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A Study of Morphological Awareness in Vocabulary Development of Pakistani Undergraduate ESL Students

1. Misbah Tasneem, 2. Dr. Zafar Iqbal Bhatti, 3. Tariq Javed

[1]MPhil Applied Linguistics, University of Management and Technology, Lahore.
[2]Associate Professor, School of English, Minhaj University, Lahore, Pakistan.
[3](SST) Govt. High School Shareen Okara

Abstract

The current research aims to highlight the significance of morphological awareness for vocabulary development in learning English as a Second Language for Pakistani undergraduate students**.** This study first scrutinizes morphology and its types to present a broad-spectrum concept of morphological awareness and its crucial role in vocabulary development. Then, it spotlights numerous morphological zones such as the notion of morpheme, its categories, and the difference between inflectional and derivational morphology. The study adopted the theoretical framework of morphemic analysis in the light of Charles F. Hockett's work on morphology and utilized a quantitative design to assess learners who comprised of 100 undergraduate students divided into two groups of 50 ESL learners each. Group two received explicit morphological instructions for one full semester whereas group one didn't receive any kind of morphological instructions. For data collection, an objective type test based on different morphological processes and their application in the writing was administered for both groups. The findings overtly revealed that morphological processes must be introduced to ESL learners from the elementary level in order to achieve greater development in vocabulary and writing skills at the undergraduate level. The study suggests that English morphology should be an essential component of the ESL curriculum for undergraduate programs.

Keywords*: Morphological Awareness, ESL Context, Vocabulary Development*

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1-Introduction

1.1-Background of the Study

The term morphology is often attributed to Johann Wolfgang (1749-1832), a German philosopher, poet, and novelist. He coined this word in the early nineteenth century in biological perspectives (Aronoff & Fudeman, 2010). The word is being used by biologists to refer to the shape and structure of organisms. In 1859, a German linguist Schleicher was the first who labeled morphology as a 'linguistic sub-domain', which has now emerged as the most important aspect of linguistics. In linguistics, morphology is often characterized as the investigation of the inner construction of words as well as the standards administering their composition in the language (Yule, 2022).

Second/foreign language learning is primarily contingent on its lexical knowledge or vocabulary development. The study highlights the impact of morphological awareness, which is considered as 'the knowledge of the morphemic structure of words and one's potential to reproduce and manoeuvre that structure.' (Carlisle, 2000) In the context of ESL learning, morphology is an essential factor in building up lexical knowledge as it studies word formation and the relationship of lexemes in the same language. Second language learners attain target language proficiency and accuracy with vocabulary development. Morphology plays a major role in the analysis of word structure as it examines not only different parts of words but their lexical category, stress, intonation, grammar, and how context can change the meaning. (Carstairs- McCarthy, 2002; Yule, 2022; Aronoff and Fudeman, 2011). According to Jarad, (2015), vocabulary plays a crucial role in sharpening all four skills: listening, speaking, reading and writing. The academic progress of ESL learners also depends upon adequate knowledge of vocabulary that can enhance their communication skills to a great extent. The greatest challenge for English language learners is acquiring proficiency in reproductive skills through vocabulary development and understanding of the grammar (Kadlec & Wallace, 2008). The frequent appearance of non-familiar expressions may damage their confidence in the process of language learning. Hence, morphological awareness is the key to sailing through unfamiliar expressions and reproducing them in diff

1.2-Morphological Awareness

Many linguists have pointed out that morphological awareness (MA) boosts a learner's ability to acquire a new language proficiently. However, MA has recently been one of the most critical aspects in development of reading and writing skills in the process

of second learning and has been scrutinized particularly in connection with vocabulary acquisition. Morphological awareness relates to the ability of a learner to recognize words as morphemes and further examine them (Carlisle, 2000). In other words, MA enables learners to pinpoint the minimal units of language as affixes or inflections and then categorize them into free and bound morphemes (Nagy et. al. 2014). It engages learners in troubleshooting issues related to vocabulary acquisition and helps them identify phonological and morphological dissimilarities between English and their first language.

1.3-Morphemic Analysis

Morphemic analysis or structural analysis of words enables a language learner to ascertain different word parts, i.e., prefixes, suffixes, roots, and their meanings (Nagy et al, 1993). It is a strategy that helps students acquire vocabulary by parsing words for familiar morphemes to suppose the word's meaning. Wolter et al (2009) maintains that these skills are vital in recognizing the meaning of words from context because the learners will comprehend themeaning by examining unfamiliar vocabulary.

The current empirical study grounds itself on morphemic analysis, as suggested by Charles F. Hockett (1954). According to this notion, languages are embodied with linguistic forms which can be distinguished into morphemes using morphemic analysis. It involves the analysis of morphological data of word formation, specifically derivational and inflectional morphology based on two models of English morphology, specifically *Item and Arrangement (IA) and Item and Process (IP*).

The IA model, also termed as 'morpheme-based morphology', focuses on roots and affixes as morphemes with form and meaning stored in the mental lexicon. The IP model represents lexeme-based morphology. It states that relationships between words are observed as processes of derivation e.g., vowel change or suppletion. The current study encompasses morphemic analysis from both morphemic and lexical perspectives. A lot of researchers support that morphemic analysis accelerates the course of understanding, stockpiling, and replicating words (Kucan, 2012; Goodwin et al., 2020).

In a more recent study, Dressler et al. (2011) established that Spanish speaking English language learners managed to identify cognate roots in English derivatives when they were required to surmise their sense or meaning in reading passages. The combined results of these two types of research imply that cognate information aids the awareness of derivational morphology in Spanish-speaking English language learners. Lascoux, (2003) identified word construction as the entire phase of morphological disparity within word composition, such as the two major segments of inflection as well as derivation. The

concept of difference, which argues that no two words have the same connotation as another, is an alternative (Clark, 2017).

1.4-Aim of the Study

The current study challenges orthodox methods of vocabulary instruction by emphasizing the impact of morphemic awareness in the enhancement of overall proficiency in English language. Morphological knowledge can definitely sharpen students' English language skills in order to achieve excellent globally compatible scores. The aim of this study is to highlight significance of morphological awareness in learning English in ESL context in Pakistan. The study further aims to provide an insight into recent researches that illustrates the contribution of morphological awareness to adult ESL learners' language proficiency and also brings into focus some prominent theories involved in vocabulary development of the students in ESL context.

1.5-Objectives of the study

The study addresses the following objectives:

- To determine the role of morphemic awareness in ESL learning for undergraduate students in Pakistan
- To prove that there should be execution of the direct teaching of derivational and inflectional morphology as a replacement for old-style approaches of vocabulary teaching.
- To inspect that the most commonly used affixes and inflectional morphemes can enhancestudents' creativity in word formation
- To prove that teaching morphology can bring visible progress in students' language competence.

