitive verb bases like [řijanewe (pouring out), swtanewe (burning sensation), etc.]. (Muhammed, 2019)

Fifthly, the pragmatic barrier can restrict productivity of word formation processes as well. Certain affixation processes are restricted because of the pragmatic use of the particular affix. Thus, the reason may refer to the society's reputation toward the specific affix usage or the non-acceptance of it. For instance, the utilization of the suffix [-der] with some bases. Whereas, the same suffix may produce words which are accepted by Kurdish society and culture like [řencder (hardworking), kołneder (persistent), birlêder (boehole driller), etc.]. (Muhammed, 2019).

Sixthly, the last barrier mentioned here is the concept of blocking which indicates that the existing words block the production of new words with the same meaning and function. For instance, the suffix [-er] is added to verbal base in Kurdish for making subject nouns like [nuser (writer), xwener (reader), daner (creater), etc.]. But, words like [kwjer (the one who kills)] is blocked because of the existence of [bikwj (killer)], and the word [dizer (stealer)] is also blocked because of the word [dz (thief)], plus the word [girer (the tool which holds things)] is blocked because of [bigr (holder)]. (Muhammed, 2019).

3. Kurdish Word Formation Processes

The existence of different word formation processes in Kurdish enriches its vocabulary and leads the language toward vitality and productivity. So, these processes generally make new words either by derivation, clipping, acronym, borrowing from other languages, compounding, or translation, etc. Therefore, in this section these processes are demonstrated separately with examples so as to reveal the degree (intensity) of each procedure's productivity (Dizeyi, 2011, Dizeyi, 2012, Muhamed, 2019, Rohani, 2020, and Dizeyi, 2021):

3.1 derivation (Dařştin)

It refers to the process of adding affixes to existing bases, stems, or roots in order to make new words. This can be found in words like [serok (leader), nemir (immortal), zanyarî (information), zana (scientist), zanisty (scientific), nwser (writer), xwêner (reader), pêwer (criteria), nwsraw (article), bikwj (killer), etc.]. As a result, various nouns, adjectives, and adverbs are produced by this process of dařştn. (Dizeyi, 2011). Meanwhile, distinguished examples of [wşey dařêjraw (compositional word)] are illustrated in the table below:

wşey dařêjraw	Pêkhata	Cory wşe
1. Agadar (aware)	Aga + dar	awełnaw
2. Begwř (excited)	Be + gwř	awełnaw
3. Bêhoş (unconscious)	Bê + hoş	awełnaw
4. Brindar (injured)	Brin +dar	awełnaw
5. Cejnane (feast's gift)	Cejn +ane	Naw
6. Dabezin (coming down)	Da + bezin	Kar
7. Diwar (wall)	Diw + ar	Naw
8. Fêłbaz (cheater)	Fêł + baz	awełnaw
9. Gwêçke (ear)	Gwê + çke	Naw
10. Jirane (wisely)	Jir + ane	awełkar
11. Napak (untruthful)	Na + pak	awełnaw
12. Nařêk (untidy)	Na + řêk	awełnaw
13. Nezan (know nothing)	Ne + zan	awełnaw

14. Poşak (clothes)	Poş + ak	Naw
15. Piştên (belt)	Pşt + ên	Naw
16. Řonak (lighted)	Řon + ak	awełnaw
17. Şaxawy (mountainous)	Şax + awy	awełnaw
18. Serpoş (scarf)	Ser + poş	Naw
19. Şewê (shape)	Şew + ê	awełkar
20. Sipîlke (light skin)	Spi +lke	awełnaw
21. Swtandin (burning)	Swta + ndn	Kar
22. Têgeyştin (understanding)	Tê + geiştn	Kar
23. Wergêřan (translation)	Wer + gêřan	Kar

As, it is clear that by (dařştn) process numerous words like distinct nouns, adjectives, adverbs, and verbs are built via adding prefixes, and suffixes to existing bases in the language.

3.2 Compounding (Lêkdan)

This process is about compounding of two free morphemes and making one new word which owns a new meaning as well. Hence, this compounding process in Kurdish is done by linking the two free morphemes or with the support of a linking tool. For instance, words like [řeşmał (tent), serban (roof), dw dł (hesitant), destnwêj (ablution), texte klil (keyboard), etc.], result from only two bases without the linking tool. Whereas, a group of words such as [mangeşew (moon night), gwłegenm (wheat flower), demwçaw (face), řengawřeng (colorful), lerzwta (chills and fever), gwrcwgoł (active), etc.] are the outcome of linking two free bases with a linking tool. (Dizeyi, 2012). For more clarification of [Lêkdan] process more examples along with their structure is provided in the table below:

