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Setenay ÇELİK

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TEACHING VOCABULARY TO YOUNG LEARNERS
THROUGH
BRAIN BASED TEACHING STRATEGIES
(Yüksek Lisans Tezi)

Setenay ÇELİK

GAZİ ÜNİVERSİTESİ
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ÖZ

‘‘Beyin temelli öğrenme ve öğretim teknikleri’’ eğitimciler tarafından son zamanların en çok araştırılıp önemsenen konusu haline gelmiştir. Bu aslında o kadar yerinde bir gelişmedir ki beyin temelli öğrenme kavramıyla karşılaşan tüm öğretmenler, bu zamana kadar yaptıkları öğretimin verimliliğini sorgulayıp, bazı öğretim alışkanlıklarının değişmesi gerektiğini fark ederler. Öğretmenliklerinin ilk yıllarında olan eğitimciler, genelde ders esnasında yaptıklarının amacını bilmeden, deneyip yanılarak içgüdüsel olarak doğru olan öğretim yolunu bulmaya çalışırlar. Oysaki; beyin temelli yaklaşım hakkında bilgili olan öğretmenler neyi, ne zaman, nasıl ve neden yapmaları gerektiğini bilirler ve daha etkili olan bir öğretime ulaşmış olurlar. Öğrenme eyleminin tamamen beyin ve fonksiyonlarıyla alakalı olduğu düşünülürse, beyin temelli öğretimin kalıcı öğrenme üzerinde ne kadar etkili olduğu görülecektir. Özellikle çocuklarla çalışan öğretmenlerin, yaşadıkları zorlukların üstesinden gelmelerinde oldukça etkili bir yöntemdir. Herkes tarafından bilinir ki çocuklar, dikkatlerini bir konuya toplamakta ve öğrendiklerini bir süre sonra hatırlamakta sorun yaşarlar. Bu duruma ek olarak, yabancı dilde çocuklara öğretim yapmak üstesinden gelinmesi gereken ayrı bir zorluktur. Buna çözüm arayan öğretmenler için beynin nasıl öğrendiğine dair araştırma yapmaları önerilebilir. Çocuklar için İngilizce kelime bilgisinin önemi yadsınamaz bir gerçektir. Bu sebeple, kelime öğretiminin etkinliği, çocuğun o dile olan hakimiyetini direkt olarak etkileyecektir. Bu çalışmada, tüm bu yukarda belirtilen sorunlara çözüm bulmak amacıyla beyin temelli yaklaşımın çocukların İngilizce kelime öğrenme süreçlerinde etkisinin olup olmadığı araştırılmıştır. Araştırma, Ankara’daki Anafartalar Koleji ilkokul 4. sınıf öğrencilerini kapsayıp, tüm bir yıllık eğitim dönemi boyunca gerçekleştirilmiştir. Farklı iki sınıftaki öğrenciler üzerinde farklı yöntem ve teknikler kullanılarak, uygulanan testlerle birlikte aradaki fark ortaya konulmaya çalışılmıştır. Bir sınıfta, ana dile çeviri gibi klasik yöntemlerle İngilizce kelime öğretimi yapılırken, diğer sınıfta tamamen beyin temelli yaklaşıma göre öğretim yapılmıştır. Her iki sınıfta da aynı kelimeler aynı zamanda verilmiş olup, sene sonunda öğrencilerin kelimeleri hatırlama oranları bir testle ölçülmüştür. Elde edilen sonuçlar neticesinde beyin temelli yollarla öğretim gören öğrencilerin, klasik yöntemlerle öğretim gören öğrencilere kıyasla kelimeleri hatırlama ve doğru kullanmada daha başarılı olduğu ortaya çıkmıştır. Ayrıca, beyin temelli yaklaşımın uygulandığı sınıfta, öğrencilerin derse katılma bakımından çok daha istekli oldukları; ders esnasında sınıf içi huzur, mutluluk ve motivasyonun daha yüksek olduğu gözlemlenmiştir.

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TEACHING VOCABULARY TO YOUNG LEARNERS THROUGH BRAIN BASED TEACHING STRATEGIES

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ABSTRACT

‘‘Brain based learning and teaching techniques’’ recently have been the greatest research and appreciated topic by the educators. Actually, this is such a righteous evolution that all teachers, who encounter with the term of brain based learning, realize that some of their teaching habits need to be changed by questioning the effectiveness of their teaching so far. Educators, at the first years of their teaching, usually try to find the right ways of teaching by trying and making mistakes instinctively without knowing the aim of what they do during the lesson. However, the teachers, who are informed about the bain based approach, know what to do, when to do, how to do and why to do and they achieve a more effective way of teaching. Thinking that the action of learning is related to the brain and its functions, how effective the brain based teaching is on the permanent learning will be seen. This is a very effective technique especially for the the teachers, who work with children, to overcome the challenges they have. It is known by everyone that children have difficulty in concentrating on a topic and remembering the things they learn after a while. In addition to this, teaching to children in a foreign language is another challenge to be overcomed. For the teachers, who try to find solutions for these challenges, it may be suggested that they search about how the brain learns. The importance of vocabulary knowledge for young learners is an undeniable fact. For this reason, the efficiency of teaching vocabulary will effect the learner’s competency in that language directly. In this study, in order to find solutions to the problems stated above, whether the brain based approach has an affect on young learners’ processes of vocabulary learning was researched. The research involves the 4. grade students of Anafartalar primary school in Ankara and it was implemented in a whole year education term. The differences were revealed by using different ways and techniques on the students of two different classes with the tests applied. While classical ways of teaching such as translation to the native language, were used in a class, in the other class all teaching process was planned according to the brain based approach. In both of the classes the same kind of words were taught at the same time and at the end of the year, the percentages of students' remembering the words were assessed with a test. According to the results, it was revealed that the students, who got brain based teaching education, were more successful in rememberig and using the words correctly compared to the students, who got a classical ways of teaching process. Moreover, in the class, where brain based teaching strategies were used, it was observed that the students were more willing in terms of participating in the lesson and the feelings of peace, happiness and motivation were much higher during the lesson.

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CHAPTER 1

INTRODUCTION

1.1. Introduction

This chapter aims to present an overview of the present study ‘ Teaching Vocabulary to Young Learners Through Brain Based Teaching Strategies’. In this chapter, there are six sections. First, statement of the problem is presented. Following this, aim of the study is clarified. Then, significance of the study is explained very briefly. After that, assumptions and the limitations are presented. Finally, definition of terms is given.

1.2. General Background to the Study

Language teachers are aware of the fact that teaching English to young learners is different from teaching to adults. The basic reason to this difference is teaching English to young learners requires many different talents and different approaches. First of all, a language teacher of young learners is supposed to know the general features of the children, and how to react to their behaviours, accordingly because according to Diamond (1996), the brain is the source of all behaviour. Unfortunately, knowing the features of a single child is not enough or helpful for a langauge teacher because in a classroom environment, where many children from different family backgrounds come together, a teacher needs to acquire more proffesional talents to manage the classroom in order not to have a great nightmare. For that reason, being able to catch attention of the young learners is the basic and first thing that lanaguge teachers are supposed to reach in a classroom environment.

Moreover, young learners are mostly eager to move, play games, have fun, discover the environment and be active all the time. All these characteristics may seem so cute at the first sight; however, when it comes to teaching a group of little people with all these features, it might be a great struggle for a teacher to deal with. Language teachers, who are aware of this struggle, try to create an enjoyable learning environment for the students.

Nevertheless, creating an enjoyable learning process may not be so easy all the time. Although teachers start the lesson with a very organized and enjoyable lesson plan in his/her mind, anything may happen at any time that might disturb the ongoing of that lesson. For that reason, a language teacher, working with the young learners, must be patient and far-sighted. Being a far-sighted helps the teachers to be able to prevent any possible problem that might disturb the lesson. A teacher can have this ability only when he / she knows each of the students individually and the spirit of the classroom very well.

Another challenge for the language teachers of young learners is the oral communication processes. Trying to communicate with the children in a language that they have no idea about is a great challenge to deal with. While a teacher can find this process to be full of funny experiences another teacher may think that it is just a nightmare and switches into using the native language of the students. The latter situation is nothing but an event of giving up. A language teacher, who struggles to communicate with the children in English, is supposed to experience many unforgettable moments and she / he will probably see the advantages that this struggle brings in time, which requires patience.

During the communication processes with the young learners, language teachers mostly get help from the body language usage. While they are using the body language, teachers try to add the target vocabulary items into this bodily communication. They try to teach the target vocabulary items by creating a meaningful match between their body langauge and the words they utter. For this reason, words known by the children play an important role in communicating with the them. At primary level, building up a useful vocabulary is essential in foreign language learning. Young learners are capable of learning foreign language words through simple classroom activities. Even important grammatical information can be conveyed to the words, and learning words lead pupils to get a long way into the grammar.

Scott (1993) states while teaching young learners, words are not enough. Activities for young learners must include movement and fun. These two are the basic needs of the children. As long as an activity seems funny for them, they want to be actively involved in the learning process; although, they think that they are only playing a funny game. Otherwise, if they are not given planned chances that they can move and be active, they will create their own chance to move around, which possible ends with the anger of the teacher. However, a teacher, who knows that children need to move and be active enough during a lesson, lets them do whatever they want but in a way that the teacher has planned.

For language teachers and practitioners, how to teach vocabulary to young learners in a very effective way has long been a crucial concern issue. They have been seeking for the most effective ways of teaching. There are many techniques in vocabulary teaching. Teachers mostly tend to give the direct translation of a target word in the native language. This method seems easier and time saving at first sight; however, this kind of learning mostly ends with forgetting because the students only memorize the words with their native language equivalents, which lacks in creating meaningful connections.

According to some educator researchers, Ellis (2008), Sousa (2006), R. Caine (1990) and G. Caine (1990), making connections is one of the human brain's functions and it fosters learning. As the teachers get informed about all these kind of studies, they get a lightening bulb in their minds. Teachers have long been thinking that when they use the brain facts in their classes, they might have a more effective learning environment. As for the language teachers, it might be much more easier to get the attention of young learners and teach them the target vocabulary items through brain based facts. All these processes have created the term of brain based teaching and learning. Nowadays, the number of teachers, who are learning more about the brain and its functions, is getting higher because they want to improve their teaching skills. Zull (2002) summarizes the need for brain based teaching and learning underlying that the human brain gathers, analyzes, creates and acts. If students are supposed to do these four things, they have to use their whole brain.

1.3. Statement of the Problem

According to Sousa (2006) the most optimal language learning is achieved when the window of opportunity is opened. The author states, ‘‘after the age of 12, learning any language becomes more difficult’’ (Sousa, 2006, p. 27). As time passes, new needs, opportunities and challenges arouse in teaching English to young learners. What is kept still is that the first years in learning a language serve as a background to the learners' future success in the language. With this point of view, teachers, who are teaching to young learners, always seek to optimize their teaching strategies, techniques and so on.

As Cameron mentions in her book ‘‘vocabulary teaching has a centre stage in foreign language teaching’’ (2001). When it comes to young learners, vocabulary knowledge is seen as the most crucial step for their success in language. They even start learning their native language by naming the items around them. The author also states that ‘‘ young children need concrete vocabulary’’ (Cameron, 2001). They need to learn new words by using their all five senses, which makes it more meaningful for them.

Learning is central to the brain. Like other organs, brain has itsown responsibility to fulfill, which is learning. Most authors, including Sprenger (2007), Sousa (2006), Connell (2000), Jensen and Dabney (2000) and R. Caine (1990) and G. Caine (1990) have had the most recent findings about the brain and they have enlightened language teachers about improving their teaching strategies. All researchers, authors come to this point: learning occurs thanks to the brain and best learning is achieved when the brain’s needs are met.

Young brains are eager to learn; however, they can forget easily. Teachers are looking for the ways to make their students learn without never forgetting. There is a strong need for a change in the strategies that are used to teach vocabulary to young learners. Unless young learners are taught with brain strategies, it is almost imposible for them to transmit their present vocabulary knowledge into their future language education.

1.4. Aims of the Study

The main aim of this study is to suggest brain-based teaching strategies to teach vocabulary to young learners. Throughout the study the following questions will be answered;

1. Is there an influence of teaching vocabulary through brain based strategies on students’ vocabulary learning?
2. Can teaching vocabulary through brain based strategies to young learners be more efficient than traditional methods?
3. Is there a meaningful difference in the post-tests of the experimental group and the control group?
4. Will the students’ feelings be positive about the procedure?

At the end of the study the researcher aims at finding out the outstanding effects of brain-based strategies on teaching vocabulary to young learners.

1.5. Significance of the Study

Studies show that learning is all about making connections among the neurons. ‘‘The neurons in a child’s brain make many more connections than those in adults’’ (Sousa, 2006, p. 24). This fact proves why children learn more easily than the adults do. In his book, Sousa also mentions that ‘‘proficiency in learning a second language depends not on how long non-natives have been speaking the language, but on how early in life they began learning it’’ (2006, p. 183). Therefore, this study is significant in that it holds the outstanding results of vocabulary teaching using the advantage of powerful brain capacity of young language learners.

One of the most crucial areas of language is learning or teaching vocabulary. Zimmerman’s study (1997, as cited in Lago and Seepho, 2012) showed that ‘‘vocabulary is central to language and of critical importance to the typical language learned’’. The more words a young language learner stores in his memory, the more successful he becomes in English. As Cameron points in her book, ‘‘Vocabulary learning can be a stepping stone to learning and using grammar’’ (2001, p. 73).

It’s hard for most of the teachers to understand if the students have learnt the given target vocabulary items. Jensen (2000) guides the teachers about this problem explaining that the only way teachers know that students have learned something is if they demonstrate recall of it. Teachers understand whether the students have learned the new vocabulary items, when the students remember the words. Memory has the recalling function. In this point, brain-based teaching techniques help teachers teach most effectively. As Christison (2002, p. 2) mentions in her book that ‘‘teachers are excited about brain-based research because it helps them understand how the brain learns best and how they can take advantage of this knowledge to help their students learn quickly and efficiently as possible’’.

Having started with the point that children learn easily and forget quickly, this study plays an important role teaching vocabulary to young learners by improving their memory skills. If it comes to memory, it is well worth searching about the brain. Throughout the research, it will be the most significant messege; as long as the teachers meet the needs of the young brains, it is easier for the learners to remember new vocabulary items.

Based on the importance attributed to vocabulary knowledge for a young learner, this research aims to prove the use of brain-based teaching has a significant role in teaching vocabulary and may be the best way to reach the goal. For this reason, this study will provide brain-based teaching strategies to teach vocabulary to young learners. The suggested strategies can be a model for other language teachers.

1.6. Assumptions

The following points are assumed in this study;

- The students, taught with brain-based strategies, learn and remember the words more easily and in a more enjoyable way.
- The students may be more eager to participate in the activities.
- The tests, given to students to evaluate their process in learning new vocabulary items, are presumed to be valid and reliable.
- For these reasons, the evaluation and analysis of the data are presupposed to be valid and reliable.
- The target vocabulary are assumed to be studied and the students are assumed to learn those words.

The research is supposed to cover about 70 students divided into two groups. Different materials and methodologies, one being brain-based teaching, will be applied to the study.

1.7. Limitations

This study will have certain limitations when attempting brain based strategies for teaching vocabulary to young learners. This study will be limited to;

- Anafartalar College 4^{th} year students.
- Two groups of fourth year students.
- Chosen vocabulary items from seven units in the course book.

1.8. Definition of Terms

Brain based teaching is an approach which involves acknowledging the brain’s rules for meaningful learning and organizing teaching with those rules in mind (Caine and Caine, 1991).

Young learners are generally regarded as those learners who are within the ages of 6-12.

CHAPTER 2

REVIEW OF LITERATURE

2.1. Introduction

The aim of this chapter is to present a review of the available literature relevant to the topic and it consists of three main sections. ‘Young learners (2.1) section introduces a review basic characteristics of young children and how they learn a foreign language. The following section of this chapter ‘ Vocabulary teaching (2.2) section embraces a reviw of vocabulary teaching principles and techniques and explains classical ways and modern approaches of teaching vocabulary. The last section ‘ Brain-based teaching (2.3)’ presents the functions of the brain upon learning and describes some other benefits of using brain based teaching strategies while teaching vocabulary to young learners.

2.2. Young Learners and Their Characteristics

Young learners are children considered to be 6-12 years old. They are also known as second/foreign language learners. In the following parts; their general characteristics, how they learn and their foreign language development are discussed.

Young learners of a foreign language have some obvious differences from the adult ones. The general personalities of children in their daily life are not different from those observed in the classroom environment. Children are generally known to be energetic, eager to play games, curious, brave and so on. All these characteristics are observed in a usual primary classroom environment. However, any of these characteristics aren’t certain all the time. Shin and Crandall (2014) picture this situation saying that description of young learners depends on the mood of the primary teacher. If the teacher is on a good day she might say young learners are energetic, social, spontaneous, and curious. However, if she is on a bad day, adversely, she might think that the same kids are hyperactive, too talkative, can’t sit still, and are easily distracted’. Shin and Crandall (2014) add more information about young learners stating that they are energetic and physically active; spontaneous and not afraid to speak out or participate; curious and receptive to new ideas; imaginative and enjoy make-believe; easily distracted and have short attention spans; egocentric and relate new ideas to themselves; social.

English language teachers try to make advantage of all these characteristics of young learners in order to teach them the use of English. Any problem, occuring in a primary classrom, might stem from one of those characteristics of children. On the other hand, any positive event in the same classrooms might occur from the same characteristics of the children, as well. This oppositeness is the first thing that a teacher comes across and needs to deal with. Each child has different personalities; which leads them to have different learning styles. In the following part how they learn with different learning styles is discussed.