1.6-Research Questions

The main focus of this research is to explore the significance of learning morphology for an undergraduate ESL learner in the Pakistani context. The study addresses the following questions in this regard:

1. Do ESL learners have sufficient morphological awareness to use different lexical categories of words in their writing? If not, can the teaching of morphology upgrade theirperformance in ESL writing?
2. Do they perform equally in tasks related to derivational and inflectional morphology, andif they are well aware of inflections and affixation?
3. What are the major factors affecting their morphological knowledge, and how

dovocabulary and morphological awareness influence their vocabulary and writing skills?

4. How can explicit teaching of morphological rules enhance students' creativity in theacquisition of vocabulary and then writing skills?

1.7- Rationale of the study

ESL learners face a lot of challenges in vocabulary acquisition that may hinder their progress in reading and writing skills. The main weakness of learning vocabulary development without the involvement of linguistic theories is that the learners' productive ability in word formation will only be limited to a certain set of familiar words, and they will have difficulties comprehending unfamiliar words. Strategies used to teach vocabulary in academic institutions of Pakistan are outdated, so learners face a hard time developing communicative competence in language skills.

Many recent pieces of research in foreign universities have proved that the implementation of modern techniques boosts learners' vocabulary learning process and motivation level. There is a dire need to adopt such strategies in Pakistani schools and universities. Current research is a sequence of the quest for applying the linguistic theory of morphology for undergraduate ESL learners. The area in focus is the exploration of the role of direct instruction of derivational and inflectional morphology as an alternative for outdated means for vocabulary development in Pakistani undergraduate students. The study can help language instructors, and future researchers devise new strategies of morphological instruction for ESL learners that may emphatically impact the process of learning English language skills.

The current study may serve as a solid ground while underpinning more insightful and sophisticated future research for ESL learners in favor of morphemic instruction in English Language Learning.

2- Literature Review

The findings of the literature review attire you with the awareness from a lingual standout in morphological awareness (MA) and transpire some English Language methodology inculpation. The scrutinization of morphological awareness suggests that there are a plethora of imperishable developments for students who possess knowledge regarding various branches of morphology in text reading, comprehension and vocabulary development. It is manifested that studying morphology in various forms is a hard nut to crack, yet extremely beneficial for second language learners at the undergraduate level.

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2.1- Morphology and Second Language Learning

Morphological awareness is referred to as one's capability to decode the cipher to morphemes (derivational or inflectional) for scrutiny (Carlisle Ed. 1995 & 2000). It is the linguistic study that encompasses word's core formation along with the principles that govern its evolution. It has geared up all the language pedagogies to aid ESL (English as a Secondary language) students in order to grasp the knowledge of how words are perforated and devised from their building blocks.

Morphological awareness facilitates language instructors to support ESL learners comprehend how words infiltrate a language, what they comprise of, and how they are set up by conjoining affixes and roots. This review provides awareness into morphological awareness from linguistic viewpoints and unfolds its associations for teaching English as a second language based on first-hand research outcomes. The research into morphological awareness recommends that there is a substantial improvement among language learners who encounter approaches for identifying diverse morphological structures of words while reading certain texts. It has been established that learning morphology is a crucial element in facilitating reading comprehension and for a stronger knowledge of vocabulary. Moreover, it has been established that for many language instructors, a better understanding of affixes and roots establishes their successful teaching of vocabulary. Hence, language instructors can modify their teaching strategies by teaching morphological processes as an integral of direct or explicit language teaching appropriate for different grade levels.

Eventually, morphological awareness can enable language learners acquaint themselves with lexical derivations and their meanings. They will be able to distinguish that the suffixes ‘- ion’, “-ment” or “-ness” form a noun, or that the suffix “-ly”, ‘-able’ forms an adverb.

Ultimately, they will recognize that, to some extent, the English language has certain productive morphological units. This notion is closely related to transformational-generative morphology (Chomsky’s words: 25). It refers to the ability that we humans can create and fathom unseen words if we have knowledge about the roots. In general, morphological proficiency is also an indispensible component to achieve expertise in learning ESL or EFL. Owing to such reasons, word-formation exercises on derivational morphology and conjugation exercises on inflectional morphology are frequently practiced at advanced levels and time and again amalgamated in international examinations for English language such as TESOL, CAE, FCE and TOEFL.

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Another remarkable facet of morphology for an ESL learner is that morphological knowledge assists in understanding the rapport between English and other languages. For example, certain root words, e.g. omni, bi, quad, homo, etc. originate from French, Latin, and German languages. Such affiliation impacts the pragmatic and stylistic features of words regarding their level of formality and informality.

Carlisle (1995) believes that morphological awareness pertains to learner's mindful understanding of the morphemic structure of words and how he can operate on that structure (p. 194).

2.2- Basics of Morphology

The word "Morphology" was not associated with language initially when this term was introduced by Johann Wolfgang von Goethe, a Greek poet and philosopher. Morphology was derived from the Greek word 'morph,' which means 'form' or 'shape.' Historically, there is no proof of the connection between linguistics and morphology and, but this word has significance in biology and geology, i.e., structure or forms of body and earth. This refers to morphology as a study of forms of linguistic languages, more specifically, the internal configuration and arrangement of words.

2.2.1-Morpheme

It is the smallest meaningful unit in English grammar and morphology, which can't be divided into further tiny meaningful sub-units. For instance, the words dog and element are morphemes because the breakdown of these words will result in meaningless parts. A morphologist is one who analyzes words with their formations and structures and also recognizes the morphemes for making new words. There are various types of morphemes which are as follows**:**

2.2.1a- Free morphemes

These morphemes are similar to words, which mean they can withstand separately.

For instance: bell and history

2.2.1b- Bound morphemes

As the name depicts, these morphemes are bound to other words and can't withstand them alone. If you want to use them, combine them with free ones.

For instance: -ment and -multi, when coming across free morphemes, we obtain words like entertainment and multimedia, etc.

2.2.1c- Root morphemes

These are free morpheme types but are the lexical stream, which means they have morphosyntactic noun messages. For instance: uncover, translation.

2.2.1d- Affixation morphemes

These morphemes are utilized with roots as either prefixes or suffixes, and these are types of bound morphemes. For instance: assessment, inexplicable

2.2.2- Inflectional and Derivational Morphology

Inflectional morphology refers to the learning process which differentiates the word forms with certain grammatical categorizations. It includes affixation and vowel-changing procedures for the creation of morphemes.

Figure 2.1: Word Formation

Inflectional morphology deals with a type of morpheme that acts as a suffix to assign a certain grammatical characteristic, including the persona, tense, possession or quantity, etc. These morphemes don't change the type of parts of speech to which a word belongs and can be added with nouns, verbs, adverbs, or an adjective

Derivational morphology brings up the study of new formations of words that differentiate from basic word forms in terms of meaning and syntactic as well as grammatical categorization. It's an affix that we can add to form a new word.

