THE EFFECT OF TEACHING MORPHOLOGICAL ANALYSIS ON THE STUDENTS' READING COMPREHENSION ACHIEVEMENT

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Abstrak: Tujuan penelitian ini untuk mengetahui pengaruh pengajaran analisis morfologi terhadap peningkatan hasil pemahaman membaca siswa dan mengetahui masalah siswa dalam analisis morfologi. Dalam penelitian ini, 26 siswa di kelas XI Lintas Minat 5 diajari menganalisis morfologi. Untuk mengumpulkan data, peneliti memberikan tes analisis morfologi dan pemahaman membaca dan melakukan observasi dan wawancara. Hasil penelitian menunjukkan ada pengaruh positif pengajaran analisis morfologi terhadap peningkatan hasil pemahaman membaca siswa. Hal ini bisa dilihat dari peningkatan nilai rata-rata dari kedua tes yang signifikan dari 62.50 ke 77.12 dan 66.85 ke 78.35. Selain itu, hasil observasi dan wawancara menunjukkan siswa mengalami kesulitan dalam menentukan bentuk kata dasar beserta artinya dan dalam mengklasifikasikan kata ke kelas katanya. Oleh karena itu, pengajaran analisis morfologi bisa menjadi unsur untuk diajarkan dalam pengajaran pemahaman membaca bahasa Inggris.

Abstract: This research was aimed at finding out the effect of teaching morphological analysis on the students' reading comprehension achievement and investigating the problems faced by them in morphological analysis. There were 26 students in XI Lintas Minat 5 who were taught morphological analysis. To collect the data, the researcher administered morphological analysis test and reading comprehension test; observation; and interview. The results indicated there was a positive effect of teaching morphological analysis on the students' reading comprehension achievement. That could be seen from the significant increase of the mean score of morphological analysis test and reading comprehension test, 62.50 to 77.12 and 66.85 to 78.35. Furthermore, the observation and interview results indicated the students faced difficulties in determining the roots and their meanings and classifying words into part of speech. Thus, teaching morphological analysis could be recommended as an element to teach in English reading comprehension class.

Keywords: morphological analysis, morphology teaching, reading comprehension

INTRODUCTION

Reading is one of essential language skills that must be learnt and developed by all language learners. This is because most of beneficial information and many education sources are come up in a piece of writing that requires every person who wants to get something from it reads it first. This skill is not a matter of reading only, but more crucial than that is comprehending what people read. This term is known as reading comprehension. According to U.S. National Reading Panel (Armbruster, 2001), reading comprehension is a set of skills that allow readers to rapidly decode a text while maintaining high comprehension. Without comprehension, reading is just an activity to decode printed materials with no understanding.

The way how people can comprehend such a reading text is firstly comprehending what the words mean on that text. Since there are abundant number of vocabularies in a written text, whose meaning are partly unknown, the problem of comprehending a text may appear. That is in line with what the observer found in the pre-obervation done at SMAN 9 Bandar Lampung. Based on the interview with the English teacher there, it was found most of the students had the same obstacle in reading comprehension, that is, they could understand only little part of the reading text or sentence due to the fact that they did not know the meanings of almost all the words. Actually encountering some unfamiliar words might not distract the overall understanding of the text, but if there are too many words which are unknown, the comprehension will lose.

One way in which vocabulary knowledge can be enhanced so that they are able to comprehend a reading text is through the use of morphological analysis to predict the meaning of novel vocabularies. According to Farsi (2008), morphological analysis is the process of disassembling complex words into meaningful parts (prefix, suffix, and root), such as *childhoods = child + -hood + -s* and reassembling the meaningful parts into new meanings (*motherhood*, *fatherhood*, *brotherhood*). It is also supported by Arnoff and Fudeman (2005) who state there are two approaches of morphological analysis. The analytic approach is concerned with morpheme identification or breaking words down into its meaningful components and the synthetic approach, on the other hand, is concerned with productivity of morphological structure or bringing the smallest pieces (morphemes) together to form words.

According to Nation (1990), morphological analysis involves three skills: (a) breaking a new word into its morphological parts, (b) connecting a meaning to each of those parts, and (c) combining the meaning of the parts to determine the word's definition. When the readers have those skills, they may be able to predict the meaning of morphologically complex difficult word. This is because having an awareness of morphological structure and the ability to break down morphologically complex words into their constituent parts may help readers assign meaning to new words they encounter in text (Anglin, Miller and Wakefield, 1993)**.** Kuo and Anderson (2006) also state that learners who are provided with morphological knowledge including the knowledge of how words are formed, by combining prefixes, suffixes, and roots have larger vocabulary repertoire and better reading comprehension. As a result, a reader with a better

grasp of word formation processes may be better to infer the meanings of these words and will therefore be able to comprehend the text better (Nagy, Berninger, Abbott, and Vaughan, 2003).

