A Corpus Based Study of Morphosyntactic Features in Undergraduate Writing Samples

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Abstract

In language acquisition, study of morphosyntactic features is one of fundamental requirements of language learning; because morphosyntactic structures are building blocks of language which recognize its correct composition. The current study aims to examine morphosyntactic features in the writing samples of undergraduate students to look at language competency of these students. Moreover, this research also intends to provide incoming and ongoing academic learners with conveniently manageable data to assist students in learning. The Mode of this study is qualitative while conducting textual analysis of collected data by using Antconc software for computational / corpus analysis and distributed morphology as theoretical framework. The collected data is analyzed and discussed in detail for assessing competency of target students in respective language. Consequently, students are observed to utilize linguistically incorrect patterns and structures in higher frequency with lots of errors of linguistic patterns, tenses and sentence compositions which immediately indicates that students need considerable practice for correct language production. Thus, competency of such students lies on moderate level with weak abilities of morphology, syntax, and grammar. Furthermore, majority of participants are estimated to have weak language competency whereas, one tenth of total population seems to have native-like abilities of language production.

Key words: Morphosyntactic features, Language competency, Corpus Analysis, Distributed Morphology & Undergraduate Writings

Introduction

Morphosyntactic features are considered reliable in signifying the linguistic skills of language learners because these features assist readers to indirectly evaluate linguistic competence of any writer. The current study has utilized Morphosyntactic features in order to assess linguistic competence of undergraduate language learners through the writings of these students. The author has carried out this research under two variant strategies of qualitative textual analysis. First, it has conducted corpus analysis of the collected corpus / data; later on, the same data is analyzed under a tale of theoretical framework; Distributed Morphology. The collected corpus is investigated to ponder over the linguistic patterns, structures and organizations produced by the undergraduate learners in gathered writing samples. Later, this evaluation is used as a framework to retrieve the linguistic competence level of these students along with progressive index of language acquisition and native achievement. As the basic focus of this research is on the linguistic structures and patterns of English language thus, it is going to improve grammar of learners while providing these students with easy and convenient elaboration on the elements of grammar and its usage in the language. Additionally, this research is also going to improve linguistic research abilities of students through complete clarification about the proper use of language in the research abilities.

Morphosyntactic features are grammatical and syntactic features of words within any language which describe the function and purpose of words in a sentence, such as tense, number, gender, case, and person. These characteristics assist in assessing agreement between sentence constituents to make sure that words inside a phrase or sentence combine in terms of syntactic properties. Analysis of Morphosyntactic features is an interesting area to explore as

it gives insights about the learning abilities of second language learners. Morphosyntactic is a combination of two variable subfields of linguistics; syntax and morphology; those always occur together simultaneously as the individual function of these sections doesn't have context. Even the absence of one can't withhold the existence of another and the grammar gets interrupted and corrupted. Morphosyntactic study, the central pillar of this paper, is an alternative name of language grammar which concentrates on the formation of words and phrases carried under a tale of syntactic rules. On the hand, it also recognizes the presence of valid agreement between constituents of words, phrases and sentences.

Morphosyntax argues that syntax is a mandatory and indivisible part of morphosyntactic features that coordinates the mechanisms of word and phrase formation (morphology). As syntax can't manipulate and interpret the rules and internal structure of words, it just modifies the sequence of words and phrases in the sentence. Similarly, morphology can't relate to the structure of phrases. Let's take an example:

"Books - lexical (noun) morpheme + (plural) functional morpheme"

"Plays - lexical (verb) morpheme + (singular present tense) inflectional morpheme."

Here, morphology alone can't identify the purpose of adding -s morpheme in the above-mentioned words, it's the syntax which would assist to specify the function of -s morpheme. S is added to the verb to change it in the singular present tense whereas, for noun it's added to make it plural. Moreover, morphology can't independently reveal the syntactic category of words, it just describes the structure of morphemes contained within words. The combination of these two sections tries to determine the agreement among the constituents of any language by investigating the arrangement and sequence of words and phrases in the discourse of utilized language. Furthermore, morphosyntactic features ponder over the complicated context of linguistic grammar to validate the accurate use of language in the relevant context. (Booij, 2007)