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2.3- An Overview of Past Research:

The understanding of the child regarding morphology can be tested through various experiments. The research carried out in the past understood it globally, but recent studies have précised it to types to morphology variations. The plethora of studies carried out in recent years focuses on specific grammar, which aids morphology in illuminating the progress in syntax. Some researchers looked at it as a way of semiotic comprehension. In 1958, Berko carried out a morphological knowledge test in which participants of various age groups were tested. She spoke meaningless and non-sense words, for instance, wug, to understand that the contributors were familiar with actual words to push their inflectional morphological understanding. The child participant showed exceptional results as they recognized the inflectional changes like plurals and verbs. To examine the knowledge of derivational morphology, she asked participants to describe the meaning of some familiar compound words, which include airplane, breakfast, and birthday. It was drawn from the research that young participants were unaware of the word etymology.

Derwing looked into derivational knowledge by concentrating on relationships between word pairs (Derwing & Baker, 1979). Participants answered questions regarding illustrations like Does teacher come from teaching? Does fry produce Friday? Adults were significantly more aware of etymological connections than youngsters, who were more inclined to concur that the word "eerie" originated from the word "ear." Derwing's investigations are noteworthy because they elicited and demonstrated the participants' grasp of linked words—knowledge that would typically be rarely expressed in language. Two studies provided hints concerning middle school pupils' understanding of derivational morphology. The students in research contrasting high- ability fifth graders and typical eighth graders were asked to create definitions on a vocabulary exam made up of basic and derived words (Freyd & Baron). The fifth graders outperformed the eighth graders, although the derived words showed a higher distinction than the basic words. It implies that high-ability students understood derivational morphology more thoroughly than average students.

In 1987, Wysocki & Jenkins carried out another morphological test that involved teaching fourth, sixth, and eighth graders the definitions of terms on a vocabulary list before testing them on words derived from the training list (Wysocki & Jenkins, 1987). Students were assessed on conniving and doting, for instance, if they had studied those terms. When given the task of defining the test terms, individuals tended to repeat the definition they had previously learned rather than revising it to account for the derivational change. While this suggests a lack of definitional expertise, a disregard for morphological modifications, or

even both, it does confirm awareness of the connection between the base and derived words.

In 1993, Anglin examined the definitions given by children aged six to ten to study the evolution of vocabulary. The kids' comprehension of morphology was on display as they attempted to decipher new words. For instance, just a tiny percentage of the students knew the word "treelet," but several fifth-graders did and were able to characterize it using an analogy. Anglin labeled this procedure "morphological problem solving" and demonstrated how it could contribute significantly to the older children's increased vocabulary.

The existing findings raise numerous issues about the circumstances in which a morphological analysis approach might be used when coming across a tale word. Although they might not be adept at defining words in terms of the right part of speech, by middle school, the majority of pupils seem to be able to grasp the shared semiotic content of popular phrases. Although it is evident that children and teenagers can interpret the meaning of complicated words, it is not sure that they do so frequently and unprompted. It would be helpful to gauge the extent to which adult readers can use their knowledge of morphology to comprehend formal language since learning about derivational morphology continues in and out of adult years (Nunes & Bryant, 2005; Carlisle, 1988) and through high school (Nagy et al., 2003). Moreover, although morphology is a legitimate level of language structure for linguists, investigations of the metacognitive form known as morphological awareness may be an excellent way to learn more about how morphology affects readers.

2.4-Significance of Morphological Awareness in Perspectives of ESL

Many studies were carried out around the globe to check the understanding of learners who have English as an ESL language. Measuring morphological English knowledge is essential for countries where English is not their first language. Duke & Block (2012) argue that vocabulary instruction has turned unscrupulous due to diverted planning, lack of teacher expertise, and restricted class time. Little research has been conducted on Pakistani undergraduate ESL learners regarding the role of morphological awareness in order to enhance students' vocabulary reading skills. Therefore, the present study addresses the issue, adding great value for teachers, students, and planners who may adopt a practical approach regarding ES learners' proficiency and growth in vocabulary development. Bauer (1983) claimed that the word procedure would be efficient if it is sufficient to be used in the development of new terms. In the meantime, it would be considered non-productive when this is not sufficient to be used in the development of new ones. "Firstly, I would like to

contemplate about the purposes of learning morphology. One of them is producing words, and another is transforming the ones in effect." (Fasold, 2014).

3-Research Method and Methodology

The current empirical study is based on measured and observed phenomena and derives conclusion from actual experience rather than solely relying on a theory or belief. It employs valid evidence to attain the research objectives. It mainly relies on scientific methods for data collection.

In this analytical study, group two students received a substantial amount of instructions on derivational and inflectional morphology for one semester compared to group one, who were not exposed to any morphological instructions. Both groups had sufficient knowledge of vocabulary development as they had studied it during their intermediate and initial levels of graduate programs. The questionnaire was prepared and circulated among the groups to observe and scrutinize the difference between their writing and how morphological instructions had a visible impact on group two's vocabulary-building and writing skills. The study aimed to probe the role of morphological awareness in ESL writing. In order to gather data, both groups were administered exactly the same lists of word-formation questions based on different morphological processes and their application in writing samples. They were questioned about their knowledge of different aspects of morphology, i.e., affixation, inflections, and derivation, in order to assess how morphological awareness and word analysis skills may facilitate students' language learning process

3.1. Sample Population

The participants under observation were Pakistani undergraduate ESL students of a reputable university in Lahore who were fluent speakers of Urdu as their national language. They were divided into two groups, and each group comprised 100 ESL learners. Group one consisted of 50 BS (Biotechnology) students, while group two comprised 50 BS (English Linguistics) students. Explicit morphological instructions were given to group one in the classroom, whereas group two didn't receive any kind of morphological knowledge. Both groups had enough ESL exposure and learning experience, but group two possessed morphological awareness to a greater extent. Participants belonged to a similar age bracket and had the same linguistic background of Urdu astheir first language.

3.2. Research Tool (Test)

The research tool comprised five different tasks prepared by the researcher related to morphological process. These tasks were adapted from O'Grady, Vanderweide, Carstairs-

McCarthy (2002), and Aronoff & Rees-Miller (2002). Each task comprised ten different words, so there were fifty words altogether (See appendix). Task 1 consisted of lexical categorization in order to examine if students were aware of forming lexical categories of word classes from given root words. Task 2 was meant to assess students' knowledge of base word/free morphemes as they had to apply morphemic analysis in order to decompose given words onto their parts (free and bound morphemes). Task 3 was designed to assess learners' knowledge of derivational morphology. It required students to use suitable affixes from the given set of words to be used simultaneously with the given root words. Task 4 required students to form words according to the rules of inflectional morphology. It included inflections of tense, aspect, number, and possession. Some words required internal change, while others had to be formed through the process of suppletion. Task 5 primarily aimed to assess the effects of morphological awareness on students' writing skills.

4- Data Analysis

The results of the research showcased task/category-wise along with the percentage for each part of the given tasks. Then a comparative analysis of obtained results of both the groups were presented through students' mean scores and an overall percentage for each category. Moreover, the comprehensive analysis encompassed the objectives and outcomes of each task, correct and incorrect attempts of the word and sentence formation due to students' lack of morphological awareness. Further, the obtained data was calculated and sorted out on the basis of morphological processes e.g., lexical category knowledge, awareness of morphemic rules, derivation and inflection leading to semantic and syntactic analysis. It also includes a discussion on general errors in word formation through morphological processes and how such errors ultimately affect the stimulus in students' productivity. Tables -1, 2, 3, 4 and 5 demonstrate the percentage and summative values (correct and incorrect) of each part of the assigned tasks achieved by all the participants of each group. The graphical representation of data vividly shapes and compares the dissimilarity in the results of both groups which are prompted by both the groups' replications on morphological awareness.Each group had 50 students.