2.2.1. How Children Learn

Characteristics of children have a great impact on their learning process. They generally learn new information without even being aware of this. As Cameron (2001) states that they have a go at an activity even when they don't quite understand why or how. They learn because they have fun. Apart from the fun part of their learning, there is a scientific part of the learning process depending on the age factors. Piaget (1970) emphasized that children are active learners and thinkers. Piaget's stages of cognitive development defines how children construct knowledge through years. According to this, 0-2 year old children are in Sensorimotor; 2-7 year old children are in Preoperational stage; 7-11 year old children are in Concrete Operational Stage; 11 year and older children are in Formal Operational Stage. Students in primary school can be found in Piaget's Preoperational and Concrete Operational Stages. Children start being less egocentric, reasoning while passing from Preoperational through Concrete Operational Stage.

With this finding, it is inferred that children start seeking for meaning and sense in learning something. As long as they are actively involves in theirown learning process, they find it meaningful and sensible. Confucius and Piaget support this view. Confucius said, 'I hear and I forget. I see and I remember. I do and I understand.' According to Piaget (1970) children learn through their own individual actions and explorations. It clearly shows us that children learn by doing. Actively involvement gives children an opportunity to learn effectively.

Social interaction is equally important in a child's learning process. As it is cited in the book Teaching Young Learners English written by Shin and Crandall (2014); Vygotsky (1962) found that children construct knowledge through other people, interaction with adults or more competent peers. The adult's role is very important in a child's learning process (Bruner, 1983; Vygotsky, 1962). Wood, Bruner and Ross (1976) studied how parents provided effective support called scaffolding. They define the term scaffolding as it is a support given by parents when a child first start learning to speak. According to Vygotsky adults work actively with children in the Zone of Proximal Development (ZPD), which by definition is the stage between what a learner can do by himself and what he can do with the help of a knowledgeable adult or a peer. Cameron (2001) outlines Bruner's studies found as effective scaffolding techniques: make the child interested in the task; simplify the task; keep the child on the task; model the task; control the child's frustration during the task.

Routines are the other important factors in a child's learning process. According to Cameron (2001) routines are features of events that allow scaffolding to take place, and combine the security of the familiar with the excitement of the new. Routine events make the children feel secure. It clearly shows us that children learn better in a secure environment.

However, creating safe and secure environment might be something hard to attain in a classroom where many different young learners come together. As Shin and Crandall (2014) state that working with a child individualy is totally different from being a teacher with a class full of young learners. Although it seems like they have common characteristics; each has different needs, interests, abilities and so on. All these differences are to be taken into consideration by a teacher. Considering and incorporating different learning styles and multiple intellegences into instruction help students, who learn differently, be successful (Gardner, 1983). According to Howard Gardner (1999) there are eight widely accepted intellegences. The theory of multiple intellegences provides us with a multitude of new ways to teach the students (Connell, 2005, p. 65).

The original seven intellegences include the verbal-linguistic, logical-mathematical, bodily kinesthetic, spatial, musical, interpersonal, and intrapersonal (Gardner, 1983). In 1997, Gardner added an eighth intelligence: naturalistic. The most recent addition is the existential intelligence, which Gardner credits as a ‘half intelligence’ because he has not been able to find a physiological location for it in the brain (Gardner, 1998).

Gardner’s Multiple Intelligences Theory guides teachers how to involve each learner in an activity. Since young learners have a very short span of attention, it is helpful for teachers to know about the intelligent type of the children and plan the lesson accordingly. Connell (2000) affirms that we each possess all nine of the intelligences. It’s a fact for children as well. Like adults they have some developed intelligences and underdeveloped intelligences. Teachers try to find generally developed intelligences among the learners and build the activities upon them. However, ignoring the underdeveloped intelligences is a big mistake. Armstrong (2008) belives that with a combination of encouragement, enrichment and good instruction, we can develop or moderate intelligences. A teacher, who combines all different multiple intelligences as possible in the activities, can make many students kept during the tasks.

2.2.2. How Children Learn a Foreign Language

Most teachers and researchers have thought that children learn a foreign language better than adults. This thought has hold teachers’ and parents’ attention to learning a foreign language in early ages. There are many reasons, including low level of boundaries and shyness; high level of eagerness and mouth muscles flexibility, which make learning a language easier. Sousa called this process as window of opportunity and he adds ‘‘what is learned while a window of opportunity is opened will most likely be learned masterfully’’ (Sousa, 2006, p. 25). Most studies have inspired teachers and researchers about teaching English to young learners in the same way as they start learning their native language. This thought leads us to the Natural Approach developed by Krashen and Terrell (1977), who give little attention to the structure of language. According to them understanding the message is more important than knowing the structure of the language uttered. As Richards and Rodgers (2001) outline that Krashen and Terrell based the Natural Approach on five hypothesis: The acquisition / learning hypothesis; the monitor hypothesis; The natural order hypothesis; the input hypothesis and the affective filter hypothesis, which are discussed below.

> Acquisition is the ‘natural’ way, paralleling first language development in children. Acquisition refers to an unconscious process that involves the naturalistic development of language proficiency through understanding language and through using the language for meaningful communication. Learning by contrast, refers to a process in which conscious rules about a

> language are developed. It results in explicit knowledge about the forms of a language and ability to verbalize this knowledge. Formal teaching is necessary for learning to occur, and coorection of errors helps with the development of learned rule. Learning, according to the theory, can not lead to acquisition (Richards and Rogers, 2001, p. 181).

One doesn’t learn his native language but acquires it naturally and unconciously. This is the same process for young learners of a foreign language, too. It seems like that the term ‘young learners’ possibly will switch into ‘young acquirers’ in time.

Monitor hypothesis is something which requires time and consciousness. The acquired linguistic system initiates the communication unconsciously; however, conscious learning monitors or edits what the acquired linguistic sytems products. As Richard and Rogers (2001) outlines that learners need time to apply the learned rule; they need to focus on form to correct the output; they need to know the rules.

The natural order hypothesis shows us what certain grammatical structures or morphemes are acquired before others in first language acquisition, which can be applied to the second or foreign language acqusition.

The input hypothesis is based on the exposure to a language. Richards and Rodgers (2001) highlights that people acquire language best by understanding input that is slightly beyond the current level of competence. Moreover they think that speaking is an ‘emerging’ abilty after the acquirer has built up linguistic competence by understanding the input. This input hypothesis is built on the idea of I + 1. ‘An acquirer can move from a stage I (where I is the acquirer’s level of competence) to a stage I + 1 (the following level) by understanding language containing I + 1’ (Krashen and Terrell, 1983).

The affective filter hypothesis identifies three kinds of affective variables: motivation, self-confidence and anxiety. According to this hypothesis, if the learner is highly motivated, confident enough and has a low level of anxiety, he can be more successful. ‘‘It is believed that the affective filter rises in early adolescence, and this may account for children’s apparent superiority to older acquirers of a second / foreign language’’ (Richards and Rogers, 2001, p.183).

Shin and Crandall (2014) supports the main philosophy of the Natural Approach. They think that children need a learning environment similar to that of the first language acquisition. Moreover, they think that meaningful exposure to the language and implicit grammatical explanation are the basic issues of the foreign language acquisiton. Meaningful exposure to language in authentic contexts helps children acquire the language naturally and quickly (Shinn and Crandall, 2014). The more a learning environment is natural, the more learning a language is real-like and therefore meaningful.

There is no doubt that children are little language detectives, who are good at finding the grammar rules themselves. ‘‘Children will not learn through grammatical explanations; rather, they will gain an understanding of the grammar implicitly through repetition and recycling of the language in different contexts’’ (Shin and Crandall, 2014, p. 41). The only thing they need is the guidance of the teacher. Giving them the explicit formula of a language serves not much beyond mixing the minds of the children. As Cameron (2003) states that children try to find the practical ways of the language seeking for the language in action, interaction and with an intention. They do not understand the language as a system or form with its outside look. Shin and Crandall (2014) interpret this thought saying that in action means learning by doing; in interaction means through social activities; and ‘with intention’ means the activities have a real purpose to use language. Therefore, children need to be exposed to authentic and meaningful contexts and provided with repetition and recycling, which help children find out the structure of the language by understanding the message of the context and using the given input.

2.3. Brain Based Teaching

Human body is composed of many different organs each of which has an individual function to fulfill. Very basically, it can be thought that ears are responsible for hearing; eyes are responsible for seeing; heart is responsible for pumping the blood, and so on. Learning is unique to the brain. ‘‘The brain is its own learning community (Shore, 2012 p. 129). Because learning is about the brain’s structures and functions (Lago and Seepho, 2012) teachers have turned their focus on the brain and its functions to make their teaching more effective.

R. Caine (1990) and G. Caine (1990), Sousa (2006), Jensen (2008), Armstrong (1993) and Sprenger (2007) are among the writers who have been involved in the brain based teaching research. They all come to the same point: Only when teachers are aware of the facts of the brain, can they optimize their teaching. ‘‘The classroom is a laboratory in which the teaching and learning meet and interact’’ (Sousa, 2006, p. 9). Teachers need to find ways of making their students learn and remember most quickly and effectively. When the needs of the learners and that of their brains are met, teaching and learning process reach at the optimal level. ‘‘Educators who become aware of the recent research on how the brain learns will gain exciting ideas about conditions and environments that can optimize learning’’ (Caine and Caine, 1990). ‘‘Teachers are excited about brain-based research because it helps them understand how the brain learns best and how they can take advantage of this knowledge to help their students learn as quickly and efficiently as possible’’ (Christison, 2012, p. 3).

Brain based teaching is an approach which involves acknowledging the brain’s rules for meaningful learning and organizing teaching with those rules in mind (Caine and Caine, 1991). The classroom, where brain based teaching approach is used, is called as Brain compatible classroom. Brain Based teaching is a hiden treasure for teachers who are looking for more effective ways of teaching. ‘‘Brain-compatible instruction will ultimately make your life in the classroom much easier and more rewarding’’ (Armstrong, 2008, p. 29). As Stevens and Goldberg support that teachers can increase the probability that students will remember instructional content by creating brain-compatible learning environments (2001).

Although teachers don’t need to examine the structure of the brain in a deep way, it is better that they are aware of its functions in the learning process. Sousa states that ‘‘teachers try to change the human brain every day. The more they know about how it learns, the more successful they can be’’ (2006, p. 3). Philips, another supporter of brain based teaching, utters in her article published in the blog page that the more teachers know about how the brain learns, the better they will be able to match how they teach with how children learn (2012). Moreover Stevens and Goldberg emphasizes that brain-based or brain compatible instruction requires that teachers understand how the brain works (2001).

All this research is sufficient enough to understand that teachers need to have general knowledge about the brain physiology. They don’t need to be neurologists; however, it is a must that teachers know how the basic physiology of the brain is and how it works since brain has the learning function. Because of this reason, it’s worth searching about the basic physiology of the brain. In the following part the basic physiology of the brain and how it works are written.

2.3.1. Basic Physiology of the Brain

'The human brain is composed of many parts, each with a specific function' (Stevens and Golberg, 2001, p.15). As cited in Stevens and Goldberg's study, according to the research done by brain scientists, each brain is unique just like everybody has a unique finger print. A general look of a brain is shown below (Stevens and Goldberg, 2001).

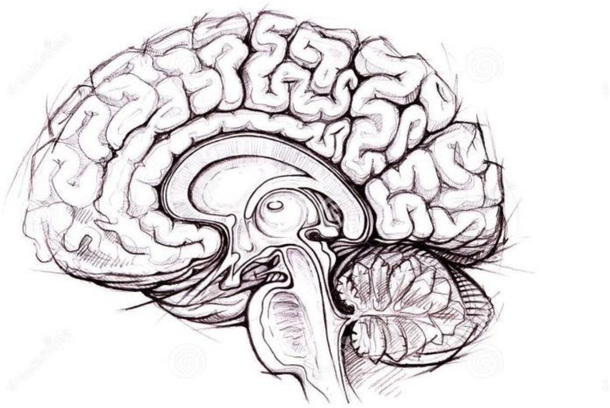

Figure 1. A general view of a human brain

Stevens and Goldberg (2001) and Sprenger (2007) mention in their books that an adult human brain weighs about three pounds, which represents 2 percent of a body weight. Moreover, as Sousa (2006) has found; brain consumes 20 percent of our calories although it represents only 2 percent of the whole body. The brain is like a walnut with its outside and inside. The outside part represents the skull surroundering the inside part which represents the wet, fragile mass curved shaped. Jensen (1998) and Sylwester (1995) utters that folds of the brain make it possible to fit itself into the skull where space is at a Premium.

2.3.2. Parts of the Brain

Thanks to the brain imaging technologies such as Electroencephalography (EEG), Magnetoencephalography (MEG), Positron Emission Tomography (PET), Functional Magnetic Resonance Imaging (fMRI) and Functional Magnetic Resonance Spectroscopy (fMRS); scientis have been able to search inside the brain.

With a very general view, the brain has two hemispheres, the right and the left, each with specialized and separate functions. It looks like two bounded fists with fingers touching each other and the thumbs are visible. The right fist represents the right hemisphere and the left fist represents the left hemisphere. One missing part in this symbol is the corpus callosum, the collection of fibers, which connects the two hemispheres of the brain and enables the communication between them. The figure given below shows the hemispheres clearly.

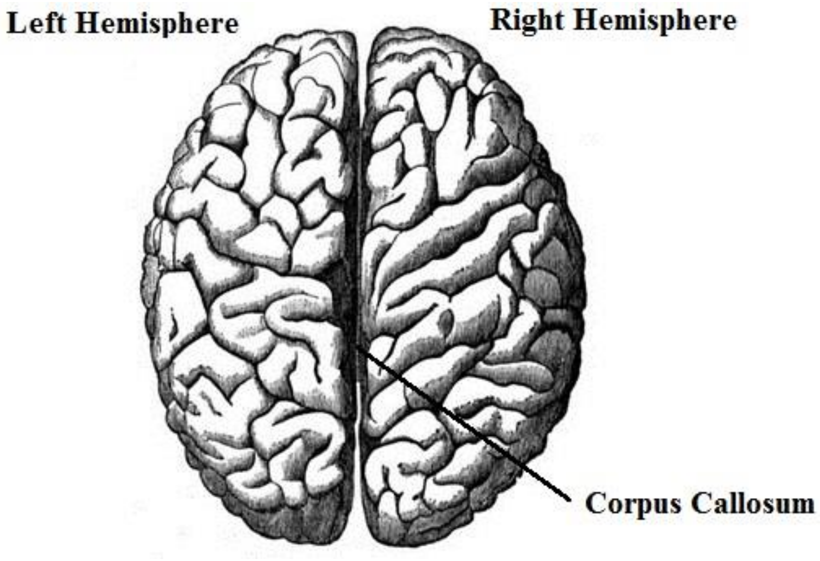

Figure 2. Hemispheres of the human brain

According to the brain imaging findings there are four lobes specializing for certain functions. These four lobes are; Frontal Lobes, Temporal Lobes, Occipital Lobes, Parietal Lobes. Sousa (2006) summarizes the functions of all the lobes saying that Frontal Lobes deal with planning and thinking; Temporal Lobes deal with sound, music, face and object recognition; Occipital Lobes are used for visual processing; Parietal Lobes deal with spatial orientation and calculation. Lobes of the brain are clearly seen in the picture given below.

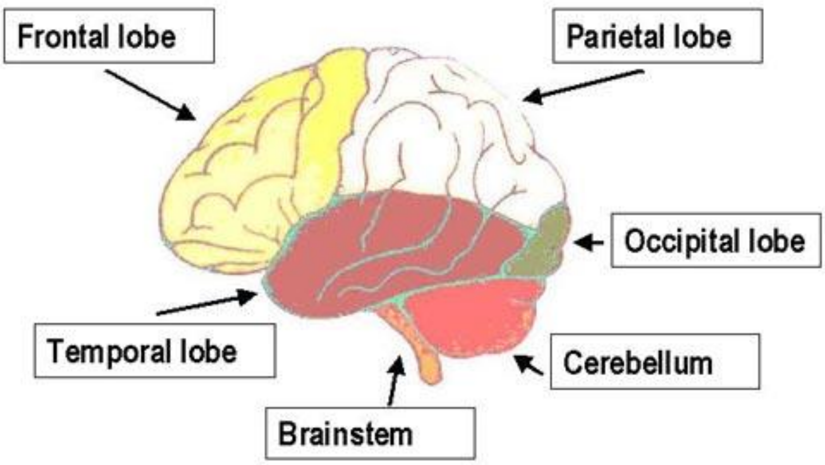

Figure 3. Lobes of the human brain

Sousa (2006) divides the parts of the brain into two main titles. One is exterior parts the other is interiror parts. The former is composed of the lobes of the brain, the latter is composed of the brainstem, thalamus, hypothalamus, hippocampus, amygdala, cerebrum, cerebellum and brain cells. The figures given below shows these parts.

