REPUBLIC OF TURKEY
ÇUKUROVA UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
ENGLISH LANGUAGE TEACHING DEPARTMENT

THE EFFECTS OF TEACHING VOCABULARY RELATED TO ARCHITECTURE THROUGH WORD ROOTS STRATEGY AT HIGHER EDUCATION LEVEL

Şeyhmusa YILDIZ

MASTER OF ARTS

ADANA, 2020

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Supervisor: Prof. Dr. Yasemin KIRKGÖZ
Member of Examining Committee: Assoc. Prof. Dr. Abdurrahman KILIMCI
Member of Examining Committee: Assist. Prof. Dr. Elif KEMALOĞLU ER

MASTER OF ARTS

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To Çukurova University Institute of Social Sciences,

We certify that this thesis is satisfactory for the award of the degree of Master of Arts in the Department of English Language Teaching.

Supervisor: Prof. Dr. Yasemin KIRKGÖZ

Member of Examining Committee: Assoc. Prof. Dr. Abdurrahman KİLİMCİ

Member of Examining Committee: Assist. Prof. Dr. Elif KEMALOĞLU ER

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- Bu tezde sunduğum çalışmanın özgün olduğunu,

bildirir, aksi bir durumda aleyhime doğabilecek tüm hak kayıplarını kabullendiğimi beyan ederim. …./…./2020

Şeyhmusa YILDIZ

ÖZET

MİMARLIK ALANINA ÖZGÜ KELİMELERİN KELİME KÖKÜ YÖNTEMİ İLE YÜKSEK ÖĞRETİM DÜZEYİNDE ÖĞRETİMİNİN ETKİLERİ

Şeyhmusa YILDIZ

Yüksek Lisans Tezi, İngiliz Dili Eğitimi Ana Bilim Dalı
Danışman: Prof. Dr. Yasemin KIRKGÖZ
Haziran 2020, 80 sayfa

Kelime öğrenme süreci, dil öğrenmenin en zor ve zaman alıcı tarafı olarak görülmektedir. Öğrenciler için Özel Amaçlı İngilizce (ÖAİ) kelimelerinin öğrenimini zorlaştıran faktörlerden biri de ÖAİ'de kullanılan kelimelerin sadece belli bir disiplin alana özgü olması ve genel İngilizcede nadiren kullanılmasıdır. Özel amaçlı İngilizce öğrenenlerin kelime ezberleme ve akılda tutma amacıyla kullandıkları farklı öğrenme stratejileri mevcuttur. Kelimeleri kök ve eklerine ayırmak bu stratejiler arasında olsa da, bu yöntem ÖAİ'de yeterli ilgiyi görmemiştir. Ayırca, kelime köklerinin öğretiminin faydaları üzerinde duran az sayıda çalışma vardır.Az sayıdaki bu çalışmalar, köklerle kelime öğrenmenin/öğretmenin verimliliğinin vurgulamaktadır. Ancak, bu stratejinin, ÖAİ kelimelerinin öğretimi ve bilinmeyen kelimelerin anlamına dair tahmin yürütme yeteneğine etkisi üzerinde durulmamıştır.

Bu çalışmanın amacı, kelime kökleri eğitiminin bilinmeyen Özel Amaçlı İngilizce (ÖAİ) kelimelerinin anlamını doğru tahmin etmedeki ve öğrenilen kelimelerin kalıcılığındaki etkisini göstermektir. Bu çalışmadac deneysel yaklaşım benimsenmiştir. Aynı bölümde okuyan devlet üniversitesi öğrencilerinden her grupta otuz öğrenci olmak üzere iki farklı grup seçilmiştir. Çalışmanın başında, kontrol ve deney grubana kelime bilgilerini ölçmek ve grupların homojenliğini görmek için bir ön test uygulanmıştır. Hangi kelimelerin ÖAİ'ye ait olduğuna karar vermenin zor olması yüzünden, bu çalışmada kullanılan bütün testlerdeki kelimeler, 505.649 kelimelik mimarlık alanına özgü bir korpustan seçilmiştir. Ön testten sonra, hedef kelimeler deneysel gruba kelime kökleri yoluyla öğretilirken, kontrol gruba sadece sözlük kullanımı yoluyla öğretilmiş ve on hafta sonra bu yöntemin akılda kalıcılığa etkisini görmek için başka bir test uygulanmıştır. Bir hafta sonrasında ise öğrencilerin bilmedikleri ÖAİ kelimelerinin

anlamını doğru tahmin etmedeki etkisini ölçmek için bir test daha uygulanmıştır. Üçgenleme amacıyla, uygulanan testlerin yanı sıra öğrencilerden günlük tutmaları da istenmiş ve ayrıca öğrencilerle görüşme de yapılmıştır. Yapılan testlerin sonuçları SPSS 23 ile analiz edilmiş ve nitel verilerin değerlendirilmesi için ise tematik analiz yöntemi kullanılmıştır. Yapılan testlerin sonuçları ve katılımcıların görüşmelerde sorulan sorulara verdikleri cevaplar ve günlüklerinde bu metot hakkında yazdıkları görüşleri, kelime kökü metodunun İngilizce kelimelerini öğrenmede etkili bir yöntem olduğunu göstermektedir.

Anahtar Kelimeler: Kelime kökleri ile öğretim, özel amaçlı İngilizce kelimeleri, kelime öğrenme stratejileri

ABSTRACT

THE EFFECTS OF TEACHING VOCABULARY RELATED TO ARCHITECTURE THROUGH WORD ROOTS STRATEGY AT HIGHER EDUCATION LEVEL

Şeyhmusa YILDIZ

Master of Arts, English Language Teaching
Supervisor: Prof. Dr. Yasemin KIRKGÖZ
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The vocabulary learning process is seen as difficult and time consuming part of language learning. One of the factors that makes it difficult for students to learn English for specific purpose (ESP) words is that the words used in ESP are specific to a particular discipline and rarely used in general English. There are different learning strategies used by ESP learners for memorizing and retention of words. Although dissecting words into their roots and suffixes is among these strategies, it has not received enough attention in ESP vocabulary teaching. There are also few studies focusing on the benefits of teaching vocabulary roots. These few studies underline the efficiency of vocabulary learning/teaching with roots. However, the impact of the word root strategy on the teaching of ESP words and its ability to predict the meaning of unknown words has not been emphasized. The aim of this study is to show the effect of the word roots training on predicting the meaning of unknown ESP words correctly and the retention of these words. The experimental approach was adopted throughout the study. Two groups of students studying in the same department of a state university participated in the present study. Each group was composed of 30 students. A pre-test was applied to both control and experimental groups at the beginning of the study to see the word knowledge the homogeneity of the groups. As it is hard to decide which words are ESP words, the words in all tests applied in this study were selected from a corpus of 505,649 words related to Architecture.

After the pre-test, the words were taught to the treatment group through word root training while the control group learnt these words through dictionary usage. Ten weeks later, a post-test was performed to observe the effect of this method on vocabulary

retention. A week later, a delayed post-test was also conducted to measure the students' competence of predicting the meaning of the ESP words they had never seen before. For triangulation, in addition to pre-test, post-test and delayed post-test, students were asked to keep a diary and they were also interviewed. The tests' scores were analyzed via SPSS 23 and thematic analysis was used for the analysis of the qualitative data. The results of the tests applied, the answers of the participants given in the interviews and the extracts from the diaries the participants kept all showed that word root strategy is an effective and welcomed tool for learning new English words.

Key Words: Teaching with word roots, discipline-specific English words, vocabulary learning strategies

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Şeyhmusa YILDIZ

Adana / 2020

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LIST OF ABBREVIATIONS

ALM: Audio-Lingual Method

CLT: Communicative Language Teaching

CLL: Community Language Learning

EAP: English for Academic Purpose

EFL: English as a Foreign Language

ESL: English as a Second Language

ESP: English for Specific Purpose

GTM: Grammar Translation Method

ILH: Involvement Load Hypothesis

L1: Mother tongue or First Language

L2: Target Language or Second Language

LLS: Language Learning Strategies

MTELP: Michigan Test of English Language Proficiency

SPSS:Statistical Package for Social Sciences

TPR: Total Physical Response

VLS: Vocabulary Learning Strategies

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CHAPTER I

INTRODUCTION

1.0. Introduction

This part of the study presents information related to background, problem statement, purpose, significance and research questions. Additionally, assumptions and limitations of the study are presented.

1.1. Background to the Study

English has become a popular universal language and the most widely used communication means in science, literature, trade, and media, as well as in cultural interaction in an ever-growing scope of opportunities for international travel and for contact through technologically advanced means. It is estimated that "one out of four people worldwide speak English with some degree of competence" (AskOxford, 2009 p.1).

Learning vocabulary is widely accepted as the basic section of excelling a language, and text awareness which depends on the number of known lexical items (Teng, 2015). It can be deduced that students deal with big challenges while trying to learn new English vocabulary. It is especially a great challenge to learn English for Specific Purpose (ESP) words as they have low frequency level and do not appear very often in every context (Xhaferi, 2009).

Hutchinson and Waters (1987) stated that ESP is teaching a language on the basis of the needs of the learners, whatever method or the activity is used, it is used to meet the needs of students. There are different types of strategies applied by ESP learners and teachers while learning new ESP words. Those strategies are: Contextual guessing; memorizing; repetition and recycling a word; relating a word in reality, and brainstorming activities (Jiangwen, 2003).

Folse (2004) cites Wilkins' (1972, p.111) statement on the significance of word knowledge: "While without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 23). Lewis (1993) who emphasizes the lexical nature of language asserts that "grammar as structure is subordinate to lexis" and quotes a statement

made by Krashen at a conference in Milan in 1987: “When students travel, they don’t carry grammar books, they carry dictionaries” (p.iii).

In English Language Teaching (ELT) history, teaching vocabulary has always been an issue which has been influenced by a variety of approaches at different periods of time. For example, in the era of Grammar Translation Method, repetition was utilized mainly in vocabulary teaching and the purpose was translating literary texts. Being familiar with the meaning of lexical items was the fundamental part of translation. But, knowing a lexical item does not mean just knowing the translation of them. Nation (2001) indicates that vocabulary knowledge owns two aspects which are breadth and depth. The quantity of vocabulary that a student is familiar with is about the breadth on the other hand, Quian (2002) stated that the depth of vocabulary knowledge is being able to pronounce, know the meaning and be familiar with morphology, syntax and have collocation knowledge. One of the latest naturalistic approach applied implicit instructing of lexical items indirectly. This method appears to be reasonable at first look; however, it is found time consuming and inefficient in vocabulary learning. All in all, the experience of vocabulary learning appears to be a big challenge in learning new language. Bellomo (2005) indicates that language students spend significant energy on lexical items while struggling to learn separate words and units of lexical items that are usually hard to keep in memory. Oxford and Scarcella (1994) maintain that mastering ‘de-contextualized’ lexical items might be beneficial for students’ test scores but students will fail to remember them later. For that reason, students’ learning new vocabulary for academic purposes is significant. People may have different motivations for learning words but one thing is common that they try to find ways for effective vocabulary learning.

In the following chapters almost all of the approaches or methods which involved the teaching of words were examined briefly in a chronological order. This study aims to find out whether the ESP learners can guess the unknown ESP words through word roots technique and what the ESP learners’ perceptions on word root technique are. The reason for using the word root technique, as the main aspect of this study is because of its role in learning English especially for ESP learners. McCarthy (1990) states that it does not matter how good the language learners are in grammar, and how well they improve their pronunciation, it is not possible for them to communicate without words (McCarthy, 1990).

1.2. Significance of the Study

The main purpose of this research was to observe the effectiveness of teaching word roots in English classes for the students studying architecture at a state university in Turkey. Nation (2001) states that there are two steps involved in word root strategy: "breaking the unknown lexical items into sections," and "relating the meaning of the parts to the meaning of the word" (p. 278), the former of which entails word-part awareness, and the latter, knowledge of common word parts. When the learners become aware of these morphological constituents and recognize their meanings, they can predict the meaning of a word they have not encountered before by putting these pieces together to arrive at the dictionary definition of the unknown word. As Bellomo (2005, 2009) indicates, even in the case of native speakers, explicit teaching is crucial to make the English language students and users become more knowledgeable about these morphological elements which help them attain the skills in employing these invaluable vocabulary acquisition tools.

There is no any method that can meet all the needs of ESP learners by itself (Kaur, 2007) but it will put another brick on the wall of language learning. There are many studies about ESP vocabulary teaching (Williams, 1985; Moss, 1992; Sutarsyah, Nation, & Kennedy, 1994; Charteris-Black, 2000; Edwards, 2000; Kavaliauskienë & Janulevièienë, 2001; Jigang, 2004; Atay & Ozbulgan, 2007; Akbarian, 2010), but there are not enough studies about the effectiveness of teaching word roots in ESP classrooms (Bellomo, 2009; Karlıova, 2009). Nor do these studies show sufficiently the perception of ESP learners on word roots. The results in this study are expected to enhance the dissemination of the word root teaching or learning strategy which has been disregarded so far. Thanks to this word root teaching the ESP students may gain an awareness of lexical items which will help them learn new ESP vocabulary and even help them to guess the unknown ESP words‘ meanings correctly. It may offer students a practical tool to utilize for lifetime learning of ESP vocabulary.

1.3. Statement of the Problem

ESP vocabulary learning has become very significant in most of the different fields of study for learners (Brahja, 2013). It is especially a great challenge to learn ESP words as they have low frequency level and do not appear very often in every context (Xhaferi, 2009). Different kinds of learning strategies are available for ESP learners to

learn new lexical items. ‘’Breaking the unknown word into parts‘’ is one of the learning strategies that could be applied but still it is not presented with the value it deserves. A couple of studies based on the efficiency of teaching word roots are available (Bellomo, 2009; Karlıova, 2009; Akarslan 2018). Nevertheless, they do not have answers to what the effect of this strategy is in guessing the meaning of unknown ESP words and what the perception of learners are about this strategy. This study will be designed to provide information about whether the use of word roots improves the students’ acquisition of vocabulary or not and whether it helps the ESP learners to guess the meanings of the lexical items related to the field of architecture accurately. Accordingly, the main purpose is to examine the effectiveness of using word roots in vocabulary teaching in ESP classrooms.