4.1-Lexical Category Knowledge

Lexical category knowledge assessment task identifies if students are aware of word classes for given words and whether they can form different parts of speech through affixation or not. It also represents how morphological awareness may enhance learners' grammatical awareness. Task 1 required students to write down three possible word classes for each of the given words. If we compare the results for this measure, we can clearly see that group one students had a greater proportion of incorrect answers as compared to correct

ones. There were spelling errors, too but it was also observed that students tried to attempt possible word classes for less familiar words. However, students of group two exhibited better performance in attempting possible word classes. The mean score of correct answers of group one was 16.1 with overall percentage of 32.2% as compared to group two whose mean score was 20.9. The overall percentage of group two was 41.8% which was higher than group one. Results clarified that morphological knowledge of group two facilitated them create different lexical categories of given words. The data (Table -3.1 & figure 3.1) clearly points towards the fact that the study of morphological awareness enables students to form different lexical categories from the givenroot word with affixation.

Question No.	**Correct Forms Group 1**		**Correct forms Group 2**		**Incorrect forms Group 1**		**Incorrect forms Group 2**	
1	23	46%	25	50%	27	54%	25	50%
2	8	16%	5	10%	42	84%	45	90%
3	26	52%	33	66%	24	48%	17	34%
4	14	28%	21	42%	36	72%	29	58%
5	34	68%	37	74%	16	32%	13	26%
6	11	22%	23	46%	39	78%	27	54%
7	10	20%	12	24%	40	80%	38	76%
8	13	26%	20	40%	37	74%	30	60%
9	11	22%	20	40%	39	78%	30	60%
10	11	22%	13	26%	39	78%	27	54%

Table 4.1: The Percentage and Summative Value of Incorrect and Correct Forms of Lexical Categorization

Mean score Group 1 = 16.1 ***Overall percentage= 32.2%***

Mean score Group 2= 20.9 ***Overall percentage= 41.8%***

The graphical representation of data given below marks an evident comparative analysis of students' responses to the assigned tasks from both groups. Figure 3.1(a) represents group one's correct and incorrect responses to each of the questions included in task 1 of 'Lexical Categorization.' We can observe that group one's ratio of incorrect responses (in red) was much higher than correct responses (in blue). Question 5 of task 1 had the greatest number of appropriate replies as it was the most familiar word while group one students faced a lot of difficulties in forming lexical categories of less familiar words. Task 1 in the questionnaire included words that ranged from familiar to unfamiliar ones (See Appendix).

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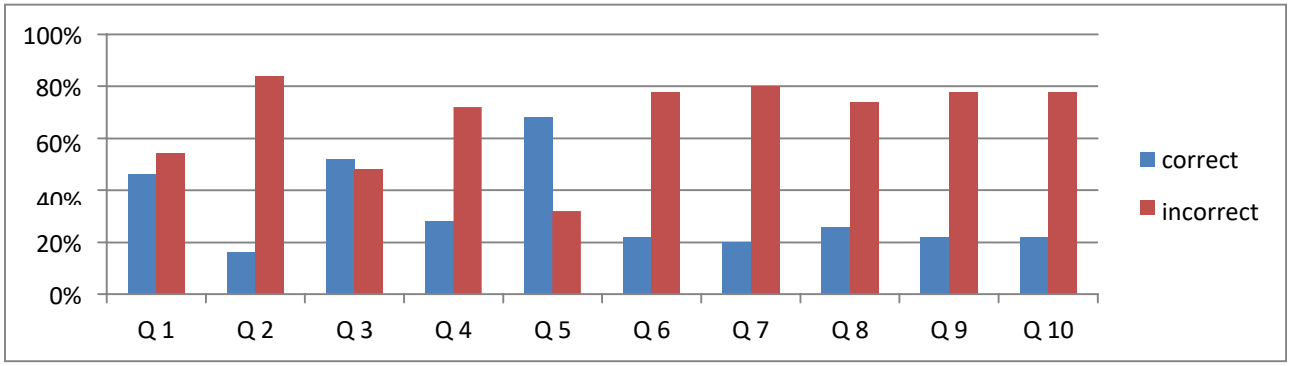
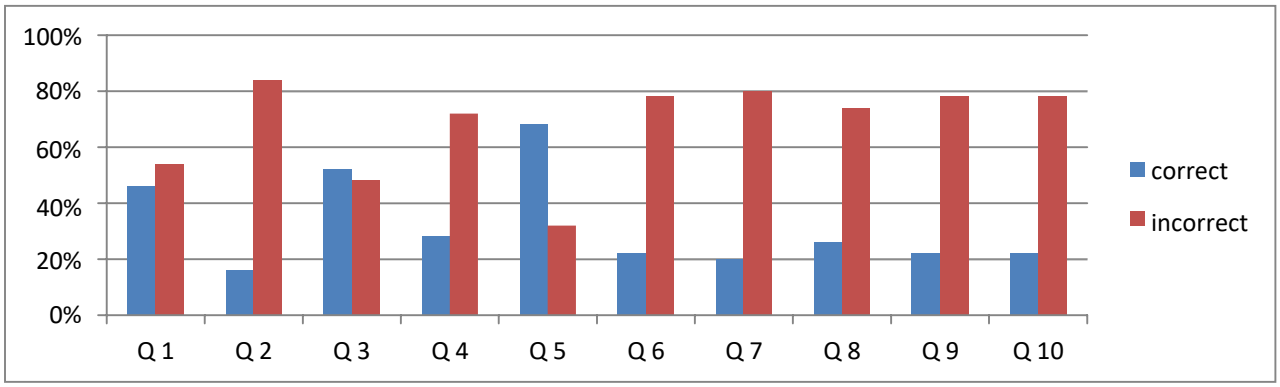
Figure 4.1(a): Group One's Responses for Lexical Categorization



Now if we compare the graphical depiction of both groups' responses, we can interpret that group two's ratio of correct answers was higher than group one's in the same task of 'lexical categorization' as they performed better in forming word classes of unfamiliar words. The difference reflected that group two had better understanding of 'lexical categorization' since they were aware of morphological processes involved in the formation of relevant word classes from the same 'root word' or lexeme.

Figure 4.1(b): Group Two's Responses for Lexical Categorization



4.2- Morphemic Awareness

Task 2 required students to select the root word (free morpheme) for each of the given lexical items. Each item had three possible options for which students were required to choose only one. The given words were familiar to both groups but results indicated that

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a higher percentage of group two students with morphological awareness were generally able to recognize the root words by splitting them into free and bound morphemes. The mean percentage (%) of correct answers was higher than 95% while it fluctuated from 44% to 94% for students of group one. The error analysis of groups one and two clearly represented that group one faced some difficulties while determining the correct free morpheme for each word. In this category, group one learners made some errors because of lack of knowledge about morphemic awareness. For certain words, all the 50 participants of group two had 100% correct answers, while such a pattern wasn't observed among any of the participants of group one.