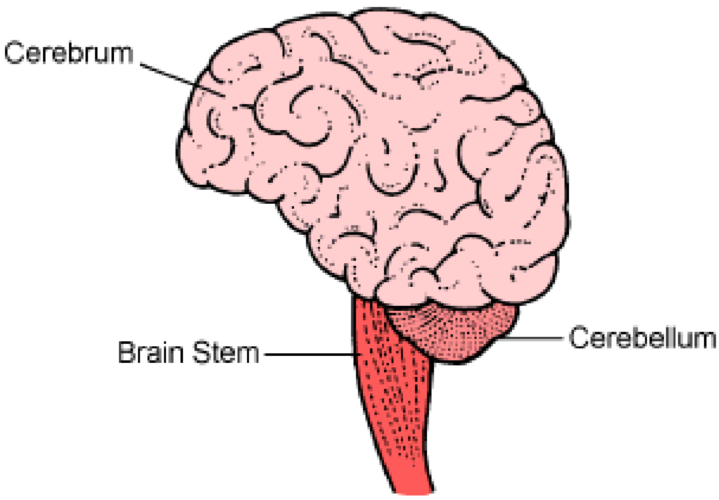

Figure 4. Parts of the brain

The brainstem is the oldest and deepest area of the brain. It is resposible for the vital body functions such as heartbeat, respiration, body temperature and digestion. Since ancestors of humanbeing used to strugle with surviving, they needed to be alert all the time. Their oldest herritory, the brainstem, is encoded with this alertness.

Cerebrum is the largest inner part representing nearly 80 percent of the brain by weight. It is the area where the left and right hemisphere are found. The actions taking place in here are thinking, memory, speech, and moscular movement.

The cerebellum is located below the occipital lobe and next to the brain stem. It contains more neurons than all of the rest of the brain puts together. This area coordinates the movement. However as Sprenger (2007) utters that it is not only responsible for the movement but also for certain memories such as navigating the thought process before getting from point A to point B.

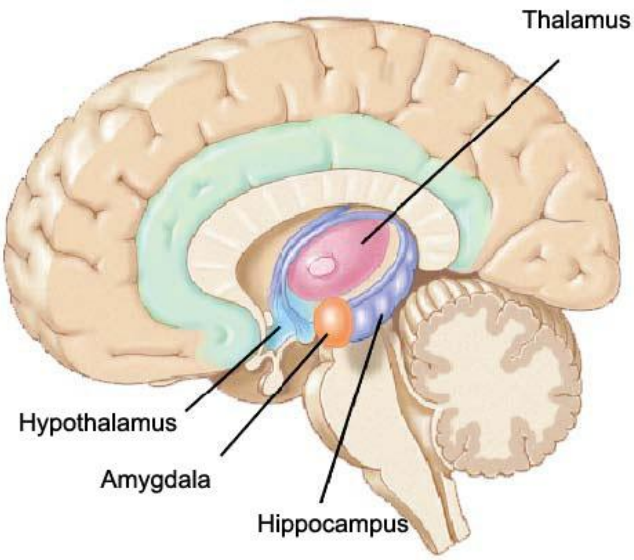

Figure 5. Parts of the brain

The Thalamus is resposible for all incoming sensory information, except smell. They go first to te thalamus and they are directed to the other parts of the brain by the thalamus. ‘‘It appears that the thalamus, in the center of the brain, plays an especially important role in attention’’ (Weiss, 2000, p. 14).

The Hypothalamus is located just below the thalamus. It monitors the internal system to maintain the normal state of the body. The Hypothalamus controls the release of a variety of hormones and moderates numerous body functions, including sleep, food intake, and liquid intake.

The Hippocampus is located deep in the temporal lobe. Its role was first revealed by brain-damaged patients whose hippocampus was damaged or removed because of disease. It was seen that these patients could remember anything before the operation, but not afterward. Brain scans have confirmed that the hippocampus has a role in permanent memory storage.

Amygdala is attached to the end of the hippocampus. Stevens and Golberg (2001) cited from Pert uttering that ‘‘amygdala forms the entrance to the whole emotional system of the body’’ It can be said that amygdala is the heart of the brain, since it plays an important role in emotions. Sousa (2006) thinks that the interaction between the amygdala and the hippocampus ensures that people remember for a long time those events that are important and emotional.

Another important feature of the brain is its braincells. Petrol is to the machines as brain cells are to the brain. The brain cells are activated by electricity. The brain is composed of a trillion cells known as nerve cells and glial cells. Neurons are the nerve cells, which represents one-tenth of total. Weiss points in her research that ‘‘the typical brain has approximately 100 billion neurons and each neuron has one to 10,000 synaptic connections to other neurons’’ (2000, p. 23). The figure given below shows how a neuron looks like.

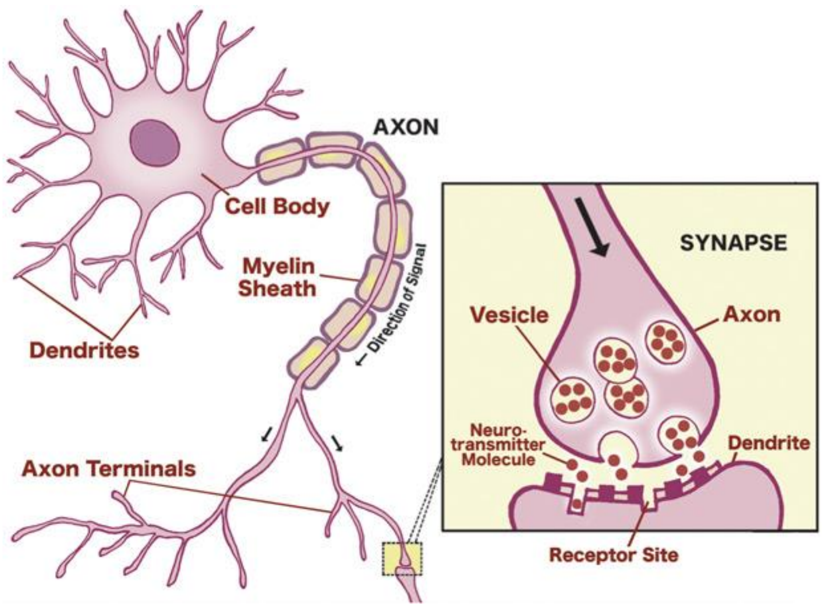

Figure 6. How a neuron looks like

To learn more about a neuron; it is composed of three main parts including the Synapses, the Axon and the Dentrites. Neurons are connected each other with the synapses. The dentrites receive electrical impulses from other neurons and transmit them along a long fiber, called the axon. A layer called the myelin sheath surronds each axon. It increases the speed of impulse transmission. When the impulse reaches at the axons, the neurotransmitters take it and forwards it to the synapses. Dentrites are covered at the synapse. Thus, the communication among the neurons are fulfilled.

As given in Stevens and Golberg’s (2001) book, Robert Sylwester’s example representing the parts of the neuron is very effective. He uses the metaphor of the human arm to tell about the neuron. The arm is an image of neuron’s three parts: the hand represents the neuron’s cell body; the fingers its dentrites, and the arm it’s axon.

The brain is such a mysterious organ that it achieves many inconceivable functions with its three pounds weigh. According to the findings of the scientists, there are one quadrillion (that’s a one followed by 15 zeros) synaptic connections in one brain. ‘‘Learning occurs by changing the synapses so that the influence of one neuron on another also changes’’ (Sousa, 2006).

2.3.3. Brain Development in Children

According to the research done, in the first month of the gestation, the neuron development starts in the embryo at an astonishing rate. Although 200 billion neurons are formed, half of them die off during the fifth month because they fail to connect with any other areas of the growing embryo, which prevents the brain from being overcrowded with neurons with unconnected cells. Moreover according to Sousa (2006) the most active areas are the brainstem and the cerebellum. As mentioned before, brainstem controls the body movement, and the cerebellum controls the movement. These two activities are the ones which start improving in an embryo.

Soon after the child comes to the world, his neurons start making connections at an incredible pase as the newborn absorbs its environment. ‘The neurons in a child’s brain make make many more connections than those in adults’ (Sousa, 2006, p. 24). Many writers including R. Caine (1990) and G. Caine (1990), Stevens and Goldberg (2001), Sousa (2006), Sprenger (2007) and Armstrong (2003) meet at the same point: the richer the environment, the greater the number of interconnections that are made.

There are some basic abilities that are improved with the connection of the neurons, such as motor development, emotional control, vocabulary knowledge, language acquistion, mathematics and logic and instrumental music. All these abilities and improvements are periods when the brain requires some certain input to create and stabilize long-lasting structure. Sousa (2006) calls these periods as window of opportunity. If some certain input is not provided while the window of opportunity is open, the specific ability is not able to be improved. For example, if even a perfect brain doesn’t receive visual stimuli by the age of two, the child will be forever blind, and if it doesn’t hear words by the age of 12, the person will most likely never learn a language. There are many such events known in the history. As Sousa cited from Diamond and Hopson in his book ‘‘when these critical windows close, the brain cell assigned to those tasks may be pruned or recruited for other tasks’ (2006, p. 25).

As mentioned before, emotional processes are under the control of limbic sytem, and thinking logically is that of the frontal lobes. The findings show that the window for developing emotional control seems to be open from two to 30 months. During this time, limbic sytem and the frontal lobe's rational system struggles each other to be the winner. As mentioned in Sousa's (2006) book; studies of human brain growth suggest that the emotional system developes faster than the frontal lobes. The limbic area completes its development process till the age of 10; however the limbic system continues to develop till the age of 24, which clearly explains why so many adolescents and young adults get involved in risky situations. There are some important factors effecting the development of the limbic system and the frontal lobes such as genetic tendecies, situation of the environment, where the child grows up, and family members aproaches towards the child.

Language learning is unique to the brain. Sousa (2006) suggests that the language areas of the brain become really active at 18 to 20 months. A toddler can learn 10 or more words per day, having a vocabulary knowledge of about 900 words at age three, increasing to 2,500 to 3,000 words by the age of five. ‘‘The window for acquiring spoken language opens soon after birth and tapers off around the ages of 10 to 12 years. Beyond that age learning any language becomes more difficult’’ (Sousa, 2006, p. 25). This finding shows us the importance of starting learning any language at early ages, one more time.

Although infants are not able to lable the numbers, they are able to recognize the relationships between numbers as large as 4 and 5. When babies come to the three months of age, they start responding to the music. A very well known fact is that of Mozart's ability to play the harpsichord and to compose at the age of four. Several studies have shown that children aged three to four years, who received piano lessons, scored significantly higher in spatial temporal task than a group who did not get the instrumental music training. Many researchers utter that the development of a young brain is strongly affected by the enriched home and preschool environment during the early years.

2.3.4. How the Brain Learns

Since most teachers are complaining about that learners forget the new information taught, they are looking for some new ways which can help them stick the information into learners' brains. Some teachers may think that students have learnt the topic a day before but today they don't show any evidence of knowledge about the same topic! In order not to have such a problem, the fact of how the brain learns is a great matter for all teachers who want to optimize their teaching so that the students learn the new information using it for a very long time without even forgetting it. As mentioned before; ‘‘Learning, including langauge learning, is a process of building connections between the neurons located in different parts of the brain’’ (Ellis, 2012, p. 734). Teachers, who know how the brain takes information and processes it, have a great chance to make some changes in his teaching styles and to create a very effective learning environment in his classes.

Using scanning technologies, researchers are able to display in the differences occuring in the brain cell metabolism in responce to different types of brain work. A computer constructs a colour-coded map implicating what different areas are doing during such activities as reading a text, looking at a picture, listening to the music, doing mathematical calculations etc. This knowledge allows the researchers to construct models that explain how the brain processes the information, which contains some specific and clear operations. With the help of these models, teachers know what exactly learning is, and what happens in the learner’s brain during some specific tasks. It takes teachers beyond from being intituve teachers.

One more important factor leading teachers to the information processing models is that learning is a multifunctional process. Sousa (2006) summarizes this point saying that learning is not just to acquire knowledge, but to be able to use that knowledge in a variety of different settings. Teachers are the only people who are responsible for providing these variety of different settings for the students. Knowing how learning occurs in the brain, teachers feel self-confident to organize more sufficient and appropriate tasks. With all this precious awareness, it is well worth discussing about the information processing model, which is given in the following part.

2.3.5. The Information Processing Model

This model is aimed to help prospective teachers understand how and why learning occurs. With this aim Robert Stahl (1985) developed the model whose certain parts needed to be altered as a result of subsequent discoveries in neuroscience. Having been updated, the model has reached many teachers. To speak generally, this model starts with information from the environment and shows how the senses reject or accept it for further processing. It then explains memories, how they operate and the factors that determine if a learning is likely to be stored. Sousa (2006) supports the idea that teachers plan lessons in a way that students are more likely to understand and remember if the teachers know how the brain processes the information and learning occurs.

The figure given below shows the Information Processing Model very clearly. It represents a brief explanation of how the brain deals with information from the environment. Senses, sensory register, immediate memory, working memory, long-term storage and self-concept are the important elements of the model. To tell the model in a more detailed way, each step is explained below.

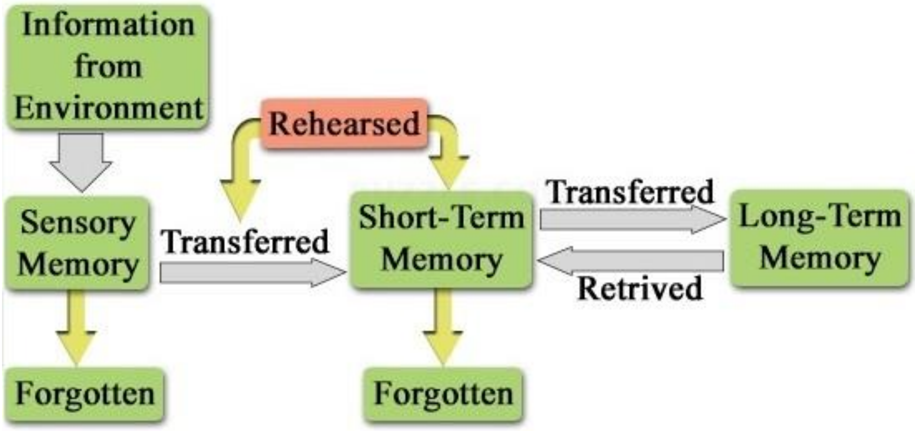

Figure 7. Information processing model

1. Information is taken from the environment with one or more of the five senses including, sight, hearing, touch, smell and taste. This information is called as stimuli.

2. Sensory Register holds the information just a few seconds. It determines the importance of the stimuli among the others. If the stimuli is important enough, it continuous its process otherwise it is dismissed.

3. The important stimuli is taken to the immediate memory. The stimuli is held for only about 30 second there. The individual's experiences determine its importance. If the item is of little or no importance within this time frame, it drops out of the system.

4. The information is processed in the working memory. If the sense and meaning are found in the information, it is stored here and sent to the long-term storage.

5. Long-term storage decides where to accommodate the information. It is stored here to be retrieved for the future usage.

2.3.6. What is Memory?

Learning is strenghtened by memory. Since memory is a very basic factor in learning, it is taken into consideration by researchers and teachers. ‘‘Learning is a process by which we acquire new knowledge and skills; memory is the process by which we retain the knowledge and the skills for the future’’ (Sousa, 2006, p. 78). ‘‘Memory is both the process of encoding information and the act of retrieving it’’ (Jensen and Dabney, 2000, p. 103).

As shown in the Information Processing Model, there are two main memories: short-term memory and long-term memory. Short-term memory is divided into two: immediate memory and working memory. While Short-term memory is a thinking and deciding process, long-term memory is storing process. The former takes the information and works on it, the latter stores the information to be used for a long time. ‘‘Short term memory allows us to remember the information for about five to 20 seconds, while our brain determines whether it is worth considering for long-term storage’’ (Stevens and Goldberg, 2001, p. 38). Shortly, whole process works in a chain.

2.3.7. Sensory Register

Stimulus or movement are found in the environment. Sensory Register system decides which stimuli is worth keeping. All incoming sensory information, except smell, is sent first to the thalamus. Thalamus decides whether the informaton is important enough for the individual or not. There are many other stimulus that come to the thalamus. Although the brain concentrates on one specific task, there are seen many other data in the environment. To give an example, while a student is reading a book, he can hear the feet steps of the other family members; see a fly passing through; even he touches the pages of the book. These are all some stimulus happening during the reading task. In this point, sensory register thinks about which stimuli is more and most important. Understanding the story in the book? Sound of the feet steps or the movements of the fly? While the less important information is dropped off, the most important one is carried to the short-term memory. This elimination process helps the brain and the memory not to have full of junk information. ‘‘99 percent of sensory data does not even pass through to working memory, and thus is discarded’’ (Armstrong, 2008, p. 19).

2.3.8. Short-term Memory

Short-term memory includes the immediate memory and the working memory. While the former one operates subconsciously or consciously and holds data for up to about 30 seconds; the latter one operates consciously. Both of them are temporary memory which are the helping stages of information storage. Short-term memory is located in the frontal lobes of the brain.

When someone starts thinking about anything at anytime, working memory is operated. This thought is whether chosen to be processed in long-term memory or to be dropped away. The key point here is the attention. First, someone must pay attention to the information as it comes in. Then the information is processed to be taken to the long-term memory with some memory techniques such as chunking, elaborating, showing a visual, organizing the information, repetition and reflection. Some education theorists like Connell, Sousa, Kirsch has found all these techniques to be effective in processing the information.

Most of the working memory is located in Frontal lobe, it is the area where focus occurs (Smith and Jonides, 1999). Attention and memory strategies help the information to be stored in the long-term memory. Short-term memory concentrates on all these important facts only within second and decides whether the information is worth considerşng for a long-term storage. Stevens and Golberg, among some of the educational theorists, mention in their book (2001) that short-term memory allows people to remember information for about five to twenty seconds. During this time, if the brain gives enough attention to the information and processes it with some memory strategies, the information is taken to the long-term memory.

