

Investigating Students' Awareness towards the effect of Morphology in Vocabulary Development

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Abstract:

This study aims at investigating the degree of students' awareness towards morphological awareness effect on their vocabulary development. A questionnaire has been adopted as primary tool for collecting the data of the study. The sample of the questionnaire is consisted of 70 English language teachers. The researcher applied percentage to analyze and verify the hypotheses. The results of the questionnaire showed that the students are not aware of the effect of morphological awareness on developing their vocabulary. The study recommends the necessity of raising students' awareness towards the effect of morphological awareness on their vocabulary development.

Key words: morphological awareness, vocabulary development, students' awareness

المستخلص:

هدفت هذه الدراسة إلى تقصي درجة وعي الطلاب نحو تأثير الإدراك الصرفي في تطوير مفرداتهم. تم استخدام الاستبانة كوسيلة أساسية لجمع بيانات الدراسة. تتكون عينة الاستبانة من 70 معلم. طبق الباحثون التحليل باستخدام النسبة المئوية لتحليل وتحقيق الفرضيات. أوضحت نتائج الاستبانة أن الطلاب لا يدركون تأثير الإدراك الصرفي في تطوير مفرداتهم. أوصت الدراسة بضرورة رفع الوعي لدى الطلاب نحو تأثير الإدراك الصرفي في تطوير مفرداتهم.

Introduction:

Vocabulary knowledge is one of the language skills crucial for fluent language use. Vocabulary size is an indicator of how well the second language (L2) learners can perform academic language skills such as reading, listening, and writing. According to Nation (1993), knowledge of around 3000 word families is the threshold needed for tapping other language skills. Without this threshold, learners encounter problems understanding the language they are exposed to. Ellis (1997:5) argues that, vocabulary knowledge is a predictor of learners discourse comprehension which,

allows grammatical rules to be patterned in the learners' mind

Having inadequate vocabulary hampers learners' reading, writing and listening comprehension in a way that makes it more likely the learners' will difficulties in the path of academic achievement

As such, vocabulary learning and teaching is a central activity in the L2 classroom. One way in which vocabulary learning can be fostered is through the use of learning strategies. These strategies are consciously or unconsciously learned techniques for processing information in order to enhance learning comprehension and retention (O, Malley and, Chantot, 1990)

One potential vocabulary learning strategy is the use of morphological awareness to learn novel vocabulary.

Morphological awareness is defined as the ability to use the knowledge of word formation rules and pairing between sounds and meaning. With morphological awareness, learners are able to learn morphemes and morphemic boundaries by disassembling complex words and meaningful parts.

Problem of the Study

The present study came to evaluate the degree of students' awareness morphological awareness effect on their vocabulary development.

The problem of the study may be summarized as follows:

1. The real aim behind this paper is to raise the degree of students' awareness towards morphological awareness effect on their vocabulary development.
2. They are not fully aware with the importance of morphological awareness in developing their vocabulary
3. It develops and enhances their vocabulary

Objective of the study

This study aims at investigating the degree of students' awareness towards morphological awareness effect on their vocabulary development. The scope of the study is limited to English language teachers at different Sudanese Universities. The questionnaire sample is consisted of 70 teachers of English at University level.

The Study Hypothesis

EFL Sudanese tertiary level teachers' use of morphological aspects enhances students' vocabulary.

Measuring English Morphological Awareness

Anglin (1993) identifies five different morphological word types in English. The five types are root words (e.g., *short, closet*), inflected words (e.g., *smoking, reports*), derived words (e.g., *shortish, treelet*), literal compounds (e.g., *sunburn, birthday*), and opaque, idiomatic compounds or lexical idioms, which are then called simply 'idioms' (e.g., *mouse tail*, "a plant of the crowfoot family"; *pink lady*, "a cocktail").

In this present study, four of the morphological word types (root words, inflected words, derived words and literal compounds) were used to investigate the two types of morphological awareness: Morpheme Identification Awareness and Morphological Structural Awareness. The Morpheme Identification task tests the participants' knowledge of root words and use of morphemes to guess meaning, whereas the Morphological Structure task assesses the ability to create literal compounds, inflected, and derived words. Further discussion on these two measures of morphological awareness is provided in the next sections.