Question	Correct Forms Group 1		Correct Forms Group 2		Incorrect Forms Group 1		Incorrect Forms Group 2	
1	45	90%	48	96%	5	10%	2	4%
2	43	86%	50	100%	7	14%	0	0%
3	47	94%	48	96%	3	6%	2	4%
4	47	94%	46	92%	3	6%	4	8%
5	45	90%	50	100%	5	10%	0	0%
6	45	90%	47	98%	5	10%	3	6%
7	29	58%	48	96%	21	42%	2	4%
8	22	44%	48	96%	28	56%	2	4%
9	47	94%	47	94%	3	6%	3	6%
10	35	70%	45	90%	15	30%	5	10%

Table 4.2: The Percentage and Summative Value of Incorrect and Correct Forms of MorphemicAwareness

Mean score Group 1 = 40.5 ***Overall percentage= 81%***
Mean score Group 2= 47.7 ***Overall percentage= 95.8%***

Fig 4.2(a) demonstrates the graphical form of statistics of students' responses for Task 2 as it incorporates the pictorial representation of participants' summative score for the second variable of 'Morphemic Analysis.' It is also evident that both groups performed well in this category as compared to the rest of the tasks involved in the questionnaire. Both groups had a clearer idea of 'free morphemes' as they applied their knowledge of word analysis skills or 'morphemic analysis.' However, almost 30%-50% of group one students still found it challenging to discern 'free morphemes' of certain less familiar words (7, 8, and 10). (See appendix)

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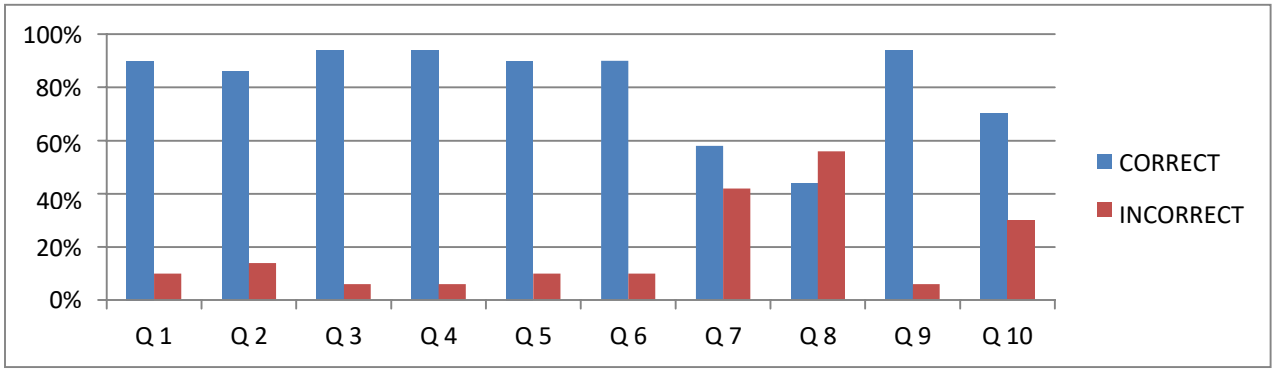
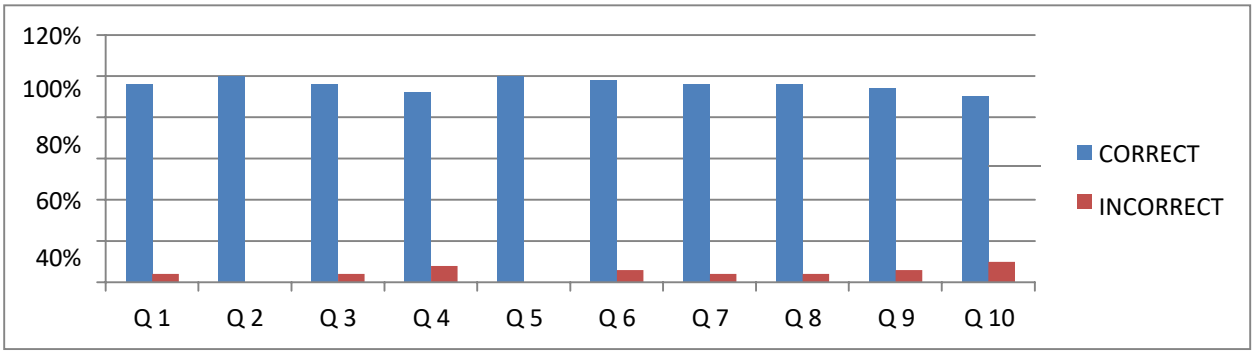
Fig 4.2(a): Group One's Responses for Morphemic Awareness



The graphical illustration of group two's responses signifies the influence of morphological processes in challenging students' productivity and their ability to apply their knowledge of 'morphemic analysis' for familiar or unfamiliar words. The data clearly indicates that group two participants outperformed group one as their ratio of correct forms was comparatively much higher. A large number of participants attained the percentage of 95%- 100% which makes the role of 'morphemic analysis as crucial in ESL context.

Fig4.2 (b): Group Two's Responses for Morphemic Awareness



4.3-Derivational Morphology

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The task was designed to assess learners' knowledge of derivational morphology. It required students to use a suitable prefix and a suffix from the given set of words to be used simultaneously with the given root words. However, if we observe Table -3.3 and Figure -3.3, we can clearly see group one lacked awareness of morphological rules, as majority of learners formed incorrect words using affixation or they were able to use either prefix or suffix while the task demanded to form words using both: a suitable prefix and a suffix. The mean score for correctly formed words for group one was 8.9 and the percentage was 17.8% as shown in table 3. For group two, the mean score for correct forms was 12 and its percentage was 25%. The data shows that group two students were more self-assured about affixation rules because of their morphological knowledge. The results also indicate that both groups required more practice of applying prefixes and suffixes with the same root word simultaneously. A large number of students could either use a prefix or a suffix which caused their scores to drop down. However, the mean score and percentage of group two were still slightly higher than group one learners due to morphological awareness.