Morphology

Morphology is a sub-field of Linguistics that determines the structure of lexeme in the form of different morphemes where morphemes are the smallest meaningful/functional unit of any language. This sub-branch of linguistics also concentrates on the relationship between form and meaning of systematic nature of words by dealing with the internal constituent structures of words. In more simple words, morphology can be described as the formation and development of words through inflectional rules in any language. (Booij, 2007)

Inflectional Categories (Morphemes)

The very first category of this linguistic element is free morpheme which has an independent meaning and survives on its own in the relevant text. In addition to this, free and bound morphemes are further divided into subcategories, each more clearly elaborating the internal structure of words. (Booij, 2007) Free morphemes are further of two types: Lexical (Root) Morpheme; content words (noun, verb, adjective & adverb) & Functional Morphemes: functional constituents i.e. preposition, conjunctions.

On the other hand, the second class of morphemes is the bound class in which included constituents can't stand independently; rather these morphemes need to be attached with any free morpheme to convey some sense and logic. Bound morphemes are of two types: Derivational morphemes (affixes) &Inflectional morphemes: insertion of -ing/d/ed/s to any verb for swapping tense. (Booij, 2007)
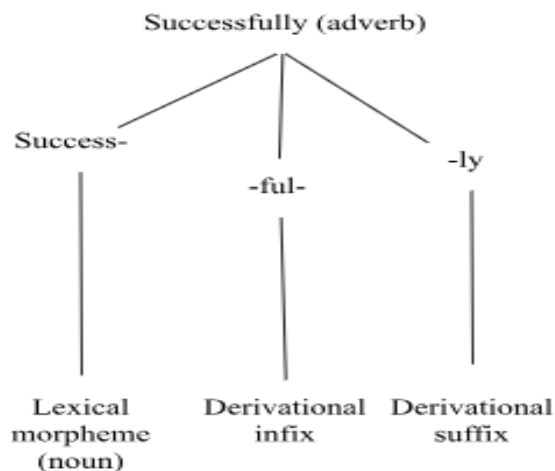
Morphological Tree Structure

Figure 1. Google Docs - Successfully

Syntax

Syntax is another major subfield of linguistics which negotiates sentence construction. In more simple words, syntax studies the arrangement of words in the phrases and sentences that are combined according to the grammatical rules specified by any language. Hence, syntax can also be described as grammar which is a broader term than syntax as grammar also includes phonetic and semantic features. (Tallerman, 2020)

Phrase Structure Rules / Constituency

Phrase structure rules are the kind of frameworks which indicate (constituency) the pattern of occurrence of words in form of phrases as it tells which constituents must exist in any phrase and which one is optional. Thus, this pattern is governed with the help of some rules developed by grammar.

1. S →(AdvP) NP/CP (Aux) (Neg) VP (AdvP)
2. CP → (Comp)S
3. NP → (Det) (Num) (Adj P+) N (PP+)
4. VP → (AdvP+) V (NP) (NP/CP) (AdvP+) (PP+) (AdvP+)
5. PP → (Deg) P (NP)
6. AdvP→ (AdvP) Adv
7. AdjP → (AdvP) Adj (PP)

Where small brackets represent optional constituents and constituents without brackets must exist there. (Tallerman, 2020)

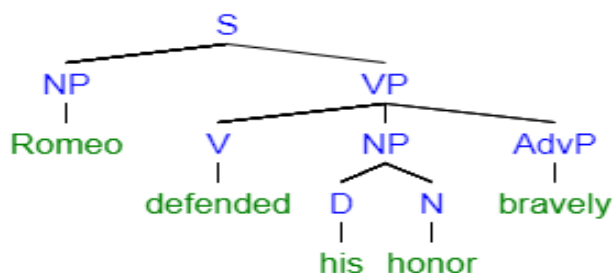**Syntactic Tree Structure Diagram:** (Romeo defended his honor brave.)

Figure 2. California State Polytechnic University, Pomona

A morphosyntactic study conducted by Shahid, Seyd & Shabaz (2021) has tried to learn about determinants in English and Urdu language for increasing English language competency of learners. For this purpose, researchers have tried to analyze 'determinant phrases' taken from the text of an intermediate students' book on the topic 'Essay on Excursion Trip'. The goal of this research is to examine the morphosyntactic mistakes made by Pakistani EFL students in written compositions produced by these students.