Morpheme Identification Awareness

Chang, et al. (2005) defines awareness of Morpheme Identification as the ability to identify different meanings across homophones, for example by understanding that *flower* in *flowerpot* is represented by a plant with petals as opposed to a sack of white powder (*flour*). The authors believe that this aspect of morphological awareness might help language learners to distinguish among meanings of syllables with identical sounds, facilitating language analysis and vocabulary growth.



In this case, morphological awareness involves understanding that different meanings can simultaneously be attributable to phonologically identical words. For example, in the Morpheme Identification task used here, the participant is shown a picture of the sun and a picture of a male child and then given the word *grandson*. The participant is then asked to choose which picture correctly reflects the meaning of the word. This is an adaptation of the test used in study on young children by Chang et al. (2005).

Morphological Structure Awareness

The other type of morphological knowledge measured in this study is the awareness of Morphological Structure. This Morphological Structure requires learner's to make use of linguistic knowledge to derive new meanings. Skill in manipulating language, variously referred to as generatively, creativity, or productivity of language, may be important in learning new meanings within one's language (Chang et al., 2005, p.421). For example, in the Morphological Structure Test used here the participant is given a single sentence scenario and a prompt to make a novel compound word, as in:

*There's a paper that is **white** in color, we call that **white paper**. There's a paper that is **red** in color, what do we call it? ———
 ——— (red paper)*

The participants' knowledge of inflectional morphology is also assessed in the test by providing a context and then requiring the grammatically appropriate novel response. *John is **setting**. Yesterday he did this. What did he do yesterday?*

Yesterday, he _____

Of interest here is whether the knowledge required completing this Morpheme. Corson (1997) noted, 46

Identification and Morphological Structure Awareness tasks relate to L2 vocabulary knowledge. Chang et al. (2005) believe this is important because it demonstrates that there are two different aspects of morphological awareness and that both of these might be important in fostering vocabulary acquisition.

Morphological, structural Analysis

Morphological, or Structural, Analysis is the process of breaking down morphologically complex words into their constituent morphemes (word meaning parts). For instance, the word *worker* is comprised of two meaning units, the base *work*, and the inclusion of *-er*, which conveys the meaning of an agent (person or thing) that does whatever is implied in the base. Thus, the worker is one who works; a film projector is that which projects film onto a screen. As students proceed through the grades, course texts will take on increasingly sophisticated language. Oftentimes, these multi-syllabic words will be of the Greco-Latin origin, which collectively, comprise approximately two thirds of the English lexicon (Carr, Owen, & Schaeffer, 1942). Studies have shown that moving along the word frequency continuum from more frequent to less frequent displays an increased percentage of Graeco-Latin words, while the percentage of Germanic, mono-syllabic words decreases (Carr, et al., 1942; Old father, 1940). It is in the academic arena that students will come across an influx of content specific vocabulary throughout the curriculum. Recognizing frequent roots and affixes that transfer among the disciplines can support students as they make sense and attempt to retain the meanings of this deluge of new words.

Pedagogical processes of analyzing words into their stems and affixes do seem important in academic word learning. These processes help to embody certain conscious and habitual met cognitive and met linguistic information that seems useful for word acquisition and use. Getting access to the more concrete roots of Graeco-Latin academic words in this way makes the words more semantically transparent for a language user, by definition. Without this, English academic words will often remain “hard” words whose form and meaning appear alien and bizarre. So this kind of meta-cognitive development that improves practical knowledge about word etymology and relationships seems very relevant for both L1 [native English speaker] and L2 [non-native English speaker] development. (pp. 707-708)

Morphological Awareness and Reading

Nagy, his colleagues (Nagy & Anderson, 1984; Nagy et al., 2003; Nagy et al., 1985), and others have conducted numerous empirical investigations to substantiate the relationship between morphemic knowledge, both derivational and inflectional, and reading. According to Verhoeven and Perfetti (2003), derivational morphology involves words formed from a base morpheme across different grammatical categories (e.g., dark, darkness, and darken), and inflectional morphology involves additions to a word’s stem (e.g., -s, ing, -ed). Nagy, Berninger, and Abbott (2006) explained that within the English language over half of the words are morphologically complex and are more common in written language than in speech. Researchers have found that even young readers demonstrate morphemic abilities when they read. Research by Nagy et al. (2003), as well as by Rubin (1988), found that for hearing

