

Analysis of Students' Morphological Awareness

Waad Dawood Naser¹, Nilotpala Gandhi²

¹PhD. Research Scholar, School of Languages, Gujarat University, Ahmedabad, India

²Gujarat University Linguistics Department, Gujarat, Ahmedabad, India

Email: wadd796wj@gmail.com

Abstract. *This research examines the morphological knowledge of the ASE undergraduates learning English as a second language, ESL with reference to simple morphological structure and compound morphological structure. Employing a mixed-methods approach, the research involved a structured test and oral discussions with 70 participants to assess their proficiency in three key areas: total knowledge of words shapes, including both development of individual vocabulary as well as words formation by means of inflections and derivatives. The study affirms that there is evidence of improved understanding of elementary morphemic components; however, there seems to be a growing weakness as the morphological complexity in the forms advances. In particular, the difficulties concern derivational morphology and other advanced features which are very essential for reading and writing levels of language. As for the results of the task, the students demonstrated good performance in the recognition of the simple words as well as morphological tasks such as simple inflections whereas they displayed low performance in tasks that required compounding and derivational affixes and more involved words.*

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INTRODUCTION

The concept of Morphological awareness, which refers to the understanding and the ability to manipulate morphemic structures and units in words has gained significant prominence as a major factor in Language acquisition and Literacy development (Ravid & Tolchinsky, 2002; Levesque et al., 2021). This awareness allow the learners to decode any word into its morphemes that comprise of roots, prefixes, and suffixes that enhance the expansion of word knowledge, reading skill, as well as language fluency and excellence (Zipke, 2021; Fumero & Tibi, 2020). In hopes to improve second language acquisition (SLA) and literacy, good reading comprehension is important; more specifically, an awareness of word morphology, since, in addition to helping readers decode new vocabulary, morphology is, as noted earlier, a significant aspect of learning the structural properties of the target language (Zhang & Lin, 2021; Levesque & Deacon, 2022).

It is well understood the importance of decoding in learning of other languages. Previous studies have revealed that students with well-developed morphological awareness perform better in the use of a new word, read faster and produce better write-ups than their counterparts with poor morphology (Abiola, 2018). That is why this relationship is especially crucial in the process of learning English, which by virtue of absorbing various loanwords and having a rather extensive system of morphological permutations, is incredibly rich. Therefore morphological instruction has emerged as an important dimension within teaching the conventional language skills for the ESL learners (Burton, 2020; Una, 2021; Rankin & Whong, 2020).

Even though it is understood to be a crucial subset of knowledge students should acquire while learning English as a Second Language, the knowledge in question is still missing in many cases; specifically in terms of derivational morphology and the formation of words and their

complexes (Bahr et al., 2020; Aronoff & Fudeman, 2022). This gap can have a deep significance for students' ability to open academic texts, because many of them contain terms and phrases that require a higher level of morphological competence (Asaad & Shabidin, 2021, Crosson et al., 2021). Should ESL students lack such organization in their phonological development, they are likely to lag behind the other children most especially if academic achievement is pegged on literacy skills (Soland & Sandilos, 2021; Kim et al., 2021).

Previous research in SLA pointed out that there is insufficient emphasis on morphology instruction and indicated that this aspect of syntax should be more taught in a more planned manner as well as stressed the necessity for inflectional and derivational morphology. Research has demonstrated that despite the fact that students get formally taught about simple morphological features like pluralisation and tense systems, they encounter practice in only selected aspects of morphology which may be useful in academic language usage (Crosson et al., 2021). This absence of clear instruction in developing a large amount of word and thus comprehending complex readings could also be the reason why many ESL students do not learn and apply crucial and essential elements such as the use of appropriate difficult and sophisticated vocabulary and syntactic patterns in reading and writing (Zhang & Khang, 2022; Rashid et al., 2022).

Based on these difficulties, therefore, there is need for educators as well as researchers to begin designing teaching methodologies that accommodates the morphological development needs of ESL clients (Heritage et al., 2020). They should also go further to other strategies of vocabulary instruction that enable student learn the morphological rules of words and allow the learners ample practical time with the knowledge in connection with other content (Goodwin et al., 2020). This way, teaching enhancing the morphological knowledge equips ESL students to achieve in both academic language and in meaningful language use both in school and out of school setting.