Therefore, morphological analysis may turn to be one of fruitful strategies to uncover the meaning of new words for promoting learners' vocabulary knowledge and reading abilities. For that reason, the researcher proposed to conduct a study concerning with teaching morphological analysis to one class of the second grade students at SMAN 9 Bandar Lampung to help them be able to predict the meaning of difficult words encounterd in a reading text with the following proposed research questions:

1. Is there any effect of teaching morphological analysis on the students' reading comprehension achievement?
2. What are the problems faced by the students in analyzing words through morphological analysis?

RESEARCH METHODS

The population of this research was the second grade students at SMAN 9 Bandar Lampung in 2014/2015 academic year consisting of 11 classes with 26 to 31 students in each class. The sample of this research was XI Lintas Minat 5 as the experimental class. In addition, the researcher took XI Lintas Minat 3 as the try-out class. Both of the classes consisted of 26 students and were chosen by using random sampling.

In attempt to answer whether there was an effect of teaching morphological analysis on the their reading comprehension achievement, the researcher applied *One Group Pretest-Posttest Design*. The pretest was administered in order to measure the students' entry point before they were given the treatments and the posttest was conducted to measure how far the students' achievement was after they got the treatments. Between the pretest and the posttest, there were three treatments of teaching morphological analysis to comprehend hortatory exposition reading texts.

To collect the data, the researcher administered the pretests and the posttests consisting 20 essay items of morphological analysis test and 35 items of multiple choice reading comprehension test to the students in the experimental class. The researcher used *Repeated Measures T-Test* computed through SPSS version 16.0 to analyze the data. Those test items in the pretests and the posttests were the results of the try-out tests that had been conducted firstly to the students in the try-out class to determine the quality of those instruments.

In addition, in attempt to answer what the problems faced by the students are in analyzing words through morphological analysis, the observation was conducted by the researcher herself and the other English teacher in that school concerning with the students' interest, participation, and obstacle during the three meetings of the treatments. The researcher also conducted the interview to ten representative students in the experimental class consisting of five lower group students and five upper group students concerning with their opinion about morphological analysis and the problems they faced in it.

RESULTS AND DISCUSSIONS

As it had been mentioned previously that there were four instruments used in this study, the researcher firstly analyzed the results of the morphological analysis test and reading comprehension test to answer the first research question. From the results of the data analysis, it was found that there was a positive effect of teaching morphological analysis on the students' reading comprehension achievement. That positive effect could be seen from the increase of the students' morphological analysis achievement from the pretest to the posttest. Having analyzed the result, the researcher found out that there had been an increase of the students' mean score from the pretest to the posttest, that is, 62.50 to 77.12 with its gain score, 14.62. It could be seen on the following table.

Table 1. The Statistics Table of Morphological Analysis Pretest and Posttest Score

No.	Statistics	Pretest Point	Posttest Point	Gain
1.	Mean	62.50	77.12	14.62
2.	Median	65.00	75.00	10.00
3.	Mode	65	70	5
4.	Minimum	45	65	20
5.	Maximum	90	95	5
6.	Sum	1625	2005	380

Moreover, the researcher also analyzed the students' achievement of morphological analysis aspect and the result showed morphological analysis teaching had increased all the aspects of morphological analysis as on the following table.

Table 2. The Students' Achievement of Morphological Analysis Aspects

No.	Aspect of Morphological Analysis	Pretest (%)	Posttest (%)	The Increase (%)
1.	Inflectional	41 (39.42%)	58 (55.77%)	17 (16.35%)
2.	Prefix Derivational	54 (69.23%)	69 (88.46%)	15 (19.23%)
3.	Circumfix Derivational	43 (55.13%)	59 (75.64%)	16 (20.51%)
4.	Suffix Derivational	118 (64.83%)	140 (76.92%)	22 (12.09%)
5.	Compound Words	69 (88.46%)	74 (94.87%)	5 (6.41%)

The t-test revealed those results were significant because p < 0.05, p= .000. Besides, the t-value was 10.350, in which the significant data based on t-table was at least 2.060. Thus, t-value was higher than t-table (10.350 > 2.060) and the two tail significance showed that p < 0.05 (p= .000). Therefore, it could be stated that there was a significant increase between the pretest and the posttest score of the students' morphological analysis. Its significant increase indicated there had been morphological analysis teaching to the students and that kind of teaching had affected the students' morphological analysis achievement.