second graders, morphemic knowledge made a significant unique contribution to reading achievement when phonological and orthographical abilities, as well as expressive vocabulary, were controlled. Similarly, a study by Deacon and Kirby (2004) revealed that second-grade morphemic abilities predicted fourth- and fifth-grade reading comprehension. A common conclusion in the studies reviewed by Apel and Swank (1999) and Carlisle (1995, 2004) was that morphology is routinely used by hearing children as a word-recognition strategy by third grade and that poor English morphological awareness contributes to poor decoding skills. The findings of Deacon and Kirby revealed that morphemic awareness made a significant unique contribution to decoding beyond that of the phonological for third, fourth, and fifth graders. This shift, from phonological to morphological word analysis, was also documented by Mahoney, Singson, and Mann (2000), who reported it for typical (hearing) fourth graders, an age when the reading achievement of deaf students is often reported to plateau (Traxler, 2000). In a very recent study, Berninger, Abbott, Nagy, and Carlisle (2010) investigated the growth of phonological, orthographic, and morphological awareness from Grades 1–6. Using growth curve analysis, the authors found that (a) word-level phonological and orthographic awareness show greatest growth during the primary grades but some additional growth thereafter, and (b) three kinds of morphological awareness show greatest growth in the first three or four grades but one—derivation—continues to show substantial growth after fourth grade (p. 141). These findings reinforce the importance of attention to morphemic awareness, even with young readers.

Researchers emphasized that their findings point to the value of attention, even with beginning readers, to more than the phonological aspects of words.

Among the authors' recommendations was to convey the importance of morphological awareness with practitioners and to provide them with suggestions for instruction that support its development, reminding teachers that their students' reading achievement will be optimized as a result, Anglin (1993) studied the relationship between students' use of morphology and lexical development in first, third, and fifth grades. He found that students' knowledge of derived words increased sharply between first and fifth grades. Anglin noted that this finding supports the idea that lexical development is characterized by increasing morphological complexity. He found evidence, for example, that as children increased in age, so too did their use of morphemic analysis to figure out more complex words. His analysis revealed that the middle-grade students learned an average of 8–10 multi-morphemic words per day, potentially "thousands" per year. Thus, as Gaustad and Kelly (2004) suggested, "morphologically based vocabulary growth, rather than being linear, is more likely to be exponential" (p. 272). Nagy et al. (2006), who studied the contribution of the morphological awareness of students in fourth/fifth, sixth/seventh, and eighth/ninth grades with regard to aspects of reading (vocabulary, comprehension, and rate of spelling and decoding morphologically complex words), empirically verified the importance of morphological awareness.

They found that morphological awareness made significant and unique contributions to vocabulary, reading comprehension, and spelling for all groups, as well as to the decoding rate of the eighth/ninth graders. In addition, their analysis revealed that for all three groups, morphological awareness significantly affected reading comprehension, even "above and beyond that of reading vocabulary" (p. 134). Because reading comprehension is the ultimate goal for all readers, these findings are not only statistically significant but also of paramount importance with regard to practical application. Whereas most research on reading has been done with native English speakers, there is a growing body of knowledge focused on the reading development and achievement of English language learners (ELLs). The recently published findings of the National Literacy Panel on Language Minority Children and Youth

(August & Shanahan, 2006) reported that some of the same elements of reading (e.g., phonological awareness) that affect native speakers' reading achievement also affect the reading achievement of ELLs.

Whereas most of the research with ELLs has focused on vocabulary knowledge in general, recent studies have focused on the role of morphology. For example, Kieffer and Lesaux (2008) investigated the relationship between (derivational) morphological awareness and reading comprehension in English of a group of ELLs whose first language was Spanish. The researchers followed the students for 2 years (fourth through fifth grade) and found that during this time, the relationship between morphology and comprehension increased.

In addition, the students' morphological awareness was a significant predictor of their reading comprehension in fifth grade. Carlo et al. (2004) studied the effect of a vocabulary focused intervention on fifth-grade participants' knowledge of taught words, depth of vocabulary knowledge, understanding of multiple meanings, and reading comprehension.