2.3.9. Long-Term Memory

Long-term memory is activated if the brain decides that the information is worth of recalling. It is located in the hippocampus part of the brain. The techniques given below are the important helpers in understanding and activating the long-term memory. Connell (2000) describes these techniques as chuncking the information, elaborating on content, using visual images, organizing information, repetition and reflection.

Chunking the information is a way to link two or more separate pieces of information together to form a greater whole. This process ends in new neural passageways in the brain.

Elaborating on content and making connections are the processes when students make the connection between the prior knowledge and the new one. This strategy helps students to link the concepts together in new networks.

Using visual images during the lessons allow students to use their right brain along with the their left brain. ‘‘Our brains remember pictures before words’’ (Armstrong, 2008, p. 46).

Organizing the information is a strategy of how to present new information in a more organized way. In order to do that there are many organizers such as graphic organizers, outline and so on. Teachers decide which information organizers go better with the students.

Learning ends with new neural pathways in the brain and repetition makes these neural pathways stronger. When the same network are activated over and over again, the memory trace becomes stronger. Sousa supports this idea saying that ‘‘something worth remembering is worth repeating’’ (2006, p. 114).

Students need some time to understand the new information in an depth-manner. Sleeping, pausing between learning events are neccessary in the formation of long-term memories. This process is called as rehearsal.

2.3.10. Needs of the Brain

Phychologist Abraham Maslow (1908- 1970) is the founder of humanistic psychology. He is well known with his ‘hierarchy of needs’ which shows that humanbeings need to achive physiological needs before emotional or spiritual needs. Maslow’s hierarchy of needs provides the teachers with the a great connection to the brain-based compatible classroom environment. Teachers can apply Maslow’s hierarchy of need to their students during the teaching, learning process. The figure given below shows the stages of Maslow’s hierarchy of needs.

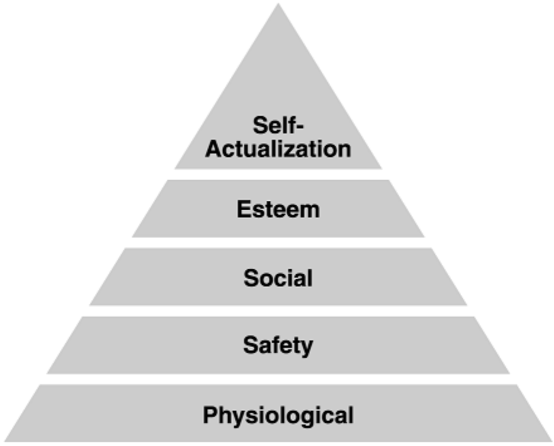

Figure 8. Maslow’s hierarchy of needs

Human brain has some needs to survive as the human body does. Human brain is eager to learn. In the process of learning, if it is not able to find its survival needs, it can not accomplish its mission: learning. In the following part, the question: what does the brain need is answered by finding the correlations between Maslow’s Hierarchy of needs and school environment.

2.3.10.1. Physiological Needs

Physiological needs are the first needs to be met according to the Maslow’s hierarchy of needs. Human body must be fully satisfied before the human brain works. Parents and teachers must be aware of the importance of nutrition and sleep factors in the quality of learning. Jensen (2005) suggests that nutrition is obtained through three meals a day. He thinks that breakfast is the most important meal and it mustn’t be ingored. He also thinks that healthy snacks are good for the brain.

Most importantly, brain needs water. According to the researches, 80 percent of the human brain is water. If a student is thirsty, it is not easy for him to concentrate on the topic. Teachers should allow students to drink water during the lessons reminding them that water bottles are not toys.

Sleep is an other factor for optimizing the human brain’s learning capacity. ‘‘Sleep and circadian rhythm play an important role in the memory process’’ (Jensen and Dabney, 2000). Sousa (2006) explains the term saying that circadian rhythms are daily cycles when our body functions and their components, such as temperature, breathing, digestion, hormone concentrations, etc go through peaks and valleys. Degrees of focus change according to these circadian rhythms. Human brain’s exposure to the day light determines the cognitive cycles. These cycles give a great clue about when learning requires more or less effort. The chart given below shows the effect of circadian rhythms on cognitive cycle.

2.3.10.2. Safety Needs

‘‘Stress can inhibit learning and recall’’ (Armstrong, 2008, p. 105). Learners wideopen their brain to learn once they feel safe and happy in the classroom environment. Mood of the learners has a direct effect on their learning. Level of anxiety must be balanced. Either very low or high level of anxiety is not good for learning. Moderate level of anxiety supports the learning process. Teachers are responsible for providing such environment for students. Social interaction is also an important factor that can be the reason of a safe or dangerous environment. It is again in the hands of teachers to form a classroom where all students work and cooperate safely together.

Teachers, who are ready for anyhing possible to happen in the classroom, are the ones who are looking for some ways to solve those problems without putting so much stress on the students. Humor is a good way to this. ‘‘Humor raises motivation, lengthens attention span, and helps create a fun and relaxed classroom community’’ (Lems, 2011). A creative teacher can find some humorous ways to handle the problems happening during the class.

Teachers want classrooms to be full of students who are eager and ready to learn. In order to get this desire, teachers must give their students these messages: everything is okay; everybody can make mistakes; you are very good at English; I am always here; your friends are always ready to help you; you can do this etc. These are the basic messages that can lead a very stress-free environment in the classroom. Otherwise amygdala (heart of the brain) hijacks the hippocampus (thinking part of the brain) and the student raises the level of anxiety, which may end with resisting learning anything new.

To have a stres-free classroom environment, music can be a choice of the teachers. Research has shown that music causes the brain to release endorphines, the body’s own pain reliever. Teachers, who know about this research, put some background music during the classes to dicrease the level of stress of the students. Some suggested music can be found in the appendices part.

2.2.10.3. Belongingness and Love Needs

Trust and love are the very important feelings that students need during the process of learning. Trusting the teacher and the peers are the ones to be provided by the teacher. Students desire to feel like home in the school environment. Moreover, they need to love the people around themselves and to be loved. Love is such a feeling that brings the belongingness together; belongingness brings the feeling of success. In order to create such a classroom environment, there are many ways for teachers. They can give some responsibilities to the students telling that they are going to put all the chairs and desks in order in the breaktime, bring some classroom materials from the material room etc.

Appreciation of the teacher is the mere reason why young learners try to learn or do something. If the students are sure that anything they prepare is appreciated by the teacher, they feel the love both towards the teacher and the lesson itself. Teachers, who want their students love English, must give an infinite love to their students, firstly.

2.3.10.4. Other Needs

Students have some other needs among which self- esteems plays the major role. Once students get the feeling of accomplisment, they find the self-esteem too. In order to achieve this, teachers can put projects on the walls of the classroom and give positive feedback to the students. Here the message sent by the teacher must be: you can do this, which later leads the sense of ‘I can do this’.

Secondly, they need to know and understand. Assignments related to the student’s prior knowledge, homeworks in students’ areas of strenght are some helpers which help teachers to meet the students’ need to know and understand. As mentioned before, brain survive to learn. Especially young brains are really curious to learn new things that’s why they always ask the question of ‘why?’

Students need to be satisfied with the information they gather and they like teachers who meet their this need. They start feeling fully satisfied as they are sure about their learning.

Aesthtic needs are important as well. Providing challenging work that utilizes student creativity meets the asthetic need of the students. Having learnt about a topic, it is a need for young brain to generate some new ideas about the same topic.

Moreover, they need to have self actualization. Students are eager to show their innovation on a given assignment, which helps them to meet the self-actualization need.

After all the information given about brain and its features, the question; ‘what should a language teacher do with all this information to use it effectively in the classes?’. This question is aimed to be answered and discussed in the following part.

2.4. Teaching to Young Learners with the Brain in Mind

The features of the brain, which are explained in the previous part, might be a treasure like information for a language teacher. Nevertheless, the big deal here is that unless a teacher knows how to use all this precious knowledge in a real classroom environment, it will be nothing but just a mass of useless information. It is worth repeating that language teachers are not ought to be neurologists to search about the brain. They are supposed to be informed about the brain and its features in order just to have more effective and optimal teaching experiences.

Many researcher educators including R. Caine (1990) and G. Caine (1990) (1990); Jensen (2008); Sprenger, (2007); Worden, Hinton and Fischer (2011); Philips (2012); Shore (2012) and Saleh (2012) discuss in their articles and studies that whatever a person does, he / she uses the brain to fulfill that any target action. Moreover, they all think that an effective teaching is achived only when the teacher is aware of the brain and its features during a learning process.

For all the reasons given above, implementation of the knowledge about the brain plays an important role. Some principles of teaching, with the brain in mind, are provided aimed to be useful in a real young learners classroom environment.

2.4.1. Teaching the Young Learners the Brain

The human brain and its features may be taught to the young learners using the advantage of their eagerness to play games. Any information about the brain may be planned over different kinds of games that the pupils are thought to be willing to participate in. The activities and games are supposed to be appropriate to the ages of the young learners.

Since teaching and learning are two active ways of communication between the teachers and the learners, the metaphor of mirror can be used to explain that kind of communication. If a teaching process is not mirrored by a learning result, the commnication would not be two way anymore. A teacher, who is struggling to teach a group of learners with no idea about what kind of strategies the teacher is using, might not get a reflection on the mirror. To be able to get that kind of reflection on the mirror, it is a possibly helpful way that the teacher shares her / his knowledge about the brain with the learners. As long as learners are informed about their own learning process, they will be much more active in that process and show a positive reflection on the mirror. Without getting into the very deepest points about the brain, teachers are suggested to teach some important and useful issues of the brain to the young learners.

These important and useful issues may be limited to the general view, functions, needs of a brain and how learning occurs there.

As for the general view of a human brain, some pictures of a brain are brought to the classroom environment. This would be an effective way of teaching the word ‘brain’.

According to the scientific studies, the size of a human brain is equal to the connection of two fists with the fore fingers touching the other fingers outside the fists. This information about the brain can be given to the young learners, which may be a fun. Moreover, the learners are asked to choose the best same looking fruit as the brain. With the help of this activity the learners are informed about what the brain looks like.

Having taught about the general look of a brain, students are informed about the functions of it. They are given the information of brain is responsible of learning (Jensen, 2007). Moreover, what the brain needs, while learning something new, is worth telling the pupils. The physical and emotional needs of the brain are other important issues to be discussed with the learners. With the help of this awaress, it would be much easier to create a brain compatible classroom because the teacher needs the cooperation of the learners.

The issue of how learning occurs is another important point to be shared with the learners. The information processing model, discussed previously, may be told the pupils in a way that they will easily understand and remember it during their own learning process.

2.4.2. Right or Left Hemisphere Dominance

According to the results found by the brain scans, certain areas of the brain get involved in processing and performing some specifis tasks such as reading, dancing, solving mathematical problems, drawing pictures, remembering the names or the faces of the people and so on. The figure given below shows the left and the right hemespheres of the brain with their specialized areas.

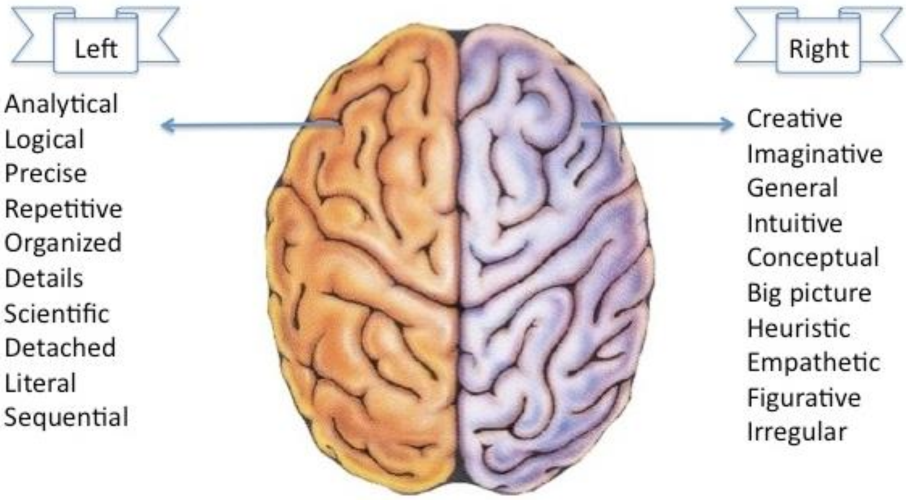

Figure 9. Specialized tasks of left and right hemispheres of the human brain

‘‘Most people have a prefered hemisphere. This preference affects their personality, abilities, and learning styles’’ (Sousa, 2000, p. 170). This finding clearly tells the teachers why some students are better at some specific tasks or worse at some others. The reflections of this hemisphere dominance are observed during a regular classroom environment. Moreover, this is why some students enjoy participating in their favourite activities but refuse to take part in their less favourite activities. Even the homework responsibility shows a clue about the students’ dominant hemisphere. According to the studies, generally left sided learners pay a great attention to their homework papers; they try hard not to fold them or write wrong. However, right sided learners do their homeworks without caring about it. When a left sided student and right sided one sit together in a classroom, it may cause a problem or it may be the reason of new abilities to arouse in the students. The latter one is the aim of the teachers to accomplish. Because, it is known that although two hemispheres have different specialized tasks and they process the information differenty, they both are engaged, especially in complex tasks (Sousa, 2006). As figure 2 shows the hemispheres of the brain, they are connected to each other with a tie called corpus collasum. This tie is responsible for transforming of the information between the two different hemispheres. The more the tranformation is created, the more different and new abilities a learner can gain. Moreover, the learners find chances to perform their weak abilities and strenghten them ultimately.

According to Sousa (2006) environment has more effect on provoking the transfer than the conscious learner himself. For that reason, it can be thought that families, school environment and teachers play the major role in creating the transfer between the hemispheres and let all the different kinds of abilities get strenghten in the learners.

How teachers can give students a chance to use their already talented sides and find new abilities and strenghten them depends on the lesson plans they prepare. As long as they integrate many different tasks, which activate different areas of the two hemispheres, in a lesson plan, all students will find a way that they can express themselves and find new ones which may be other ways of expression and learning for them.

2.4.3. Getting the 'Heart' of the Young Learners

In the previous pages, where the parts of the human brain are discussed, brainstem, thalamus, hypothlamus, hippocampus, amygdala, cerebrum and cerebellum are explained briefly. Each of them has a unique importance; however, the amygdala plays such an important role that it may be one of the most helpful keys for teachers.

It controls all the emotional changes in the body (Christison, 2002). Emotional situation of a student might be positive or negative affect on his learning process. How the student feels about the lesson, the teacher, classmates, even the school environment effects his learning processes positively or negatively. The teacher who knows the importance of a student's feelings and thoughts during a lesson, he / she aims to create a stres free and relaxing classroom environment. As long as the young learners feel happy and relaxed in a language lesson, they start creating strong and positive emotional ties between himself and the teacher in a very short time. This is one of their natural characteristics. They are ready to love and show their love to the teachers. On the other hand, if they do not feel the emotions of belongings, they start rejecting to participate in the activities, to do their homeworks, namely they start showing unwillingness towards learning a new language, which the language teachers do not want to experience.

In order to create a fun, stress free and relaxing classroom environment, teachers can get help from the power of music. Carefully chosen music, makes the students feel happy in a lesson. If the music is an energetic one, it gives the young learners a chance to dance and move around, which helps the teachers lower the level of anxiety and create a lively atmosphere where the pupils have fun. Moreover ‘‘listening to background music can enchance recall, visual imagery, attention, concentration, and dexterity’’ (Sousa, 2006, p. 224). This finding proves that listening to background music may improve the memory skills of the students.

2.4.4. Being a Neuron Connector

All the information given in this study about the neuron and braincells, guides the language teachers about how to get the advantage of the unbelievable number and speed of neuron connections in a young brain. According to Ellis ‘‘the more frequently the neurons involved in a particular conections are fired, the stonger the connection becomes’’ (2008, p. 734). Since learning occurs with the help of this firing among the brain cells of the neurons, it is worth knowing the importance of a neuron as a teacher and a learner.

Fire connections among the many different neurons are like learning bridges. The strength of these bridges depend on how many different times that bridge is used by new firing events. Otherwise the bridge is broken and it is even harder to rebuild the same bridge. As Weiss writes in his article named Brain-Based Learning: The Wave of the Brain, ‘‘with use, you grow branches, with impoverishment, you lose them’’ (2000). This finding lead the teachers to the importance of repetition.

Being a neuron connector requires the language teachers to create chances for young learners to repeat what they have previously learnt. According to the studies, any information, which is not repeated at different times in different contexts, is condemned to be forgotten.

Moreover, Armstrong utters that ‘‘dentrites grow throughout our lives and the new synapses are created daily when we learn new things’’ (2008, p. 14). It is obvious from all these worthy studies that as students learn new things, their brain chance physically with the new bridges created among the neurons. This process is a kind of communication, also. Armstrong explains this communication giving this information: ‘‘The brain contains 100 billion neurons that communicate with each other at junctures, called synapses’’ (2008, p.

15) As a result, learning is a communication among the neurons. The more things a student learns, the more connections he hold among his neurons. For that reason, teachers, as a neuron connector, are supposed to help young learners grow synapses by encouraging the development of new ones and making the existing ones perminant.

2.4.5. The Implementation of the Information Processing Model

As it has been discussed before in this study, the information processing model explains how learning occurs and what procceses are observed during learning in a learner's brain. According to the information processing model, learning occurs in these steps; an information is taken from the environment, which is called as stimuli; sensory register decides about the importance of this stimuli; the stimuli, which is found important, is sent to the immediate memory, then working memory processes the information creating sense and meaning, the information, which is found to be sensible and meaningful, is sent to the long term storage where it is accommodated and retrieved for future needs.

