

LEXICAL DEVELOPMENT OF ESL LEARNERS THROUGH DERIVATIONAL AFFIXES AT SECONDARY LEVEL: AN EXPERIMENTAL STUDY

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Abstract

Vocabulary learning is crucial for second language acquisition, particularly for ESL learners in secondary public schools in Pakistan. Owing to this need present quantitative study was conducted in the district of Rahim Yar Khan. Quasi-experimental design following pre-post independent and paired sample t-test, was used. Sample of 80 female ESL learners of secondary school was divided into experimental and control group having 40 ESL learners in each. The experimental group was taught through the use of derivational affixes focusing on root words also whereas the control group was taught through the traditional method. After the intervention, the experimental group as compared to the control group, showed statistically significant growth in lexical development. The results and findings show that use of affixation is a helpful strategy for vocabulary learning and recommend that it should be included in the curriculum as a teaching strategy for vocabulary learning.

Key words: lexical development, ESL learner, derivational affixes, Root words.

Introduction

Vocabulary is crucial for second language learning. Having a large number of words in your vocabulary is a significant aspect of mastering a language particularly those who are English as a second language (ESL). A huge issue in Pakistani government secondary school is that students study English at school and do not use it frequently in their real lives. This does not allow them to develop a big and productive vocabulary. The expansion on vocabulary is the most important thing in acquiring a second language in order to enhance the language development of the second language learners (Schmitt 2008). The development of lexical or learning new words by students and enriching the vocabulary has a significant meaning in reading comprehension, effective academic performance and ability to effectively communicate both in the oral and written form. English is spoken as a second language in Pakistan, and it is vital to develop academic and professional skills, it is important to possess high-quality vocabulary (Dad, Qadir et al. 2024). Derivational affixes can be instrumental in morphological teaching since they enable learners to form several words using a single root. A single word like act can be modified in affix to form a number of lexical elements through such forms as: action, active, react and inactive. This assists

students in learning grammatical classes and a formulation process of words as well as expands their vocabulary.

Morphological tuition cannot be without derivative affixes as through these affixes, the students can create a variety of word forms based on one. One way through which a word can be derived to give rise to a number of lexical elements is the affix modification like example here, the word act will become several, including: action, active, react and inactive. This assists students to be knowledgeable of the grammatical types and word building procedures besides enhancing their vocabulary. Morphological instruction helps students to be more successful in breaking down difficult phrases and learning new ones, which is a form of enhancement to text understanding, and retention of words (Dad, Qadir et al. 2024). To learn morphology is to be better prepared to make sense of new words in novel texts and eventually improve their communication and fluent reading.

Morphological instruction is also encouraging self-sufficient language acquisition as the student may judge words on their own. This is a relevant skill as rote learning is expected to be present most of the time in the Pakistani classrooms. Moreover, Empirical research conducted in Pakistan has shown that teaching derivational affixes has a positive impact on vocabulary development, as evidenced by improvements in word recognition, comprehension, and usage. One more advantage of morphological awareness in vocabulary acquisition indicated during affix analysis training is that the long-term results allow learning new words more effectively and remembering them with time.

The review of the linguistic theory argues that there are no random words; instead, a word consists of more manageable and meaningful units that could be gradually taught to facilitate language acquisition equally, with purposeful and frequent exposure and repetition, such frequent morphemes as un-, re-, and -ness, -ion, and -able morphemes can be identified by the learners which make up a significant portion of the English vocabulary (Fromkin, Rodman et al. 2017). This morphological vocabulary learning technique increases grammatical and semantic accuracy of students besides enhancing their decoding abilities. Morphological study enhances the understanding of the new words and builds inter-linguistic awareness of students predominantly in a multilingual environment such as Pakistan where the learners are often required to work with more than one language at the same time. Since instruction of root-affixes is indeed highly significant as it addresses the mechanics of how words are constructed, which can be used to educate language learners to enlarge their languages as rapidly as possible (Anglin, Miller et al. 1993). So too do the skills needed to enable pupils to modify the constituents of words; education in affixation equips students to achieve the broader goal of linguistic adequacy and prepares them for success in school and, later on, in the workplace.