1.4. Aim of the Study

Learning and teaching vocabulary is very crucial in EFL settings; nonetheless, vocabulary learning through dissecting words into parts has been disregarded in foreign language education. To foster communicative competence, EFL teachers should encourage their students to acquire as many words as possible. (Xhaferi, 2009).

There is not any work dealing specifically with architecture language from the point of view of the lexis and word-formation. Thus, the purpose of this experimental study was to observe the effectiveness of word roots method in guessing the unknown English words related to the field of Architecture. The instruction program carried out and the tests administered during this study were specifically designed for the group of students studying at a state university in Adana to serve the purpose of the research.

1.5. Research Questions of the Study

The main aim of this study was to see the effect of word root training. This study was conducted to find answers to the following research questions:

1) Is there a significant difference in the retention of vocabulary between the control group students who were exposed to a list of words denotatively (dictionary meaning) and the treatment group students who were exposed to a list of words etymologically (root meaning)?

2) What is the effect of the word root strategy for ESP learners who are exposed to word root instruction, in accurately guessing the unknown English words related to the field of Architecture?
3) What are the perceptions of ESP learners on the strategy of teaching words through word roots?

1.6. Assumptions in the Study

Assumptions of this study are listed as follows:

- There might be positive and promising changes in the perceptions of ESP learners against teaching through word roots, which are most probably neutral or negative before the instruction.
- ESP learners' positive perceptions and their suggestions may encourage syllabus designers, material developers and teachers to adopt the method and strategy for future education.
- The strategy supported by the results of this study might be integrated into ESP course books or vocabulary teaching courses at every level from primary schools to universities. At least five or ten minutes of each lesson might be allotted for roots, prefixes, and suffixes.
- ESP learners may probably gain a deeper understanding of vocabulary.

1.7. Limitations in the Study

There are some limitations of this study. Firstly, the administration of the study is limited to students studying in Adana Alparslan Türkeş Science and Technology University. The conclusions reached are based on the results obtained from the assessments of participants' performance in the tests applied. The word root instruction is limited to the described participants and setting. Therefore, the findings of the study may not be extensive enough to be able to make a generalization.

1.8. Definition of Key Terms

Affix: An inflectional or derivational particle added either in front (Prefix) of or to the end (Suffix) of a root.

Control Group: Architecture students who were not exposed to word root instruction during the study and it was composed of 30 participants.

Latinate: The dictionary definition of this adjective is "*derived from Latin*" (American Heritage, 2000; Random House, 2000)

Treatment Group: Architecture class students, 30 in number, who participated in the experiment and received ten-week long word-root instruction.

Word Frequency: The number of times a word and its inflectional, derivational, and combinatory forms occur in corpora of written or spoken discourse. If the word occurs frequently, then it is considered a high-frequency word; if the occurrence is infrequent, then the word is considered in the low-frequency group.

Word Part (Morpheme / Word Building Block): The smallest meaningful part forming a word, whether it is the root or the affix. (American Heritage, 2000; Random House, 2000)

Word Root Strategy: "Breaking the unknown lexical items into sections," and "relating the meaning of the parts to the meaning of the word" while learning new vocabularies (Nation, 2001)

CHAPTER II

LITERATURE REVIEW

2.0. Introduction

This section of this thesis concentrates on related literary and some notions such as types of vocabulary, word knowledge, and vocabulary learning strategies. Those notions set the basics to figure out the research in a clearer way. This study mainly focuses on architecture related vocabulary in language learning because it is maintained that word knowledge has a significant position in language learning (Nation, 2001; Maximo, 2000; Schmitt, 2000).

2.1. Vocabulary in English Language Teaching (ELT)

Nation (2013) expresses that learning vocabulary is one of the significant goals in the language classroom and emphasizes the significance of all kinds of learning such as learning from input and output within a 'well balanced language course. This means, all kind of lingual abilities must be used within a varied plan.

English has an important position in the modern world. Some people learn English as it is a necessity for people to communicate with foreigners, find jobs or travel on the other hand others' aim is to learn different cultures. As nowadays many people feel the necessity of interacting with other people from different countries, English begins to be an international language for communication. It is seen that people have many different motivations for learning a foreign language besides the ones mentioned before. Getting a promotion in their jobs, earning money, being able to figure out English texts are the motivations that may be included to the list (owlcation.com.).

Jeremy Harmer (1993) mentioned some motivations of learners for learning a language as follows:

- As English Language is on curriculum of the schools it is an obligation for students
- In professional life the opportunity of promotion is enhanced
- Humans move from their homes to other lands in order to make money and are obliged to learn the language used in the new community.

- Furthermore specific purposes for learning a foreign language are available such as the necessity of being able to interact with foreign business partners (EOP), the necessity to write academic essays (EAP) or the necessity to be able to read and understand articles and textbooks about specific subjects in English (ESP)
- People learn a language for tourism or for fun (Harmer, 1993:1-2)

McCarthy (2010) expresses that vocabulary learning is an important part of the learning procedure. It is radically significant to consider about what words are and what they mean, what the relation between them is and how they can be used in different ways in society. McCarthy (2010) also highlights that lexical items are a part of our lives and they are the starting point of teaching even at the very beginning level. At that point English is mainly significant as it has become the language used by people around the all world.

2.2. An Overview of Methods and Approaches in ELT

Some of the methods and approaches were popular in a specific time in history, but none of them were the sole implementation isolated from other methods and approaches once the pendulum began to change. It is hard to provide a definite chronological succession of the methods because of the constant shift from one implementation to another. Some methods and approaches took the popularity from the ones in use before. Celce-Murcia (2001) point out the reason of these swings as ‘’the fact that very few language teachers have a sense of history about their profession and are thus unaware of the historical bases of the many methodological options they have at their disposal ‘’(p.3).

Each approach has concentrated on the vocabulary issue with different aspect. Richards and Rodgers (2014) have presented how various types of methods and approaches are used for vocabulary teaching. To start with, in Grammar Translation Method, the process of teaching and learning lexical items are based on only intellectual purposes. ‘‘memorization and dictionary study’’ are the only way for teaching and learning new words. As the texts which were translated were the portion of classical literature, the words that learners were supposed to learn were mostly obsolete words in archaic structure.

As stated by Richards & Rodgers (2014), F. Gouin is one of the first of the reformers building a methodology based on observation of child language learning after Grammar Translation Method. He noticed that children utilize words to perform basic actions in their nature. The 'situations and themes' were the determiner of their use of language. As a result, this approach necessitated basic and serial expressions that involve gestures and actions during instructing. This approach was the jumping point for other approaches and methods for instance Total Physical Response and Situational Language Teaching. As stated by Richards & Rodgers (2014), speaking skill was overstressed compared to reading skill, dissimilar to GTM. Pronunciation was the main section of instructing vocabulary that was presented in a more significant way. Specific words and their proper pronunciation were thoroughly picked out according to level of the learners and taught through four skills. To illuminate in another way, it can be deduced that new words shall be perceived and then articulated by the auditor. The experts have named the methods based on this approach as 'Natural Methods' that promoted the springing up of the Direct Method.

In Direct Method, students are exposed to the second language with 'actions and demonstrations'. The main purpose in this method is giving learners the opportunity to make 'direct' associations with the words and their meaning. That is the reason for its being named as Direct Method. Students communicate directly in target language, and the communication starts with systematic attention to spelling. Known lexical items can be utilized to instruct new lexical items using mime, demonstration, and picture (Richards & Rodgers, 2014). There was a natural order in word teaching which is a ''meaningful way'' and any errors are corrected right away. A teacher corrects the pronunciation by stressing the wrong section and gives an opportunity of self-correction to the student. Concrete vocabulary is taught through meaningful sentences and students are not purely given the translations of words (Richards & Rodgers, 2014).

Situational Language Teaching and The Oral Approach, on the other side, were dissimilar to Direct Method because of its stress on reading, 'grammar, and sentence patterns as well as oral practice'. This means that the purpose of vocabulary teaching was to serve grammar, reading and sentence patterns. Then after, the Audio-Lingual Method which is based on a more practical aim came to stage. As the name 'Audio-Lingual' maintains pronunciation was systematically taught by the teacher after 'aural training' and was followed respectively by speaking, reading and writing. Holding the idea 'practice makes perfect' in mind, this method gives priority to spoken form that means

phonemes and phonetic differences between languages were taught firstly. It can be understood that vocabulary is taught in phrases and proper pronunciation together with cultural side is emphasized.

Richard and Rogers (2014) state that Communicative Language Teaching approach (CLT) came to the stage as a popular method after 1960s. This approach came into being as a reaction against the Audio-Lingual Method (ALM). The reaction could be realized from its distinctive features. For example, while ALM focused on structure and form, CLT focused on meaning. As the main purpose is to learn how to communicate target language, CLT advocate the contextualization of words in aspects of vocabulary teaching. Dissimilar to ALM, CLT accepts understandable level of proper pronunciation. Translation is used when it is found necessary in a CLT. There is no an order of word teaching from basics to complex, however the words are given through authentic materials. For communicative purposes new vocabularies or phrases are taught by using familiar expressions and structures (Richard and Rodgers, 2014). These sayings show that Communicative Language Teaching concentrates on usage of a language. All of the four skills are equally important in CLT method and authentic materials within a context are a necessity for functional vocabulary teaching. Role plays, games and picture stories can be used for instruction of vocabulary in a communicative way.

James Asher came up with Total Physical Response (TPR) that is based on a child's developmental procedure. By observing the lingual development of a child's mother tongue, he attempts to figure out and apply the concepts in this approach. Children first listen, then try to speak while learning their mother tongue. They are supported by their parents during their struggle which lowers stress in the process. 'Brain-lateralization' and 'Scaffolding' are significant terms in James Asher's approach. Taking his basic principles into account, it can be deduced that words are taught in an order such as from easy to difficult or concrete to abstract and through demonstrations and physical movements. Asher (1977) highlights the significance of the ease of assimilation of new words which is up to both the number of words taught at a time and 'the ease of differentiation'. Depending on learners' background training, students can assimilate 12 to 36 new lexical items in one hour (Asher, 1977). To summarize, TPR teaches a limited number of new lexical items in each lesson by taking the level and age of students into account and by starting from simple words including bodily movements to address the right hemisphere.

According to Richard and Rodgers (2014), Caleb Gattegno's Silent Way approach gives the responsibility to students as the instructor stays *silent* in the classroom. In this method, *cuisenaire rods* and colored sound and word charts are utilized to help students pronounce lexical items. In this method the students are expected to find the right pronunciation and meaning of lexical items by themselves. If the learners are active in the learning process, it is accepted that the learning of words will be more long-lasting. Gattegno emphasizes the importance of instructing functional lexical items that go under the categories of food, travelling or family.

Charles Curran's Community Language Learning (CLL) is another method to be mentioned from the aspect of process of vocabulary teaching. As Charles Curran was a counselor, his method was also named as the counseling method. That is to say, learners were seen as *clients* and teachers were seen as *counsellor*s. Learners have the opportunity take help from their teachers or counselors in a peaceful environment and make an effort to realize themselves. Peaceful environment involves the usage of mother language in a class. Furthermore, the instructions are given to students' first language to be sure that the students don't miss any point. The syllabus is not defined before. Learners can put forward an opinion and debate on it with each other during the class. The students' lexical needs are satisfied in the lesson. Instructing and learning of vocabulary is impromptu. Learners are allowed to learn from each other or from the instructor who is presenting the lexical items without disturbing his students emotionally. That is to say, even the meaning of a lexical item is counseled with each other. Moreover, vocabularies are learnt with the help of translations. A further technique is 'analyzing' the content of the material produced in a specific lesson by students and concentrate on the use of lexical items. All activities in this method serve to provide an atmosphere where students are expected to 'reflect' on their learning.

Richard and Rogers (2014) state that Suggestopedia is one of the approaches that pays particular attention to instructing lexical items. Students, become 'suggestible' in a peaceful environment through music in background and students are expected to learn vocabularies 'peripherally' that means they have the opportunity to see visual aids such as posters hanging on wall and learn from their environment. As a result, vocabularies are instructed through their direct translations. Thanks to these factors the students feel in a psychologically comfortable environment that rises their level of receptiveness. In this method students learn vocabularies through role plays with new identities, songs and exercises which require physical action such as reading aloud a text in different moods

such as angry, happy and sad. Various rhythm and intonation of lexical items in active or passive situations improve their learning too That is to say when lexical items are graded the level of learners is taken into account. Activating the learners both mentally and physically is very crucial in the process of teaching vocabulary.

Lewis (2008) summarizes his approach as follows:

> "Language consists not of traditional grammar and vocabulary but often of multi-word prefabricated chunks. Teachers using the Lexical Approach will be more inclined to direct learners' attention to chunks which are as large as possible"(p.21).

The understanding lying behind this approach is that languages do not only consist of isolated lexical items but a collection of words collocating with each other. Those lexical items are combined to form phrases and idioms. A student may be aware of these lexical items 'blue, out of, the' separately however 'out of the blue' means different thing. Some words coming together can have a new meaning. A dictionary's containing only the definition of words cannot be enough for the instruction of unknown lexical items. A word has the possibility of gaining different meaning in another context and in a different order of words. The inclusion of the usage of words with various definitions apart from one main definition is a must for an ideal dictionary. Fixed expressions have a big amount of place and significance in a language. For that reason, according to Lewis (2008), the aim in teaching new words should be exposing students to many phrases or chunks.

Richard and Rogers (2014), states that Eclectic approach gives language teachers the opportunity to discover, apply and mix different approaches or styles. This flexibility provides a pleasant atmosphere for an instructor to apply different techniques. On the other side, in this approach teachers have a big responsibility which is brought by the freedom. A teacher who adapted eclectic approach may get confused while trying to decide which technique or activity to choose and may lose time while adapting his teaching method. An instructor should not misuse the freedom given by this approach.

It can be concluded that every approach has its own pros and cons. However, it can be reached to the conclusion that each one of them has some principles which are applied in specific classes. There is no possibility of meeting all the necessities of language learners and come up with a solution for all problems occurring during the

lesson time. While some approaches prioritized the instruction of lexical items while others concentrated on pronunciation of lexical item or its subservience to other skills. All of the approaches give a better understanding as to what must be taken into account in instructing of lexical items through word roots that is the main aim of this research.