Question	Correct Forms Group 1		Correct Forms Group 2		Incorrect Forms Group 1		Incorrect Forms Group 2	
1	18	36%	16	32%	32	64%	24	48%
2	0	0%	6	12%	50	100%	44	88%
3	12	24%	3	6%	38	76%	47	94%
4	5	10%	6	12%	45	90%	44	88%
5	2	4%	10	20%	48	96%	40	80%
6	3	6%	3	6%	47	94%	47	94%
7	13	26%	8	16%	37	74%	42	84%
8	16	32%	8	16%	34	68%	42	84%
9	18	36%	25	50%	32	64%	25	50%
10	2	4%	40	80%	48	96%	10	20%

Table 4.3: Summative scores and percentage of correct and incorrect forms of derivationalaffixes

Mean score Group 1 = 8.9 ***Overall percentage= 17.8%***

Mean score Group 2= 12.5 ***Overall percentage= 25%***

The bar graph for group one's responses indicates that majority of students found it challenging to apply affixation rules and construct suitable words from the given lists of

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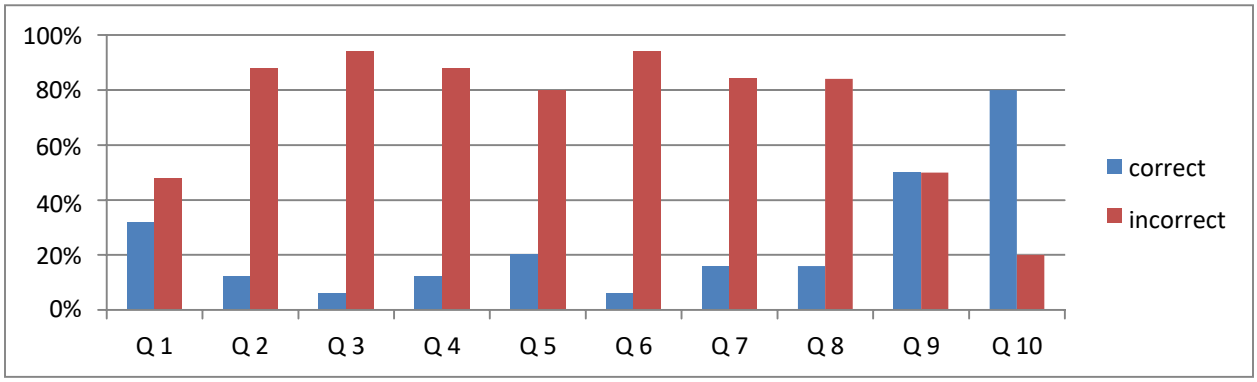
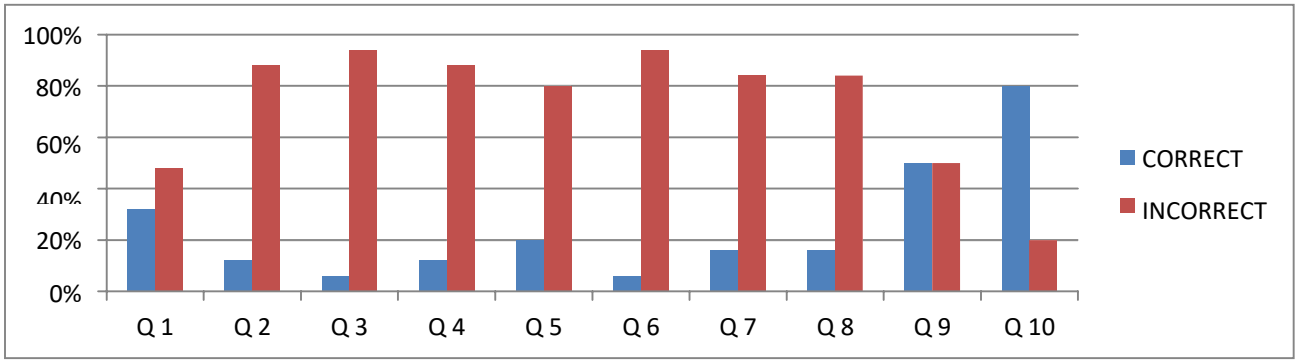
affixes. The highest percentage they could attain for correct answers was 36% while the lowest was at 4%, which was too low for a large group of participants. The results point out the fact that knowledge of derivational morphology is crucial for word formation and vocabulary building.

Fig 4.3(a): Group One's Responses for Derivational Morphology



The graphical representation of group two's performance denotes the impact of derivational morphology in stimulating students' efficiency to rub in their knowledge of 'affixation' for word building. The data makes it evident that group two students performed better than group one as their ratio of correct forms was slightly higher. The highest percentage of correct answers attained by students was 50% which solidifies the grounds for teaching the morphological processes to ESL students.

Fig 4.3(b): Group Two's Responses for Derivational Morphology



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4.4- Inflectional Morphology

Task 4 required students to form words according to the rules of inflectional morphology. The task included inflections of tense, aspect, number and possession. Some words required internal change while others had to be formed through the process of suppletion. The data indicate that group one students made more mistakes as compared to group two learners whose percentage of correct forms touched the mark of 96%. Group one students achieved the highest percentage of 90% while incorrect forms had a mean score of 28. For group one, the results were significantly very low in contrast to the first group. So, it can be summed up that group one's performance for correct forms was 56% whereas the performance of group 2 was 8.2% higher with 64.2% and 32.1 mean scores in inflections. Thus we can assert that group one underperformed due to the lack of morphological awareness.

Question	Correct Forms Group 1		Correct Forms Group 2		Incorrect Forms Group 1		Incorrect Forms Group 2	
1	36	72%	48	96%	14	28%	2	4%
2	45	90%	49	98%	5	10%	1	2%
3	19	38%	24	48%	31	62%	26	52%
4	14	28%	20	40%	36	72%	30	60%
5	34	68%	37	74%	16	32%	13	26%
6	27	54%	23	46%	23	46%	27	54%
7	23	46%	19	38%	27	54%	31	62%
8	30	60%	42	84%	20	40%	8	16%
9	22	44%	22	44%	28	56%	28	56%
10	30	60%	37	74%	20	40%	13	26%

Table 4.4: Summative scores and percentage of correct and incorrect forms of inflections

Mean Score Group 1= 28 ***Overall percentage= 56%***

Mean Score Group2= 32.1 ***Overall percentage= 64.2%***

The task for 'Inflectional Morphology' shows interesting results as depicted in the graph given below. Majority of students performed well in applying appropriate inflections for 'regular verbs' in past tense but lacked practice on inflections for 'present participle' and 'past participle'. The highest percentage for any given questions was 90% while the lowest was 28%. Students' performance was also deficient in possessives.