Wşey Lêkdraw (compound word)	Pêkhata (structure)	Cory wşe (word type)

1. Ał w goř (exchange)	Ał + w + goř	Naw
2. Befraw (Icy water)	Befr + aw	Naw
3. Bexêwkrdn (foster)	Bexêw + krdn	Kar
4. Břiardan (deciding)	Břiar + dan	Kar
5. Dest břin (deceiving)	Dest + břin	Kar
6. garden blwr (an attractive neck)	garden + blwr	Awałnaw
7. Gft w go (discussion)	Gft + w + go	Kar
8. Gvegv (Aeolian sound)	Gv + e + gv	Naw
9. Gwł w gya (flowers and grass)	Gwł + w + gya	Naw
10. Hêlkewřon (fried egg)	hêlke + w + řon	Naw
11. Konefroş (second-hand seller)	Kon + e + froş	Naw
12. Nexoşkewtn (getting sick)	Nexoş + kewtn	Kar
13. Pêşnyaz (suggestion)	Pêş + nyaz	Naw
14. pol pol (in groups)	pol + pol	Awałkar
15. Řeş w rwt (very poor)	Řeş + w + rwt	Awałnaw
16. Řewanbêj (fluent)	Řewan + bêj	Awałnaw
17. Şarbeder (dismissed from town)	Şar + be + der	Naw
18. Sergerm (short tempered)	Ser + germ	Awałnaw
19. Şewkwêr (night blindness)	Şew +kwêr	Awałnaw
20. Wrçespy (white-bare)	Wrç + e+ spy	Naw
21. Xakenaz (shovel)	Xak +e + naz	Naw
22. Xoşbawer (naive)	Xoş + bawer	Awałnaw

23. Xşexş (rustling)	Xş + e + xş	Naw

Consequently, joining two free morphemes (bases) can result in different Kurdish parts of speech like nouns, verbs, adjectives, and adverbs as they are illustrated in the table above. Moreover, there is another classification for this process's categories namely [lêkdirawî daxraw (closed compound)] which are linked together without space or a linkage tool such as [dłxoş (happy), dłşad (happy heart), xoşnws (calligrapher), goştxor (carnivorous), etc.], and [lêkdrawî teqełdraw (stitched compound)] which are linked with a hyphen like in the words [nwser-şaêr (writer-poet), akter-nwser (actor-writer), temen-şeş-sał (six-old-age), etc.], plus [lêkdrawî kirawa (opened compound)] that its bases are separated with a space such as the words [swênd xwardin (swear), mele kirdin (swimming), şeř froştin (warmonger), dest grtin (holding hands), etc.], along with [lêkdrawî bestraw (linked compound)] that is linked with linkage tools as in [řêk w pêk (neat and tidy), twnd w toł (tight and firm), ĥazir w bizir (ready), sor w sipî (very light skin tone), dayk w bawk (parents), etc.].

3.3 Borrowing (Wargîran)

This is one of the linguistically universal processes by which new words come into existence. So, words are borrowed from other languages into the target language. For instance, words from English, Arabic, Persian, Turkish, etc., are borrowed into the lexicon of Kurdish Language. Along with that, some phonological and morphological changes will occur to the word when it comes to the target language.

For instance, the word [qutaby] is borrowed from the Arabic word [kittab] which then, the [k] sound changed to [q] sound, later the double [tt] become one [t] and now it is [qutabî]. Another example, is the word [wicdan] borrowed into Kurdish language and the sound of [c] changed into [j] in Kurdish. Thus, it became [wîjdan]. (Dizeyi, 2012).

In addition, sometimes this process will interfere with the translation process more specifically phonological translation where the word is taken as it is from the source

language only some phonological change may occur to the borrowed word and used as it is. For instance, words like [tomato, potato, system, technique, professor, etc.] are taken as they are in English and used in Kurdish with little or no phonological change. Furthermore, other examples are illustrated in the table below with their source language:

Wşe Le Zimany Serçawe (Words in the Source language)	Wşe Le Zimany Mebest (Words in the Target language)	Serçawekey (Original)
1. ĥeq	Heq (the right)	Arabic
2. thelîl	Zelil (servile)	Arabic
3. miqess	Miqes (scissors)	Arabic
4. beĥth	Bas (searching)	Arabic
5. computer	Kompîter (computer)	English
6. television	Telefzyon (television)	English
7. monitor	Monîter (monitor)	English
8. internet	Anternêt (internet)	English
9. řozhelat	Řojhełat (sunset)	Persian
10. xeyr	Xêr (goodness)	Persian
11. dîwan	Dîwan (divan)	Persian
12. sofre	Sifre (table mat)	Turkish
13. saat	Sat (time)	Turkish
14. penceře	Penceře (window)	Turkish
15. pazař	Bazar (bazaar)	Turkish

Consequently, the above words are all borrowed from different languages into Kurdish lexicon either with a phonological change or without any change fixed and used in the target language. For instance, words like [monîter, dîwan, penceřeê etc.] have no phonological change. Whereas, other examples such as [beĥth, sofre, pazař, řozhelat, ĥeq, etc.] have phonological changes.