2.3. Techniques Used for Vocabulary Teaching

Both the instructors and students emphasize the necessity of vocabulary in English classes. Nation (2000) points out that the secondary language teachers see the vocabulary issue as the most important topic which should be shed light to improve the instruction in classrooms. Both learners and English teachers call attention to the need for vocabulary. But learning a lexical item is much more complex than it looks. Richards (1976), states that collocation, word frequency, forms, functions and semantic structures are important to be able to figure out and utilize a lexical item. The depth of knowing vocabulary might be seen as one of the most challenging issue in learning a second language. Mukoroli (2011), states that vocabulary is significant for 'social, academic and professional successes.

According to Nation (1990), the most significant way of learning new lexical items is to utilize learners' independent strategies. In Nation's publication, training of vocabulary strategy is offered to be part of a vocabulary development program. For Schmitt (1995), the best way of word instructing may be to introduce different kinds of strategies to learners so that the students have the options to choose the ones they prefer for themselves.

Instructors or students might apply various types of techniques in vocabulary learning or instructing. These techniques can be used either alone or with different techniques together to improve learners' learning process. Alqahtani (2015) offers different types of techniques that help learners to keep the lexical items in their memory permanently. These types of techniques are stated as below:

a. Using Objects

This technique includes the usage of visual aids and demonstration for teaching vocabularies to young learners. With this technique learner can be better at remembering vocabulary as the memory for objects is quite trustworthy and visual techniques can function as cues for recalling words (Takač, 2008). Moreover, Gairns & Redman (1986)

declare that real objects technique can be utilized for young learners and especially when presenting basic concrete vocabulary.

b. Drawing.

Teachers have the opportunity of drawing the objects on the board or drawing on flash cards. Drawing on flash cards can be utilized again and again in different contexts. These flash cards can be used for young learners to help them figure out or realize the main ideas that they have learned in the classroom.

c. Using Illustrations and Pictures

The learners' prior knowledge can be connected to a new story by pictures, and these pictures can help the students learn new lexical items. Many vocabularies can be taught by utilizing illustrations. Using illustration or pictures is a good way of making the meaning of unknown words more clear. Their usage is a must for vocabulary teaching. There are many types of pictures that can be used as a means of instruction such as posters, flashcards, wall charts, board drawings, photographs and stick figures. Those pictures are colorful pictures that are intended for schools. Those pictures which are taken from magazines can be very useful too. Recently, many vocabulary books and course books involve a great number of interesting pictures which illustrate the meaning of basic words visually. The instructor has the opportunity to use the materials given by school. The students can understand the meaning of new words and make the words more memorable with the help of visual aids (Takač, 2008).

d. Contrast

Some words can be instructed to students easily if the teacher contrast a word with its opposite, the word "bad" and "good" is a good example of contrast. But sometimes it is not possible to contrast the words whose opposite is the gradable one. When the word "black" is contrasted with the word "white", there is an "in between" word" grey". Several other studies have also proven that vocabulary is learnt much more effectively when it is similar to what is already taught (e.g. Rudska et al., 1982, 1985). Knowing synonyms is significant because of the organization of dictionaries. Mono-lingual dictionaries use synonym words to explain the words (Ilson, 1991).

e. Enumeration

Alqahtani (2015) states that this technique includes giving examples of an item while trying to clarify a concept. For example, to explain the meaning of clothes a number of examples such as skirt, trousers can be used as enumeration. This technique can be helpful when it is hard to explain any word visually.

f. Mime, Expressions and Gestures

Klippel (1994) says that mime or gesture can be practical when the importance of gestures and facial expression on communication is emphasized. A lot of vocabularies can be taught through expressions, mime, and gestures. For instance, adjectives: “happy “and "sad"; mime and taking a hat off your head to teach hat and so on. This technique can be used while trying to show the meaning of adjectives specifically. Significant lexical items might be paid more attention by emphasizing usage of different facial or body movements.

g. Guessing from Context:

This technique has been offered by Mother tongue (L1) and Target language (L2) reading specialists as a way of learning unknown words (Dubin, 1993). Students can try to understand the meaning of lexical items by checking the words in the context. They may not be able to guess the meaning exactly, but they may get some clues about the meaning that might be supported by a final check in a dictionary. Sökmen (1997) implies that guessing from a context is a practical technique to be used in a lesson. The weak side of this technique is that it is entirely a slow process if limited energy and time is taken into account.

h. Eliciting

Teacher gives a list of words to students and expects them to learn. The meaning of a lexical item is explained by leading learners with clues to the meaning. The meaning of the words is discovered by students with the aid of instructor.

i. Translation

Translation technique involves teaching words by speaking learners’ first language or any other kind of common language in their class. It is possible to use this technique in several instances. For instance, when the instructor wants to gain time he can

directly translate a word. Translation technique might be utilized for overcoming any misunderstandings in meaning (Takač, 2008).

j. Examples of the Type

To be able to explain the meaning better words that belong to the same group can be used. For instance, while trying to explain the word tree, the examples of different types of trees might be presented. In order to present the meaning of subordinates, such as flowers, vegetables, and foods, it is a common to demonstrate them. However, the technique cannot be used in instructing the words that belong to more than one ordinate.

k. Drilling

Besides practicing the pronunciation of a word drilling can also be used to memorize a word. Thornbury (2002) claims that drilling should be ‘’natural’’ and ‘‘clear’’. Drilling is applied to get students used to the word form and especially to the pronunciation. To familiarize the learners with the word, drilling must be clear and natural (Thornbury, 2002). Drilling is very essential as students need to utter the word to them because they learn it to recall the words from memory (Ellis & Beaton, 1993, in Read, 2000).

l. Learning of Affixes

The quantity of lexical items to be obtained by language learners might be challenging. It is estimated that the number of lexical items in English language range from half a million to over two million (Crystal, 1988), however the native speakers of the English don’t have all the number of vocabularies in their mind but they possess a small number of lexical items in their receptive or productive vocabularies based on their educational background and their age. For instance, a freshman might just own a vocabulary of 20,000 lexical items (Nagy and Anderson, 1984; Goulden et al., 1990). This quantity of lexical items to be acquired is still enormous, however second language students are able to use their knowledge of word units to acquire new lexical items (Nation, 1990; Haynes, 1993).

Another popular technique that language students can use to improve is the knowledge of affixes (Nation 1990; Bauer & Nation 1993). When language students are at proper levels of their language development, a small group of affixes that are practical

and attainable can be presented to learners for vocabulary learning. For instance, elementary learners may start with affixes like, --able, --er, un--, --tion, etc. A significant point of the learner‘s being independent is to realize his/ her own style of learning and to make their own ways of expanding and organizing their vocabularies. There are many vocabulary strategies in use, but the learners must find the right ones for them. Meanwhile, instructors may help the learners develop their own plan that best suits their vocabulary learning.

Nemati (2013; cited in Wenden, 1987), states that giving students the readymade lists of vocabularies and expecting them to learn these vocabularies may not be a permanent solution to the problem of vocabulary learning. Students, instead, should find their own strategies for vocabulary learning. Learners may understand the best way of vocabulary leaning by them. Nemati (2013) stresses that when students are active in their learning process; they have the chance of being more analytical in learning.

Language teachers can instruct systematically the significant affixes and word roots in the target language even if the list of words might be challenging. A less-structured approach to lexical items' parts is to randomly demand learners to examine lexical items. In that way, with the help of word unit analysis students are able to compare the new word with former known lexical items in order to get to their core meaning. As it requires a deeper level of processing and reactivation of old, known words with the new, it is effective in improving the long-term storage (Nation, 1990). Learning lexical items through roots, in terms of retention and guessing the meaning of the unfamiliar words correctly, was the main strategy in this study to see the effects of it. While learning words through roots students will concentrate on the words and word families which will raise their awareness of vocabulary knowledge and improve their learning via meaningful learning.

2.4. Types of Vocabulary

Researchers point out a fact that vocabulary knowledge is a perpetuity: "a succession," as Laufer (1998), expresses, "from a nonexistent knowledge towards native-like competence" (p. 255). In this perpetuity, the initial stage is acknowledgment, and it increases with acceleration until the production stage is accessed. In connection with the perpetuity, distinctions are made about several pairs of terms, i.e. knowledge and control, potential and real vocabulary, passive and active vocabulary, all of which underline the

incremental aspect of vocabulary in the perpetuity (Ayto, 2000; Celce-Murcia &Larsen-Freeman, 1999; Gass & Selinker, 1994; Hughes, 1989; Schmitt, 2000). It is detected that the learners' receptive vocabulary is greater than their productive vocabulary and that the gap between these two increases as the frequency level of the acquired words decreases (Golkar & Yamini, 2007; Laufer, 1998; Nation, 2001; Read, 2000; Schmitt, 2000; Waring, 1997).

For the production to occur the meaning must become confirmed and the usage of words must be internalized, all of which need explicit knowledge. Simple exposure to lexical items does not end up with vocabulary learning. Both English as a foreign language (EFL) and English as a second language (ESL) students should feel confident about the meaning of lexical items to be able to reach the level of necessary to understand the meanings of words and expressions used especially in academic contexts, (Cortes, 2004). Whichever term is used to name the acquired knowledge, i.e. whether it is called *productive*, *controlled*, *real*, or *active* vocabulary, the fact that it plays an important role in understanding the language does not change

According to some experts, vocabulary is divided into two categories: active and passive vocabulary. Harmer (1991) differentiates between those two types of words. The active type of words is the one that the learners have been instructed and that they are supposed to be able to use. In the meantime, the passive one is the vocabulary that the learners would realize when they encounter them, but which they would probably not know how to pronounce. Haycraft, (quoted by Hatch and Brown, 1995), point out two types of vocabulary, which are receptive and productive vocabulary.

2.4.1. Receptive Vocabulary

Receptive vocabulary refers to words which students realize and figure out the meaning when they are utilized in a context; however the students are not able to produce. These words are the ones that students realize when they encounter in reading text but do not utilize it in speaking and writing (Stuart Webb, 2009). Read (2000) states that "the blank-filling version may simply be an alternative way of assessing receptive knowledge rather than a measure of productive ability'' (p.126).

2.4.2. Productive Vocabulary

Productive vocabulary refers to the words which the students figure out and are able to pronounce correctly and use in speaking and writing. It includes what is necessary for receptive vocabulary plus the ability to speak or write. That is why; productive vocabulary could be named as an active process, because the students are able to produce the lexical items to express their thoughts to others (Stuart and Webb, 2005).

As different kinds of vocabularies need different treatment and concentration, it is necessary to distinguish between different types of vocabulary in teaching and learning vocabulary. Some kinds of words are given priority in instructing and learning than other words depending on the learners' aims and course content. The following part will investigate the sub-types of vocabulary.

2.4.3. Core and Non-core Vocabulary

Core words are those words which appear frequently and are more in importance to the language than other words. As stated by McCarthy (1990), students favor to utilize such words as they possess core meaning-potential. These words are seen as 'core' as their antonyms are easily found. Additionally, in formality they are neutral and utilizable in a broad variety of situations. Moreover, these core lexical items could be utilized to present the definitions of other words. For instance, in Task 41, (McCarthy, 1990) the following order is given: "Decide which is the core word in the set of words: slim, slender, thin, emaciated, and scrawny" (p.21). Given the characteristics of a 'core' word, it can be understood that 'thin' is the core word. In ESP teaching, we also run into subject-specific vocabulary, which is non-core as long as the language as a whole is taken into account. Carter found out that subject-specific words should be considered non-core because of its lack of neutrality and association with a technical topic (Carter, 1988). Students with specific purposes may need to receive the subject-specific core vocabulary, e.g., *placebo and dialysis*.in medical texts and lesson However, other students who have no relation with the specific field may not necessarily need to learn these lexical items.

2.4.4. Technical, Semi-Technical and General Vocabulary

It is significant to distinguish between two categories of vocabulary: technical and semi-technical because in terms of teaching vocabulary in ESP contexts they have a big

significance to students learning ESP, Dudley-Evans and St John (1998:83) offer resolving overlapping categories (Baker, 1988:91) into two broader groupings:

a. Vocabularies that have a higher frequency of occurrence in specific and technical contexts but are used in general language.
b. Vocabularies that have restricted and have specialized meanings in certain disciplines and may differ in meaning across disciplines.

The first group should be seen as semi-technical vocabulary and the second one should be referred to as technical vocabulary. Semi-technical vocabulary is considered to be one of the most problematic issues for ESL. General vocabularies are common and have little specialization of meaning.

2.4.5. Academic Vocabulary

There are many studies that have investigated the vocabulary that students need for academic purposes. The most widely known and popular one is the Academic Word List (Coxhead, 1998), which is a compilation of a corpus of 3.5 million running lexical items of the written academic text by inspecting the level of frequency of words outside the first 2000 most frequent words of English, as described in the General Service List (GSL) by West (1953). It includes 570 word families that come across frequently in academic texts and this means that the lexical items are beneficial for students studying humanities, law, science, and commerce.

2.5. Teaching Technical Vocabulary

Sometimes some EFL and ESL teachers may declare that teaching technical vocabulary is not their responsibility (Barber, 1964: Higgins, 1966 & Cowan, 1974). ESP instructors, who may or may not have the technical expertise in the subject matter they are instructing, may be in the same opinion. But, as the only qualified teacher, it may be the responsibility of an ESP teacher to teach technical vocabulary to help in the student’s process of acquisition under certain circumstances. Recognizing students' needs and their linguistic background knowledge has a significant influence on teaching English technical vocabulary for the second language learners.

2.6. Selecting the Appropriate Vocabulary for Teaching

It is significant that instructors should have the basic lexical items to mention and they should assess whether a particular word is important enough to be paid attention to while dealing with preparing the vocabulary of a language course. The usage of word lists as the leading source of vocabulary learning is more desirable in the teaching and learning of the English vocabulary (Nation& Warring, 1997).