A language teacher, who is aware of the processes how learning takes place in a learner's brain, knows how to present a new information in a classroom. He/she knows the importance of stimuli in a classroom environment. Students, actually their brains, are bombarded with endless stimuli including the sounds from inside or outside of the classroom, feelings and even thoughts of individuals. All these different kinds of stimuli can be the footsteps from outside, the sound of rain drops, a friend's whisper, sound of someone's pencil sharpener, someone's cough, sneeze; the heat, the smell, the light of the classroom even the place where the student sits.

These sample stimuli are the usual ones, which are found even in a very silent classroom; however, a young learners classroom, where all pupils are sitting silently without any unplanned moves, is so out of expectation. For that reason, elimination of the less important stimuli is a very helpful affect on positive learning of the students. The teacher plays an important role here. Because the decision of what to keep and what to get rid of can be affected by a teacher and the classroom (Mary Ann, 2002). Teachers are supposed to catch the students' attention and keep it during an important activity in order to teach the pupils in a more effective way.

The elimination of the less important stimuli can be achieved when the teacher is able to get the attention of the students and make them concentrate on a task. To do this, teachers have a very short time. They need to use that time to its optimum effeciency. Once they are able to get the attention of the young learners and present them the new information; the brains of the pupils will start thinking about the importance of that information and send it the working memory. For young learners, the importance of any new information is equal to how funny it is. If they think that the new thing, the teacher is showing them, is funny, then their brains will find it important and pay attention to it. One more important key here is, the teacher needs to keep the fun part of the new information during the task in order not to lose the attention of the pupils.

Any information, which is worth to be sent to the working memory, is supposed to be meaningful and sensible this time. As Armstrong supports this saying that ‘‘working memory decides to keep the information or delete it’’ (2008, p. 20). The working memory takes the information and processes it trying to find sense and meaning in it. In this step, when a language teacher creates connection among the students and the new target information, the students start thinking about the meaning and sense of it. As Sousa utters that the learner should not only give conscious attention but also build conceptual frameworks that have sense and meaning (2006). If the teacher can be succesful at this step, the information is taken to the long term storage.

This time, long term storage takes role in processing of the information and it tries to find the best place where the new information can accommodate. The accommodation place of the new information is supposed to be such a suitable place that whenever it is needed to be used, it is supposed to be found easily. This is, actually, the remembering process of the new information. The brain of a young learner tries to remember the new information from the place where it is accommodated. If the information has been stored with a strong sense and meaning before, it would be easier for the young brain to remember it. This is supported by Sousa: ‘‘The more understanding and meaning the learner can attach to the new learning, the more likely it is that it will be stored in different networks’’ (2006, p. 80). These different networks created with meaning and sense help the learners retrieve the new information in the future much more easily

2.4.6. Meeting the Needs of the Young Brains

‘‘Before students will turn their attention to cognitive learning, they must feel physically safe and emotionally secure’’ (Sousa, 2006, p. 44). Walking this talk, teachers try to form a stress free classrom environment where all students feel happy to be and learn new things. Creating both physically and emotionally safe environment is not easy as it seems at first sight, especially in a young learner classroom. Since, they are still too young to be a part from their family during a day time, they may start questioning about the school and reluctant to be a part of it. Because in their own families, when they have any slight problem, they directly ask help from their mothers or fathers. Nevertheless, in a school or classroom environment, where there are many more children, it would not be that quick or effective to reach every single pupil and help them. Believe or not, a young brain realizes this difference between their own families and the school environment. For that reason, a teacher is supposed to talk to every single pupil and tell them that she will be always here to help them whenever they need her. Moreover, young brains need to love and be loved by the other, especially by the teachers. Being emotionally safe requires the feeling of love for the young learners. Appreciation and love of the teachers are the basic emotions that they want to have. According to Armstrong, when students have a positive social interaction that warms them and makes them feel involved with the group, and appreciated by the others, the frontal lobe is effected positively (2008). Since frontal lobe is responsible for learning, feeling emotionally secure affects the learning process of the pupils.

The physical situation of the school and the classroom is the other important issue for the brain to learn more effectively. A learning place is supposed to be clean, tidy, light and not to be overcrowded. ‘‘Overcrowding and poor lighting distract the brain from deep learning’’ (Jensen and Dabney, 2000, p. 54). Since water and oxygen is the two major needs of a brain, students need to drink water during a lesson adn breath clean air. Jensen and Dabney add the importance of breathing saying that ‘‘proper breathing provides sufficient oxygen for the correct and efficient functioning of the brain cells’’ (2000).

Movement, is the other need of young brains. According to many different educators, such as Winston (2010), Armstrong (2008), Jensen and Dabney (2000) young learners learn better when they are provided with movement and physically engagement in the activities. Jensen and Dabney (2000) write in their book, called Learning Smarter, the most effective way to learn is not only by reading or listening, but by actually doing.

2.5. Teaching English to Young Learners

Now that the brain and its functions have been discussed, some principles of teaching to young learners are worth to be given. The awareness and knowledge of the brain guides the language teachers who are looking for the most effective ways of teaching especially in the young learner classes. Brain based techniques help the teachers from the first moment till the end of the classroom. When the teachers plan the lessons according to the needs of the young brains, they ultimately sees the positive affects of these techniques on the learning process of the students. Some of these techniques are given it this study:

- Have routines

As it has been explained in this study before, brain compatible classrooms are mainly based on creating a stress free and safe environment for the young learners. Routines are the best helpers for the language teachers in order to provide the pupils with a safe and secure learning place. As long as students know the general lesson flow, they think that they are in a safe place and everything will be in a way that they are familiar with. This is supported by Shin and Crandall (2014) who note that if a teacher establishes certain routines that young learners can expect, then students will have a sense of security. Armstong (2008) also agrees and utters that that in order to design brain-compatible lessons, teachers need routines. Language teachers may have routines in starting the lesson, managing the classroom, keeping the attention of the pupils, ending the lesson and so on.

- Start the lesson with a funny activity

Almost all language teachers tend to start the lesson with a simple and the same kind of greeting saying good morning or good afternoon then asking how the students are. And the response given by the students are expected to be the same: I’m fine thank you. How are you? This is both a very automatical communication and a weak start to the lesson. It doesn’t have any sense or provoke positive emotions among the students and the teacher. This is why teachers need to find some other more effective ways of starting the lessons.

Starting the lesson with a song may have a positive affect on the mood of the young learners. This song can be a greeting song to be sung with the whole class. Moreover, when the song is accompanied with some meaningful movements, it would be both fun and a great energizer for the students. Another strong side of the songs is that they help the students improve their memory skills and their language skills. This is supported by Sousa (2006) noting that music strengthens the connections among the brain cells and thus it improves the verbal memory. When the teacher turns this kind of start into a routine, students would find it funny and they would be happy to be a part of it. Moreover, they may come up with some different song ideas to be sung at the beginning of the each lesson.

Brain gyms are another effective activities for the young learners. They can be used at any time of a lesson; however, using them at the beginning of the lesson may be more effective in that they prepare the young brain for the lesson. Wikipedia defines the term of brain gym writing that brain gym activities are claimed to improve eye teaming (binocular vision), spatial and listening skills, hand–eye coordination, and whole-body flexibility, and by doing this they manipulate the brain by improving learning and recalling of information. Brain gym activities are based on some physical movements so they are both fun and effective in creating a learning place for the pupils. ‘‘Exercise and movement influence learning’’ (Armstrong, 2008, p. 84).

- Make a revision of the previous lesson

After making students ready emotionally, it is time make them ready cognitively. This cognitively readiness can be achieved by asking the students what they remember about the previous lesson. This activity creates a link between the previous learning and the one, which is called as linked learning (Philips, 2008). It helps the young learners make links by reminding them of what they did before and where they are going next.

Moreover, it gives the learners a chance to repeat and practice more about the previously taught information. As it has been discussed in this study before, repetition is the key to life long learning. As MaryAnn (2002) notes in her writing that the more times an action is repeated, the more efficient the brain becomes for that action.

- Inform the learners about the lesson plan

For every young learner, which activities are covered during a lesson is a great issue to concern about. They are eager to know what the teacher is planning to teach them on that day. It may be observed in almost all young learner classes that as soon as the teacher is seen entering the class, one child appears and asks ‘what are we going to do today?’. Moreover, at the end of the each activity they start asking ‘what are we going to do now?’ which distracts the teacher and the other students from concentrating on the target information given. For that reason, it seems like a sensible idea to tell children what they are meant to be learning at the start of each lesson (Philips, 2012).

This informing the children about the plan of that day is another routine activity to be done at the start of each lesson. Nevertheless, telling every single thing about the lesson does not serve for it. When the teacher gives the key titles of each important activities in the same order as she has planned before the lesson, then it will not be waste of time but effective. Moreover, thinking that some students may easily forget the things they hear and need to see them visually, teachers had better prepare a useful material on which the general key notes of the lesson are written so that all students can follow the teacher and get ready for the next activity.

In this study, the researcher aimed at finding a useful idea about how to inform the students about the general lesson plan at the beginning of the lesson and she came up with the idea of *today's map*, which is shown as an example in the appendices.

- Have a classroom management system

A young learners classroom is totally different from the adult or teenager classrooms in that in the latter ones, language teachers are aimed to teach a group of people who are aware of their own responsibility in learning and know the reasons why they are supposed to sit silently and obey the general classroom rules; however, in a young learner class, generally students are not aware of what they are doing there and why they need to sit silently, listen to the teacher or obey the rules. Especially for the language teachers, it is even harder to manage the classroom while they are tring to use a language which is not native language of most of the students. A teacher, who has classroom management problems, can not possibly teach to the students. As Shin and Crandall (2014) write in their book, even if a language teachers understand methods and approaches for teaching English, they need to pay attention to the basics of managing learners of a certain age; otherwise, students will not learn much English.

Hadfield (1998) also thinks that classroom management is an important issue to be considered by the teachers. He utter that the general classroom setting may be the first hinder which creates negative challenging times for the language teachers. The language teachers need to use the classroom settings to its optimal level and avoid from having problems that are grounded on the classroom setting.

Since teaching English to young learners is mostly based on fun games, it would be hard to keep the pupils under control during energetic games. A very useful and funny gam emay turn into a huge problem because of the students who are out of control. This is all in the teacher’s hands. As long as she has a classroom management system and tells the classroom rules clearly, it becomes easier to control the students. Young learners need to know what is appreciated by the teacher what is not. ‘‘Children actually like working within a framework of rules’’ (Shin and Crandall, 2014, p. 295). In order to do this, language teachers may prepare a classroom rules corner in the classroom, which are decided with the students. Moreover, teachers may have a classroom management signals such as rasing their hands, standing next to the classroom rules corner or showing a picture etc. Whenever teachers use one of these management signals, without feeling the need to talk or shout, young learners will understand that there is something wrong and think that they need to change their misbehaviour.

- Catch the learners’ attention

It is well known fact that teaching to young learners requires a combination of many different skills, among which being able to catch and keep the children’s attention comes the first. Getting the attention of the children to a target task relies upon how meaningful the task is in their opinion. The brain seeks for meaning and sense in every task it deals with (Caine and Caine, 1990). If they think that the thing, teacher is trying to teach them, is meaningful enough, they will pay attention to it.

The first moment when students are introduced with the target activity, plays a very crucial role in getting the attention of the students. As this study has discussed about the kinds of memory part before, teachers have only 30 seconds to get the attention of the students to start teaching them. In these 30 seconds, young brains decide to use this new information or lose it forever. For that reason, language teachers need to find useful and effective ways of getting the attention of the students as a first step of teaching.

The previously taught information gives enough meaning to the possible new one. Namely, if the learner finds a meaningful connection between the previously taught knowledge and the new one, and then he thinks that the new information is worth to be learnt. Familiarity brings meaning. This thought is supported by Armstrong who utter that ‘before the brain accepts a stimulus as novel or new, it quickly scans to see if existing experiences might assit’ (2008, p.70). This is especially about the emotional experiences of the student. Past emotions have a strong effect on the future learning of the individuals. If a young learner has a negative emotion about any event in a classroom, he suddenly remembers it when he encounters with a familiar event and he may not want to experience it one more time. Or vice versa.

Moreover storytelling is another effective way of catching the attention of the young brains. According to Jensen and Dabney (2000) it both makes the students attentive and improves their listening and reading skills. Stories have the power of making the listeners curious. Students need to listen to the story because of this curiosity. Even a regular communication between two people is strengthened with a story. When one of the speakers start telling about any event that he has experienced and how he has felt about it, the other person will start listening to him with an unbelievable level of attention. This is all about the brain’s curiosity and eagerness to learn about some other people’s life experiences. According to Shin and Crandall well written stories can capture the interest and imagination of children (2014).

- Vary the activities

Getting the attention of the young learners is not the only aim of the language teachers; however, after they get the students’ attention to a target task, they need to find some other ways of keeping this attention till the end of the task in a very effective way. One way of doing this is to change the activity in every 10 minutes. According to the studies and observations of the educators young learners have a very short span of concentration. They easily get bored and want to try other things. In almost every class, there are fast finisher children, who finish the given task and start movin around the classroom and even disturbing the other students. When they are given extra activities to do, they eventually stop moving around and start concentrating on that new task.

Changing the activities does not mean that teachers need to plan the lessons based on the activities which are strongly different from each other. Nevertheless, language teachers may come up with some creative ideas and make slight changes on a target activitiy and find a new one. These slight changes on the activities give chances to the young learners to practice more about specific target information. Although they think that the teacher lets them play games one after the other, they still go on working on the same target information with very little changes.

Creativity helps the language teacher to find ways of varing the activities. Pugliese notes in his book titled Being Creative that teachers may not be born creative however they may decide to be creative (2010). He thinks that creativity can be developed. However, it is not something that just happends without giving enough effort to it. A language teacher, who likes playing games and taking risks, can vary the activities using her creativity.

- Use the prime-times effectively

According to the studies held by Sousa (2006) the first and the last 10 minutes of a lesson are the most effective times to teach to the young learners. He calls these effective times as prime-times. He informs the teachers about the importance of these prime-times saying that ‘when you have the students’ focus, teach the new information. ‘‘Don’t let prime-time get contaminated with wrong information’’ (Sousa, 2006, p. 91). The time between the first and the last 10 minutes is the down time. According to Sousa (2006), the longer a lesson time is, the more down time is. Moreover, down times increase faster than the prime times. As a result, the language teacher, who aim at teaching as much English as possible during a limited lesson time, must be aware of the prime and down times and use them accordingly. They need to teach the most important information at the prime times and use the down times for more settling activities and practicing activities.

- Let the young learners share their ideas with their friends

‘‘Peer tutoring enchances immediate recall and long-term memory’’ (Jensen and Dabney, 2000, p. 19). Young learners are eager to share their thought with their classmates. This activity gives them a great chance to speak more in the target language and share what they like most or least about the lesson with a friend. This talk is another effective way of learning for the young learners in that students learn from each other and they do not get offensed when they are corrected by their friends.

At the end of the each lesson, language teachers may give the students some time to talk about that day in English, and share their ideas with each other. While doing this, the teacher is aimed at creating a peer learning time and making all students remember about the activities done during that lesson. The students are let look through the notes they have taken or through the book pages done during the lesson while talking with their friends. With the help of their friends, some students may realize their mistakes and some may find it easier to learn. The important thing here is that the teacher must be a good monitor and encorage the students to speak in the target language.

- End the lesson with a brief wrap up

According to Armstrong (2008) the last thing students should hear before they leave a class is a statetement of what was important to know from the day’s lesson. A quick and brief wrap up of the lesson works well for the future recalling of the knowledge. Young brains get a chance to tidy up all the information given that day and place them effectively.

2.6. Importance of Vocabulary Knowledge for Young Learners

Young children try to understand the messages with the help of the words, they are familiar with, in the target context. Because of this reason, in this part, the importance and the process of vocabulary teaching to young learners are discussed.

Vocabulary knowledge is a key to have a successful communication. Someone who wants to be able to have communication in a language, he is supposed to use correct words of that language in appropriate situations. This ability requires the knowledge of words. The importance of vocabulary knowledge is an undeniable fact in acquiring or learning a language. The usage of vocabulary in written or oral form has an effet on having a meaningful communication.

In the process of acquiring/learning a language, children are exposed to different vocabulary items. As Cameron (2001) mentions in her book ‘‘vocabulary teaching has a centre stage in a foreign language teaching’’. When it comes to young learners, vocabulary knowledge is seen as the most crucial step for their success in language. The more words a young language learner stores in his memory, the more competent he becomes in English. Çakır supports this idea uttering that ‘‘lexical competence in the native language (L1) and the foreign language (L2) are central to successfull communication’’ (2010, p. 211). Learning vocabulary is a starting point in learning a foreign language. In order not to have a weak communication, people should have enough knowledge of words.

It is clear that vocabulary competence is the basic element in learning a language. Zimmerman’s study (1997, as cited in Lago and Seepho, 2012) showed that vocabulary is central to language and it has critical importance to the typical language learned. As Cameron (2001) points in her book that ‘‘vocabulary learning can be a stepping stone to learning and using grammar’’. Let the discussions of grammar or vocabulary knowledge occupy the minds of many people, Wilkings (1972) put a period saying that ‘while without grammar little can be conveyed, without vocabulary nothing can be conveyed’. It is not a matter of fact that vocabulary knowledge is more important than grammar knowledge, However, the deal is that if someone is fully equipped with the grammar knowledge but lacks in correct vocabulary usage, it’s possible that he has a great difficulty in having an effective communication with the other people in the target langauge.