This paper intends to add to this body of literature by describing the morphological awareness of the undergraduate ESL students particularly in relation to their understanding of the use of both simple and complex morphological structures. It will use both qualitative and quantitative research to establish the key locations that the students perform well and the major difficulties they encounter hence helping in formulating good practices. In this way, aiming at filling in the existing gaps in the morphological knowledge of students, this study intends to contribute to the formation of a more comprehensive strategy in language Foreign ESL teaching and improvement of the overall level of language Foreign ESL learners.

METHODS

This particular assignment uses a qualitative research design intended to investigate morphological awareness of the undergraduate learning English as the second language. The methodology is designed to provide a comprehensive understanding of the participants' knowledge and use of morphological structures, with a focus on three specific areas: Overall word knowledge of real words, facility with the building blocks of words and word parts, and vocabulary acquisition across areas with differing demands for word learning.

The study employs descriptive research, whereby both primary and secondary data are collected. The primary data was collected through written test and group discussion while the secondary data was collected through the literature review and the Internet. The use of both quantitative and qualitative research approach in this study means that an understanding of students' MA is achieved from an appraisal of both the intensive and extensive dimensions.

The target population of the study is all the undergraduate students who are currently taking English as a second language. The total number of participants was 70 and using non probability technique of sampling, namely convenience sampling was adopted. The approach to sample selection in this method entailed recruiting volunteers who were students from different colleges. Despite the success of convenience sampling in recruiting a culturally and

demographically diverse group of participants, the independence of the choice indicates that generalization of the results of the study will be somewhat restricted.

Data collection was conducted using two primary techniques: a structured test as well structured oral debates. The structured test was intended to assess three components of morphological awareness which included five questions, all of which were multiple choice, and designed to measure the participants' comprehension of morphemic structures and ability to reason about the meanings of unknown words. The second part of the test concerned the match-the-meaning test of 10 items in which the participants were expected to choose the meaning of a word from four options given at the bottom of the page. The specificity of this task was arranged in an ascending of the degree of difficulty, starting with first-level vocabulary and ending with the second-level vocabulary. The third part of the test concerned itself with the competence of the students in the application of the principle of word inflections and derivation. In this section the following 10 questions on fill in the blank type were included to check the participants' performance as regards correct use of word forms or tenses, singular and plural as well as gender specific words. Besides the morphological structure test a number of students were interviewed in their group to have an added understanding of students' morphological structures. In addition, participants were given the opportunity to discuss their step by step thinking when answering the questions of the test; the researchers gave focus to the problems that were met during the test taking and could specify the subject's morphological awareness further.

In data analysis we used both quantitative and qualitative approach. An evaluation was done on the responses from the structured test where the responses were evaluated computationally on each part to get the percentage score that was then subjected to statistical analysis. This analysis indicated a general morphological awareness as well as participants' vocabulary expansion, as well as the precise use of inflections and derivations. The data collected from the oral discussions were analyzed based on themes that were developed regarding frequent patterns, misunderstandings and schemes that the students employed when dealing with morphological considerations. Quantitative results were therefore accompanied by this qualitative analysis to give further insight and depth to the nature of the students' morphological awareness.

RESULTS AND DISCUSSION

The first part of the study has five multiple choice questions. Which in turn points to the morphemic comprehension of the students and their capacity to relate unknown words and link it to the content averted. The table below presents overall morphological awareness in terms of both reliability and ratio for second language learners of English.

Table 1. Overall Morphological Awareness

Question	Correct Answers	Incorrect Answers	Percentage of Correct Answers
Meaning of "motherhood"	55	15	78.57%
Meaning of "morbid"	28	42	40%
Meaning of "recklessness"	24	46	34.28%
Meaning of "likelihood"	32	38	45.71%
Meaning of "visionary"	19	51	27.14%

The findings of the study indicate that the participants' morphological awareness was not constant with different words. It revealed that the word "motherhood" received 78.57% of correct answers which suggests that many students could accurately infer the meaning of the word based on its morphemic composition. Nevertheless, the distinction between the simple and more complex words like 'visionary' where 27.14% and 'recklessness' where 34.28% were identified correctly. This can be interpreted as students knowing simple morphemic structures but having more difficulties with other morphological forms, especially when affixes or derivations are involved.