2.6.1 Awareness of Criteria in Selection

According to Jiangwen & Binbin (2005), experts recommend that it is good idea to deal with word lists when instructors deal with a vocabulary teaching plan. But, employing word lists in class mechanically may be demotivating to some students. Teachers should take some criteria into account to while selecting words that are suitable for the context and the level of students. The word lists have to include lexical items that are representative of the field they are expected to reflect. For instance, when words for speech are taught, first it must be confirmed that the word list selected for instructing is based on a corpora of spoken data that represent the lexical items to be learned. The chosen vocabularies should appear in different text types. Finally, special attention should be paid to some lexical items with multi units whose meaning can be deduced from the meaning of the individual words. For instance: good morning, all right, so far etc. They should be seen as a whole and take place in the teaching list.

2.7. Word Knowledge

As vocabulary has a significant role in learning language, linguists have been always interested in the meaning and the breadth of vocabulary knowledge. The complex nature of vocabulary acquisition makes it impossible to define what knowing a word means. Researchers have investigated this issue extensively especially after vocabulary gained prominence in the field. As Schmitt and Meara (1997) states that knowing a lexical item is beyond the learning its meaning and form.

Nation (2001) suggests that knowing a word includes form, meaning and use, and he specifies three aspects of each: written form, spoken form and word parts relate to *form*, whereas form and meaning, concept and references, and associations relate to *meaning*, and grammatical functions, collocations, and constraints on use relate to *use*.

His categorization is widely accepted and is often referred to as a comprehensive source of reference.

Receptive and productive sides of vocabulary are often referred to as a means of describing word knowledge, however, as Read (2000) identifies that word knowledge is not ‘’a simple continuum which begins with minimal receptive knowledge and ends up with advanced productive ability’’ (p.157). Laufer (1997) also points out how words can be transparently deceptive and thus, be misinterpreted. Such vocabulary items are described as “words you think you know” (p. 25). It is, therefore, not only the matter of the words’ being known receptively or productively, but also the matter of their being known precisely or inaccurately, and even incorrectly.

The depth and the breath of vocabulary are the terms utilized in describing the size and the quality of the word knowledge. Fluency is specified as a third aspect that complements quantitative and qualitative dimensions of vocabulary knowledge and indicates competence in productive use. Expressing the importance of lexical knowledge, Hunt and Beglar (2005) state that the main objectives of linguistic are growing vocabulary breadth, improving vocabulary knowledge and fluency with familiar vocabulary.

2.7.1. Breadth of Vocabulary

The enormous number of English words makes vocabulary acquisition more difficult for the students. Random House Webster’s Unabridged Dictionary (1997), a 2230-page fine-print reference, has over 315.000 entries. Denning, Kessler, & Leben, mentioning the 476,000 words in the 1961 issue of the Webster’s Third New International dictionary contains state that no other language competes with English in a count of general vocabulary.

It is not possible even for the native speakers to know all these words. Goulden, Nation, and Read (1990) refer to the various studies on vocabulary size based on dictionary sampling and indicate that the number of base words is 54,000 and that only 17,000 are known by well-educated adult native speakers of English.

Nation and Waring (1997) highlight that native-speaking university graduates may know up to 20,000 word families. Schmitt (2000), referring to this number, maintain that “building a native-sized vocabulary might be a feasible, although ambitious, undertaking for a second language learner” (p. 4). In fact, the enormous extent of

vocabulary breadth is a big challenge for both native speakers and non-native language learners.

The lowest number of 2,000 words that are in the General Service List comprising the most frequently used 2,000 headwords in English is agreed upon as ‘required’ for the minimum production for beginners. Researchers in the field are commonly in the same opinion that the list published in 1953 by Michael West is the most referred and widely used list to date (Meara, 2002; Nation, 2001; Read, 2000; Schmitt, 2000).

Learning another 1,000 words is deemed a must for reading authentic texts. Researchers state that a family of 5,000 words is the solid foundation upon which the academic words can be built in order to be able to pursue university study. It is only at 10,000-word level that a learner will be able to understand academic texts. To be able to reach the level of a university-educated native speaker and to be able to read with minimal distraction that may arise due to unknown vocabulary, English language learners must learn 20,000-word lexis. It is worth mentioning here that the numbers indicated above cover only the headwords; their derivatives should also be learned.

As far as academic study in English is concerned, researchers agree completely on the necessity of acquiring the words in the Academic Word List (AWL). The words on the AWL are essential for reading academic texts. Nation (2001) proposes that one in every ten words will still be unknown even if the first 2,000 words and those in the AWL are acquired.

Tschirner (2004) stresses the importance of vocabulary size and indicates that it is essential to have a large size of vocabulary consisting of may be 5,000 to 10,000 words to master the amount of reading required by a typical university degree program. Folse (2004) identifies that the knowledge of word meaning comprises the largest part of reading comprehension, and states that ‘’the problem of lacking of vocabulary knowledge across all skill areas is especially evident in ESL reading’’. It is not only the matter of vocabulary size, but also the necessity of rapid access to meanings once the words are recognized. Grabe and Stoller (2001) assert that ‘’it is not possible to carry out reading comprehension for long period of time without word recognition’’ and show that “fluent word recognition does not usually involve information from context or background knowledge” (p. 33). Automatic and fast access to meanings is essential for fluency in reading comprehension and demands a wide and diverse knowledge of vocabulary. The position of vocabulary in language learning and in achieving competence in all language

skills needs both the number of the words known and the quality of word knowledge be given emphasis in acquiring vocabulary to achieve fluency in language use.

2.7.2. Depth of Vocabulary

While the enormous size is a challenge, on the other side, it is also a richness that provides speakers of English with the advantage of versatility in word choice and distinction in meaning. Denning, Kessler, and Leben (2007) express this quality as follows: ‘’English is extraordinarily well endowed with words’’ (p.5). While the breadth and depth of English vocabulary seems advantageous, on the other side, they present the learners a great difficulty in getting the knowledge of words. Learning English vocabulary is a challenging task especially for the foreign language learners, a dreaded burden but also an essential undertaking that must be carried out as to achieve competence. As the Maxim, *Divide et impera*, left to us by the speakers of this unequaled language’s ancestor advises, the immense body of this indispensable source must be divided into smaller parts to triumph over the insurmountable task. The ability to analyze word parts which facilitates not only learning but also retention and recall is one of the most useful tools for breaking up the lexical units into their components. The awareness of these building blocks also provides accurate and forceful use of words. Mastery in employing word parts to deduce meaning provides the language users an acquired ability of utilizing the appropriate word in the proper context. On the receptive plane, the mastery facilitates reading and listening comprehension, enabling language users to penetrate the subtle meanings without distraction and to grasp the conveyed message with an increased command. Being aware of the patterns of word formation has a significant role in word learning from the viewpoint of both breadth and depth of lexical knowledge.

2.8. The Role of Morphology in Vocabulary Learning

Pinker (2000a, 2000b) identifies that the rules of morphology regulate the formation of lexical items that are consisting of smaller building blocks, and these pieces are stored in the lexicon rather than their combinations. Being familiar with the meanings of these components is the key factor in decoding the meanings of the lexical items produced by assembled smaller parts. Unlike the mono-syllabic native English lexical items, the multi-syllabic words built out of basic morphological units of Endo-European origin are usually long and comprise most of the technical and formal elements of English

vocabulary. The large part of these building blocks, the affixes and roots, mostly descend from Latin and Ancient Greek, and the words formed out of these constituent's amount to over 60 percent of the words in English (Nation, 2000; Bellomo, 2005).

Denning, Kessler, and Leben (2007), identify that the majority of the complex lexical items in the language have identical structures, and that some sides of the study of word structure are useful in dissecting word parts and in perceiving how the parts affect the meaning of the whole unit. Consciousness of the parallel structures and the major lexical item parts aids to relieve some of the burden of rote memorization and makes it simpler not only to retain and remember the learned lexical items but also to understand the meanings of the words encountered for the first time. Moreover, this consciousness helps guessing the word meanings from the context with a better command and accuracy.

Eğecioğlu (1996) mentions also the prevention of spelling and usage errors, such as 'se-*par*-ate' and 'se-*per*-ate'. Consciousness of morphological building blocks and the command of their basic meanings aid not only to learn and increase word knowledge but also to appreciate the underlying social and cultural values giving base to the language. Awareness of these values gives learners the ability to become better informed about the language.

The benefits of word-part awareness may be counteracted by the drawbacks emerged from wrong use and the hardship faced in achieving mastery. Drawing attention to the complexity of learning Latinate words in English, Corson (1997) introduces several factors such as infrequency, length, difficulty in pronunciation, abstractness, semantic opacity, and infrequency in active use, all of which add to the tremendous effort involved in learning an exceptionally large vocabulary.

Bellomo (2005) highlights the aspect of difficulty in gaining the ability to analyze word-parts as follows:

> ''Word parts are not simple vocabulary items students are exposed to in their normal course of reading or conversation. Gaining expertise in the use of morphological analysis requires more of a studious approach to language acquisition than mere rote memorization of vocabulary items.'' (p. 96)

Learning English words is a challenging issue because of the extensive number of words to be learned, and having to acquire so many words only by rote memorization would be even more challenging. Students need to utilize functional tools to reduce the

burden even if it may need endless energy and persistence. To make it easier for the students to expertise in utilizing morphology as a tool, it is generally agreed that (e.g., Bellomo, 2005, 2009; Eğecioğlu, 1966; Read, 2000) the selection of word parts to teach needs to be based on three principles: ubiquity (the number of derivatives and their high frequency), semantic transparency (clarity of meaning the parts convey), and similarity of form (uniformity of parts appearing in words).

Bellomo (2005), states that an aspect of difficulty in handling Greco-Latin word parts is the incorrect interpretation of word meaning. Students may wrongly relate a part of a word to a word-part having the same spelling but not the same root. It is essential that the students check the guessed meaning not only by referring to the context the word takes place in, but also by consulting their dictionaries as to make sure that the meaning they deduce is correct.

Word parts are beneficial mnemonic tools for acquiring, retaining, and recalling word meanings. The effort put in and the time spared for learning word parts may seem demanding at first, but the result is rewarding: gaining expertise in using this indispensable tool brings about a bountiful remuneration received life-time since vocabulary building is a life-long process. Nation (2000) highlights the benefits of knowing word parts as follows:

> ‘’The word building systems of English are very important ways of enabling learners to make the most effective use of the stem forms that they know. Using word parts to help remember new words is a major vocabulary learning strategy. It deserves time and repeated attention because it can involve such a large proportion of English vocabulary’’ (p. 280-81).

2.9. General Features of Architecture Language

There is not any work dealing specifically with architecture language from the point of view of the lexis and word-formation. There is a study which focuses on the role of metaphor in the language of architecture by Caballero (2006), which is an enlightening portrayal in the way architects organize and represent their knowledge from a cognitive viewpoint; however, it is not approached in a way that could help in obtaining an overall view on the lexical behavior and resources of architecture discourse, which is precisely the main concern in the current study. Roldán (2011) approaches the language of

Architecture and Civil Engineering but from the perspective of applied linguistics with a pedagogically-oriented study thought for helping students, professionals and Architecture could be seen as the art and science of creating a building meanwhile having qualities of beauty, geometry. Architecture is a discipline which merges artistic aspects together with technical and scientific ones, an idiosyncrasy that, by extension, is also reflected on the language used to convey it (Oxford Dictionary, 1994).

According to Duff (2010), as learners get to participate in new discourse communities by means of language they also obtain information on ideologies, identities, orientations, linguistic and non-linguistic contents appreciated by the discourse community they aim to belong to. The specific skills and concepts that architecture actors have to develop in order to organize their knowledge starts, as claimed by Wilson (1996:33), in the course of architectural education: this process of socialization that takes place in the schools of architecture helps students to develop "standards of judgment" that are distinctive of the profession; apart from determining their system of constructs, this process of socialization which starts at university and continues during their professional development also marks the acquisition of a distinctive way of communicating, including, among other means, language communication. This language "identity" is understood as part of the overall community identity; architectural language is a code that differentiates experts from the rest of the linguistic community. Every discipline has its own a distinctive colloquial language.

CHAPTER III

METHODOLOGY

3.0. Introduction

This chapter presents a general overview of the methodology adopted during the study. Firstly, the research design of the study is clarified. Following that, research setting and participants are mentioned in this chapter. Furthermore, ethical issues, word root instruction, data collection instruments, data collection procedure, and data analysis are presented.

3.1. Research Design

Vaus (2001) states that a research design is all about forming a study with asking questions to data analysis and reporting. Creswell (2012) indicates that approaches are changing because of technological developments and people are forming new procedures to conduct research. He clarifies that researchers choose their research design according to the research problem and questions to be dealt with. According to him the most advanced research designs are *qualitative*, *quantitative* and *mixed methods* research design.

Qualitative research concentrates on exploring and finding out how an individual or a group interpret a problem while the aim in *Quantitative research* is to test theories through analyzing relationship among variables. *Mixed methods research* is the type of approach that includes both qualitative and quantitative data to provide a deeper understanding of a research problem (Creswell, 2014).

Ivankova and Stick (2006) state that a combination of both qualitative and quantitative research methods allows a triangulation of methods which enables to get detailed and sufficient information about the problem. The general rationale behind using mixed methods research design in social studies is to be able to understand the problem in a deeper way (Watkins & Gioia, 2015). Therefore, to be able to gain a deeper insight into this study both qualitative and quantitative research methods were applied for data collection. Firstly, the quantitative data of this study was gathered via pretest and posttest and post posttest prepared by the researcher beforehand. Subsequently, to gain a deeper understanding of the quantitative data, qualitative data was gathered with the help

interviews held and the diaries participants kept during the study. For the analyzing of the data gathered both qualitative and quantitative methods were utilized.

3.2. Setting

The participants of the study were the students studying Architecture at Adana Alparslan Türkeş Science and Technology University. Two groups of these students were selected (N= 60 in total) based on convenience sampling. The institution uses English as a medium of instruction and it is accredited by Pearson. The candidates, who could not pass the proficiency exam, take the one-year compulsory English language preparatory courses offered at the university. The treatment group was given instruction during the first semester of the 2019-2020 academic years by the researcher. Therefore, the availability of classrooms and the suitability of class hours fitting to students' overall course program were the two criteria in setting the treatment and the control groups. The treatment group sessions took place in the same classroom setting with the control group but at a different time of the week.