Literature review

Theoretical framework:

This study's theoretical approach focuses on the connection between improved vocabulary acquisition and morphological instruction, specifically for ESL learners at the secondary level. Such consideration of the apprehension of literature in this analysis, coupled with tests of mastering vocabulary, highlights the importance of making use of pedagogical interventions to fulfill the demands of complex testing. The concept behind morphological learning is that as learners, we can easily deduce new words when we are conscious of the internal structure of the word, i.e., roots, prefixes and suffixes (Yin 2025). Word is a structure and semantics element of the language system. It is the most significant unit of a language, but it is extremely hard to define it, as it appears as the result of a combination of particular meaning on the one hand and the

particular set of sounds on the other hand. Any word has a simple structure and it can also contain both tight and ambiguous meanings. The simplified meaning of a word is thus what learner acquires compared to the unclear meaning that has nothing to do with the fixed meaning (Aitchison 2017).

Word lists have always been synonymous with vocabulary and memorization with vocabulary acquisition methods. vocabulary refers to the range of words, which is known and used by a person (Nation and Nation 2001). Vocabulary is defined as knowledge of the words concerning definitions and meanings (Schmitt and Schmitt 2020). It consists of how to know words, how to pronounce them and how to use them. It implies that vocabulary may be perceived as the very what-the real words. The knowledge of the orthographic and phonetic form of a word and its meaning is only a part of the process of learning this word. It is stated that vocabulary plays a significant role not only in acquiring a foreign language but also when one makes use of the language in general (Richards and Renandya 2002). The vocabulary plays an important role in the capability of learners learning the language (Cameron 2001). A study pointed out that all these, speaking, writing, and reading comprehension rely on large vocabulary (Jamil, Majoka et al. 2014). Students without an excellent vocabulary cannot understand reading and speech correctly and do not manage to express their opinions.

But the lexical development is the process of increasing own vocabulary. It has to do with adding more vocabulary, finer meanings of words as well as word combinations, talks about the how the language learning and developing process can take place. It is perceived as the necessary element of language acquisition, as it develops the expressive and communicative skills of the learner (Ahmadjonovna 2024).

The optimal methods of learning the vocabularies are still under discussion, however, it is partly due to the fact that there is such a lot of variables which influence it (De Groot 2006). However some innovative strategies can easily be used for the lexical development of public schools ESL learners at secondary level. The first one is vocabulary learning with affixes as it not only allows the learners to increase the existing knowledge about words but also understand the additional words that they might discover later on (Hasani, Mousavi et al. 2014). It helps evaluate the acquisition of new words by a learner since his/her use of affixes can be employed to a large number of words and systematically alter their literal meaning and the part of speech (Mochizuki, Aizawa (2000). Affixes are divided into prefixes and suffixes. Pre-fixation is mostly common in the modern English when it comes to constructing verbs, but mostly suffixation when it comes to constructing nouns and adjectives. The part of speech may be modified by most derivational suffixes, and by some prefixes. E.g. they are being added (achieved (adjective) / achievement (noun). Accordingly one can say that majority of affixes, more so the prefixes, possess the ability of altering meaning (complete/incomplete).

Many studies show the effectiveness of the use of affixation for lexical development of ESL learners. A study confirmed the fact that the Students in the female group go ahead and practice affixes with the advantage of enlarging their vocabulary (Bhatti, Iqbal et al. 2016). The affixation is quite useful because prior to learning the rules of affixation, it is impossible to build your vocabulary fast, efficiently, and effectively. Moreover, the learners will be expected to learn English words by summarizing part of the learning capabilities instead of learning it through rote (Hasani, Mousavi et al. 2014). English language learners who were taught on affixation in Bahasa Indonesia made significant increment due to their acquisition of different affixes that are used in the process of affixation to coin new words that they required (Sudana, Sukyadi et al.). Similarly, the findings of a research contributed empirically to the fact that the teaching of affixation

enhances ability of L2 learners of English in applying correctly grammatical aspects on the affixed forms (Kim 2013). This means that affixation knowledge plays a necessary role in enabling students to realize the language and their use in respective and constructive grammatical contexts. According to the study's findings, Chinese high school students who get morphological instruction, particularly in the application of root words and affixes, follow a unique language growth track (Tabatabaei and Yakhabi 2011).

Methodology

Quasi-experimental pre-posttest research design with a quantitative approach was chosen to investigate the impact of the use of affixes (suffix, prefix) and root words as a teaching strategy on the lexical development of the ESL learners at the secondary level in the district of Rahim Yar Khan. Among the population of public schools, the sample of 80 female ESL learners was taken and was randomly divided into two groups that is experimental and control groups.

Procedure

The experimental group was taught with the help of focusing on the root words and affixes, on the other hand control group was taught through traditional method.

Pre-test: A pre-test was taken by both the groups before the intervention of the use of the said teaching strategy to explore the mean of the existing level of the lexical development.