Lithuanian adjectives are the adjectives taken from the Lithuanian language being spoken by the people of Lithuania situated in the Baltic region of Europe. The paper written by Kamandulyte (2012) discusses the morphosyntactic features of Lithuanian adjective acquisition to describe the emergence of morphosyntactic features of adjectives. In this study, the researcher gathered a greater quantity of linguistic data in the form of a corpus of four children compiled according to the method of longitudinal observation. Then, the corpus of each child was recorded, transcribed, and grammatically annotated to analyze these discourse samples. Hence, the researcher observed that a very rich inflectional system of this word class was acquired very conveniently, and each child learned the procedures of agreement at an earlier age.

Methodology

The question to which this study seeks an answer is: 'What are morphosyntactic features and how these features can vary in different writing samples symbolizing linguistic competency of each undergraduate language writer?'

This research has utilized morphosyntactic features to examine the linguistic competency of undergraduate students of ELL class. For this purpose, this study has conducted textual analysis of writing samples of the beginner students while observing linguistic patterns, structures and sentence composition produced by these students. This research has followed a qualitative approach for collecting and analyzing relevant corpus because it doesn't incorporate numerical elements and data. Involved undergraduate students are assigned a short personal essay topic and asked to write 250 to 300 words about the experience of learning some important life lessons. One hundred writing samples from four different communication and writing skills 101 sections of FCCU were collected. This study aims to examine the language competency of these language learners; hence, it has deeply investigated the usage of morphosyntactic features of these students.

Corpus Analysis

Corpus analysis is the analysis of spoken or written text to describe nature, structure and use of language's incorporated in that text. For this purpose, collected corpus has been put into a freeware, multi-platform and multi-analysis corpus analysis toolkit developed by Laurence Anthony, a Professor at Waseda University Japan, specially designed to check word frequency, collocation, concordances, and patterns of lexical bundles in the used corpus. This set of digital tools is known as Antconc.

a) **Word Frequency**

It is the count of occurrences or repetitions of a particular word or expression in a corpus.

b) **Collocation**

Collocation is a group of two or more words that almost always occur together to create a specific meaning. Collocations can be divided into many forms. i.e.

Adverb + adjective, Adjective + Noun, Noun + Noun, Noun + Verb, Verb + Noun, Verb + expression with preposition & Verb + Adverb

c) **Concordance**

Concordance can be defined as the representation of a list of target words in a way that indicates the contextual use and meaning of that target word being used every time.

d) **Lexical Cluster**

It is a cluster of nouns or adjective forms that share meanings.

Distributed Morphology

For the implementation of textual analysis in the collected data, this study has utilized the theory of Distributed Morphology as the theoretical framework of this research. This theory specifically focuses on morphosyntactic features of language. Embick & Marantz (2008) have explained that distributed morphology can be described as a syntactic piece-based realization approach to morphology where phonological material is inserted in the terminal nodes during the lateral mechanisms of word formation. According to Harley (2010), distributed morphology is syntactical, realization and piece based non-lexicalist theory that is responsible for formation of words and sentences. In the distributed morphology, syntax and morphology are treated as similar terms both being used in the operations and mechanisms of word formation. Hence, this research has examined the following elements in the collected writing samples of students. i.e. Word formation processes, Inflectional morphology, Syntactic structures, Parameter settings & Language competency.

Findings - Analysis

The current study has followed the criterion of corpus analysis and the framework of "distributed morphology" proposed by Morris Halle and Alec Marantz to evaluate linguistic competence of targeted students. The following language patterns were meant to be studied in the collected data.