Teachers, being aware of the importance of vocabulary knowledge, are looking for the most effective ways for teaching vocabulary to the learners at any age. At this point, the question of ‘‘what does knowing a word exactly mean?’’ arouses. Thornbury (2013) answers this question in his book *How to Teach Vocabulary* and he utters that at the most basic level, knowing a word involves knowing its form and its meaning. By form, he means what parts of speech the word belongs to. Whether it is a noun, verb, adjective or adverb. By meaning, he means the dictionary definition of that word. However he goes on telling that ‘‘ knowing the meaning of a word is not just knowing its dictionary meaning, it also means knowing the words commonly associated with it, its collocations, connotations, including its register and its cultural accretions’’ (Thornbury, 2013, p. 15).

Moreover, vocabulary usage is based on two kinds of knowledge: receptive and productive knowledge. The former one includes the words that someone is able to understand when he hears or reads it; while the latter one includes the words that the person actively use both in written and oral forms. Thornbury mentions in his book that ‘‘receptive memory exceeds productive knowledge and generally precedes it’’ (2013, p. 15) That is to say, the number of words people understand is more than that of they actively use, and they first understand the words before they are able to utter them. This shows a clear way to the language teachers of young learners: the starting point of vocabulary knowledge is the receptive memory. Young children firstly are exposed to many vocabulary items, then they start storing all these words. The vocabulary knowledge process ends with the usage of these words. The steps can be summarized as: exposure/hearing, storage/memory, usage/practice.

Through out the history of teaching/learning a foreign language, people have been using different approaches to make the process of teaching/learning vocabulary items more effective. There are many different techniques that teachers have been using in their classes. As time passes, the effects of each approach have been observed and discussed. In the 4th part these approaches, techniques and principles in teaching vocabulary are discussed. Classical ways of teaching and brain based teaching strategies are compared.

2.7. Vocabulary Teaching Techniques and Principles

2.7.1. Classical ways versus Brain- Based Teaching Strategies

English langauge teachers adopt various language teaching methodologies e.g. Grammar-Translation Method, Audio Lingual Method, Direct Method, Community Language Learning, Natural Approach, Total Physical Responses, Communicative Approach, and so on. There is a huge misunderstanding among many teachers that all these ways are out of date and they must be excluded from the langauge teaching process. However, the important point here is to decide what approach is appropriate with what group of learners. Each approach and method is unique in that they all meet the different needs of the learners. The teachers, who are aware of the needs of their learners, are welcome to use any appropriate approach at any appropriate time.

Brain based teaching strategies support the other methodologies and show them new ways to teach vocabulary. With the help of brain based teaching strategies, teachers find it easier to teach vocabulary to young learners. Moreover, target vocabulary items are stored in the long term memory, which makes it easier for the young learners to remember the words and use them. The general features of classical vocabulary teaching strategies lack of helping young learners to store new vocabulary items in the long term memory.

According to the Chineese researchers Pan Q. and Xu R.; teachers tend to give a list of vocabulary and require their students to memorize all the words on the list, which is unsatisfying for both the teachers and the students for they end with a failure. (2011). However, brain based teaching defenders such as Philips (2012), Shore (2012), Christison (2002), Jensen (2005), Caine and Caine (1990) argue that new vocabulary items are best remembered when they are taught in different and meaningful context.

Classical ways of teaching vocabulary are helpful for a short time. It seems like an easier way for teacher to teach. While teaching vocabulary to young learners, teachers give the meaning of the words to the learners. Learners seem to learn the meaning of the words; however, as time passes the learners find it so difficult to remember the same words. The teachers, who are aware of the brain based teaching facts, avoid giving the meanings of the vocabulary items in native translations; but they guide young learners how to guess the meaning of a new word from the context it is seen. This idea is supported by Harmer (2007), in his book The Practice of English Language Teaching, he writes that young children respond to meaning even if they do not understand the each word. This also shows that meaning comes before the knowledge of individual words. Young learners spand their vocabulary knowledge through time as they encounter with a meaningful context at different times and places. McKeown and Beck support this idea noting that students need to be exposured to various contexts and engaged in active thinking about the meanings of the words (1988).

The book ‘How to Teach Vocabulary’ written by Thornbury (2002) informs the teachers about a research done by T Tinkham. The research puts out an interesting finding: teaching unrelated words showed a better learning rate than teaching related lexical sets of words did. This means students easily confuse the interchangeable sets of words which belong to the same lexical sets (apple, pear, banana, cherry, etc.) Teaching thematically linked but unrelated lexical set of words is a more effective way of introducing vocabulary items. Thornbury (2002) summarizes the research saying that ‘‘it is an easier way to remember the differences than the similarities’’.

Dictionary usage is also an undeniable factor in teaching/ learning process. Since bilingual dictionaries provide the learners with the native translation of the words, they are not helpful for a long time memory process. Picture dictionaries are an effective way for young learners to learn new vocabulary items.

The teachers, who are aimed to teach vocabulary items using brain based teaching strategies, need to know how to activate long term memory of young learners. “For words to be integrated into long-term memory they need to be subjected to different kinds of operations” (Thornbury, 2002, p. 23). These operations are given below with their explanations.

Routines: A teacher, aiming to teach to young learners, must have routines in a lesson time. Learners get accostomed to the steps taken by the teacher from the beginning till the end of the lesson and they find it easier and more exciting to learn. Routines help young learners to remember the previously taught items more easily.

Repetition: Having taught a group of vocabulary items, teacher needs to make it sure that students have learnt and cam remember them. To do so, she prepares some repetition acitivites with which students find chances to practice the target vocabulary items in different ways. Repetition activities help teachers to make the connection between the neurons stronger. As it has been explained in the parts of learning and memory process, learning occurs via connected neurons and repetition makes this connection stronger. New vocabulary items are placed in the long term memory with the help of repetition.

Visualising / imagining: Young learners need to see, touch, smell or feel the the things around them somehow. Seeing the pictures or realias of the target words makes it easier to leanr and remember them.

Spacing: Teachers need to distribute memory work across a period of time rather giving a mass of information at a time, a crowded group of target words, for example. Revision of the target words given in a previous lesson and then integrating the new ones, is an effective way of teaching vocabulary to young learners.

Personalizing: Finding some emotional, historical or physical connection between the new vocabulary items and the learner, makes the learning more effective. Having found a personal connection with the word, the learner will always remember this connection whenever he comes across with these words.

Pacing: Knowing that each student has a different speed of learning something new, teachers need to give them an opportunity to pace their own rehearsal activities.

Use: Learning can be observed when the words are used in writing activities or while speaking about a topic.

Mnemonics: Using the beginning letters of a specific groups of words, a totally new words can be found like an abbreviation. These new words help learners to remember that group of words easily.

Motivation: During a lesson, feelings or mood of learners are observered to be easily changeable. To keep the learners always ready, willing and active to learn, teacher needs to motivate them. Even a look, smile or touch of the teacher may motivate the young learners.

Attention/arousal: To learn something new, some degree of conscious attention is required. The more learners pay attention to an information, the more likely they will have an improved level of recalling it.

Affective dept: Cognitive success is strenghtened with emotional ties. Students need to have a strong level of emotional connection with the target words in order to remember them better.

Having discussed about the different ways of operating a new information, it is high time that how young learners need to be taught new vocabulary items has been explained. For that reason, teaching vocabulary to young learners using different techniques, which are based on the brain studies done before, is given in the following part.

2.8. Young Learners and Teaching Vocabulary

This study is focused on trying to discover how to facilitate children's language learning process regarding vocabulary. Vocabulary knowledge plays an important role in a child's learning a language process in that they are the small steps leading to the destination. Although these steps seem small, like tiny drops in ocean, an individual needs them to reach his target place. A language learner needs the words in order to utter his thoughts correctly. As for the young language learners, they strongly need to learn vocabulary items as much as possible. This thought is supported by Lago and Seepho. They write that as young language learners learn new words and store them in their long term memory, they will be more confident and find it easier to learn new word (2012).

Language teacher, who know the importance of vocabulary knowledge for young learners, seek new and effective ways of vocabulary teaching techniques. Since this study argues about the positive effects of brain based strategies on teaching vocabulary to young learners, basic strategies of teaching using brain based strategies are worth discussing.

2.8.1. Brain Based Strategies to Teach Vocabulary to Young Learners

In this study three main brain strategies are discussed. These are brain based strategies to be used in teaching vocabulary to young learners. They all focus on the important studies done before. According to Hadfield (1998), it is a hard job to learn and remember the words since it takes a lot of effort to place them for the future usage. Moreover, he limitates the vocabulary learning stages into three parts: fixing the meaning of the word in your mind; making the word your own; use the word to communicate with the others. Keeping all the characteristics of young learners in mind and the brain facts, teachers can create some more innovative strategies to teach vocabulary to them. For a language teacher, who aims at teaching using brain based strategies, these following three steps may play an important role;

- First impression of the new word.
- Personalizing the new word.
- Practicing the new word.

First impression of the new vocabulary items occurs in a very short time. Although the time for that is short, the effect of it lasts so long. All the neccessary emotional connections between the brain and the words are created at this step. As it has ben explained before in this study, positive emotions have a great effect on learning and remembering the words. According to Stevens and Goldberg (2001) if strong emotions are attached to information, students are more likely to recall it. For that reason, the way how a language teacher introduces the target vocabulay items, is the most crucial strategy. Once the teacher is able to grap the student's brains and their whole hearts at the introduction part of the new words, she becomes closer to an effective teaching. At this step, language teachers are supposed to make the young learners think that these new vocabulary items are worth to be learnt. In order to do that, teachers can prepare different and exciting activities apart from only using the course book pages. They can introduce the words using many different activities according to the kind of these words. For example, telling a short story, singing a song; drama activities, using realias or visuals and so on. With the help of an exciting introduction of the words, teachers will find it easier to involve the young learners in the other following activities.

For personalizing the new words, language teachers try to strenghten the positive emotional connections that are created in the introduction step. This step is also important in that the meanings of the words are enchanced in the young brains as they find some common things between the words and themselves. With the help of personalizing strategies, young learners possess the new words and make them their own so that they can achieve a life long learning. To be successful at this step, teachers can make use of some personal features of the students. To give an example, the new target vocabulary items may be about musical instruments and there may be some students, who can play these musical instruments. As soon as they see the pictures or realias of the musical instruments, they will start shouting 'I can play the guitar, the piano or the violin!'. Since personalizing is about the experiences of the students and their personal lives, it makes a strong connection between the words and the students. Namely, when students personalize the words, they end up with saying 'I like it!', 'I know it!', 'I saw it!', 'I went there!', 'I can do it!' etc. These sentences are the most helpful ones for both the students and the language teacher, because they make the teaching and learning process of the new words easier.

Lasty, life long learning is derived from practicing. ''There is almost no long-term retention without rehearsal'' (Sousa, 2006, p. 88). According to Stevens and Goldberg, students need to be provided with different opportunities to experience the words, such as role playing, creative writing, cooperative learninf tasks or multisensory experiences (2001). Students communicate with the others while practicing the words.

CHAPTER 3

METHODOLOGY

3.1. Introduction

This chapter presents a detailed description of the research methodology applied in the present research study. The first part ‘Research Design’ includes the types of mixed research which is called ‘Quantitative and Qualitative Research’. The following part ‘Universe and Samples’ explains the participants of this study. The third part ‘Data Collection Techniques’ describes the data collection tools and procedures which were materialized in this research and also how the scores were assigned are explained and presented. The last part of the methodology is ‘Data Analysis’ part in which analysis of experimental research was described and the findings and comments were reviwed.

3.2. Research Design

In this research, two groups selected at the same proficiency level (elementary) were compared according to two different approaches of vocabulary teaching. The first approach was the use of brain based strategies in vocabulary teaching. The second approach was the use of the traditional approach in teaching vocabulary. Therefore the study offers a quasi experimental study (Dörnyei, 2001), in which control and experimental groups in terms of use of brain based strategies in teaching vocabulary to young learners of English.

In order to understand the effects of using brain based techniques and strategies in teaching vocabulary, qualitative data were also gathered as complementary to the experimental design. As for the qualitative study, an interview was done with the students who are in the experimantal group and they were asked some questions in order to gather their opinions about the brain based lesson they have had. In the quantitative part of the study one post-activity test was used to see the effects of brain based strategies on vocabulary teaching in an experimental design. Both groups had this post test and the results between the experimental group and control were compared in order to see the efficiency of using brain based teaching strategies with young learners.

At the beginning of the study, seven different units of vocabulary have been chosen. Each unit constitutes around 10 to 15 vocabulary items. Vocabulary items were not chosen intentionally but all the words, which are included in the chosen units, were the target ones and the teacher taught the same words using different techniques in the experimantal and the control group.

Firstly, learning styles of the experimental group were assessed with a test applied by the researcher to be able to plan the lessons according to the similarities and the differences among the students. Nevertheless, the different learning styles of the control group were not assessed. The teacher planned her lessons including all the different learning styles while teaching to the students of experimental group in order to reach every single one; however, while teaching in the control group, she had just used the course book lesson plans withough paying attention to the similarities or the differenes among the students.

The teaching process was implemented in eight sessions in a week for a full school year. Both the experimental group and the control group was taught the same vocabulary items at the same week by the same teacher. In each session the experimental group was taught 6-10 target vocabulary items using brain brain based strategies. In contrast, control group was taught the same 6-10 target words through traditional method by only using the course book.

After the teaching process, in order to see the hypotheses of this study, both groups were given the same post-test. In addition to this post- test, an interview over the procedure of the sessions were done with the students of the experimental group to see their opinions.

3.3. Universe and Samples

The research was conducted at Anafartalar Primary school in Ankara. Young learners of English at this primary school are the major universe of the study. There are around 100 students at this age and proficiency level at the school. The sample identified for this study is 70 young learners. The proficiency of the students was conducted to be the same according to the school’s placement test. The experimental and the control groups have been teaching by the same instructor for four years.

3.3.1. Demography

10-11-year-old students of the 4th grade at Anafartalar primary school participated in the research as subjects in the academic year of 2014-2015 in the fall and spring semester. The number of the subjects in the experimental group and the control group was equal: 35 in the experimental group, 35 in the control group.

3.3.2. Experimental and Control Groups

There are 35 pupils in experimental, and 35 in control group. 21 pupils of the experimental group were female, and 14 were male. In the control group, 19 pupils were female and the remainder 16 of them was male. The pupils has already been grouped into two classes, 4-A and 4-D. The students in the groups were nearly at the same level of English language knowledge.

3.4. Data Collection Techniques

Several data collection techniques were applied in this study. The materials used in this research were pre-test (learning styles), post-test, course book and worksheets. Also and interview were held with the students of experimental group.

In this research, it is aimed at teaching vocabulary items through brain based strategies to young learners at elementary level. So, the vocabulary items were the same ones given in the units of the course book chosen according to their level. The course book was Oxford Discover 3. There are seven units each of which starts with a question to lead the pupils thinking critically.

1. How do people have fun?
2. Why do people move to new places?
3. Why do people write poems?
4. Where does energy come from?
5. How do people make music?
6. How do inventions change our lives?
7. Why do we need plants?

3.4.1. Pre- Activity and Post-Activity Tests

Pre-activity test was applied to the experimental group to see their learning styles, which guided both the teacher and the students throughout the procedure of the study. The post-activity test was applied at the end of the year. This test consisted of various types of questions including matching, categorizing, thinking and writing.

3.4.2. Research Procedure

The main concern of this study was to investigate the effects of brain based strategies on teaching vocabulary for young learners as an alternative method.

In this study, two groups at the same proficiency level (elementary) were compared according to two different techniques for vocabulary teaching. The first technique was the use of brain based strategies and the second was the use of a traditional technique, giving Turkish equivalents of every word. The teacher was assigned to teach eight hours for each week, 18 weeks for the fall term, 18 weeks for the spring term, totally 144 hours for each term. After the formation of the groups, seven topics were randomly selected for vocabulary teaching purpose.

3.4.2.1. Lesson Plans

Each lesson plan was prepared to teach vocabulary items through brain based teaching strategies to reach every student with different learning styles. The new vocabulary items were chosen from the course book: Oxford Discover 3. Lessons were planned with the brain based teaching strategies, which are explained in chapter 2 in a detailed way. All activities were based on the brain facts and its needs in order to create a peaceful classroom environment. Each unit was divided into weeks according to the curriculum. Each week had its own target topic and vocabulary items. Generallly, six-ten target words were given in a lesson. The materials, used by the teacher, are shown in the appendices.

Each lesson started with a brain gym, a song or an energizer to have an energetic start to the lesson. After that, the to do list of the day was shown to the students, which was called as today's map. Today's map was to make the students ready for the lesson and answer the questions of 'what are we going to do today?' or ' what are we going to do next?' in most of the pupils' brains. Each new unit was started with an interesting activity to draw student's attention, because catching the attention of their brain was always the first aim. A worksheet prepared for the start of the each unit was given to the students. This worksheet was a guide for the students to show them what they already know, what they want to learn.