Post-test: After the intervention of the 12 week teaching through the use of the Root-Affixes, a post test was taken by the both groups to compare the means of the lexical development of the groups to achieve the answer of the research question that either lexical development of the ESL learners is improved by the use of root-affixes method.

Data collecting instrument and data analysis tool: A self-made vocabulary learning test focusing on the target indicators and taught material was used as a data collecting tool to compare the mean scores of both groups for the lexical development. The test consisted of 20 marks, 01 mark for each question. Independent as well as paired sample t-test was used to analyze the data with the help of SPSS software version 21. Data was analyzed statistically and the results were achieved that are discussed in the data analysis and results section.

Data Analysis and Results

Independent samples T-test

Pre-Test

1. Difference between mean scores of the existing level of vocabulary for the indicator Affixation for the factors “Root-words and “suffix prefix”: Control vs Experimental Group

Group	No	Mean	S D	Df	T	p-value
Experimental	40	6.2500	1.00639	78	7.605	.000
Control	40	4.4500	1.10824			

*p<0.05

Prior to the implementation of any instructional intervention, the control and experimental groups' current levels of vocabulary knowledge regarding affixation—more especially, the components root words and suffix/prefix were compared using the independent samples t-test. The results are statistically different at $p=0.05$ between the two groups as it is displayed in Table 4. 4. 2. The mean of pre-test measure of the affixation-related vocabulary knowledge, which is the dependent variable, in the experimental group ($M = 6.25$, $SD = 1.01$) was higher in comparison with the control group ($M = 4.45$, $SD = 1.11$). The t-value of 7.605 shows a big level of statistical significance with 78 degrees of freedom ($p = .000$ which is much below the $\alpha = 0.05$). This observation is an indication that there was a better rudimentary knowledge concerning how affixation works by the experimental group compared to the control group even before the

treatment was administered (like story-telling-based teaching about vocabulary). The pre-test difference could be due to various pre prior factors such as, a variety in prior exposure to vocabulary teaching, classroom practices, teacher competency or individual motivation and language acquisition ability of the learners. Consequently, there will be a built-in advantage to the experimental group due to this disparity prior to the actual post-test analysis procedure, but there is also inferred that following the post-test analysis procedure, some distinction in measure will have to be made about this initial disparity so as to gauge the effectiveness of the particular intervention. The results emphasize the importance of understanding learning diversity in advance to implement the new tactics in practice.

Post-tests

2. Difference between mean scores of the improved level of vocabulary for the indicator Affixation for the factors “Root-words and “suffix prefix”: (Experimental vs Control)

Group	No	Mean	S D	Df	T	p-value
Experimental	40	7.2000	1.01779	78	12.469	.000
Control	40	4.3500	1.02657			

* $p < 0.05$

The experimental group scored at an average level of 7.20 (SD = 1.02) hence being higher than the control group whose mean score was significantly lower at 4.35 (SD = 1.03). Having a p-value of .000 ($p < 0.05$), a t-value of 12.469 and 78 degrees of freedom indicates that there is a very high significant change of performance across the two groups. It states a high degree of statistical significance that confirms the experiment group explicitly superior performance in the understanding and using affixation-based vocabulary. These outcomes suggest that the instructional method applied to the experimental group greatly contributed to the lexical development of learners and was most probably devoted to the vocabulary training (affixation-based activities or integration of vocabularies through storytelling). On the contrary, the control group that was not exposed to the same intervention had minor improvements. The significant post-test difference highlights how well the experimental teaching strategy works to improve vocabulary acquisition through morphological awareness, especially when employing affixes and root words.

Paired samples T-test

3. Difference between mean scores of the control group for the factor Affixation for the factors “Root-words and “suffix prefix”: pre. Vs post.

Group	No	Mean	S D	Df	T	p-value
Control	40	11.6750	1.42122	39	.827	.413
Control	40	11.5000	1.30089			

* $p < 0.05$

This analysis was aimed at the discovery of whether the vocabulary development of the control group improved significantly across the passage of the time without a single-minded instructional intervention. The mean pre-exam score was 11.68 (SE = 1.42) and mean post-test score was 11.50 (SE = 1.30). It had 39 degrees of freedom where the t-value and p-value were both at 0.827 and 0.413, which are larger than the significant level p-value of 0.05. These results indicate that no statistical significant difference in the pre- and post-scores of the control fellows. In other words, the vocabulary about affixation of the control group did not show any significant progress during the course of the study. It means that without special tricks or educational strategies such as narrative or focused affixation-based training, lexical growth of learners may come to a halt. The

findings also demonstrate the effectiveness and usefulness of deliberate process in teaching vocabulary to achieve meaningful vocabulary growth.