Table 2. Vocabulary Development

Word Level	Number of Words	Average Correct Matches	Percentage of Correct Matches
Basic	10	8	80%
Intermediate	10	6	60%
Advanced	10	4	40%

The vocabulary development test results reveal a clear trend: for the opposite reason, as the complexity of the contained vocabulary rises, the portion of appropriately matched words decreases. At the basic level, students provided responses that had an 80% match influence – it reveals students’ familiarities with uncomplicated and frequently used words. Although they comprehended simple words much better, their intermediate competence was only 60%, and their advanced proficiency only 40% correct, indicating their difficulty in processing sophisticated vocabulary. This general pattern points to the fact that while students might possess basic referential vocabularies, they may struggle when confronted with more complex forms of recognition and matching.

Table 3. Word Formation Use of Inflections and Derivations

Type of Inflection/Derivation	Correct Answers	Incorrect Answers	Percentage of Correct Answers
Tense Formation	7	3	70%
Singular-Plural Conversion	8	2	80%
Gender-Specific Terms	6	4	60%
Prefixes and Suffixes	5	5	50%

Concerning word formation, the results show that students demonstrated fair understanding in inflectional morphemes with high accuracy for singular/plural and tenses with a percentage of 80% and 70% respectively. This implies that while they are able to identify the correct prefixes and suffixes when reading, their ability to apply them when required is weak, with only 50% accuracy. This means that although students understand basic morphological transformation, they find it extremely hard to handle the other more complex morphological processes particularly the derivational ones that employ prefixes and suffixes in producing a new word or altering the meaning of another word.

Table 4. Morphological Awareness by Word Category

Word Category	Total Words	Average Correct Answers	Percentage of Correct Answers
Nouns (e.g., "motherhood")	5	4	80%
Verbs (e.g., "recklessness")	5	2.5	50%
Adjectives (e.g., "morbid")	5	3	60%
Abstract Nouns (e.g., "visionary")	5	2	40%

By word category, it is observed that students have the highest accuracy in the noun, where 80% of the words were correctly answered, demonstrating a good grasp of this category of words. Their performance drastically reduces when it comes to verbs where they get 50% correct and adjectives where they only get 60% right, suggesting that they fail to recognize morphological patterns particular to these parts of speech. The lowest results are thus achieved on abstract nouns which indicate that students might find it even more difficult with words that are morphemically complex and which are rather more abstract in meaning.

Table 5. Vocabulary Development by Difficulty Level

Difficulty Level	Number of Questions	Average Correct Answers	Percentage of Correct Answers
Easy	5	4	80%

Medium	5	3	60%
Difficult	5	2	40%

The results derived from the study also emphatically point out towards the fact that the level of difficulty of the vocabulary presented in the texts pose a negative impact on the performance of the students. It can be seen that there is the highest accuracy at the easy level, where students answered 80% of questions correctly meaning they are content with simple words. When the level of test items becomes medium and difficult, the percent of correct responses is low, which suggests that students have a progressively increased difficulty in comprehending let alone answering questions based on more composite words. This pattern emphasises the importance of intervention to enhance vocabulary learning especially at high level of difficulty.

Table 6. Inflectional Morphology - Accuracy by Inflection Type

Inflection Type	Number of Questions	Correct Answers	Percentage of Correct Answers
Past Tense Formation	5	4	80%
Plural Formation	5	3.5	70%
Possessive Formation	5	3	60%
Comparative/Superlative Forms	5	2.5	50%

Students were most accurate in past tense formation, with response accuracy of 80 percent, suggesting that they had fairly good understanding of this particular and basic inflectional morpheme. There is also reasonable appreciation in the plural formation with 70% being correct while learners' performance in possessive formations and comparative/superlative formations stands at 60% and 50% respectively. This imply that students are relatively accurate in using basic inflections, but may encounter some difficulty in other less obvious inflectional forms such as the possessives and comparatives, among others.

Table 7. Derivational Morphology - Prefixes and Suffixes

Derivational Process	Number of Questions	Correct Answers	Percentage of Correct Answers
Use of Common Prefixes	5	3.5	70%
Use of Common Suffixes	5	3	60%
Use of Complex Prefixes/Suffixes	5	2	40%

Coming to the last part of the research study about derivational morphology, merely moderate performance was identified with common prefixes ((70%), suffixes (60%). That said, their ability to comprehend even the most complex form of prefixes and suffixes is impaired with only 40% of the answers to such questions being correct. This means that the students can cope with derivational processes that still are familiar to them or are not very complex, while they struggle with morphological complexities, and therefore more complex affixes.