The researcher then analyzed the increase of the students' reading comprehension achievement from the pretest to the posttest to know whether the proposed hypothesis, there was a positive effect of teaching morphological analysis on the students' reading comprehension achievement, was accepted or not. The result showed that the students' mean score had increased significantly after being taught through morphological analysis teaching from 66.85 to 78.35 with its gain score, 11.50. It could be seen on the following table.

Table 3. The Statistics Table of Reading Comprehension Pretest and Posttest Score

No.	Statistics	Pretest Point	Posttest Point	Gain
1.	Mean	66.85	78.35	11.50
2.	Median	66.00	77.00	11
3.	Mode	63	77	14
4.	Minimum	46	60	14
5.	Maximum	83	91	8
6.	Sum	1738	2037	299

Furthermore, the researcher also analyzed the students' achievement of reading comprehension aspect and the result showed morphological analysis teaching had increased all the aspects of reading comprehension as on the following table.

Table 4. The Students' Achievement of Reading Comprehension Aspects

No.	Aspect of Reading Comprehension	Pretest (%)	Posttest (%)	The Increase (%)
1.	Determining Main Idea	110 (70.51%)	129 (82.69%)	19 (12.18%)
2.	Making Prediction	153 (73.55%)	166 (79.8%)	13 (6.25%)
3.	Interpreting Problem/Solution	87 (66.92%)	97 (74.62%)	10 (7.7%)
4.	Understanding Vocabulary	149 (57.31%)	200 (76.9%)	51 (19.59%)
5.	Making a Generalization	110 (70.51%)	125 (80.13%)	15 (9.62%)

The t-test revealed those results were significant because $p < 0.05$, p= .000. Moreover, the t-value was 10.415 and the two tail significance showed that $p < 0.05$, (p= .000). Referring to the criteria, that is, H_1 was accepted if $t_0 > t_{tab}$ and $p < 0.05$, H_1 was accepted and H_0 was rejected because $10.415 > 2.060$ and $.000 < 0.05$. That meant, there was a positive effect of teaching morphological analysis on the students' reading comprehension achievement.

To achieve that significant increase, there had been three meetings conducted by the researcher concerning with introducing morphological analysis, that is, the process of breaking down morphologically complex words into their word parts (prefix, suffix, and root) and reassembling the meaningful parts into new meanings to help the students find the meaning of unknown words encountered in hortatory exposition text. That text was chosen because there are varieties of members of morphological families on it. It could be predicted that many possible difficult words would appear from morphological word families. Thus, morphological analysis could be used effectively to analyze and find the meaning of those words

To be able to analyze words through morphological analysis, the students needed to know about prefixes, suffixes, roots, and transformation of words. Therefore, starting from the first meeting until the last one, the researcher had introduced

about affixes to the students. Take an example, in the beginning of the first meeting, the researcher came up with the word *Whaling*. All the students got confused. Soon after, the researcher led the students to break down that morphological word into its root and suffix, *Whale + -ing,* indicating that word related to the word *whale* just like the root *fish* for *fishing*. After knowing the root, the discussion of the topic could be initiated. This showed that having an awareness of morphological structure and the ability to break down morphologically complexed words into their constituent parts may help readers assign meaning to new words they encounter in text (Anglin, Miller and Wakefield, 1993).

Furthermore, in the third meeting, they were directed to focus more on how words get transformed and how they were classified into their part of speech (Noun, Verb, Adjective, and Adverb). That kind of activity contributed to improve the students' vocabulary knowledge. Stahl (1999) states that knowing a word means not only knowing its literal definition but also knowing its relationship to other words, its connotations in different contexts, and its power of transformation into various other forms.

After conducting the treatments, morphological analysis and reading comprehension posttest were administered. The results showed there was a significant increase from both morphological analysis test and reading comprehension test from the pretest to the posttest. Overall, teaching morphological analysis had affected the students' reading comprehension positively. That finding could be used to support the previous research conducted by Asgharzade (2012) which found that the students in the experimental group

showed a progress in their reading comprehension ability from the pretest to the posttest.

Then, in attempt to answer the second research question, the researcher analyzed the results of the observation and interview. From the observation during the three treatments, the researcher noted when they had not known the root form and its meaning, it was pretty hard to analyze words through morphological analysis. That was in line with what the other observer, Dra. Bekti Suprantini, had observed. In addition, the result of the observation indicated it was quite difficult to classify morphologically complex word into its exact part of speech without looking at the guidance because there were many forms of prefix and suffix that determined particular morphologically complex words into their part of speech.