4. Difference between mean scores of the Experimental group for the factor Affixation for the indicators “Root-words and “suffix prefix”: pre. Vs post

Group	No	Mean	S D	Df	T	p-value
Experimental	40	12.3250	1.04728	39	-19.794	.000
Experimental	40	17.2250	1.14326			

* $p < 0.05$

These findings show that there is a strong gain between the initial score (mean = 12.3250, SD = 1.047) and the final score (mean = 17.2250, SD = 1.143). The overall growth is by far positive, which is an evidence of vocabulary proliferation. The value of the t-test is statistically important with the t-value calculated as -19.794 and p-value 0.000 and 39 degrees of freedom. The existence of such a statistically significant difference implies that the affixation strategy contributed immensely to the vocabulary acquisition of the pupils. The overall t statistic indicates a strong effect size, and the negative t-value reveals direction of the progress (increasing from lower-higher scores). These findings demonstrate that systematic and explicit affixation instruction significantly enhanced students' vocabulary application and understanding, demonstrating the effectiveness of the approach in fostering the lexical development of ESL learners.

Discussion

The primary objective of this study was to evaluate the impact of affixation-based instruction on the lexical development of ESL secondary-level learners. Statistical research using both independent and paired samples t-tests provided a strong demonstration of the teaching technique's impact. A statistically significant difference between the experimental and control groups was found using the independent samples t-test on the pre-test scores ($t = 7.605$, $p = .000 < .05$). The experimental group demonstrated a slightly greater fundamental understanding of affixation—that is, root words, prefixes, and suffixes—prior to the intervention, as evidenced by a higher average score ($M = 6.25$, $SD = 1.01$) than the control group ($M = 4.45$, $SD = 1.11$). Such initial difference may be attributed to factors such as previous experience of language instruction, teacher prowess, or learners' motivation. It is essential to recognize such differences when evaluating the outcomes of instructional interventions at an initial phase.

The intervention that our class tried out continues to look solid, and the post-test numbers back that up. According to the post-test t-value ($t = 12.469$, $p = .000 < .05$), students who got direct training in affixation showed a clear jump over the control group, which only received regular classwork. The experimenters' average on the post-test ($M = 7.20$, $SD = 1.02$) was higher than the control group's ($M = 4.35$, $SD = 1.03$), and the t-test verified that the difference was statistically significant. The further exploration of score trend in each group showed even more. For the control group, there was no measurable improvement between pre-test and post-test ($t = 0.827$, $p = .413 > .05$), underlining the idea that traditional lessons without a morphological focus don't push vocabulary growth. In contrast, the experimental group's pre-post change was striking. Their post-test average of 17.23 ($SD = 1.14$) beat their pre-test average of 12.33 ($SD = 1.05$), with a t-value of -19.794 ($p = .000 < .05$). The negative nature of the t-value indicates that the instruction induced the definite reduction of errors. Altogether, these results show that affixation instruction should be considered an effective method of improving the ESL vocabulary. With the focus on the functions of word parts, the tactics allow students not only to address new words, identify word families, and rely on morphological hints in any context. The t-tests' insistence on statistical significance

means the results are reliable and back up the claim that affixation is linked to real lexical development.

Conclusion

The study's conclusions clearly show that giving ESL students explicit teaching in root words and affixes greatly improves their lexical development. As opposed to the control one, which presented a minimal improvement, the experimental group, who received targeted training dealing with affixation showed a considerable boost in vocabulary knowledge. These findings demonstrate how well morphological teaching techniques, in particular the application of root words, prefixes, and suffixes, promote more in-depth vocabulary learning and usage. Therefore, the inclusion of affixation training to ESL may prove highly helpful in promoting the lexical development and overall language proficiency of the students.

Limitations and Recommendations

This study was limited to the public schools of the district of Rahim Yar Khan, with a small sample size focusing on specific indicators, and for the specific period of 12 weeks only. The results of the present study cannot be generalized to other districts. Further research could be conducted for other districts, with a large sample size including both male and female, focusing on other indicators, and for a long period. The results of the study indicate that the use of the indicators of this study is beneficial for the teachers, curriculum developers, and stakeholders for the growth of vocabulary at the secondary level and should be used in the curriculum. Other innovative teaching strategies for lexical development other than present strategy can be explored in future research.

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