The intervention included explicit instruction of selected academic vocabulary as well as strategies (use of cognates, context, and morphology) to learn new words. They found that the effects of the intervention 'were as large for the English-language learners (ELLs) as for the English-only speakers (EOs), though the ELLs scored lower on all pre-and posttest measures" (p. 189). In a similar study with 346 sixth-grade ELLs and 130 English-only peers, Lesaux, Kieffer, Faller, and Kelley (2010) found that an academic vocabulary intervention resulted in significant effects on several aspects of vocabulary knowledge, including morphological awareness (p. 5 .0003). Effects for ELLs were comparable to their English-only peers.

Contribution of morphological awareness to reading comprehension

Morphological awareness depends on experience with printed words for refinement, but itself is also functional in the development of reading comprehension ability. Because it entails the ability to perform morphological analysis, morphological awareness has often been found to be a significant contributor to word learning and vocabulary development in that learners can decompose unknown morphologically complex words into their constituent morphemes and apply morphological rules to derive meanings of unknown words (e.g., Paribakht and

Wesche, 1999; Wysocki and Jenkins, 1987). More recent research has revealed that, in addition to being important to vocabulary development, morphological awareness is also a significant contributor to reading comprehension (e.g., Carlisle, 2000; Deacon and Kirby, 2004; Ku and Anderson, 2003; Nagy et al., 2006). Because of the interrelations between morphological awareness and vocabulary knowledge on one hand, and vocabulary knowledge and reading comprehension on the other hand, researchers often controlled for vocabulary knowledge when the unique contribution of morphological awareness to reading comprehension was examined (Ku and Anderson, 2003; Nagy et al., 2006). Ku and Anderson (2003), for example, showed that, after partialling out the influence of vocabulary knowledge, morphological awareness explained a significant proportion of variance in reading comprehension among Grades 2, 4, and 6 children. A similar finding also surfaced in Nagy et al. (2006), which reported that morphological awareness, while contributing significantly to vocabulary knowledge, also predicted reading comprehension after the effect of vocabulary knowledge was accounted for. The unique contribution of morphological awareness to reading comprehension, according to Nagy (2007), may be explained by three possible reasons: first, the contribution could be attributed to the mediating effect of learners' lexical differencing ability. In other words, morphological awareness facilitates meaning differencing of complex words during reading; this 'on the spot vocabulary learning' (Nagy, 2007, p. 64) in turn helps learners resolve vocabulary gaps in reading and lead to better comprehension.

In addition, learners can use the syntactic signals provided by suffixes in derived words to help parse complex sentences, which may also contribute to comprehension. Finally, morphological awareness may also contribute to comprehension via its effect on fluency of decoding morphologically complex words. Note that the evidence supporting the importance of morphological awareness to reading comprehension comes predominantly from studies on monolingual children. Very limited research has so far been conducted in this field of inquiry on L2 learners with morphological awareness as a construct of central interest, and the few relevant studies sometimes led to different findings regarding whether morphological awareness could make a contribution in L2 reading comprehension. Kieffer and Lesaux (2008) found that Spanish English as a Second Language (ESL) learners' derivational awareness had a unique effect on reading comprehension over and above oral vocabulary and word reading ability. Similar findings surfaced in studies on Korean learners of English as a foreign or second language (e.g., Jeon, 2011; Wang et al., 2009). On the other hand, Qian's (1999) study on Chinese and Korean ESL readers' in Canadian universities failed to reveal a unique contribution of derivational knowledge to reading comprehension after controlling for vocabulary knowledge. In Zhang and Koda (2012), advanced Chinese EFL learners' derivational awareness was found to contribute to reading comprehension indirectly through the mediation of lexical inferring ability and vocabulary knowledge, instead of having a direct contribution. Different from the above studies, Pasquarella et al. (2011) incorporated derivational as well as compound awareness in their study on

Chinese immigrant children in Canada. They reported that both types of morphological awareness made a significant and independent contribution to English reading comprehension. Yet, with similar group of children in the United States, Wang et al. (2006) failed to yield the same finding. Instead, they found that only compound awareness, not derivational awareness, significantly predicted English reading comprehension.