Corpus Analysis

1. **Word Frequency**

Table 1. Frequency Check: Antconc Software

Word category	Word frequency		Percentage frequency
	Most frequent	Least frequent	
Inflectional word	Taught, causes, (verbs)	Going, gives, had,	15%
Derivational word	Decision (noun), impact (nouns)	Hardest (adjective) impact (nouns)	10%
Functional word	I (pronoun) - and, to, my (prepositions)	of (prepositions) - my (pronoun)	50%
Lexical word	Have, bear (verbs) - back (nouns)	Bad, personal (adjectives) - pocket, peppery (nouns)	25%

a) **Free vs Bound Morphemes**

Collected data has been observed to contain variable word frequency that alters simultaneously with the word class differences. The data samples incorporate high frequency of free morphemes that are content words containing actual meaning of the text. Whereas the bound morphemes are used less frequently as compared to free morphemes that mainly serve to change grammatical properties and functions of words. The second type of morphemes can't survive independently; rather these morphemes always occur with the root words due to which the frequency of bound morphemes has appeared as lower in collecting writing samples.

b) Functional vs Lexical Structures

For further clarified discussion, this research has categorized its findings in accordance with the classifications of free and bound morphemes and syntactic word class. Thus, further division of free morphemes suggests that there are two kinds of these morphemes: lexical and functional words. While observing the kinds of free morphemes individually, writing samples are found to withhold the high frequency of functional words being added for the modification of verbs. i.e. as, of, on, or (prepositions), my (pronouns) & because, rather (conjunctions)

Hence, among the categories of functional morphemes the pronoun "I" and conjunction "and" are noted as the most frequent word in the whole corpora. But the least frequent functional words are "although" and "even".

On the other hand, lexical morphemes are less frequent than functional morphemes. Lexical words are categorized in the following classes: nouns, verbs, adjectives, and adverbs. e.g.

High frequent lexical words: "have, bear, blame, burn, learnt- (verbs) back, experiences.

Less frequent lexical words: "bad, personal, physical (adjectives) - pocket, peppery, pain, packet, lessons, importance (nouns)

c) Derivational vs Inflectional Structures

The second class of morphemes is bound which divides further in derivational and inflectional words. In this specific word class, writing samples are perceived to carry a high frequency of inflectional morphemes being used to alter or add syntactic characteristics of words. Most frequent: "taught, causes (verbs)

Least frequent: "going, gives, had, passed, prating (verbs)

Here comes the derivational words that serve to change the class of a word are less frequently used than inflectional morphemes. i.e.

Most frequent: "decision (noun) - eventually (adverb) - experience, impact (nouns)

Least frequent: "hardest, physical, personal (adjectives) - importance, impact (nouns)

2. Collocation

This research has found that from among the word combinations mentioned in the table below collocations like "adjective + noun and verb - preposition" are most persistent in the writing samples of students.

Table 2. Collocation Check: Antconc Software

Collocations	Examples	Frequency/out of 260
Adverb + adjective	… I was always preoccupied …	4
Adjective + Noun	… a particular experience that…	100
Noun + Noun	… experience I had …	80
Noun + Verb	… experience would change …	20

Noun + Preposition	… experience of struggling …	40
Verb + preposition	… you have to … … I'll have to …	100
Verb + Adverb	… I have always … … I have learnt …	60

3. Concordance

Findings have suggested that these students are unable to incorporate a diversity of contextual meanings of words in the writings. The writing samples are tested to frequently convey the similar meaning of parts of speech for each individual word. To justify this finding, the study wants to elaborate on some examples taken from the examined corpus. First and foremost, example is "back" that can convey its meanings in a lot of contexts. Back can be utilized as verb, noun, preposition, adverb and adjective but in the recorded corpus it is used just as an adverb. As an adverb, it modifies verbs to further clarify the action of doer and assists the readers to infer the intentions, directions, time and attitude of the action done.

Table 3. Concordance Check: AntConc Software

Word	Textual usage	Context
Back	… I can look back on … … I look back on that … … value of giving back to … … I came back from the trip… … Back when I was in my teenage years.	Used as adverbs to modify verbs, indicate directions, refer to past times and actions.
Just	… I also prioritize other aspects of my life that are just as important … … other things in my life that were just as important … … whether it was preparing a meal, organizing donations, or just listening to someone's tale …	Used as adverbs to emphasis and stress something, indicate uniqueness, importance
Be	… It served as a reminder to constantly be appreciative of … … I have to be open-minded to other practices …	Used as verbs

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Word	Textual usage	Context
Back	… I can look back on … … I look back on that … … value of giving back to … … I came back from the trip… … Back when I was in my teenage years.	Used as adverbs to modify verbs, indicate directions, refer to past times and actions.
	… I was worried that I would be judged…	Used as auxiliary verb