The target vocabulary items were given by using the brain based strategies explained in chapter 2. To speak generally, teaching new vocabulary items were divided into 2 main steps: introduction and practice. In each step, various materials were used to reach every single learner. Pictures, realias, songs were the main materials during the lessons. In the introduction step, each new word was introduced with the possibility of famous saying 'the first impression is the last impression'. The teacher tried to make meaningful and sensible connection between the word and the individual learner and most importantly between the previously taught words and the new ones, which is one of the keys of brain based teaching and learning. In the practice step, students were given many different chances to come across with the words over time in different situations. At the beginning of the each lesson, the previously taught words were asked to the students. They looked at the pictures of the words on the notebooks with the explanation and a sample sentences. Learners shared their sample sentences with the other classmates. The word, which was taught in the first unit, was still in the practice step even when the other new units came up. The teacher asked the connection between the previous words and the new ones to make the students think and create new neuron connections in their young brains, which made those words sticky. Moreover, in the practice step, many different flashcard games were played, which are suggested in the appendices.

At the end of the each lesson, students were given time to talk about that lesson. They shared their ideas with their classmates and tried to remember all the new words. A worksheet called 'exit ticket' was given to the students to see what they remembered about the lesson. They wrote what they could remember and handed it to the teacher to leave the class.

The learners in the control group learned the same new words but they didn't have any brain based activities. The teacher only used the course book and gave the Turkish equivalents of the words. They did not participate in any extra activities.

3.5. Data Analysis

The data analysis phase includes different procedures depending on the nature of the data. For the quantitative data, frequency and percentages of the learnt and remembered vocabulary were calculated and compared to each other. As for the qualitative data, the interview results of the experimental group were analyzed and similarities,differences and emerging themes were discussed accordingly. Also critical remarks of the experimental group were quoted directly to show their stances objectively about the phenomenon.

CHAPTER 4

DATA ANALYSIS

4.1. Introduction

In this chapter, the collected data were analyzed and interpreted. In part 4.1, findings of the quantitative data of experimental design are analyzed. The following part, 4.2, reports the analysis of qualitative data which discusses evaluation of the intervieweers' responces. Part 4.3 summarizes the findings of the research.

4.2. Findings and Experimental Design

The number of the participants in the experimental and the control group is shown in the table 1 below.

Table 1. Demography Variety

	Frequency	Percent	Valid Percent	Cumulative Percent
Experimental Group	35	50,0	50,0	50,0
Control Group	35	50,0	50,0	100,0
Total	70	100,0	100,0	

As it is clear in the table 1, experimental and the control group included the same number of students; 35 for each.

Table 2. Comparison of the Post Test of the Experimental and the Control Group

Experimental Group	total_score	35	25,00	147,00	94,4857	22,63830
	Valid N (listwise)	35				
Control Group	total_score	35	20,00	89,00	56,5714	18,41880
	Valid N (listwise)	35				

Table 2 gives the descriptive statistics of the result showing the difference between the experimental and the control group. There is a quantitative difference between their mean. It is understood that the students, who were taught via brain based teaching strategies, are more successful. A t-test was utilized in order to measure whether this difference is statistically meaningful.

Table 3 shows the group statistics for the Post-test of the experimental and the control group.

Table 3. Group Statistics of the Experimental Group and the Control Group

	Group	N	Mean	Std. Deviation	Std. Error Mean
total_score	Experimental Group	35	94,4857	22,63830	3,82657
	Control Group	35	56,5714	18,41880	3,11335

According to the table 3, there is a statistical difference between the success of experimental group and the control group.

Table 4. Descriptive Analysis of the Average of Remembered Words

Group	Units	Total # of words	Average of remembered words (%)
Experimental Group	How do people have fun?	52	23
	Why do people move to new places?	55	19
	Why do people write poems?	52	20
	Where does energy come from?	56	15
	How do people make music?	52	20
	How do inventions change our lives?	55	27
	Why do we need plants?	51	17
Control Group	How do people have fun?	52	11
	Why do people move to new places?	55	8
	Why do people write poems?	52	12
	Where does energy come from?	56	9
	How do people make music?	52	10
	How do inventions change our lives?	55	14
	Why do we need plants?	51	14

The descriptive analysis show that the students in the experimental group remembered more words than the students in the control group. For instance for the unit of "How do people have fun?" which has 52 words, students remembered 23% of the words averagely while the students of control group remembered 11% of the words averagely.

At the end of the post tests, it has been seen that there is no meaningful correlation between the percentage of the remembered words and the thoughts of the students about those words.

4.3. Qualitative Research Findings

4.3.1. Evaluation of the Interviewees' Responses

The findings of interview with experimental group revealed the following findings:

Question 1: How do you prefer to learn new English words?

The responses to the first question show that students prefer to learn new English words according to their learning styles. The students, who are mostly kinesthetic, chose learning via games and body movements; the ones, who are mostly auditory, chose learning via listening to the teacher and talking with the friends; the ones, who are visual, chose learning via pictures. Some sample sentences said by the students are given below:

Student 1 (S1): *I like learning with the pictures. Pictures are fun and they help me understand the meanings of the words more easily.*

S 6: *I like learning by playing games. When I actively involved in the games I feel like I'm learning.*

S 5: *I like listening learning the new words by listening to the songs. Songs are both fun and effective. When I hear the word I think I'm learning it better.*

Question 2: Which activities done during the lessons help you learn more easily?

According to the responses given to the second question, most students find playing games as a helpful way of learning. Some of the students gave other answers such as writing on the notebook, looking at the dictionary, looking at the pictures, listening to the teacher, drawing pictures and reading. Moreover, some students said that they could learn more easily with the help of their classmates.

S 3: *When I write on the notebook, I learn better.*

S 4: *When we look at the meanings of the words from the dictionary at the back of our coursebook.*

S 5: When I have diffuculty in understanding something about English, I ask one of my friends. My friends help me when I need them.

S 7: *When we play games using the words of the lesson, I learn more easily.*

S 8: Playing game is fun! When I play a game, I learn easily.

Question 3: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

All of the students stated that they liked this activity and found it fun. They thought that it was an effective way of remembering the words. Some of the participants said that if they didn't cut and glue the little pictures of the words, they felt that there was something missing about the words. They found it difficult to remember them.

S 1: *I like this activity. When we do it, I remember the words much more easily.*

S 5: *It looks nice visually. And I learn better.*

S 4: *When we start writing the meanings of the words, you say : 'Don't look at your book, try to remember the meanings yourself.' And I try to remember, which helps me strengthen my memory.*

Question 4: How does Today's map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

All of the participants, without exception, claimed that Today's map activity gave them a clear picture of the lesson in advance so they got ready for the lesson. Students reported that they felt safe after the Today's map activity because they knew what they would do during the lesson. On the other hand all students said that they felt curious and unsafe if they didn't do the Today's map activity. Student 4 said : '*If we don't do the Today's map activity, I think that anything may happen at any time, which makes me curious and I feel unsafe during the lesson.*' Student 2 said that '*If we forget to do the Today's map activity, I don't know what we will do next so I want to ask you -what are we going to do next?- all the time.'* All of the students found the today's map activity as a very helpful for them since it made them both ready for the lesson and feel safe before the lessons started.

Question 5: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

Most of the students claimed that revision of the words, taught in the previous lessons, made their memory skills stronger. They thought that it was an effective way of remembering the words. To give some examples of students' answers;

S 1: *It helps me remember the words.*

S 3: *It's an effective way of practicing the unit words for me.*

Question 6: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

Based on the responses given to this question in the interview all students stated that they liked talking and sharing ideas with a friend. Most of them claimed that they help each other to learn and remember the words more easily. Especially, some shy students claimed that they learnt a lot with the help of this activity, because they could ask questions to their friends about the parts which were hard to understand. Morever, the ones, who like talking, said that they enjoyed this activity since it was a free talking time with the permission of the teacher. Here are some answers from the students:

S 3: *I learn and remember the words better when I talk with a friend.*

S 4: *Sometimes, I can't understand the meanings of the words but when I talk with a friend of mine, he helps me or vice versa. We help each other.*

S 5: *With the help of this activity, we refresh what we have learnt during a lesson.*

Question 7: How do you feel yourself during the English lessons?

The answers given to this question are happy, energetic, safe, relaxed and joyful. All students claimed that they felt happy to learn a new language because they thought that they could communicate with people using English. One of the interesting answers was by student 3: *I feel like a king! I think I am so good at English!* Some other answers were;

S 4: *I'm happy and energetic because English lessons are always full of fun and energy!*

S 2: *I think my English is good. I like learning new languages. When I see that I can learn new things in English, I feel relaxed. I reach a spiritual satisfaction.*

Question 8: How does your learning change when the teacher is angry?

Most of the students reported that it had no negative effect on their learning; however, they thought that they had to control themselves in order not to make the teacher angrier. Some of the participants claimed that their teacher went on teaching even when she was angry.

S 3: *Your anger lasts only 2 minutes. However, I think I have to control myself when yu are angry.*

S 5: *I feel sad beacause you don't smile when you are angry. Although you are angry, you go on teaching so I think that I need to keep listening to you and concentrating on the lesson.*

S 2: *When you are angry, I feel sad but you keep teaching in a way that I can still learn.*

Question 9: Do you have any your own strategy to learn new english words? What is it?

Basically most of the students claimed that they liked learning new words by reading books, using picture dictionaries, writing sample sentences, playing English computer games. Moreover some of the students reported that they found some other strategies such as talking with a parent about the meaning of any three words before sleeping; making some personal connections with the words. Student 1 said: *Evernight before I sleep, my mother asks me some English words choosing from my homework sheets. That way, I practice and remember the words of that week.* One of the girls said that '*When I hear a new word, I try to find an interesting moment that I have experienced in my life, which may have a meaningful connection with that new word.*' Another student claimed that '*It's easier to learn and remember a word when I used it so many times, which we usually do it in the classes.'*

Question 10: What do you do to remember the new words when you have difficulty in remembering them?

Based on the responses given to this question in the interview all students stated that they prefered to look the words up, search on the coursebook and look at the pictures.

S 1: *First, I push the limits of my brain. If I can't remember the word, I look at the little pictures in my notebook.*

S 3: *I always bear a mini dictionary in my backpack. When I have difficulty in remembering a word, I look it up.*

S 5: *There is a dictionary, including the unit words, at the back pages of our coursebook. I get help from this dictionary.*

Question 11: In your opinion which words are easier, which ones are more difficult to remember and why?

Most of the interviewees reported that learning with the pictures made it easier to remember the words. For example, student 1 said: *I learn much more easily when my teacher shows the pictures of those words.* There are some other answers given by the students: changing the word to different usages (noun, verb, adjective, adverb) makes it easier to remember; if they could pronounce the word easily, they found the word easy to remember because they thought that hearing the pronuncation of the word correctly was important. Similarly, the same students thought that if they had difficulty in saying the word, they found it hard to remember that word. Student 3 said *when I learn a words with its different version, I learn it better such as invent, invention, inventor.* Another student said *if a word is short and easy to pronounce, I find it easier to learn and remember.* One of the boys said *for example the word nonrenewable, it seems like a hard word; however, we went over this word hundreds of time. Now it's pasted on my brain! You nailed it in my brain.*

Moreover, some students thought that having a personal connection with the target words, makes learning and remembering those words easily for them. For instance, one of the girls said: *I easily remember the words which are related to my life somehow. For example, my grandparents were moving to a new house when we started learning the words about the moving unit (Why do people move to new places?). I never forget those words.* Another girl said: '*When my teacher says that 'kids, this word is my favourite word', I pay much more attention to learn that word and it becomes easier to learn and remeber it.*'

Question 12: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn't let you do the things you want?

Most of the students reported that they controlled themselves till the break time and kept concentrating on the lesson. However some of the students told that they found it difficult to concentrate on the lesson and listen to the teacher when they needed to do these things.

S 3: *I try to control myself and wait for the breaktime.*

S 5: *I feel bad. It's so hard for me to listen to the teacher and do what she wants me to do. Because I always think about my need.*

Question 13: What is your favourite game that you play in English lessons?

Most of the students reported that they liked playing the tennis game. (shown in the appendices.) They liked playing funny flashcard games such as rock, scissors, paper, find the missing one and memory story.

S 1: *I totally like playing rock, scissors and paper. I love it! It's a funny game to practice the new words.*

S 2: *I like playing the tennis game. It's silly but funny, though. I want to play the tennis game to use the words we have learnt that lesson.*

4.4. Discussions on the Findings

This study was based on a mixed-methods design which aimed to discover the effect of using brain based teaching strategies on vocabulary improvement of young learners. Following sections of the discussion chapter is organized with regard to the research questions. The research questions (RQ) of this present study are as follows:

- RQ1: Is there an influence of teaching vocabulary through brain based strategies on students' vocabulary learning?
- RQ2: Can teaching vocabulary through brain based strategies to young learners be more efficient than traditional methods?
- RQ3: Is there a meaningful difference in the post-tests of the experimental group and the control group?
- RQ4: Will the students' feelings be positive about the procedure?

4.4.1. RQ1: Is There an Influence of Teaching Vocabulary through Brain Based Strategies on Students' Vocabulary Learning?

The researcher used brain based strategies to teach vocabulary and it helped students to learn and remember better. During the study it was clearly observed by the researcher that once both the teacher and students are aware of the brain and how it functions, learning occurs in a most effective way. This is supported in a similar study done by Lago and Seepho (2012) who wrote in their article that knowing the brain and its functions is the first step to an optimal learning. According to Sousa (2006) during a learning process, we remember best that which comes first, second best that which comes last, and least that which comes just past the middle. The researcher observed the positive influence of the lessons plans, which were prepared with Sousa’s this claim.

As cited from Read, Lago and Seepho (2012) write that ‘‘it is very important to learn vocabulary when learning a foreign language since vocabulary plays a major role in language comprehension and production’’. When it comes to vocabulary learning, memory skills play a major role. There is a memory process to learn, remember and use the word correctly. Brain based teaching strategies serve to make this process work in a most optimal way. As Kirch (2008) claims consolidating the vocabulary and using it regularly strenghtens the memorizing of new words. So, teachers need to recycle vocabulary and make learners use it in different context in order to help children keep their vocabulary active. Since brain based teaching aimes at repetition of the vocabulary items through time in different situations, learning and remembering the new words become easier for young learners.

What is more, according to Christison (2002), students will be able to use the information given as long as it has a meaning. The researcher clearly observed the effect of meaning on students’ vocabulary learning process. Since brain seks for meaning all the time, it wants to deal with the tasks, which are meaningful for it.

Moreover, the researcher observed that the classes where the brain and its needs are taken into consideration, both the teacher and the students feel relaxed, happy and safe. Even when the students make something wrong, the teacher, who supports the idea of brain based teaching, deals with the problem in a humourous way. As Jensen and Dabney explain ‘‘a good laugh can pave the road for meaningful learning’’ (2000, p. 49). During this study, brain based teaching strategies brought variety to the lessons and that variety ended with a high motivation which caused maximum participation. That atmosphere in the classes was enjoyable both for the teacher and the students during the vocabulary teaching process.

Since the teacher tried to teach vocabulary in a positive learning environment, the pupil were directly effected by this positive emotional situation of the classroom and ultimately they started to participate in the activities with a very high motivation. As Diamond (2000) says that love is the most powerful key to success. This active participance of the young learners resulted in their success at the vocabulary learning process.

4.4.2. RQ2: Can Teaching Vocabulary through Brain Based Strategies to Young Learners Be More Efficient than Traditional Methods?

The research indicated that the use of brain based strategies in teaching vocabulary to young learners has a positive effect on the students' learning the new vocabulary items. Therefore, the findings of the study statistically proved that there was a significant difference between the scores of the students who learnt the target vocabulary through brain based teaching strategies and the scores of the students who learnt the same words by translating them into Turkish, namely, in a traditional way. Hence, this results support the ideas discussed in review of literature in that using brain based strategies offer a great benefit in terms of vocabulary teaching.

During the study, the classes, where traditional methods were used in vocabulary teaching, seemed like to be successful at first. The control group students, who got the traditional teaching method, learnt the target vocabulary items; however, the results indicated that this learning ended up to be a fake learning because students had difficulty in remembering the words after a period of time. As the teacher gave the Turkish equivalents of the target vocabulary items while teaching them to the young learners, students seemed learning them because students learnt the meanings of the words very quickly. However, the problem was observed in a long time duration. The students in the control group had difficulty in remembering the vocabulary items after some time. This problem is summarized with the findings of the study held by Sousa (2006), learning and retention are different. Students seem like they have learnt something for just a few minutes and then lose it forever, which teachers try to avoid.

Morever, in the classes, where brain based strategies had the major role, learning was student centered. This result is supported by Stevens and Goldberg (2001), who claim that teachers must combine their knowledge about their profession with the findings from brain research to create learner-centered classrooms.

As mentioned in literature and also it was proven statistically that teaching vocabulary through brain based strategies to young learners can be more efficient than the other traditional methods.

4.4.3. RQ3: Is There a Meaningful Difference in the Post-Tests of the Experimental Group and the Control Group?

This research question intended to find out if there is a significant difference in vocabulary competence between the post test results of the experimental group and the control group. As the tables above show that there is a significant difference in learning and remembering the same target words between the experimental group and the control group.

‘‘The aim of teaching vocabulary is to enable learners to eventually use the new vocabulary independently either orally or in writing’’ (Kirsch, 2000, p. 111). This quotation strongly supports the result of the study. The results indicate that the students who underwent the brain based teaching strategies, showed a better voccabulary competence. Moreover, as the researcher observed, the students of experimental group were more independent and brave while using the new vocabulary items in different contex.

On the whole, there were improvements in the vocabulary competence in both groups. The participants in both groups were able to participate in the activities. Nevertheless, the participants in the experimental group showed better enthusiasm in their vocabulary activities as compared to the control group. Although there are many different methods for teaching vocabulary items to students, Mckeown and Beck (1988) suggest that integration of multiple methods rather than a single method would be the best approach.