3.3. Participants

The study was carried out with 60 participants divided into two groups, namely treatment and control, each of which was composed of 30 students. Both the control and treatment group students were from the Architecture department of Adana Alparslan Türkeş Science and Technology University. Both groups were first year university students. The details of participants' information, their ages, genders, years of study, are presented in the sections below:

Table 1.

The Profile of the Treatment Group Participants in the Study

	N	**(%)**
Gender		
▪ Male	9	30
▪ Female	21	70
Age Groups		
▪ 17	1	3.33
▪ 18	9	30
▪ 19	14	46.6
▪ Over 19	6	20
Mother Tongue		
▪ Turkish	30	100
Years of studying at university		
▪ First year	30	100
▪ Second year	0	0

In the Table 1, it can be seen that female number is higher than male number and the age group is mostly between eighteen and nineteen. All thirty students' mother tongue is Turkish and it is their first year.

Table 2.

The Profile of the Control Group Participants in the Study

	N	**(%)**
Gender		
▪ Male	16	50.33
▪ Female	14	46.67
Age Groups		
▪ 17	1	3.33
▪ 18	10	30.33
▪ 19	11	30.66
▪ Over 19	8	20.66
Mother Tongue		
▪ Turkish	30	100
Years of studying at university		
▪ First year	30	100
▪ Second year	0	0

In the Table 2, it can be seen that female number and the male number is almost equal and the age group is mostly between eighteen and nineteen. All thirty students' mother tongue is Turkish and it is their first year.

3.3.1. Selecting Participants

Marshall (1996) states selecting participants in a study is a significant part because it is not practical to research with all related population. Kemper, Stringfield and Teddlie (2003) indicate that deciding sampling is one the fundamental elements in a study. *Convenience sampling* is based on choosing a sample from a group that is easy to access for a researcher (Kemper et al., 2003). Creswell (2012) mentions participants in *convenience sampling* are selected because they are both voluntary and available. He also explains although participants in this sampling may not reflect all population, they can present beneficial information for the study.

In this study, convenience sampling was utilized since the participants chosen from the department of Architecture were most accessible participants. The participants were selected to conduct the study because they were not only available but also willing to participate in the study. Moreover, the participants were accessible to arrange time for semi-structured interviews. The number of the participants was 60 because all of the students were willing to participate in the study.

The profile of students is heterogeneous in respect of regional diversity as they were from different parts of Turkey. In this respect, the participants of the present study are accepted as representative of the population the researcher aims to investigate. The groups being formed thus facilitated the selection of treatment and control groups without concern about the impartiality of distribution.

3.3.2. Ethical Issues

This study was conducted in two phases. Before conducting the first phase, the approval of the institution was received from the heads of the architecture department and foreign language school by presenting purpose, participants, methodology and planning of the study. In the first phase of the study, the participants were informed about the study and each participant filled in the consent form. It was also mentioned that the participation was voluntary based, they would be free to leave the study anytime they wanted and all the data obtained would be confidential and anonymous, and used only for scientific

purposes. To make confidentiality and anonymity certain, every participant was labeled such as S1, S2 in their diaries. Furthermore, it was made clear that there is no correct answer in the study, so the participants would express their ideas freely in diaries and interviews.

In the second phase of the study, the participants (N=20) were chosen based on their voluntariness to participate in semi-structured interview and to keep diaries. It was reminded that they all had the right to leave the study anytime they would like and the data would be confidential and anonymous. While conducting interviews, the researcher audio recorded by permission of interviewees. The interviews were conducted in a comfortable and quiet place in an appropriate time for both the researcher and participants so that they could express their ideas freely in a stress-free environment.

In view of Mackey and Gass (2005), there are two main issues which are considered to be related to ethical issues of conducting research. The first one is to obtain *consent form* from participants. To ensure this issue, the participants should be informed about procedures, purposes, possible risks, benefits and methodology, confidentiality and anonymity of the study and their rights as participants in the research. The second issue is *institutional approval*. For the study, the researcher needs to get approval from the institution by providing full information about the study so that s/he can conduct his/her study in the research site. In the (Appendix 2) consent from and *institutional approval* forms can be seen.

3.4. Data Collection Instruments

The main research instruments used to collect data for this study are pre-test and posttests, delayed post-test diaries, and interviews. The first pre-test was used to assess the participants' word knowledge, and the diary and interview were used to gather the treatment group participants' personal opinions about the vocabulary instruction carried out. All three types of data collection instruments were compiled by the researcher specifically for this study. The tests giving base to the study were applied first at the beginning of the semester in September 2019, and then in December 2019.

Table 3.

Data Collection Tools of the Study

Data Collection Tool	**Procedure and Analysis**
Pre -test, post –test ,delayed post-test	Voluntary participants (n=60) Mainly quantitative data Via SPSS 23. Comparative statistics
Diaries	Expressing feelings about word root instruction Voluntary participants (n=10) Thematic analysis, codes and descriptions
Semi-structured interview	Pre-determined questions based on word root instruction. Voluntary participants (n=10) Interview recording by receiving permission as well as participant consent Transcript, thematic analysis, codes and descriptions

As seen in Table 3, for quantitative data pre-test, post-test and delayed post test were used as data collection tools. Sixty voluntary participants took all the tests applied in the study. These tests were analyzed via SPSS 23. As for qualitative data, diaries and semi-structured interviews were used as data collection tools. Ten voluntary participants kept diaries and ten voluntary participants were interviewed.

3.4.1. The Pre Test/ Post Test/Delayed Post Test

In order to ensure that the participants did not know the meanings of the words, they were given a pre-test comprising of 50 lexical items at the beginning of the first semester and the participants were asked to write down the meaning of these words to assess their vocabulary knowledge and to see the words which were unknown to them (see Appendix 3). After ten weeks' instruction of word roots the students were given a post test whose content was the same as the pretest to see if the instruction worked and if there was a progress in students' retention of vocabulary. One week later the students were given a delayed post test whose content was different from pre and posttest to see if the students could guess the meanings of unknown words accurately and the scores of both treatment and control groups were compared to see if there was a significant

difference in the retention of vocabulary between these groups. This study was based on corpus-based approach (Biber et al., 1998) which enables researchers to choose the most frequently used technical words from a list based on different themes such as materials, equipment, elements in buildings and building typologies. Thus, a specialized corpus was used in this study Gavioli (2005). The size of the corpus consists of 505.649 words based on 21 journals composed of primary and secondary sources (Beloso, 2013). Each vocabulary item that was chosen from an architecture corpus randomly was checked through negotiations with a teacher from the Architecture Department of Adana Alparslan Türkeş Science and Technology University.

3.4.2. Semi Structured Interviews

Creswell (2012) states that an interview is a data collection instrument enabling researchers questioning a participant/group of participants and recording their answers for better understanding during data analysis process. There are mainly three types of interviews: *structured*, *unstructured* and *semi-structured*. In structured interviews, there are pre-determined questions which are formed to collect significant data from the participants while unstructured interviews are like unplanned speech that has non-predictable data for a researcher (Mackey & Gass, 2005).

Semi-structured interviews contain a list of questions to explore the issue/problem without strict wording and question sequence (Mackey & Gass, 2005). Dörnyei (2007) expresses that the interviewer is a guide in this type of interview although s/he is also interested in getting detailed ideas about the issue. Galletta (2013) purports that these types of interviews are flexible because they are adequately formed to get the data related to research questions while they offer freedom for participants to verbalize their ideas with their own words. The rationale to use a semi-structured interview in this study, as stated by Tajeddin and Adeh (2016), was to conduct flexible conversation so that the participant could give more detailed information about the research issue.

In this study, ten interviews were carried out on one-on-one basis to prevent peer influence and were audio-taped in a small-sized meeting room to provide a relaxed environment out of the classroom atmosphere. To afford further comfort and to facilitate spontaneous response in a natural flow, Turkish was preferred as the language of the interview. The preference for the native tongue as the communication means was also based on the fact that the participants, as the speakers of English as a foreign language,

had limited practice, and thus, interviews would otherwise be constrained in terms of fluent expression of the participants' personal views. The opinions of the participants were elicited through the following open-ended questions:

1) Do you think what you learned in this course is useful? If yes, in what ways it was useful? [If prompt needed:] For example, does it help you in guessing the meaning of the words you do not know?
2) Did the things you learned in the course contribute to other courses you took? How?
3) Do you think your word knowledge has expanded since the beginning of the study?
4) Do you think what you learned in the course will be beneficial for you in future? How? [If prompt needed:] For example, would it help you to learn more words?

The interviews were conducted on voluntary basis. During the last course session, the treatment group participants were invited to contribute, and it was announced that the timing for the interviews was set to be after the delayed post test. The aim was to have the volunteers feel comfortable in conveying their opinion after the course was completed and the testing was done. Also, as to eliminate the possibility of participants' prejudice due to success or failure, students' scores were not disclosed before the interviews.

3.4.3. Diaries

The participants were asked to keep a dairy during the whole process and were allowed to express their feelings and thoughts freely. According to Flaherty (2016) ''A diary study is a research method used to collect qualitative data about user behaviors, activities, and experiences over time. In a diary study, data is self-reported by participants longitudinally that is, over an extended period of time that can range from a few days to even a month or longer'' (p 1). The students were writing their diaries weekly. They started to keep their diaries for the last five week of the word root training period. In their diaries, the students were given three sections which are about positive aspects of word root strategy, negative aspect of word root strategy and suggestion to write their

feelings about word root training. A sample of student dairy can be seen in (Appendix 5).

3.5. Data Collection Procedure

The data for the present experimental study were collected in five phases, namely, pre-test administration, treatment group instruction, post-test administration, post-post-test administration, interviews, and diaries. The pre-test and the post-test were identical, and the former was administered at the beginning of the semester while the latter was administered at the end, with a ten-week interval. Ten sessions of instruction were devoted to teaching the selected word-roots to the treatment group, and one session was reserved for review as to share the results with the participants and to comment on the incorrect responses, providing clarification and reinforcing the main points covered in the previous weeks. In the last five weeks of treatment group instruction volunteer students kept their diaries weekly. After the implementation of the post-test, another test whose content was different was carried out to see if the participants can guess the meaning of unknown words accurately and later interviews were carried out by the researcher with the treatment group students who volunteered to participate.

3.5.1. Pre Test Administration

The treatment and control groups were given a pre-test at the beginning of the first semester. The full forty-five -minute class time was reserved for taking the pretest in one class session. Oral instruction was given before the pre-test were distributed. Test scores were not disclosed, and the participants willing to learn the results were informed that the test was aimed to determine the overall vocabulary level of the class with the purpose of providing information for the instructor, and that the scores would not affect their grades. The treatment group was expected to study word-parts covered in the instruction program with the word root strategy, however, the control group was expected to study these words by checking the meanings of words from dictionaries.

3.5.2. Treatment Group Instruction

The treatment group received instruction on vocabulary learning through word roots one class-hour a week for ten weeks, while the control group did not. At the beginning of the instruction program students were asked to download the application of

the Greek and Latin Word Roots to their mobile phones as to ease the burden of the instructor.

The instruction program was arranged as to cover five root words in each course hour. The ESP words and the word-parts in focus were presented in a handout paper. While the chosen words including the roots were being presented, the affixes and prefixes they contained were also taught. As mentioned before enumeration technique includes giving examples of an item while trying to clarify a concept. This technique can be helpful when it is hard to explain any word visually. For enumeration, more samples of words deriving from the same root were written to whiteboard by the instructor, and the questions asked by the students were illuminated before moving to the next word root. The aim was to exemplify as many words as reasonable in per course hour so that the meaning of the root in centre of attention could be confirmed. The different forms of the roots were taught along with the meaning. The purpose of this approach was to use enumeration technique while applying the word root strategy so the participants could be illuminated. Some tools such as pictures, drawings, origin of the word, mimicry were also utilized to consolidate the word meanings in participants' mind as much as possible. The instructor constructed sample sentences or took them from dictionaries and the course book. Pronunciation was emphasized, and the participants were urged to read aloud the words and sentences when first presented on the whiteboard. The role of the L1was not underestimated. Whenever the need for L1 was felt, the instructor used L1 to make sure that the given examples of the words derived from the same root were understood by the students

Beside the meanings, the alternative forms of the roots were also taught. Thanks to the alternative forms of the roots, the students would be able to see the similarity in the root meaning of an unknown ESP word and the meaning of the word they already know. To make the students aware of the changes in the consonants or the vowels forming the roots, basic information on the sound alterations in verbs, adverbs, nouns, and adjectives was presented to the students. The aim of this approach was to provide the students a way to have access to the meanings of more words with a fewer number of roots to learn. For example, the test-word con*struct* contains the root *struct-* (to *build*,) which also is the root of the English word *destruction*. During the affix-recapitulation session the well- known word *instruct* was emphasized while working on the practice words containing the same root, namely *destructive*, *instruction*, and *structure* which gave the opportunity to work on affixes selected for the study, *de-*, con, and in- respectively. The aim in doing so was

to reinforce learning and retention of the meanings of word-parts and thus, the words formed by them.

To present the students a source for self-study, the contents of the slides presented in each lesson were transferred from presentation format into word file format and the copies were distributed to the students who took word root training at the end of each lesson (see Appendix 8 for sample activity handout). They were told not to write down the information while the instructor was explaining the meaning of the roots written on whiteboard so that the students would not miss the meaning of the roots. The aim was to make the students active in the classroom discussions, ask questions, and answer to the questions asked to them by the instructor.

The instruction program included fifty root verbs which were asked in the pre and post tests, but none of these words were the same as those covered in delayed post test. The rationale behind this principle was that the research results would reflect not the knowledge of individual words taught during the ten-week instruction but the positive effect of word-part awareness created through instruction on the selected roots and affixes.

3.5.3. Post Test Administration

The aim of administration of post test was to see the level of retention of both treatment group and control group students and to see if treatment group students can use it as a remembering tool. Since the treatment group students were given word-root instruction and the control group students were not given, the comparison of post test scores of both groups would reveal the effect of word root instruction on their retention of vocabulary. The post test assessment would show their level of vocabulary knowledge after ten weeks of receiving academic instruction in English.