Distributed Morphology

Table 4. Morphosyntactic Features: Distributed Morphology

Distributed Morphology			
Word formation processes	Inflectional & derivational morphology	Syntactic structures	Errors or incorrect parameters
Borrowing (hijab),	Inflectional morphology (lessons, biggest, hardest, imagined, abstaining, appearances, hardships	Tense: Imagined, abstaining, taught, means, have, had, was, is, grown, changed, would, did, used, makes, thought, can	Tense errors
compounding (outfits, sometime)		Number/person are, was, has, have, am, comes, makes, gives, ones, my, I, you,	Sentence overlaps
Conversion (protection, insecure, appearances, hardships,	Derivational morphology (although, decision, hesitant, insecure, modestly, closer, unaware, unsure, protection, especially	Gender: women, hijab	Incorrect sentence composition
			Morphological errors - learned,

1. **Syntactic Structures**

Syntactic structures are morphemes/words/phrases composed through syntactical rules while functioning as compulsory grammatical components. These structures are the foundations of language production in terms of morphology and syntax creation. Absence of

these structures means no existence of language; hence, it proves that these are the mandatory parts of language. The examined corpus has indicated that students are better familiar with producing words by combining syntactic structures/morphemes with the root words according to the accepted rules of grammar. The writing samples of learners have been investigated to see through the language of the beginner students to analyze the mechanisms of syntactic formation observed in these samples.

a) Tense

"Tense" describes the verbal category in which the time of action happening is reflected. Thus, the word "tense" categorizes the verbs, phrases, and sentences into variable types with the respect of action happening time. Now, the research wants to introduce some major examples from the collected writing samples.

i. "Imagined" Regular past verb.
    Imagine (verb) + -ed (regular past tense inflection) = imagined (regular past verb)
ii. "Abstaining" Participle verb used in all continuous tenses.
    Abstain (verb) + -ing (participle inflection) = abstaining (participle verb/noun)

b) Number

This syntactic domain reveals the quantity/number of noun/subject and verb utilized in the sentence or phrase. i.e.

i. Are (Plural noun/subject)
ii. Was (Singular noun)

c) Gender

This domain of syntactic structures recognizes the masculinity and femininity of the words, noun and action doer or subject. i.e.

i. Masculinity "He, male, man"
ii. Femininity "Hijab, women, female, she"

d) Person

This strand of syntactic features reveals the person of the subject being concerned. It reflects that the referred subject is animate or inanimate, if it is animate then the delivered story is narrated in which person. Hence, the collected data has been observed to have the frequent use of first person rather than other two persons. i.e.

i. First person "My, I, Am, We."
ii. Second person "You"
iii. Third person "People, They"

2. Errors or Incorrect Parameters

In this section of research, writing samples of beginner students are investigated deeply to find linguistic errors so that overall language competency of these learners can be assessed. Consequently, it has been concluded that most of these learners seem well equipped in producing basic and accurate language; however, the style of these students seems more basic. The language perception, expression and usage of these students have low relevance with the standard demand of graduation level. Other learners of language are found to have low grip on even the basic writing style because the writings of these students are observed to have different kinds of errors. The syntax, morphology, language fluency, sentence composition and grammar are noticed to be weak that causes these students to produce inaccurate language. There is a detailed discussion about the linguistic errors of these students.

a) Tense Errors

According to the findings, writing samples have been observed to conduct tense errors which include incorrect use of syntactic rules to form phrases and sentences. The students are unable to keep the right track of subject-verb agreement in the sentences according to the

contextual time and situation of the referred ideas. In the following sentence, the student has mixed two kinds of tenses; present and past that is totally unacceptable in syntactic rules. Here, the student wants to refer to the experiences of past times like deciding and being glad due to some achievement. Everything has happened in the past, but the student is claiming it by using present tense hence, it's not correct. Thus, the student must have to use "… that I'd …" in place of "… that I'll …" and "... but I was …" rather than "... but I'm …". So, the right formation of this sentence must be in this way.

Incorrect sentence:
"I never imagined that I'll have to make such a decision but I'm glad that I did."

Correct sentence:
"I never imagined that I'd have to make such a decision, but I was glad that I did."

b) Sentence Overlaps/Language Fluency

In this kind of error, the learners are found to utilize long and continued sentences without any full stop or punctuation. Samples are observed to have unnecessary prolonged sentences that stimulate more errors in the writing style. i.e.