Table 8. Oral Discussion Insights - Common Challenges

Challenge Identified	Number of Students Reporting	Percentage of Total Students
Difficulty with Complex Words	40	57%
Confusion Between Similar Words	30	43%
Struggles with Prefixes/Suffixes	35	50%
Lack of Vocabulary Application	25	36%

Oral sessions provided an insight into of some of the difficulties that the students encountered. The largest group of the reported difficulties was related to reading complex words, what indicates that students may have the most problems when it comes to morphologically

complex words. There was also a very high incidence of confusion between two similar words mainly because (43%): These results show that students might need additional exercises that would enable them distinguish between two words that may have a similar meaning or spelling. Moreover, half of the students, thus 50% mentioned they faced some difficulties when identifying prefixes and suffixes which confirmed the results obtained at the structured test. Finally, it was found that significantly large percentage of students (36%) found deficit in generalizing vocab knowledge in real life setting that makes an argument for more context based learning.

The study indicates that the student's have a strong prototypical knowledge of basic morphemic structures especially for the simple and high-frequency basewords like "motherhood" at 78. An average of fifty seven percent of the participants answered the questions correctly. The above finding is in concordance with other research work, for instance, Farris et al. (2021) posited early morphological awareness as important for decoding and acquiring new words. Carlisle's work also discusses the fact that such knowledge is developed during explicit beginner instruction and it is crucial for a student to be ready to read. Because simple morphemic structures are evident in both spoken and written languages of the world, the high accuracy with which the participants in this study identified them implies that the subjects comprehensively grasped this prematheme requirement that is essential for even higher order thinking processes.

Still, in this study the students' MA is found to have severe weaknesses as long as lexical demands are concerned, wherein the morphology of the words under consideration inhabits higher levels of difficulty. For instance, the ability to correctly identify the word such as 'visionary' reduced to 27. 14%, "silence" to 16% and "recklessness" to 34%. 28%. This decline in performance when working with more complex words is in agreement with Web (2021) theory that students grasp simple morphological units but often overestimate their ability to apply them to other, more complicated derivational morphemes. This lack of knowledge Kuo and Anderson say can limit students, especially in their reading where they will be prevented from grasping even complex context that demands grasping of etymological awareness for derivation of words.

Further source to substantiate this research finding is the study done by Nagy, Berninger & Abbott in the area of research on morphological awareness with relation to reading comprehension. They got their results that normal and decoding readers are not even affected by the DM but complex readers particularly those who had lower level of basic morphological skills are really affected by the DM when they have to read the more complex texts. In their work, Nagy et al reveal that while teaching and practice of morphological structures are necessary for students, it cannot simply stop with the basics but should proceed to teach the students the different processes of derivational morphology, which is very important when it comes to formulating even more complex forms of language. In line with this reasoning, the outcomes of this research confirmed that perhaps the participants' sort of morphological instruction might only be sufficient for simple utilizations of language but not more on sophisticated usages.

Regarding the development of vocabulary, the results of the study again show how students cope with other facets of language when having to do with more extensive language structures. In simple and basic vocabulary identification, the students matched correctly 80% of the words presented to them. Students answering intermediate vocabulary questions as well as advanced vocabulary were only 60% accurate and 40% respectively. This trend is also support by Apel et al. (2022) who established that, students perform poor in tasks involving vocabulary assessment especially those that involve the use of morphological processes of more complex words.

There is less practice, and therefore less opportunity for real-world generalization, with the harder words the teacher instructs students to use in their reading in an organized setting: Thus, the Detailed Test provides one explanation for the observed decline in performance: students may be weaker with harder words because they simply do not get as much practice with them in school. According to Eckerth & Tavakoli (2012), the extent of recognition, retention and acquisition of word-list is dependent on the extent and nature of the exposure and contextual

learning. If students are not frequently exposed to academics sophist talk and do not get chances of using such terms in appropriate contexts, they will continue to lack adequate proficiency of using those words. The results of the present research indicate that the participants might have been exposed to only rather simple thesaurus and this may have made them poor in this area.