Overall, there does not seem to be convergent evidence to show a significant, unique contribution of morphological awareness to reading comprehension among English L2 learners. While the few studies, overall, tend to agree on the importance of morphological awareness, it remains unclear whether compound and derivational awareness are both predictive of English L2 reading comprehension. In addition, because existing studies focused largely on English literacy acquisition in a context where English is the societal language and the medium of instruction in schools, the findings can hardly be easily generalized to English learning in an FL context. And the few existing studies on EFL learners (e.g., Zhang and Koda, 2012) almost all focused on derivational awareness, instead of incorporating in their design the multi-affectedness of English morphological awareness. Consequently, it remains an empirical question.

Materials and method This study was carried out at Sudan University of Science and Technology with English language teachers at University level A purposive sample used for this study includes (70) teachers. This is a quantitative method research study design employing quantitative method.

The research bases inquiry on the assumption that collecting data from questionnaire best provides an understanding of research problems. This study used a quantitative research design comprising quantitative method and techniques during data collection analysis. The questionnaire was the instrument used in this study. Quantitatively, a questionnaire was administered to 70 teachers.

The researcher used the questionnaire as the main tool for collecting data related to this study. The researcher has designed the questionnaire to English language teachers to find out their reflection and suggestion on the degree of students' awareness towards morphological awareness effect on their vocabulary development.

The tables and the percentages below illustrate what has been stated above.

The analysis of the questionnaire in relation to the study hypothesis,

Table No (4.1). There should be a relationship between students' vocabulary size and the morphological process awareness to help students enhance vocabulary competency.

Answer	Number	Percent
Strongly Agree	40	57.1%
Agree	25	35.7%
Not sure	2	2.9%
Disagree	3	4.3%
Strongly Disagree	0	0.0%
Total	70	100%

It is clear from the above table (1) that there are (46) respondents in the study's sample with percentage (44.2%) strongly agree with "There should be a relationship between students' vocabulary size and the morphological process awareness to help students enhance vocabulary competency. Terms". There are (39) respondents with percentage (37.5%) agree with that and (3) respondents with percentage (2.9 %) are not sure. and (11) respondents with percentage (10.6%) disagree, while (5) respondents with percentage (4.8%) strongly disagree.

Table No (4.2). When learners are aware of English inflectional morphology, this will improve their vocabulary competency

Answer	Number	Percent
Strongly Agree	50	71.4%
Agree	15	21.5%
Not sure	1	1.4%
Disagree	4	5.7%
Strongly Disagree	0	0.0%
Total	70	100%

It is clear from the above table (2) that there are (13) respondents in the study's sample with percentage (12.5%) strongly agree with "When learners are aware of English inflectional morphology, this will improve their vocabulary competency". There are (34) respondents with percentage (32.7%) agree, and (19) persons with percentage (18.3%) are not sure, and

(29) respondents with percentage (27.9%) disagree, while (9) respondents with percentage (8.7%) strongly disagree.

Table No (4.3). Students will become more able to infer the meaning of unfamiliar words after receiving instruction in morphological analysis

Answer	Number	Percent
Strongly Agree	30	42.9%
Agree	29	41.4%
Not sure	3	4.3%
Disagree	4	5.7%
Strongly Disagree	4	5.7%
Total	70	100%

It is clear from the above table (3) that there are (35) respondents in the study's sample with percentage (33.7%) strongly agree with "Students will become more able to infer the meaning of unfamiliar words after receiving instruction in morphological analysis". There are (52) respondents with percentage (50.0%) agree, and (7) respondents with percentage (6.7%) are not sure, and (10) respondents with percentage (9.6%) disagree.

Table No (4.4). Morphological awareness promotes the students' comprehension of new words.

Valid	Frequency	Percent
Strongly Agree	40	57.1%
Agree	25	35.7%
Not sure	2	2.9%
Disagree	3	4.3%
Strongly Disagree	0	0.0%
Total	70	100%

It is clear from the above table (4) that there are (50) respondents in the study's sample with percentage (48.1%) strongly agree with "Morphological awareness promotes the students' comprehension of new words." There are (17) respondents with percentage (16.3%) agreed, and (2) respondents with percentage (1.9%) are not sure, and (8) respondents with percentage (7.7%) disagree, while (27) respondents with percentage (26.0%) strongly disagree.