Incorrect sentence:
"Achieving the top position in my school during my eighth grade was an important experience that taught me many valuable lessons that have stayed with me to this day."

Correct sentence:
"Achieving the top position in my school during my eighth grade was an important experience. It taught me many valuable lessons that stayed with me to this day."

This sentence shows that the writer has prolonged it unnecessarily by the inclusion of many phrases. These phrases must be separated with the use of punctuation that would make it a more suitable and accurate sentence.

c) Incorrect Sentence Composition

In this section of findings, it is observed that students are also used to making errors in the composition of sentences having the incorrect order of sentence constituents and use of parts of speech. i.e.

Incorrect composition: "When the pandemic happened, everything stopped. I was not able to practice at all even all matches and tournaments got cancelled."

Correct composition: "At the time of the pandemic happenings, everything was stopped. I was not able to even practice and all tournaments were canceled."

d) Morphological Errors

Morphological errors can be explained as the errors in formation of words and phrases; thus, the collected data has been investigated to analyze morphological errors present in the writing samples of language learners. Findings have suggested that some students have been found to infuse wrong insertions of morphemes in the root words to form new words through syntactic rules. i.e. "Learned" Learn is an irregular verb so its past form can't be generated by joining regular inflectional morpheme (-ed); rather it requires the combination of irregular inflectional morpheme to produce syntactically correct word. The data contains numerous such examples:

"Learn (verb) + (-t) irregular past tense inflection = learnt (irregular past verb)

e) Punctuation

Here, the samples have been examined to contain errors of incorrect and missing punctuation. i.e. the sentence below contains one missing and two incorrect punctuations.

Incorrect punctuation "My grandfather was a well reputed man in town, and everyone knew him. My father had carried his legacy and was a respected man. There were two Qaris at the

mosque I went to, and both were nice to me."
Correct punctuation "My grandfather was a well reputed man in town and everyone knew him. My father had carried his legacy and was a respected man. There were two Qaris at the mosque I went to and both were nice to me."

3. Language Competency

The findings have suggested that, yet students are used to making linguistic errors in the form of incorrect use of language patterns, punctuation, tenses, morphological processes, spellings, and sentence composition. That clearly symbolizes that students still need considerable practice in the language production system for improved syntax, morphology, and grammar. Though, it can be concluded that language competency of most of these students still lies on the moderate level of prosperity because these students are used to writing in a basic style with lots of major linguistic blunders. Whereas the treasure of vocabulary of these students seems quite proficient and prominent with variable use of linguistic patterns formed by the syntactic features of morphology. Moreover, these students also lack in arranging the constituents of sentences correctly with the standard insertion of punctuation marks so that the problem of sentence overlaps, and language influence can be avoided. Hence, these kinds of errors at the current level of learning always hinder students to achieve native like competency. However, writings of just a few students are observed to have extraordinary features of language competency.

Conclusion

In accordance with this research, the concerned participants are assessed to have diversity in language abilities and competency. One tenth of the collected data reflects that writers have good pieces of extraordinary abilities of language production while half the population of concerned students is observed to produce basic writing style with an incredible number of linguistic errors. While the remaining counts of the participants (forty percent) are observed to acquire moderate level competency in the target language with limited number of linguistic errors. Hence, the larger part of the population still requires serious hard work in the field of language learning for improved abilities of language development.

However, these children's vocabulary appears to be extremely skilled and prominent, with varying utilization of linguistic patterns generated by syntactic aspects of morphology. Furthermore, these students fail to appropriately arrange the parts of sentences with the customary insertion of punctuation marks, so avoiding the difficulties of sentence overlaps and linguistic impact. As a result, these types of mistakes at the present level of learning always impede students' ability to reach native-like proficiency. However, only a few pupils' compositions have been noted to show exceptional traits of linguistic ability.

The main purpose of this research is to evaluate the linguistic competence of students so that overall prosperity and progress in the target language can be seen. This research aims to check the overall proportionality of learners to achieve native like competency in the non-native language, English. Reluctantly, this evaluation can assist in guessing the ratio of linguistic and literacy development of this nation and to what extent this nation has dominated the English world.

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