3.5.4. Delayed Post Test Administration

The delayed post-test was administered to the treatment group students after ten-week instruction of word roots. The results of this test were mainly important because these results give the answer of the first research question. As the aim in delayed post test was to face the students with unknown words special to architecture, the fifty vocabulary items used in this test were different from pre test and post test. After each vocabulary

question it was asked ‘’How did you figure out the meaning of the word? ‘’to see if participants used the method they learned.

3.5.5. Interviews

Ten treatment-group members were interviewed by the researcher at the end of the ten-week instruction, a week after the delayed post test. Announcement for the interviews was made during the last session of the instruction, and they were invited to participate on voluntary basis. Neither the post test nor the delayed post test scores were disclosed to the students prior to the interviews, but the frequency data of the delayed post test scores were analyzed by the researcher in order to check the possible prejudice of the interviewees stemming from an anticipated success or failure.

3.5.6. Diaries

Participants were encouraged in the last five weeks of the word root training sessions to express their views on the course content and the instruction method, and they were urged to keep a diary and comment freely in written. Each week they were asked to use 300 words at most while writing down their feelings. Ten participants from treatment group were volunteers to keep a diary. The content was analyzed through categories such as ‘positive aspect of word root strategy/negative aspect of strategy’ and ‘suggestions’ remarks’.

3.6. Data Analysis

At the first stage, Statistical Package for social sciences (SPSS) edition 23 was utilized. SPSS is combination of the programs used for analyze data in social and behavioral sciences (Landau&Everitt, 2004). Larson –Hall (2016) states that SPSS is widely used by language researchers while analyzing quantitative data gathered via pre test and post test and delayed post test descriptive statistic were used. In order to identify whether there is a statistical significant difference in the scores of treatment and control group.

At the second stage, thematic analysis was employed to analyze the qualitative data collected via semi-structured interviews and diaries kept by students. To analyze the data of diaries kept by students the remarks were categorized under three main themes: Positive, negative and suggestions. With the help of these categories extracts were

evaluated. In order to ensure the validity and reliability of the data, thematic analysis was used and colleague support was received by the researcher. Thematic analysis is a process which helps the researcher categorize data in a systematic way and analyze qualitative data. Furthermore, thematic analysis gives the researchers the opportunity of presenting data in detail and reflecting interpretations (Boyatzis, 1998).

The qualitative data were gathered through four questions of semi-structured interview. The questions were related to word root training. In order to analyze the answers of open ended questions thematic analysis was used as it makes it possible for a researcher to eliminate plurality of ideas (Creswel, 2012). Thematic analysis and colleague support were utilized while analyzing the data of semi-structured interviews. The rationale behind using thematic analysis, as stated by Guest, MacQueen and Namey (2012), was its not being just based on counting words or phrases but its requiring the involvement and interpretation of the researcher in the study. As all interviews were audio recorded with students' permissions, the answers of interviewee were listened sentence by sentence and colleague support was taken while analyzing the data. There was a general agreement between researcher and the interpreter while analyzing the data sentence by sentence. Koelsch (2013) explains that colleague support enables a participant to check whether the researcher reports what s/he mentions or not.

CHAPTER IV

FINDINGS

4.0. Introduction

This chapter presents the findings collected through the data analysis tools including pre, post tests, delayed post test, diaries and interviews. The findings are examined under two main headings: The findings of the quantitative data on the effect of word root strategy for ESP learners and the findings of the qualitative data on perceptions of ESP learners about word root instruction.

4.1. Findings of the Quantitative Data on the Effect of Word Root Stratgey for ESP Learners

In this section only the findings of quantitative data were indicated. The findings were supported by the data obtained from results of the pretest, posttest and delayed posttest. Analysis of the quantitative data was done via SPSS.23.

4.1.1. Findings of the Pre-test Comparisons of Treatment and Control Groups

The pre test administered before the ten-week instruction period contained 50 items all of which were chosen from an architecture corpus to assess the participants 'word knowledge. Control and treatment group were homogenous classes in respect to word knowledge. The analysis pretests conducted for the comparison of the treatment and control groups reveal that the two selected groups do not differ significantly in their vocabulary knowledge levels. The following table 4 indicates the comparison of the scores obtained from pretest of both groups.

Table 4.

The Results of the Independent Samples T-Test based on the Pre-Test Scores

	Group	n	Mean	SD	t	p
Pre Test Scores	Treatment	30	1.40	2.09		
	Control	30	.80	1.27	1.34	.18

In order to identify whether or not there is a statistical significance in the difference of the mean scores, a t-test was carried out. As shown in Table 4, while the mean score for the treatment group is '1.40' (SD=2.09), the mean score for the control group differs by being '.80' (SD=1.27). The results of the t-test show that in terms of vocabulary knowledge there is no significant difference between the treatment and the control groups. As a result, it can be inferred that the variances of the two groups are equal ($p>0.05$). In addition, according to the independent samples t-test results, it can be inferred that there is no significant difference in the mean scores of the two groups on the pre-test scores ($t(58) = 1.34$, $p>0.05$).

4.1.2. Findings of The Post-Test Comparisons of Treatment and Control Groups

The post-test applied was the same as the pre-test and it was applied at the end of ten-week instruction to both treatment and control group students to find out whether the word-part instruction had a significant effect on the treatment group's vocabulary knowledge as compared with the control group. The following table indicates the comparison of the scores obtained from post-test of both groups.

Table 5.

The Group Statistics and the Results of the Independent Samples T-Test based on the Post Test Scores (N=30 in all cases)

	Group	n	Mean	SD	t	p
Post Test Scores	Treatment	30	27.13	12.6	5.12	.000
	Control	30	13.00	8.3		

In order to identify whether or not there is a significant difference between the mean scores, an independent samples t-test was applied to observe the mean differences. Table 5 indicates that the treatment group has a higher mean score (M=27.13, SD=12.6) than the control group (M=13.00, SD=8.3). As a result, it can be inferred that there is a significant statistical difference of the post test scores of the two groups ($t(58) = 5.12$, $p < 0.05$).

4.1.3. Comparisons of Pre and Post Test Scores of Treatment Group

The content of post test was the same as the pre test. It was applied after ten weeks of word root instruction training. The pre test and the post-test scores of the treatment group students were also compared as to observe the effect of word-root instruction on the retention of English vocabulary and to see if the word root training worked in treatment group.

Table 6.

The Paired Samples T-Test Values of the Treatment Group's Pre and Post-Post Scores (N=30)

		Paired Differences				
		Mean	SD	SE	t	p
Treatment Group	Pre Test Post Test	-32.33	5.38	.92	-33.48	.000

It can be seen in Table 6, there is a statistically significant difference between the pre-tests and the post-tests scores of the treatment group ($t(29) = -33.48$, $p<0.05$). As a result, it can be inferred that the students' scores in the vocabulary exams have increased from time 1 to time 2. It can be concluded that the word root strategy is understood by the treatment group students and it is used as means of retention of vocabulary.

4.1.4. Comparisons of Pre and Delayed Post Scores of Treatment Group

The content of delayed post-test was different from pre and post-test. It was applied after post test. The pre-test and the delayed post test scores of the treatment group students were also compared as to observe the effect of word-root instruction on guessing unknown English words in treatment group.

Table 7.

The Paired Samples T-Test Values of the Treatment Group's Pre and Delayed Post Scores (N=30)

		Paired Differences			t	p
		Mean	SD	SE		
Treatment Group	Pre Test Delayed Post Test	-32.13	5.26	.96	-33.48	.000

It can be seen in Table 6, there is a statistically significant difference between the pre-tests and the delayed post tests of the treatment group ($t(29) = -33.48$, $p<0.05$). As a result, it can be inferred that the students' scores in the vocabulary exams have increased from time 1 to time 3. It can be concluded that the treatment students are able to apply the word root strategy while trying to guess the meanings of unknown ESP words correctly.

4.2. Findings of Qualitative Data on Perceptions of ESP Learners about Word Root Instruction

In this section, only the findings of diaries and interviews were presented. The findings were supported by the data obtained from extract of participants' dairies and extracts of semi structured interviews held with participants.

4.2.1. Findings of Student Diaries

The treatment group students were asked to keep a diary which was composed of three sections. The participants had the option of writing their feeling in Turkish as to let them express their feelings more fluently. Ten volunteers from treatment group kept diaries. The content of students' diaries was categorized into three parts: positive feedback, negative feedback and suggestions. The following extracts are the example sentences from students' diaries.

There are positive expressions of students who were exposed to word root training in the following.

S1:''This method works exactly; thanks to this method it decreases my anxiety level while trying to learn new vocabulary.''

From the remarks of student S1 it can be understood that he is willing to use this method as he says it decreases his anxiety level. The word ‘’exactly ‘’ shows how he is sure about the effectiveness of this vocabulary learning method.

S3: "I think it is very good technique. We must use this method more frequently." "Learning words through word roots makes it more effective.

The words ‘’more frequently’’ shows how the students is fond of this method. Even after this study he seems to use that word root strategy for learning new vocabulary.

S4: ‘’ I have no difficulty in learning new vocabularies and it is better to learn vocabulary in this way".

S5:'I didn't know English words are formed like Turkish words. It makes my job easier''

The participant S5 is surprised and happy to see there is a similarity between two languages which makes him more relaxed.

S6: "It gives me a lot of fun while learning words thanks to this method. Why our former English teachers didn't mention this''?

S6 express his feeling while using the word root method and he is complaining about the unawareness of the other instructors.

S7: "This method changed my point of view and it makes learning vocabulary look easy."

S8:''Learning new vocabulary is not any more problematic for me''

It is obvious that almost all of the 10 (33.3%) participants who were volunteers to keep a diary had positive thoughts about this technique. The participants in the treatment group felt the technique's effectiveness while trying to guess the unknown vocabularies meaning. They were willing to be taught by being exposed to word root instruction in English courses. It seemed that word root instruction provides them a relaxed and secure atmosphere in class. Participants' comments in diaries show the effectiveness of word root method from their point of view.

There are students' remarks for suggestion part in the following:

S2: "This method is good and it should be instructed more. We should use it in every English lesson''

S1: ''we should learn also how to understand which part is the root part.''

S5: "We should continue to learn this all year as it makes more permanent learning ''

S5 stresses the continuity of the word root training. He says word root method should be used in even after the study is over.

S8: "I think you should make comparison with English and Turkish words while dissecting words so it can be more effective.''

S3: "I think this way of learning vocabulary makes it easier to remember the meaning of the words. Special attention should be paid to this method.''

S3 says that special attention should be paid as this method helps him remember the words he learnt.

S4: "Thanks to this method the size of vocabulary doesn't matter if used cautiously it can help the learning process and awareness should be raised.'

It is obvious that the students made a common suggestion which is about the duration of the instruction. Student 8 suggests that ''we should continue...'' and student 4 suggests that '' special attention should be paid ''When students' comments about suggestion were analyzed it seemed that the participants of the study are in favor of this instruction method and they stress the importance of continuity of the word root instruction.

Example sentences giving negative feedbacks are presented below:

S9: "while trying to learn vocabulary via this method it might be confusing to dissect the word parts so this can be misleading. This method doesn't work that effectively. ''

S10: ''This method was different and strange for me I am accustomed to my own way of learning new vocabulary.''

When the extractions from negative feedback part were analyzed it seemed that only two students had negative comments about the word root instruction as stated above. It seems that this method was strange and confusing for them.

4.2.2 Findings of Student Interviews

Ten treatment group students (33.3%) participated, on a voluntary basis, in face to face interview sessions with the researcher at the end of the ten-week instruction period. Answers to the four questions addressed during the interview as to extract students' personal views are summarized below.

The first question of the interview was '' Do you think what you learned in this study is useful? If yes, in what ways was it useful''?

Seven interviewees said that they "highly benefited from the instruction" and that they "found this strategy very useful". Two interviewees said that they "benefited from it" whereas one interviewee stated that "it was hard for me at the beginning, but got better by the time." When all ten students' responses are taken into account, *usefulness* maybe regarded as a commonly accepted beneficial aspect of the word-part instruction.

The second question of the interview was ''Did the things you learned in this study contribute to other courses you took? How''?

Eight interviewees expressed that it "highly/definitely contributed" and that they "felt the contribution" specifically while encountering the technical terms related to Architecture. One interviewee stated that she "did not pay attention to" its effect on other courses but commented that ''I try to dissect words into parts" when I encounter unknown words related to architecture. One interviewee stated that it was "too early" and that he expected positive effects "in the future," though he stated that he believes that ''it will contribute in the future''. As a whole, responses show that *contribution* of the instruction to other courses related to Architecture is a fact generally agreed upon.

The third question of the interview was ''Do you think your word knowledge has increased since the beginning of the study''?

Seven interviewees stated that it has "highly increased'' and that the reason was their "learning the words easily thanks to this method." Two interviewees approved its increase and expressed that they found the word meanings "easy to keep in mind." One

interviewee admitted that it was “hard at the beginning,” and he “felt the lack of it.” Answers show that the majority of the participants experienced an *increase* in their word knowledge after the word-root instruction they received.

The fourth question of the interview was ‘’Do you think what you learned in this study will be beneficial for you in your future profession? How’’?

Six interviewees expressed that they “definitely /highly” foresaw future benefits because they were “using reasoning, not rote memorization.” Three interviewees also expected future benefits provided that “they use this strategy”. One participant said he’’ couldn’t foresee it’’. Answers indicate that there is a general agreement among the students concerning the *future benefits* from learning vocabulary through word parts.

Comments provided by the students who were interviewed were identified under four categories: the usefulness of the word root strategy while learning new words (f: 10), the contribution of the word root strategy to other courses (f: 10), expansion of the vocabulary knowledge (f: 9), benefit of the word root strategy expected in the future (f: 9).

It can be concluded that the contentment level of the participants of the study was high with regard to usefulness of the word root instruction. That is to say participants interviewed were aware of the effects and gains of word root instruction however two interviewees expressed their concern about the application of word root strategy and stated that they need more time spending on this strategy to see good result.