In accordance with the result of the observation, the researcher found out that the students who had difficulty in deciding the roots and their meanings belonged to lower group students. That finding was in line with what Sritulanon (2011) had found, that is, lack of vocabulary knowledge became the problem faced by low proficiency adult EFL learners at a university in Thailand in using their morphological knowledge to help them comprehend better in reading passages. As a result, they could not comprehend the reading text well. That also occured to the researcher's lower group students. They simultaneously got difficulty in comprehending the reading text because as what Kuo and Anderson (2006) had stated that that learners who are provided with morphological knowledge including the knowledge of how words are formed, by combining prefixes, suffixes, and roots have larger vocabulary repertoire and better reading comprehension.

On the other hand, those who belonged to upper group students tended to have larger vocabulary knowledge and definitely better reading comprehension. Take an example, the researcher observed one student, Nabila, who got the highest score in morphological analysis pretest and posttest. Simultaneously she got the highest score as well in reading comprehension pretest and posttest. That was in line with what Nagy, Berninger, Abbott, and Vaughan (2003) had stated that a reader with a better grasp of word formation processes may be better to infer the meanings of these words and will therefore be able to comprehend the text better. She also participated in every meeting actively and responded to every researcher's question enthusiastically. The researcher observed that she got difficulty in the last meeting of the treatment, that is, in classifying words into part of speech. She seemed dependent on the notes of how words get transformed. Besides, the researcher observed the other upper group students. They faced the other complicated problem as Nabila experienced, that is, classifying words into their part of speech rather than considering lack of vocabulary knowledge as the main problem.

Then, based on the results of the interview to five lower group students and five upper group students, the problems could be divided as follows.

1. The lower group students admitted that they were lack of vocabulary knowledge. It involved the form of the roots and their meanings.
2. The upper group students admitted that it was difficult for them to classify morphologically complex words into their exact part of speech because there were many prefix and suffix forms as the characteristics in every part of

speech, which was hard to remember and could give a brighter clue to predict the meaning of difficult morphologically complex words.

In accordance with the result of the observation and the interview, the researcher assumed that lack of vocabulary knowledge comprised of determining the roots and their meanings turned to be the basic problem because lower group students experienced it. To make a rough guessing of morphological complex word from breaking word parts into prefix, suffix, and root was still quite difficult because they did not have sufficient vocabulary knowledge. On the other hand, it was not so crucial for the upper group students who had adequate vocabulary knowledge to break down word parts and made prediction of meaning from the combination of those parts. Moreover, they faced the further problem, that is, classifying morphological complex words into their part of speech.

CONCLUSIONS AND SUGGESTIONS

In line with the results of the data analysis and discussions above, the researcher draws the conclusions in two major parts as follows.

Firstly, based on the results and discussions of morphological analysis test and reading comprehension test, the researcher draws the following conclusions:

1. There was an increase of the students' morphological analysis achievement after being taught through morphological analysis teaching.

2. There was a positive effect of teaching morphological analysis on the students' reading comprehension achievement.

Secondly, in accordance with the results and discussions of the observation and interview, the researcher draws the conclusions of the problems faced by the students in analysing words through morphological analysis into the following things.

1. The students were lack of vocabulary knowledge in terms of determining the roots and their meanings.

2. The students got difficulty in classifying words into their part of speech because there were many prefix and suffix forms as the characteristics in every part of speech which could give a brighter clue to predict the meaning of difficult morphologically complex words.

By considering the conclusions above, the researcher proposes some suggestions as follows:

1. Morphological analysis should be taught to the students. This is because it might help them to predict the meaning of morphologically complex words usually encountered in a reading text

2. The English teacher should integrate morphological analysis teaching while teaching especially in reading comprehension because its role is so essential to build and enrich the students' vocabulary knowledge especially root forms. When their vocabulary knowledge develop, their comprehension of a reading text may turn better.

3. The English teacher should introduce and check the students' understanding of many word roots in teaching-learning process so that their vocabulary

knowledge of determining roots and their meanings can be maintained and developed.

4. The English teacher should provide an interesting way of introducing the number of prefixes and suffixes. By providing a different fun way of learning, such as games, the students may be able to understand them easily and they can fully pay attention to every affix characteristic in every part of speech. When they can comprehend it, they may be able to predict the meaning of difficult morphologically complex word through morphological analysis with an educated guessing of the appropriate meaning based on the part of speech.

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