Table No (4.5). When learners are aware of English inflectional morphology, this will improve their vocabulary competency

Answer	Number	Percent
Strongly Agree	20	28.6%
Agree	29	41.4%
Not sure	10	14.3%
Disagree	10	14.3%
Strongly Disagree	1	1.4%
Total	104	100%

It is clear from the above table (5) that there are (52) respondents in the study's sample with percentage (50.0%) strongly agree with “**The When learners are aware of English inflectional morphology, this will improve their vocabulary competency.** There are (18) respondents with percentage (17.3%) agree, and (8) respondents with percentage (7.7%) are not sure, and (6) respondents with percentage (5.8%) disagree, while (20) respondents with percentage (19.2%) strongly disagree.

Table No (4.6). Morphological awareness resembles language students’ knowledge of process of word formation

Answer	Number	Percent
Strongly Agree	21	30.0%
Agree	39	55.7%
Not sure	4	5.7%
Disagree	2	2.9%
Strongly Disagree	4	5.7%
Total	70	100%

It is clear from table (6) that there are (51) respondents in the study's sample with percentage (49.0%) strongly agreed with “**Morphological awareness resembles language students’ knowledge of process of word formation**”. There are (32) persons with percentage (30.80%) agree with that and (9) respondents with percentage (8.7%) are not sure about that and (4) respondents with percentage (3.80%) disagree, while (8) respondents with percentage (7.7%) strongly disagree.

Table No (4.7). There is connection between morphological process awareness and the students’ lexical development.

Answer	Number	Percent
Strongly Agree	34	50.0%
Agree	20	28.6%
Not sure	5	7.1%
Disagree	7	10.0%
Strongly Disagree	3	4.3%
Total	70	100%

It is clear from the above table (7) that there are (34) respondents in the study's sample with percentage (32.7%) strongly agree with “**There is connection between morphological process awareness and the students’ lexical development**” There are (38) respondents with percentage (36.5%) agree with that, and (4) respondents with percentage (3.8%) are not sure. And (17) respondents with percentage (16.3%) disagree, while (11) respondents with percentage (10.6%) strongly disagree.

Table No (4.8). Students need more process for learning vocabulary with different frequency morphological process awareness level.

Answer	Number	Percent
Strongly Agree	40	57.2%
Agree	25	35.7%
Not sure	0	0.0%
Disagree	3	4.3%
Strongly Disagree	2	2.9%
Total	70	100%

It is clear from the above table (8) that there are (33) respondents in the study's sample with percentage (31.7%) strongly agree with "The **Students need more process for learning vocabulary with different frequency morphological process awareness level**. There are (38) respondents with percentage (36.5%) agree with that and (7) respondents with percentage (6.7%) are not sure. and (10) respondents with percentage (9.6%) disagree, while (16) respondents with percentage (15.4%) strongly disagree.

Table No (4.9). Morphological awareness should be integrated and provided with enough activities in teaching materials to develop University students' vocabulary competency.

Answer	Number	Percent
Strongly Agree	40	57.1%
Agree	25	35.7%
Not sure	0	0.0%
Disagree	2	2.9%
Strongly Disagree	3	4.3%
Total	70	100%

It is clear from the above table (9) that there are (41) respondents in the study's sample with percentage (39.4%) strongly agree with " **Morphological awareness should be integrated and provided with enough activities in teaching materials to develop University students' vocabulary competency**. "There are (34) respondents with percentage (32.7%) agree with that and (8) respondents with percentage (7.7%) are not sure. And (10) respondents with percentage (9.6%) disagree, while (11) respondents with percentage (10.6%) strongly disagree.

Conclusion : The data collected was analyzed in relation to the hypothesis of the study. The data was collected via questionnaire which had been administered to English language teachers.

Having analyzed and compare the results with the main hypothesis the results have shown that morphological awareness is effective on students' vocabulary development.

After ending the present study and analyzing the results of the questionnaire morphological process awareness proved to be effective in developing the tertiary students' vocabulary at university.

Regarding the results of the hypotheses verification and the discussion, it could be concluded that there is a significant effect of using morphological awareness process on students' vocabulary development and competency.

Regarding the results of teachers' questionnaire, morphological awareness process affects the development of vocabulary learning. The results of the questionnaire indicated that the morphological awareness process is an effective tool in developing vocabulary learning, so this hypothesis is accepted.

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