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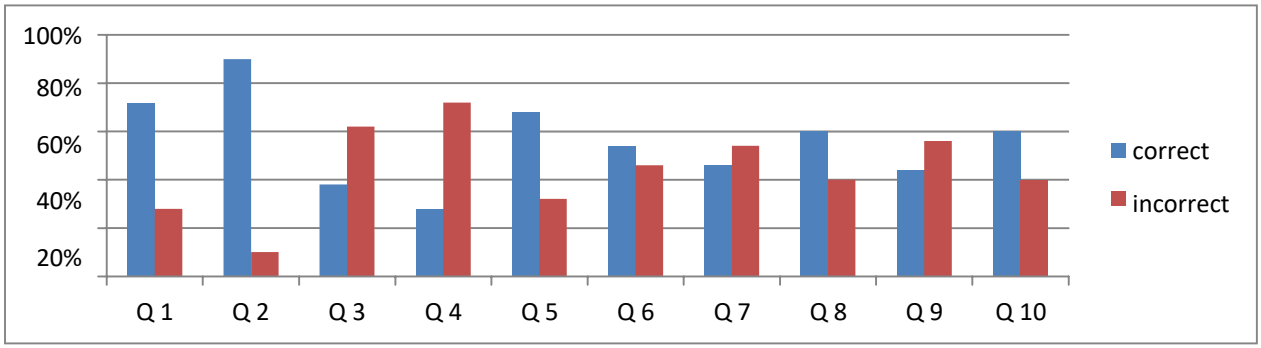
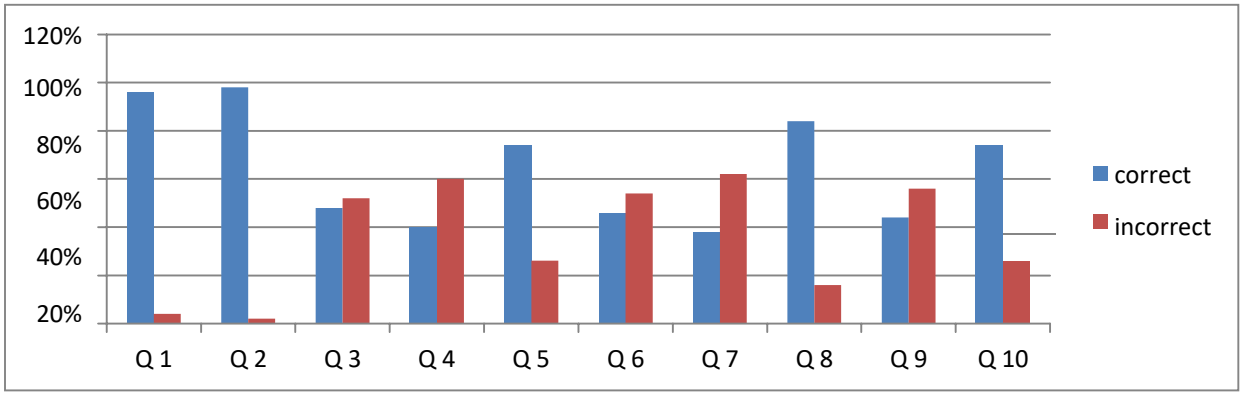
Fig 4.4(a): Group One's Responses for Inflections



Group two also performed better than group one in the task of 'inflections'. Their highest score was 96% while the lowest was 40%. If we compare the results of both groups, the bar graph also brings about a clear difference in students' level of awareness not only about tense and aspect inflections (past, present, future) but also of number and possessions. Undoubtedly, group two had the upper hand as their previous knowledge of morphological processes helped them follow instructions more carefully and respond accordingly.

Fig 4.4(b): Group Two's Responses for Inflections



4.5- Semantic & Syntactic Analysis

The writing task was designed to assess how students could use inflected words correctly semantically and syntactically. The semantic change was evident while calculating the correct and incorrect use of words. It was noticeable that morphological awareness

greatly impacted students' production of correct sentences from lexical and grammatical perspectives. Group one had a mean score of 10.4 with a percentage of 20.8% in the given task while group two obtained the mean score of 31.5 which is equivalent to 63%. Group two performed way better as their score was thrice that of group one's. If we assess the application of morphological rules in the formation of sentences by both the groups, the elicited responses clearly indicate that group two, who were familiar with explicit morphological rules, formed sentences more appropriately in comparison to group one since they possessed only implicit morphological knowledge. It was also observed that twelve students of group one didn't attempt this task while five students of group two left the task undone. Task 4 and 5 were interconnected so the probability of producing wrong sentences was higher in task 5 if the inflected words in task 4 were not attempted correctly. Since it was meant to assess students' productivity in writing, the difference between the semantic and syntactic eminence of writings of both the groups evidently denotes the significance of learning morphology. Group two students' vocabulary range was higher due to their awareness of morphological rules whereas group one demonstrated poor performance in the process of word formulation.

Question	Correct Forms Group 1		Correct Forms Group 2		Incorrect Forms Group 1		Incorrect Forms Group 2	
1	21	42%	45	90%	29	58%	5	10%
2	22	44%	44	88%	28	56%	6	12%
3	9	18%	27	54%	41	82%	23	46%
4	3	6%	20	40%	47	94%	30	60%
5	15	30%	31	62%	35	70%	19	38%
6	8	16%	22	44%	42	84%	28	56%
7	3	6%	22	44%	47	94%	28	56%
8	7	14%	34	68%	43	86%	16	32%
9	11	22%	34	68%	39	78%	16	32%
10	5	10%	36	72%	35	70%	14	28%

Table 4.5: Summative Scores and Percentage of Correct and Incorrect Forms of Semantic andSyntactic Analysis

Mean score Group 1 = 10.4 ***Overall percentage= 20.8%***

Mean score Group 2= 31.5 ***Overall percentage= 63%***

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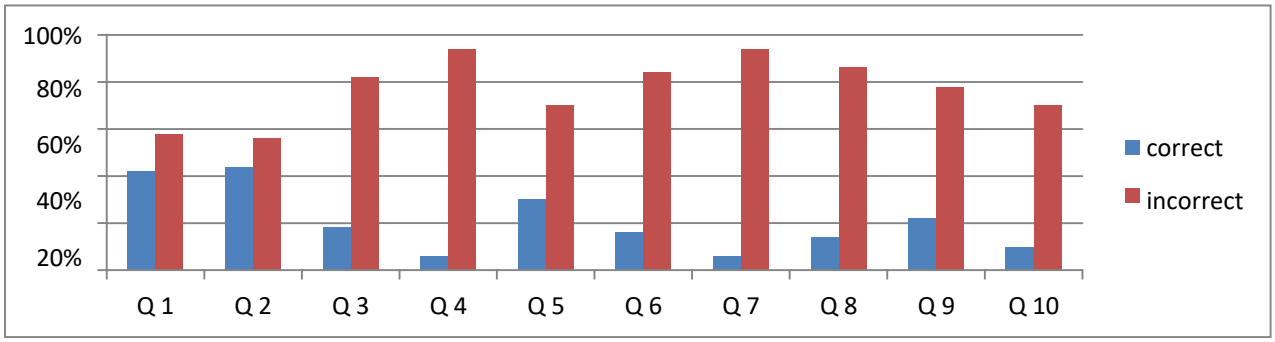
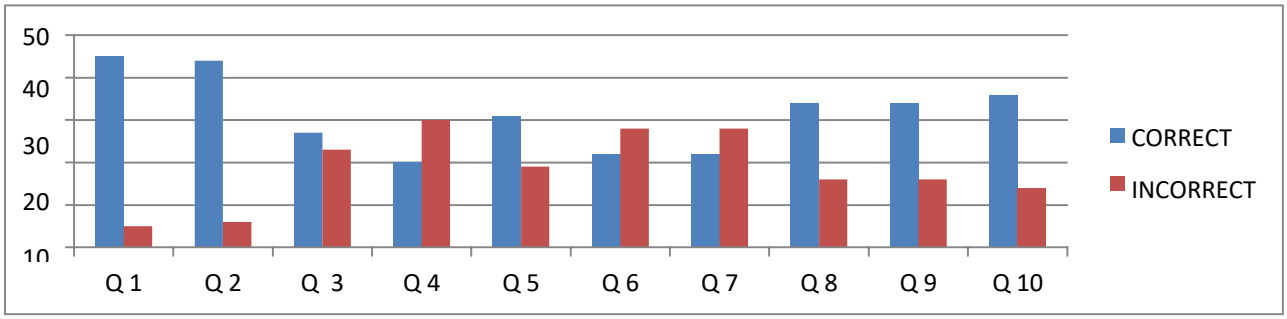
Analyzing group one's performance in the writing task strengthens the idea of imparting morphological instructions to ESL students. Most students could not produce meaningful sentences with the given words carrying inflections even at undergraduate level. Most of the sentences were left unattempted showing their lack of interest in completing the task. As a result, the lowest percentage of correct responses was 6%, the lowest among all the tasks.