4. Results and Discussion

Following the analysis of the three selected word formation processes in this paper in terms of classifying the data according each single process, it is found out that the number of words which result from derivation (dařiştin) process is (862) words, compounding (lêkdan) process is (998) words, and borrowing (wergîran) process is (467) words. As, it is illustrated in (figure:1) according to the highest number of word production, compounding process is the most productive one in this study which is (%43) of the corpus. After compounding process comes derivation which is the second most productive process and covers (%37) of the corpus. And, the least productive process is borrowing process that is (%20) of the whole data.
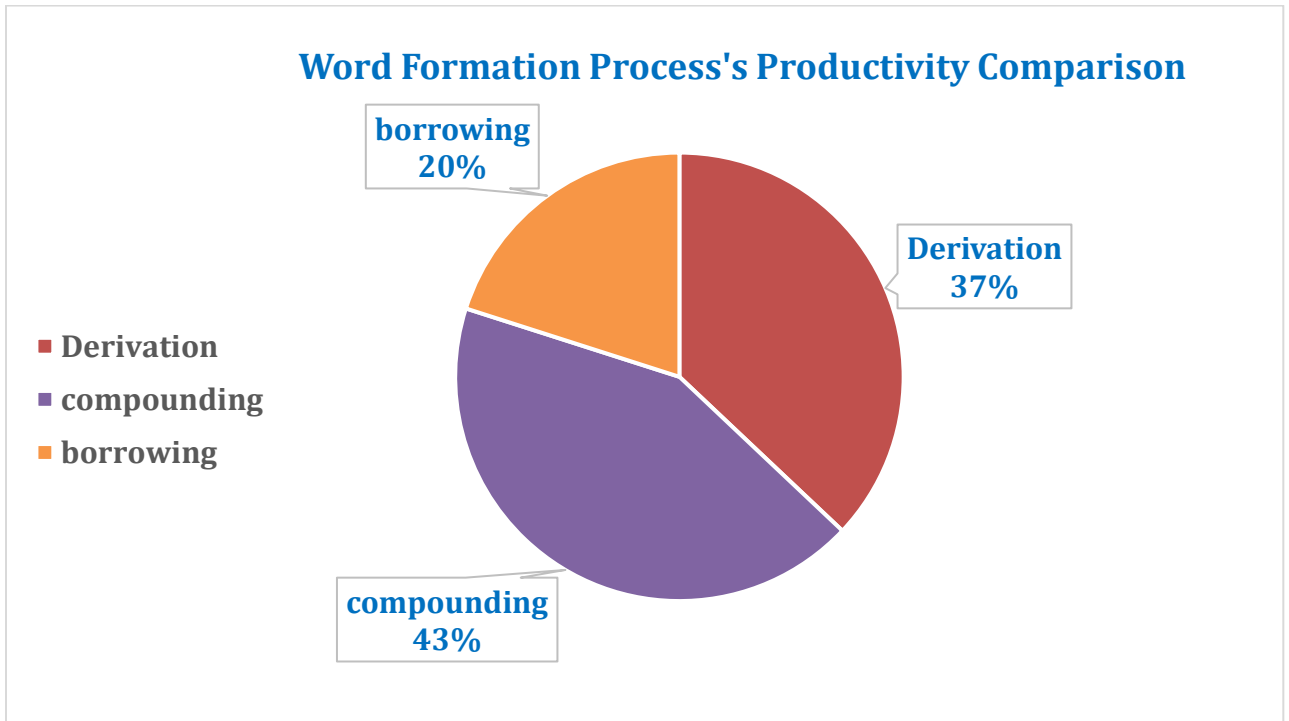
Figure 1: Derivation, Compounding, and Borrowing Word Formation Processes in Kurdish

5. Conclusions

Morphological productivity in Kurdish is described as the transparency and expectedness of a word formation process so as to result in more new word outcomes. So, each process's degree of productivity differs from the other accordingly. It is concluded that each process has a distinct capacity in the language in producing new forms. As, it is declared in the result's section that most of the words of the designed corpus (3000 word) are the outcome of compounding process which were (998) words and it is (%43) of the data. While, the second highest number of words are produced via derivation process that are (862) which is (%37) of the data. Besides, the last process which makes the least words of the corpus is borrowing and are (467) words that reaches (%20) of the whole data.

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