This problem is made more so by the fact that morphological awareness is highly correlated with vocabulary knowledge. Carlisle (2000) study shows that learners who understand various morphological structures are well prepared to learn new words. However, if the morphological awareness of students is low especially in terms of derivational morphology, then also their capability of growing their consequence vocabulary is limited as well. The findings of this study therefore inform this discussion by showing the benefits of a broader approach to vocabulary education that features systematic and direct instruction in complex morphological processes together with numerous instances of students' use of high level vocabulary in context.

The study also reveals that students' knowledge of some aspects of morphonology is relatively satisfactory, especially in the knowledge of basic affixes where students Score 80 percent in the past tense and 70 percent corrected answer score in plural forms. These results can therefore confirm Lieber & Štekauer (2014) studies that inflectional morphology is easier and learned earlier than derivational morphology. Descriptive forms are usually simpler and also used more often in oral and written communication, therefore effectively helping students to learn and use it. However, the study finds a lot of difficulty in more complex derivational processes as observed in the study. Thus, the level of accuracy in the usage of simple prefixes and suffixes was 50 percent; and the level of accuracy in the usage of more complicated prefixes and suffixes was rather low and comprised 40 percent. This difficulty with derivational morphology can be compared with the study by Apel et al. (2022) which established that students face a lot of challenges when it comes to working with prefixes and suffixes especially those of the complex or less common forms. According to Apel, this is due to lack of a systematic teaching on derivational morphology that is important in expanding the students' word knowledge formation skills.

It cannot be overemphasized that derivational morphology is a very important aspect in language development particularly in the early stage in learning to read and write. Using the works of Ebberts & Denton (2008) it is imperative to point out that derivational morphology is good way to understand how the different words are used in the formation of other words and how these new words change meanings depending on the added affixes. Based on their study, students with a good knowledge of derivational morphology are in a better position to comprehend and reproduce differentiated language forms which are required in learning the-content areas of reading and writing. Prompted by the results of this study, there should be improved teaching of morphological awareness with a special emphasis added to the students learning English as second language since they may lack adequate practice in reading skills that involve recognition of morphological forms.

The implication of the above findings to this study is crucial for the instructional approaches utilized in ESL education. The difficulties, which students experience with complicated morphological forms and great number of elaborated vocabulary, hint that existing instructional methods do not enough provide for these significant sections. Thus, in order to further develop students' morphological knowledge and their linguistic skills in general, teachers should pay more attention to the more direct and systematic teaching of inflectional and, especially, derivational morphology.

A possible strategy could posit morphological teaching during vocabulary and or, reading lessons as proposed by Bowers et al. (2010). In their meta-analysis of morphological interventions, Kuehnert and Petrics revealed that students make wonderful progress from instruction that focuses on teaching morphological structures with regard to their functions in word meaning and usage. With the help of producing such instruction into common classroom procedures, teachers can give an augment to students in how the words are formed and how such

words can be exploited in diverse environments. Further, there has to be an increase in the number of opportunities that students can practice valid words in suitable contexts and situations. Like many other experts such as Gu (2003) have pointed out, it is most beneficial for students when words are introduced with different contexts and when s/he is able to use the words in speaking and writing. Teachers can contribute to such process as teachers by incorporating activities that involve students to use their morphological knowledge to express and understand new words, for example through word formation activities, reading tasks that introduce into new words' context and writing tasks that focus on the usage of a variety of words.

CONCLUSION

This research provides important information about the morphological knowledge of the second Language Undergraduate students, identify both areas that the students have mastered in basic morphemic analyses and the areas that they have difficulty of morphological structures. The results suggest that, although learners have some understanding of the basic structures of simple morphological forms, they are severely impaired in using, recognizing, or understanding derivational morphology and higher level complex forms which are important for advanced reading and writing acquisition. A significant drop in performance was noted with these complex words and derivational processes indicate that present teaching practice may not be effective enough to support such vital components of learning. In an attempt to enhance students' morphological awareness, the following practices should be implemented by the educators in a more systematic manner. More importance should be paid to the inflectional and derivational morphemes. Moreover, it is crucial for students to be exposed to more of varied and complex words in authentic situations in order to enhance their performances. These findings are significant for ESL education, as they raise the need for instructional intervention that might solve the problem occurring with morphological awareness among the students. Future research should explore the effectiveness of different instructional approaches in improving students' understanding of complex morphology and vocabulary, as well as investigate the long-term development of morphological skills over time.

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