Fig 4.5(a): Group One's Responses for Semantic and Syntactic Analysis



The comparative analysis of both groups' results (as shown in the graphs) indicates that morphological awareness influenced students' productivity and writing skills to a great extent. Group two was more efficient at following instructions and producing well-formed sentences as they could apply their lexical, semantic and syntactic knowledge to write meaningful sentences. They attained the highest score of 90% in any of the given questions while the lowest was 40%. Group two students' pool of vocabulary (lexicon) and their awareness of morphological rules helped them achieve improved semantic and syntactic performance in their writing skills.

Fig 4.5(b): Group Two's Responses for Semantic and Syntactic Analysis



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4.6-Discussion

4.6.1-Lexical categorization

In this task, group two students generally produced correct lexical forms or word classes as compared to group 1 students who were only able to form one or two new lexical categories from the given words. For example , words like 'succeed', 'permit', and 'revolve' can be turned into minimum of three more lexemes but group one made lots of spelling errors in writing words like 'permission' is written down as 'permition' and 'successful' is written as 'succesfull', etc. On the other hand, group 2 generally avoided recurrent errors that were commonly developmental, e.g. 'permitted', 'permitting' belong to the same lexical category but such mistakes could be considered in a different place of occurrence. They simply avoided the correct form if they didn't know it. However, group 1 students didn't seem to be confident in their knowledge, so they repeatedly produced incorrect forms. This indicates that there is a substantial connection between the correct formation of words and awareness of morphological processes**.**

4.6.2-Knowledge of Derivational Morphology

This section required word formation while using affixation i.e. prefixes and affixes simultaneously with the same root word. However, it was observed that group one students committed multiple errors while selecting the correct prefix or suffix from the given lists of affixes. For example, 'prehistoric' was written as 'historious', 'inactivity' as 'interactivity', 'inhabited' as 'inhabit', 'indecisive' as 'indecided', 'intercontinental' as 'precontinental', etc. Such errors were largely committed by group one as they didn't have sufficient knowledge of derivational processes or affixation. Majority of group two students performed really well in this task except that they used prefixes and suffixes separately with the same words. Such responses were accepted somehow given the fact that they had correctly used the given set of affixes alongwith necessary changes in spellings.

4.6.3-Avoidance

It was found that a large number of students in group one avoided word processing and production of new words or sentence formation using derivational or inflectional morphology since they didn't possess appropriate knowledge of suffixes. In contrast, the majority of group two students applied their knowledge of morphological processes and actively engaged in word formation and sentence formation. It was witnessed that group

two learners generally didn't avoid responses in all five tasks as they felt more confident in word formation and sentence formation due to prior knowledge of morphological practices.

4.6.4-Inflectional errors

It was observed that group one students generally committed a lot of errors in the inflectional morphology task. They were hardly aware of inflections for the 'present participle(- ing)' form as they changed the word 'frustrate' into 'frustration' instead of 'frustrating' and 'damage' has been changed into 'damages' or 'damaged' instead of 'damaging'. Similarly, the 'past participle' forms that required 'en' e.g. 'forbid' were turned into 'forbidding' or 'forbidded' instead of 'forbidden'. Group two students usually committed fewer mistakes in this section. Group one students also found it challenging to differentiate between the comparative inflection '-er' and superlative inflection '-est' as they changed mighty into 'mightiest' for comparative adjectives. Another commonly found error was that of 'possessive' inflection. 'Belongings of Sara' was turned into 'belonging's of Sara' in place of 'Sara's belongings' since the possessive ''-'s' required shifting of noun with it. Even the plural form was also a hard task for some students as the plural of 'glass' should be 'glasses', However, a few students wrote it as 'glassis' or 'glassez'. The results of this section revealed that group two students committed less inflectional errors comparatively due to their knowledge of morphological processes.

4.6.5-Syntactical and Semantic errors

This section was based on the usage of inflected words from section 4 into sentences of their own. As discussed earlier, a large number of group one students didn't attempt this section and those who attempted committed certain semantic and syntactical errors. The word 'mighty' was used in the meanings of a modal verb 'might be' as in 'He might be evil.' Some students also put it down as 'She is more mighty than Mel'. Its correct version is 'She is mightier than Mel.' There were grammatical errors in the formation of correct syntactic structures e.g. 'The book considered as Sara's belongings.' The sentence lacks the verb 'be' and the noun 'book' should correspond to the plural in 'belongings'. Some students couldn't use the correct 'auxiliary' in sentence formation e.g. 'He had forbidded to visit the country' in place of 'He was forbidden to visit the country.' It was generally observed that group two learners were more conscious of sentence formation due to their morphological awareness in contrast to group one students who lacked any knowledge and practice of morphological processes.

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5-Conclusion

The detailed analysis of elicited responses from undergraduate students of both groups highlights the significance of the pedagogical application of morphological processes in the formation of words and vocabulary development. It has been established that group two, who had received direct or explicit instruction on morphological rules performed better in word formation in comparison to group one who received implicit morphological knowledge. The dissimilarity between the application of derivational and inflectional morphology in the writings of both the groups evidently suggests their importance in ESL/EFL teaching. Understanding morphological processes are crucial in vocabulary development, application of grammar rules, and lexical categorization that will, in turn, boost students' reading and writing skills (Alsaeedi). Group one is the case of poor results in the process of word formation, particularly in lexical category identification and sentence formation. The improper application of morphemic rules causes semantic and syntactic variation. It has also been figured out that group one performs better in morphemic awareness and inflectional morphology than derivational morphology because it requires a solid grip over grammatical structure and word analysis skills. The key reason behind the errors of group one is their lack of familiarity with morphological rules which paved the way for other grammatical, lexical and syntactical errors. The findings of the research point out the fact that providing students with opportunities to practice and analyze unfamiliar vocabulary can also develop their word analysis skills. Students who only use words known to them limit themselves to specific vocabulary and do not get any opportunities to be creative. Exposure to challenges always raises the bar for their learning abilities as the data analysis of a large number of undergraduate learners favored using morphological terms to achieve the required objectives of ESL learning.

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