During the interview session participants made spontaneously comments which are related to vocabulary learning and study habits and their views on the ten-week instruction. Nine interviewees stated that they “had not seen such a way of vocabulary learning before” and that they “never had received any instruction like that.” Five interviewees expressed that, to them, “learning vocabulary meant memorizing long lists of words and then forgetting most after a while.” Eight interviewees articulated their fondness in the teaching style and the materials used during the course. They also pointed out that they enjoyed the whole process. As for the duration of the course and the continuity of instruction, five students specifically laid stress upon the limited time allotted to the course by indicating that “one hour a week was not enough for learning the word-part system” and that “the course should continue.’’

To sum up, responses and comments analyzed above are widely positive. In evaluating the interview results, student prejudice should not be considered a matter of concern since the interviews were conducted on a voluntary basis, the post test and delayed post test scores were not revealed prior to the interview sessions. For this reason, the positive interviewee opinions on word-part instruction are not influenced by the participants' feeling of success. Students commented on word root training freely.

CHAPTER V

DISCUSSION

5.0. Introduction

This section is dedicated to finding answers to the research questions by comparing and contrasting the findings of the present study with former studies which have been carried out to find out the effects of word root instruction in vocabulary teaching in English classes. This study quantitatively analyzed the results of the tests applied and qualitatively analyzed the diaries of the participants kept and the interviews made with participants of the study

5.1. Discussion of the Findings

This study aimed to observe the effectiveness of instructing word roots in higher education. The study concentrated on how this strategy of vocabulary learning works in respect of guessing the meaning of unknown words correctly and on what the perceptions of students about word roots method are. Both quantitative and qualitative research attributes were utilized in order to find answers for the following research questions:

1) Is there a significant difference in the retention of vocabulary between the control group students who were exposed to a list of words denotatively (dictionary meaning) and the treatment group students who were exposed to a list of words etymologically (root meaning)?
2) What is the effect of the word root strategy for ESP learners who are exposed to word root instruction, in guessing the unknown English words related to field of Architecture accurately?
3) What are the perceptions of ESP learners on the method of teaching words through word roots?

The findings of data analysis were presented in previous chapter. In this chapter, the findings for each research questions were elaborated on separately and were discussed further with the support of other studies related to word root instruction.

5.1.1. Discussions of the Research Question 1

The first research question was: “Is there a significant difference in the retention of vocabulary between the control group students who were exposed to a list of words denotatively (dictionary meaning) and the treatment group students who were exposed to a list of words etymologically (root meaning)?”

The treatment group students performed better than the control group students in the post test measuring students’ retention of vocabulary. The post test scores obtained by the treatment-group participants were higher than those of the control-group students. There is a significant difference between the scores of the treatment group and the control group. Although the difference was not statistically significant in pre-test scores, it seems that there is a significant difference between the post test scores of both groups. It may be interpreted that students who took the word root instruction recognize more words than the students of control group which did not take the word root instruction.

This study also indicates that word root instruction has a positive effect on ESP vocabulary learning. Despite the fact that the number of word roots taught was restricted due to time limitation, the treatment helped the participants learn the meanings of the ESP words that have low frequency. Results obtained from the progress tests, namely pre-test, post-test and post post-test demonstrate that the treatment group participants benefited remarkably from the instruction. The comparison of results within the treatment group and also with those of the control group showed that the effect of teaching word roots was statistically significant in terms of retention. These findings support those of Bellomo (2005) and Eğecioğlu (1996) even if the instruction given and the scope of words the present study differs considerably in.

It was indicated that instructing word parts to language learners is an effective way for learning words in an another study carried out by Eğecioğlu (1996) with students of ELT department at a state university in Turkey. After integrating word part instruction reading writing course she found out that when the English learners became aware of Greek-Latin word parts their level of retention of words raised and they became better in guessing the meaning of words.

5.1.2. Discussions of the Research Question 2

The second research question was: ‘’What is the effect of the word root strategy for ESP learners who are exposed to word root instruction, in guessing the unknown English words related to field of Architecture accurately?’’

The pre-test, posttest and delayed post-test results show that the treatment group participants who received word-root instruction performed well and the effect of the treatment was statistically significant. This indicates that explicitly teaching word roots has a positive effect on the retention of English vocabulary and on accurately guessing the meaning of unknown words related to architecture. Regardless of their test scores the treatment group students expressed their fondness of word root strategy in the interviews held and in the diaries they kept weekly. Although Fang (2006), says that unfamiliar technical terms might appear challenging for the students, the participants in this study did not find the concept of ‘Word Root’ frightening. Although the students encountered this method for the first time they were not prejudiced against the strategy.

All of the participants of the present study have been learning English since primary school. However, both groups’ scores of the pretests measuring their vocabulary knowledge were very low. In terms of findings this study resembles those of Tschiner’s (2004) study. Tschirner (2004) carried out an experimental study with the participants of first year students of English language and literature at a university in Germany and observed that English language learners cannot acquire the necessary word knowledge without concentrating on vocabulary learning strategies. In spite of the long period of English learning, the scores obtained by the participants from the standardized word frequency levels tests were found disappointingly low considering that only two percent passed the productive level of the suggested 3,000 word-list.

This fact was also pointed out in the study of Bellomo (2005, 2009), which was conducted with college preparatory class students at a university in the United States. Bellomo (2005) mentioned that both EFL and ESL learners lack vocabulary knowledge for higher education. The participants of his study recorded a significant progress in the expansion of their vocabulary via explicit teaching of vocabulary and word parts. As the study suggests learning and retention of words were made easier with the help of word root instruction.

5.1.3. Discussions of the Research Question 3

The third research question was: “What are the perceptions of ESP learners about the method of teaching words through word roots?

90% of the 10 treatment group participants, who were interviewed, expressed contentment with the word root instruction regardless of their success in the tests in response to the four open-ended questions. Out of the other 10 treatment group students who kept diaries, 80% of students expressed their contentment with word root strategy writing their feelings freely in the diaries. It is reached to the conclusion that the majority of students were satisfied with the word-root instruction they received regardless of their degree of success.

It is found out that the findings of the qualitative data of this study support the results of the quantitative analyses. Students’ opinions extracted from diaries and the interviewees show that the word root instruction was found effective and welcomed by the majority of these students regardless of their test results. The questions asked in the interview were about four specific aspects of word root instruction, namely, the usefulness of learning word-parts, its contribution to other courses studied, its effect on vocabulary expansion, the benefits expected from it in the future. These questions were designed to see if the treatment group students were aware of the short term effects of word root strategy, long term gains of it and whether they foresee chance of wider usage of it and whether they find it helpful or not. The majority of interviewees had positive thoughts about learning vocabulary through word roots. Another aspect of this study is that it shows the progress treatment group students made within them and compares the retention level of both control group students and treatment group students of the same department at the same university.

Karlıova (2009) carried out a study about the effectiveness of word part instruction and the results of this study indicated the positive effect of word part instruction in higher education. The participants of the study had positive thoughts about word root training. In terms of participants thoughts on word root training, this study resembles to Karlıova‘s (2009) study.

To sum up, the score comparison analyses carried out reveal that word-root instruction is beneficial even if it is carried out for a short time period and that it contributes to vocabulary acquisition and guessing the meaning of unknown words’ meaning correctly.

CHAPTER VI

CONCLUSIONS

6.0. Introduction

This section of the study focuses on conclusions obtained from the study and general evaluation of the overall findings. Additionally, detailed implications, recommendations for future studies and limitations of the study were presented in this chapter.

6.1. Conclusions

The purpose of this study was to show the effect of the word roots training on predicting the meaning of unknown ESP words correctly and its retention. Additionally, the study aimed the find out the perceptions of the participants who were exposed to word root training for ten weeks period. At the beginning of the study, a pre test was applied to both control and treatment group to evaluate the word knowledge of both groups and to see the homogeneity of the groups. After the pre test administration, only the treatment group received instruction on vocabulary learning through word roots for ten weeks. At the beginning of the instruction program students were asked to download the application of the Greek and Latinate Word Roots to their mobile phones as to ease the burden of the instructor. The instruction program included fifty root verbs which were asked in the pre and posttests, but none of these words were the same as those covered in post posttest. As it is hard to define which words are ESP words, a corpus was preferred in the study. The words in all tests applied in this study were selected from a corpus of 505,649 words related to Architecture. After the word root instruction program which lasted for ten weeks, post test and delayed post test were applied to observe the effect of this method on retention and to measure the competence of predicting the meaning of the ESP words they had never seen before. Additionally, semi structured interview and diaries were utilized to see the perceptions of the students who were exposed to word root instruction.

For the methodology, the experimental approach (Miller & Salkind, 2002) was adopted throughout the study. Two groups of Adana Alparslan Türkeş Science and Technology students who were studying in the same department were selected. The students were learning English for an academic purpose. The course book of the students

(can be seen in appendix 7). For Triangulation (Jick, 1979), in addition to pretest posttest, post-posttest students were asked to keep a diary and were interviewed.

This study suggests that word root instruction has a positive effect on the retention level of ESP words of university students studying architecture. It is clearly understood from the results gathered from the study that explicit word-root instruction is an effective mnemonic tool for the retention of words and for guessing the meaning of unknown ESP words accurately. Beside the results the students who took word root training expressed that they can learn the unknown ESP words better through word root instruction. Furthermore, participants who were exposed to word root training performed well in learning low-frequency words and ESP vocabulary even in the period of ten weeks. The ESP words taught in word root training can be seen in (Appendix 3). In spite of covering only a limited number of word roots for ten-week instruction there was a statistically significant effect of word root instruction which indicates that students might benefit on larger scale if the word root training lasts a longer period of time. Additionally, the participants' mother tongues were not of Indo-European origin, which was seen as a disadvantage for students in learning the academic English words. However, as in the participants' language it is possible to dissect the words into parts as they did in this word root training period, they turned it to an advantage.

In conclusion, the data obtained show that teaching word roots is an effective tool for enlarging English vocabulary and that it helps learners to learn ESP words. Students' test scores, diaries and interview results show that explicit teaching of word parts is a beneficial tool for learning the ESP words which have low-frequency. According to the results of interviews held and diaries kept by the students, explicit teaching of word roots is not only a beneficial, but also a welcome instrument for the university students studying architecture in acquiring the academic vocabulary.

6.2. Implications of the Study

Xhaferi (2009) states that English as foreign learners are having a great difficulty in learning, and remembering the great number of ESP words in English. The reason for this difficulty is partly being unfamiliar with basic morphological units. Having no background knowledge of these roots and affixes, the EFL learners are at a disadvantage in vocabulary learning.

Moreover, when English learners are under pressure of limited time and have performance concerns in their academic success, they are more stressed as they have to learn a great number of ESP words which have low frequency and remember them for their academic studies. When these conditions are taken into account, explicitly teaching word roots to English language learners as a mnemonic device is necessarily a beneficial way of learning vocabulary for students dealing the difficulty of learning the vast number of academic words in English. Therefore, special attention may be paid to vocabulary teaching through word roots and this way of teaching ESP words may have a greater place in the curriculum throughout undergraduate years. Moreover, ESP words which constitute the great majority of low frequency words may be taught on a wider scale in order to help university students reach a higher comprehension level which is necessary for academic purposes. This is specifically necessary in EFL classes, and doing so could provide vocabulary learning through word roots a life-long device for the language learners.

6.3. Limitations and Recommendations for Further Studies

One possible limitation of this study was its being limited to students of first year class in Adana Alparslan Türkeş Science and Technology University. The results of this study would not be extensive enough to reach general conclusions. For example, by taking this study into account, it is not possible to estimate the effectiveness of this method in primary or middle schools. So the researcher can discuss the issue of how to teach students of different ages in detail in future papers.

This study aimed to contribute to ESP vocabulary learning research by discussing the effect of teaching English words through word roots. Extending the scope of the study by increasing the number of word roots to be taught and the time, may be practicable for the researchers to find out the effects of the word root instruction. Further research may also be conducted in different settings with participants other than first year Architecture studying English language learners. Furthermore, experiments with foreign language learners other than the native speakers of Turkish as well as with the ESL learners may be of interest to the researchers in the field.

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APPENDICES

Appendix 1. Interview Questions

Adı Soyadı:
Doğum tarihi:
Cinsiyeti:
Bölümü:

1) Do you think what you learned in this course is useful? If yes, in what ways it was useful? [If prompt needed:] For example, does it help you in guessing the meaning of the words you do not know?
2) Did the things you learned in the course contribute to other courses you took? How?
3) Do you think your word knowledge has expanded since the beginning of the study?
4) Do you think what you learned in the course will be beneficial for you in future? How? [If prompt needed:] For example, would it help you to learn more words?

Appendix 2. ***Consent Form***

I take part in this research voluntarily and I am aware of that I have the chance of stopping to participate at any time I wish. My identity will be confidential and the information will be used only for scientific reason.

Date:

Name surname:

Participant's signature:

Appendix 3. Pre Test-Post Test(Words Taught During Word Root Training)

Değerli Katılımcılar,
Aşağıda Mimarlık alanına özgü rastgele seçilmiş 50 adet sözcük verilmiştir. Bu sözcükler hakkında bilginizi ölçmek amaçlanmaktadır. Bu çalışma hiçbir şekilde notunuzu belirleme ya da sizi değerlendirme amaçlı değildir. Bu çalışma sadece sizinle birlikte yapacağımız gönüllü olarak katılabileceğiniz akademik bir çalışma için veri toplamak amaçlı yapılmaktadır. Vereceğiniz cevaplar ve kimlik bilgileriniz sizden izinsiz kimseyle paylaşılmayacaktır. Aşağıda verilen kutucuklardan uygun olana X işareti koyunuz. Diğer kutucuklardan 'Kesinlikle Biliyorum' ve 'Biliyorum' bölümlerini seçerseniz sizden Türkçe anlamlarını yazmanız istenmektedir.
Çalışmamıza verdiğiniz destek için teşekkür ederiz.

Adı Soyadı:
Doğum tarihi:
Cinsiyeti:
Bölümü:
Grubu:

		Kesinlikle Biliyorum	**Biliyorum**	**Emin Değilim**	**Bilmiyorum**	**Kesinlikle Bilmiyorum**
1	rusticated stone	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
2	Rectilinear	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
3	Quadrant	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
4	Precedent	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
5	Polystyrene	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
6	spatial choreography	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
7	urban acupuncture	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz

		Kesinlikle Biliyorum	**Biliyorum**	**Emin Değilim**	**Bilmiyorum**	**Kesinlikle Bilmiyorum**
8	Neo-baroque	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
9	monumental	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
10	Polychrome	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
11	Picturesque	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
12	Pedestal	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
13	Parameter	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
14	Neo-primitive Architecture	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
15	monastery	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
16	monolithic	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
17	minimal dwelling	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
18	mezzanine	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz

		Kesinlikle Biliyorum	**Biliyorum**	**Emin Değilim**	**Bilmiyorum**	**Kesinlikle Bilmiyorum**
19	metropolis	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
20	rectangle	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
21	majolica	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
22	landscaping	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
23	mansard	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
24	hazard-resistant	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
25	structural	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
26	gentrification	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
27	flaneur	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
28	ergonomic	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
29	effigy	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz

		Kesinlikle Biliyorum	**Biliyorum**	**Emin Değilim**	**Bilmiyorum**	**Kesinlikle Bilmiyorum**
30	dovecote	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
31	eco-domestic	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
32	deconstructio n	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
33	crescent	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
34	constructivis m	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
35	colonnade	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
36	cantilever	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
37	candelabrum	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
38	camphorwoo d	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
39	boulevard	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
40	biophilia	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz

		Kesinlikle Biliyorum	**Biliyorum**	**Emin Değilim**	**Bilmiyorum**	**Kesinlikle Bilmiyorum**
41	biocybernetics	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
42	beaux-arts	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
43	baptistery	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
44	balustrading	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
45	axonometrics	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
46	avant-garde	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
47	Auditorium	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
48	Atrium	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
49	Assemblage	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz
50	Architectonic	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü işaretlediyseniz Kelimenin Türkçe Anlamını Yazınız	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz	Bu bölümü X ile işaretleyiniz

Appendix 4. Daily Lesson Plan

DAILY LESSON PLAN			
PART ONE	**Teacher's Name:** Şeyhmusa Yıldız		**Class:** Architecture
	Lesson Name: English		**Date & Time:** November9, 2019 – 10:00 / 10:45
	Book Name: -- Architecture (career paths)& course handouts only		**Duration:** 45 minutes
	Unit Name & Number: Latinate Roots & Affixes		**Topic:** construction
	Objectives of the lesson	**Linguistic:**	To create student awareness of the root *struct-* and its forms when combined with affixes to make English words
		Lexical:	To teach the words consisting the root *struct* and also the possible collocations and fixed expressions these words form
		(Expected) Behaviors:	Students will be able to notice the morpheme forming the English words deriving their meanings from the Latinate word under study.
	Unit Concepts:		Latinate words derived from *struct*, namely, *destruct, construct, structure, instruct, structural, destruction, construction ,destructed*
	Anticipated Problems:		Students may not be familiar with the target morpheme and may have difficulty in recalling the related Latinate words in use.
	Presumed Knowledge:		Students are supposed to know the previously covered affixes. Also, some of the words, such as structure and destruction, may already be a part of students' word knowledge.
	Possible Solutions:		Recalling a word they came across with before and noticing the morpheme therein will help them become aware of the morphological combinations in Latinate words.
	Technological Devices:		A projector to reflect the software presentation on the whiteboard
	Student Resources:		Students are not required to use resources such as dictionaries during the lecture, but are encouraged to do so afterwards.
	Teacher Resources:		A presentation compiled by the instructor for the lesson and wireless Internet connection to refer if needed.
			10-15 minutes

PART TWO	**PROCESS – I**	**Time**	
			Linguistic: Awareness of the morphemes
			Lexical: The lexical items selected
			Skills: Guessing and recalling
		P R O C E D U RE **ONE**	1) A short overview of the words containing the root covered in the previous lesson, namely, *archi-*, will be made as a warm up activity. Further examples of the words bearing the same root-verb will be presented to reinforce the knowledge the root and the affixes. 2) Sentences having slots to be filled in with the studied words in the previous lesson will be projected on the whiteboard and the students will be expected to come up with the appropriate words to fill in the blanks.
		Techniques	Guessing and recalling
		Expected Behaviors	Students will be stimulated (1) to guess the meanings of the new words presented from the morphemes the words contain and (2) to recall the words they recently learned. Debating the guess-work will be encouraged.
		Time	25-30 minutes
			Linguistic: The selected morpheme, *struct-*
			Lexical: Words derived from the morpheme
			Skills: Noticing and recalling
		P R O C E D U RE **TWO**	Historical background of the phrase will be mentioned to motivate learning and kindle attention. The morpheme *struct-* will be presented and the denotations, and where appropriate, the connotations of the selected words deriving from this root will be covered. Examples of sentences wherein these words take place will be given to show their use in practice. The practice will also give the chance to work on other words.
		Techniques	Consciousness raising
		Expected Behaviors	Students will be stimulated to think and recall, and also to raise questions as to clear the word meanings.

PART THREE	**Assessment & Evaluation**	Participation: *[to be noted after the lesson]*
PART FOUR	**Possible Problems and Solutions Related to the Application of the Lesson Plan**	Retention of the new words is generally a problem for foreign language learners since they do not have the opportunity to hear these words in a natural communicative environment. Therefore, the students need to rely mostly on reading in the target language. As to emphasize the importance of selective attention in noticing the roots and affixes, the students will be asked to search for the words covered in the lesson when reading later and to bring the sentences they come across as to share them with their classmates during the next session. They will also be encouraged to find other words that contain the same morpheme and check their meanings in their dictionaries as to make sure that the roots and affixes are detected correctly.

Appendix 5. A Sample Student Diary

A Sample Student Diary

Write your **POSITIVE THOUGHTS** about Word root instruction.
(kelime kökü öğretimi hakkındaki POZİTİF DÜŞÜNCELERİNİZİ yazınız.)

Write your **NEGATIVE THOUGHTS** about Word root instruction.
(kelime kökü öğretimi hakkındaki NEGATİF DÜŞÜNCELERİNİZİ yazınız.)

Appendix 6. Delayed-Post Test Questions

DELAYED-POST TEST QUESTIONS

Değerli Katılımcılar,

Aşağıda Mimarlık alanına özgü rastgele seçilmiş 50 adet sözcük verilmiştir. Bu sözcüklerin anlamını önceden biliyorsanız uygun boşluğa önceden bildiğinizi yazınız eğer bilmiyorsanız anlamını tahmin edebilirsiniz ve nasıl tahmin ettiğinizi uygun boşluğa yazınız. Bu çalışma hiçbir şekilde notunuzu belirleme ya da sizi değerlendirme amaçlı değildir. Bu çalışma sadece sizinle birlikte yapacağımız gönüllü olarak katılabileceğiniz akademik bir çalışma için veri toplamak amaçlı yapılmaktadır. Vereceğiniz cevaplar ve kimlik bilgileriniz sizden izinsiz kimseyle paylaşılmayacaktır. Aşağıda verilen kutucukları doldurunuz

Çalışmamıza verdiğiniz destek için teşekkür ederim (Öğr. Gör.Şeyhmusa Yıldız) .

Adı Soyadı:

Doğum tarihi:

Cinsiyeti:

Bölümü:

Grubu :

		Kelimenin anlamını Türkçe ya da İngilizce kelimelerle yazınız	**Bu kelimenin anlamını nasıl tahmin ettiniz?**
1	Airbrick		
2	Air-tight wall		
3	amphitheater		
4	Barrier –free		
5	Bio-filtration		
6	Blast-resistant		
7	Bulletproof glass		
8	City planning		
9	Collapsible furniture		

10 Conservation

11 Eco-friendly

12 Elevator

13 Energy-consuming

14 Escalator

15 functionalism

16 Geothermal

17 Hazard resistant

18 High -density

19 Industrial designer

20 Abutement

21 Acrylic

22 Aggregate

23 Alabaster

24 Animate

25 Aperture

26 Barrel vaulted

27 Basement

28 Belvedere

29 Borosilicate glass

30 Box girder

31 Canopy

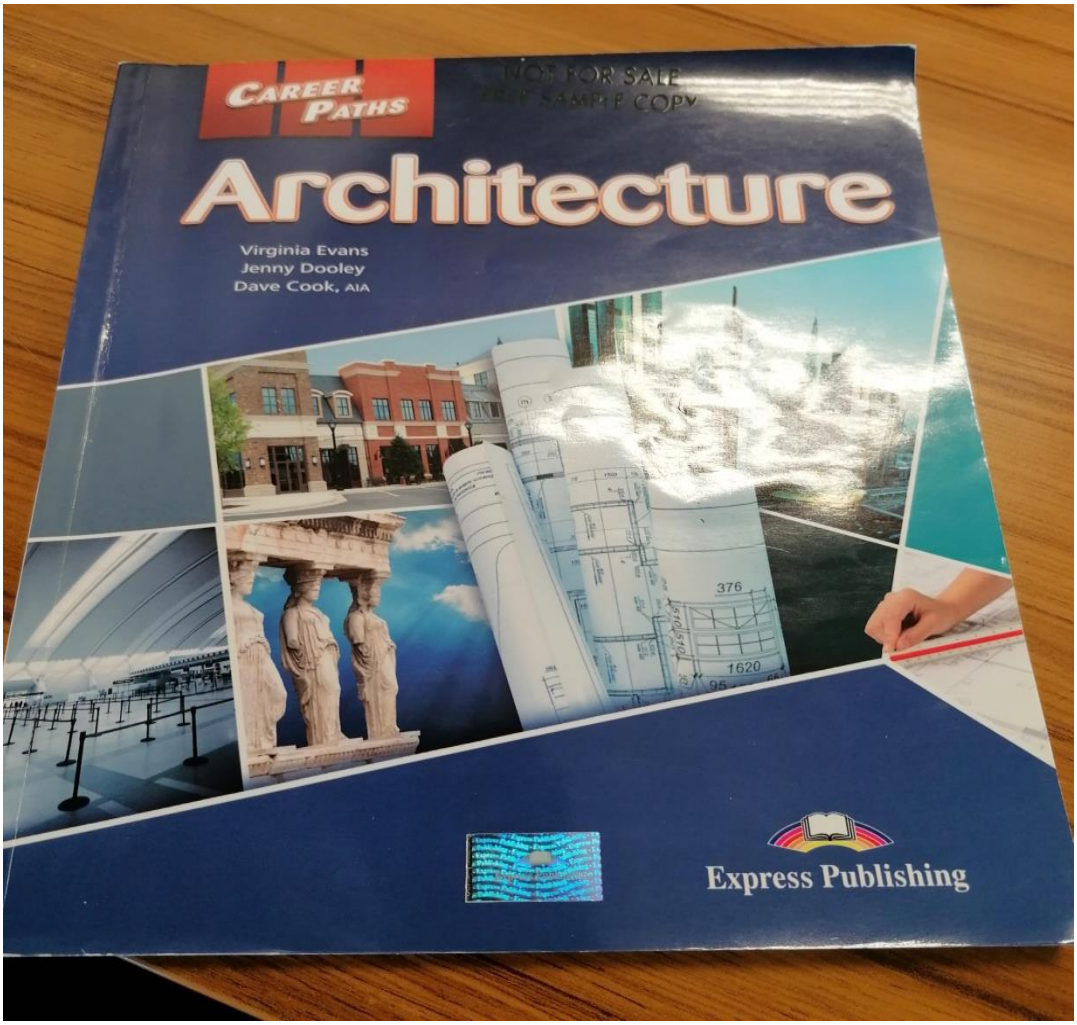
32 Channel glass

33 Complexity

34	Courtyard
35	Convention
36	Computer aided
37	Customization
38	Deconstructed
39	Deconstruction
40	Dense
41	Curtain wall
42	Dimension
43	Dormitory
44	Fieldstone
45	Floorplate
46	Fenestration
47	Garapa wood
48	Free standing
49	Fruitwood
50	Multi- storey

Appendix 7. The course book of the participants

The course book of the participants



Appendix 8. A Sample Vocabulary Activity Used Weekly

Match the words with the definitions
a. Architectonic
b. Pedestal
c. Polychrome
d. Picturesque
e. Monolhitic
1. The base or support on which a statue,obelisk, or column is mounted
2. Formed of a single large blockstone.
3. Painted or printed in several colours
4. Relating to architecture or architects.
5. (of a place or building) visually attractive, especially in a quaint or charming way.
Fill in the Blanks with Words Above
1)"his later novels display more concern with …….
2)"later Byzantine columns were ……. and usually made of marble
3)"ruined abbeys and …….. villages"
4)"a bronze bust on a marble ……
5)"Modigliani continued to carve his large heads, sometimes in……., until 1916"
Find the Roots in the Words and Give Examples Derived from the Same Roots (check your application if necessary)
Monolhtic =(Greek) mon = alone, only, lith= (greek) stone
Ex: monarchy, monk, monotone, paleothic, neolithic,lithomy
Architectonic= (Greek) archi= ruler, (Latin) tect= cover
Ex: polyarchy ,triarchy anarchy, architect,detect, detector,protect
Pedestial = (Latin) ped = foot , Latin st= stand
Ex: pedal, pedestrian, expedient, expedition, system,statue,stay
Polychrome= (Greek) poly = many , (Greek)chrom = colour
Ex: polygamy,polytheistic, polygon, chromosome, monochrome
Picturesque = (Latin) pict = paint
Ex: depiction, picture,pictus

CURRICULUM VITAE

Personal Information

Name &Surname : Şeyhmusa Yıldız
Date/Place of Birth:08.08.1987/ Siverek
Email: syildiz@atu.edu .tr

Educational Background

2018-2020: MA Çukurova University Institute of social Sciences, English Language Teaching Department

2007-2012 : BA, Çukurova University Institute of social Sciences, English Language Teaching Department

2002-2006: Tevfik Sırrı Gür High School/Mersin

Work Experience

2012-2014 : English teacher, Kahta GAP Anatolian High School

2014-2017: Adıyaman Bilgi Anatolian High School

2014-2017: Instructor, Adana Alparslan Türkeş Science and Technology University