4.4.4. RQ4: Will the students’ feelings be positive about the procedure?

The last research question was to see whether the students were aware of the facts of the procedure and how they felt during that time. The responses taken from the students revealed that all of the participants of experimental group were surprisingly aware what how the lessons were different and effective in their learning process.

Apart from the other test results, this interview part of the study was a clear evidence for the success of the research. Since the main was to see how different learning process will be between the experimental and the control group, it can be easily understood from the responses of the students that the learners felt positive about the procedure and they thought that they could learn the target vocabulary items more effective with the help of the brain based teaching strategies. Most importantly, they enjoyed this learning process.

CHAPTER 5

CONCLUSION

5.1. Introduction

This chapter will first provide a summary (5.1) of the current study. It will present once more the major pillars of the research such as background, aims, problem, participants and nature of the research design and data collection procedures. Finally, the suggestions for research (5.2) and the implications for practice (5.3) will be stated at th end of this study.

5.2. Summary of the Study

The main focus of this study was to ascertain whether the implementation of brain based strategies has any positive effects on the young learners' vocabulary knowledge. Within this consideration, it has been the center of various studies and researches. In a similar way, teaching vocabulary to young learners is the focus of the present study. Thus, a great many different techniques are employed to be successful. The main technique is using brain based strategies in order to teach vocabulary to young learners. 10-11-year-old students of 4th grade at a primary school in Ankara participated in the research as subjects in the academic year of 2014-2015 in the fall and spring semesters. There were 35 students in the experimental group and 35 in the control group.

The target vocabulary items were in the already chosen course book which had seven units. The units were divided into weeks according to the full school year. Both the experimental group and the control group were given the same target vocabulary items at the same weeks by the same teacher. However, the techniques used in the classes were different in order to see the effect of brain based strategies on the learners' vocabulary knowledge.

At the beginning of the year, a learning styles test was applied in the experimental group in order to see how those students liked to learn. With the results found after this test, the lessons were planned to reach every learner with different learning styles. However, in the control group the teacher planned the lessons ignoring the differences in students' learning ways.

The data analysis phase includes different procedures depending on the nature of the data. For the quantitative data, frequency and percentages of the learnt vocabulary were calculated and compared to each other. As for the qualitative data, the interview results of students in the experimental group were analyzed.

As a matter fact, the findings have shed light tat the experimental group had far more significant improvement in their vocabulary competence as compared to the control group. The study indicated that using brain based strategies was effective in promoting a better learning and remembering of new words. This method brought several positive aspects to the class. The classes had a peaceful, fun and safe atmosphere; the students were much more eager to learn; they were more interested in learning new vocabulary items.

Using brain based strategies to improve the vocabulary competence among primary school students is an interesting and effetive method in that it clearly helps both the teachers and the students about how long time learning occurr and how they can use the new words in different situations. After the research, it has been understood that vocabulary teaching is the precious area of language teaching. It has been pointed out that communication would be deficient without use of vocabulary although you know all the structural rules of a langauge.

It is obvious that brain bases strategies can be used by the teachers to achieve many goals in language teaching. They can be useful in every aspect of language teaching and can serve for the development of all skills such as listening, speaking, reading and writing skills.

The results show that the experimental group achieved better results than the control group, and that using brain based strategies can be an effective technique to teach vocabulary to young learners for the following reasons listed below;

- it guides the teachers about how the young brains want to learn;
- it guides the students about how they can learn and remember the new words easily;
- it creates a relaxing, fun and safe atmosphere for both the teachers and the students.

Similarly, some more detailed reasons can be given. Using brain based strategies helps teachers about;

- how to prepare the lesson plans to have brain friendly classrooms;
- how to catch and keep young learners' attention during a lesson;
- about how to keep and control the energy of the young learners;
- how to activate the young brains to think critically;
- activities to have before, during and after teaching the target vocabulary items;
- how to start and end a new unit;
- how to stick the new vocbulary items to the students' young brains;
- how to bridge the previously taught words and the new ones;
- how to get the heart of the students;
- how to connect the neurons of the young brains.

At the end of this study we see that the use of brain based strategies improved students' vocabulary learning. Moreover, the motivation of the students was higher. Language teachers have been always suggested to be a counselor, a guide, a helper, a secret leader; however there is one more missing responsibility to be given to the teachers: being a neuron connector. The language teachers are to be named as neuron connectors with the use of brain based teaching strategies.

5.3. Suggestions for the further studies

This study is not without limitations. First, it is hard to generalize the data due to the limited number of participants to the study. This study was applied to 70 language learners, 35 for the experimental and 35 for the control group. Thus, the number of the participants could be increased in order to ger a more generalized result.

Second, this research study was applied only to young learners, but it can be also used for adult language learners.

Third, the aim of this study was just to teach vocabulary through brain based teaching strategies, at the same time the grammar and four skills can be taught by this technique. In a future research, it is suggested that this study must be applied to see the results of students' improvement in grammar or one of the areas of four skills in English language.

Fourth, in this study only the teacher and the students were aware of the facts of brain; however, if parents had been informed about those brain based learning strategies, they could have been involved in the study and helped their children do the homeworks or study for the exams accordingly.

Finally, impact of brain based strategies on students should also be investigated in terms of socio linguistic pragmatic and discourse competences.

5.4. Implications for practice

The findings of this study may offer certain pedagogical implications for English language teaching in young learners' classrooms, as follows;

- using brain based strategies in teaching vocabulary to young learners can be an effective source of motivation for both the teachers and the young learners.
- Vocabulary items can be taught in a way that students can remember them more easily and use them correctly by speaking and writing.
- Like vocabulary items, the main four skills should be taught in an integrated way and enchanced with regard to the aim with the help of brain based strategies.

It is therefore concluded that such brain based teaching and learning strategies may vary the learning experiences of the learners specifically at EFL contexts and lead them to discover how language works in its authentic contexts. Moreover, the teacher who chooses to use some brain based strategies during the lessons, may be more relaxed and have a great sense of selfesteem. First of all, she may find it easier to manage the class.

As it has been explained in the review of litareture, learning occurs in the brain, so it is high time that the language teacher started to learn more about the brain and its needs. As long as the teachers teach in a way that students want to learn, both teachers and the students may be relieved. The rest is the choice of the teacher.

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APPENDICES

Appendix 1. Data Collection Instruments

INTERVIEW WITH THE STUDENTS

STUDENT 1

T: How do you prefer to learn new English words?

L1: I like learning with the pictures. Pictures are fun and they help me understand the meanings of the words more easily.

T: Which activities done during the lessons help you learn more easily?

L1: Writing activities help me learn more easily.

T: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

L1: I like this activity. When we do it, I remember the words much more easily.

T: How does Today's map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

L1: We do it to learn the overall plan of that lesson. After the today's map, I feel relaxed because I know what we are going to do during the lesson.

T: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

L1: It helps me remember the words.

T: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

L1: My friend and I remember what we have learnt in that lesson. If my parents asks me about the English lessons, I remember everything about the lesson with the help of this talk.

T: How do you feel yourself during the English lessons?

L1: I'm happy because I like learning English.

T: How does your learning change when the teacher is angry?

L1: I feel sad but I keep concentrating on the lesson and I can understand what you teach.

T: Do you have any your own strategy to learn new english words? What is it?

L1: Yes, I do. Evernight before I sleep, my mother asks me some English words choosing from my homework sheets. That way, I practice and remember the words of that week.

T: What do you do to remember the new words when you have difficulty in remembering them?

L1: First, I push the limits of my brain. If I can’t remember the word, I look at the little pictures in my notebook.

T: In your opinion which words are easier, which ones are more difficult to remember and why?

L1: Well… I easily remember the words which I use repetitively; however, new ones may be hard to remember for me.

T: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn’t let you do the things you want?

L1: I can control myself but it may be difficult sometimes. I ask for a permission one more time.

T: What is your favourite game that you play in English lessons?

L1: I totally like playing rock, scissors and paper. I love it! It’s a funny game to practice the new words.

STUDENT 2

T: How do you prefer to learn new English words?

L: I like learning by playing games. And sometimes I like learning by reading books.

T: Which activities done during the lessons help you learn more easily?

L: Listening to the teacher helps me learn more easily.

T: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

L: Well.. I think, it’s a great activity. I like cutting the pictures. And they help me later. When I forget the meanings of the words, I look at them.

T: How does Today’s map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

L: If we forget to do the Today’s map activity, I don’t know what we will do next so I want to ask you -what are we going to do next?- all the time.

T: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

L: It helps me and my friends to remember the words.

T: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

L: I enjoy listening to my friends and learn their different ideas. I sometimes learn new things from my friends.

T: How do you feel yourself during the English lessons?

L: I think my English is good. I like learning new languages. When I see that I can learn new things in English, I feel relaxed. I reach a spiritual satisfaction.

T: How does your learning change when the teacher is angry?

L: The level of energy declines so I feel sad. I try to control myself and keep listening to the teacher.

T: Do you have any your own strategy to learn new english words? What is it?

L: When I hear a new word, I try to find an interesting moment that I have experienced in my life, which may have a meaningful connection with that new word.

T: What do you do to remember the new words when you have difficulty in remembering them?

L: I look through my books and notebook to fnd out that word.

T: In your opinion which words are easier, which ones are more difficult to remember and why?

L: Well… if a word is short and easy to pronounce, I find it easier to learn and remember.

T: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn't let you do the things you want?

L: I find it hard to concentrate on the lesson. I can't dismiss it from my mind.

T: What is your favourite game that you play in English lessons?

L: I like playing the tennis game. It's silly but funny, though. I want to play the tennis game to use the words we have learnt that lesson.

STUDENT 3

T: How do you prefer to learn new English words?

L: I like learning by playing games.

T: Which activities done during the lessons help you learn more easily?

L: When I write on the notebook, I learn better.

T: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

L: I like it because the little pictures help me remember the words more easily.

T: How does Today's map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

L: I learn what we are going to do in the lesson and plan myself and my materials accordingly.

T: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

L: It’s an effective way of practicing the unit words for me.

T: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

L: I learn and remember the words better when I talk with a friend.

T: How do you feel yourself during the English lessons?

L: I feel like a king! I think I am so good at English!

T: How does your learning change when the teacher is angry?

L: Your anger lasts only 2 minutes. However, I think I have to control myself when yu are angry.

T: Do you have any your own strategy to learn new english words? What is it?

L: I read my coursebook and notebook. And I like using dictionary.

T: What do you do to remember the new words when you have difficulty in remembering them?

L: As I said, I like using dictionary. I always bear a mini dictionary in my backpack. When I have difficulty in remembering a word, I look it up.

T: In your opinion which words are easier, which ones are more difficult to remember and why?

L: When I learn a words with its different version, I learn it better such as invent, invention, inventor.

T: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn’t let you do the things you want?

L: *I try to control myself and wait for the breaktime.*

T: What is your favourite game that you play in English lessons?

L: I like playing the tennis game!

STUDENT 4

T: How do you prefer to learn new English words?

L: I like learning with visuals.

T: Which activities done during the lessons help you learn more easily?

L: When we look at the meanings of the words from the dictionary at the back of our coursebook.

T: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

L: When we start writing the meanings of the words, you say : 'Don't look at your book, try to remember the meanings yourself.' And I try to remember, which helps me strengthen my memory.

T: How does Today's map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

L: If we don't do the Today's map activity, I think that anything may happen at any time, which makes me curious and I feel unsafe during the lesson.

T: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

L: It helps us remember the words and get ready for the new words.

T: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

L: Sometimes, I can't understand the meanings of the words but when I talk with a friend of mine, he helps me or vice versa. We help each other.

T: How do you feel yourself during the English lessons?

L: I'm happy and energetic because English lessons are always full of fun and energy!

T: How does your learning change when the teacher is angry?

L: I think about my faults and try to control meyself. I can still listen to you and learn.

T: Do you have any your own strategy to learn new english words? What is it?

L: I write the words for many times. Especially, if I have an exam, I write the words with the meanings again and again.

T: What do you do to remember the new words when you have difficulty in remembering them?

L: I look at the little pictures from my notebook.

T: In your opinion which words are easier, which ones are more difficult to remember and why?

L: *For example, the word nonrenewable, it seems like a hard word; however, we went over this word hundreds of time. Now it's pasted on my brain! You nailed it in my brain.*

T: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn't let you do the things you want?

L: I have no problem. I wait for the breaktime.

T: What is your favourite game that you play in English lessons?

L: I like playing tring to remember the words at the back by making funny connections between the pictures at the back and the ones at the front.

STUDENT 5

T: How do you prefer to learn new English words?

L: I like listening learning the new words by listening to the songs. Songs are both fun and effective. When I hear the word I think I'm learning it better.

T: Which activities done during the lessons help you learn more easily?

L: When you teach something using a new song, I think, I learn better.

T: How do you think that cutting and glueing the little pictures of new words in your notebook help you learn?

L: It looks nice visually. And I learn better.

T: How does Today's map Activity, which we do at the beginning of each lesson, help you? How do you feel when we forget to do that?

L: I feel more organized and planned for the lesson. Otherwise all students, including me, start asking 'what are we going to do then?', which distracts the lesson.

T: We always revise the unit target words at the beginning of each lesson. How does this activitiy help you learn and remember?

L: It strengthens my memory when I try to remember the previous lesson's activities.

T: You discuss and share ideas with a friend about what you have learnt at the end of the each lesson. How does it help you remember and learn?

L: With the help of this activity, we refresh what we have learnt during a lesson.

T: How do you feel yourself during the English lessons?

L: It depends. I'm generally happy but when I don't do my homework, I feel stressful with the idea of you will be angry with me.

T: How does your learning change when the teacher is angry?

L: I feel sad beacause you don’t smile when you are angry. Although you are angry, you go on teaching so I think that I need to keep listening to you and concentrating on the lesson.

T: Do you have any your own strategy to learn new english words? What is it?

L: It’s easier to learn and remember a word when I used it so many times, which we usually do it in the classes.

T: What do you do to remember the new words when you have difficulty in remembering them?

L: There is a dictionary, including the unit words, at the back pages of our coursebook. I get help from this dictionary.

T: In your opinion which words are easier, which ones are more difficult to remember and why?

L: The more I use and practice a word, the more easily I remember it. And we have many different activities to practice the words in the class. However, If I don’t use the words, I have difficulty in remembering them.

T: How do you feel when you have some physical needs such as being hungry, thirsty or even going to toilet but your teacher doesn’t let you do the things you want?

L: I feel bad. It’s so hard for me to listen to the teacher and do what she wants me to do. Because I always think about my need.

T: What is your favourite game that you play in English lessons?

L: I like playing the game rock, scissors and paper with the big pictures of the words.

LAST TEST

PART 1

Write the words that you remember about each unit. There is an example for you.

• **Festival**	

THINK AND WRITE

What do you remember about this unit? How do you feel about it?
What comes to your mind first when you see this big question?

WHY DO PEOPLE MOVE TO NEW PLACES?	
• **Packing**	

THINK AND WRITE

What do you remember about this unit? How do you feel about it?
What comes to your mind first when you see this big question?

WHY DO PEOPLE WRITE POEMS?

• **Ladybug**	

THINK AND WRITE

What do you remember about this unit? How do you feel about it?

What comes to your mind first when you see this big question?

WHERE DOES ENERGY COME FROM?	
• **Windmill**	

THINK AND WRITE

What do you remember about this unit? How do you feel about it?

What comes to your mind first when you see this big question?

HOW DO PEOPLE MAKE MUSIC?

• **Cello**	

THINK AND WRITE
What do you remember about this unit? How do you feel about it?
What comes to your mind first when you see this big question?

HOW DO INVENTIONS CHANGE OUR LIVES?	
• **Lever**	

THINK AND WRITE
What do you remember about this unit? How do you feel about it?
What comes to your mind first when you see this big question?

WHY DO WE NEED PLANTS?

• **Seeds**	

THINK AND WRITE

What do you remember about this unit? How do you feel about it?
What comes to your mind first when you see this big question?

THINK AND WRITE

Which unit-s is / are your favourite and why?

THINK AND WRITE

What is / are your favourite word-s and why?

PART 2

Read the descriptions, choose the correct word and write it.

Belongings	**Get along**	**Monsoon**	**Immigrant**	**Experience**	**Single**
Exact	**Glider**	**Mystery**	**Brave**		

1. **An airplane without and engine.**

   ……………………………

2. **The season when heavy rain falls in southern Asia.**

   ……………………………

3. **Only one.**

   ……………………………

4. **The things that you own.**

   ……………………………

5. **Being friendly with each other.**

   ……………………………

6. **Something strange that you can't understand or explain.**

   ……………………………

7. **A person who comes to another country to live there.**

   ……………………………

8. **Completely correct.**

   ……………………………

9. **Things that have happened to you.**

   ……………………………

10. **Ready to do dangerous or difficult things without fear.**

    ……………………………

PART 3

Look at the underlined words and write the parts of speech they belong. (noun, adjective, verb or adverb.)

1. **We like the colour of the flower.** **…………………….**
2. **Children enjoy colouring the pictures.** **…………………….**
3. **Students are reading the book silently.** **…………………….**

4. **The movie is so boring.** …………………….
5. **I'm walking slowly.** …………………….
6. **My mother has got delicate vases.** …………………….
7. **Michael will show us his toys.** …………………….
8. **She will watch a pupper show.** …………………….

PART 4

Write 2 words using the given suffix or prefix below and write an example sentence.

Un-		
-ful		
-less		

PART 5

Look at the flashcards and try to remember the picture at the back side.
Write the picture you remember and how you remember it.

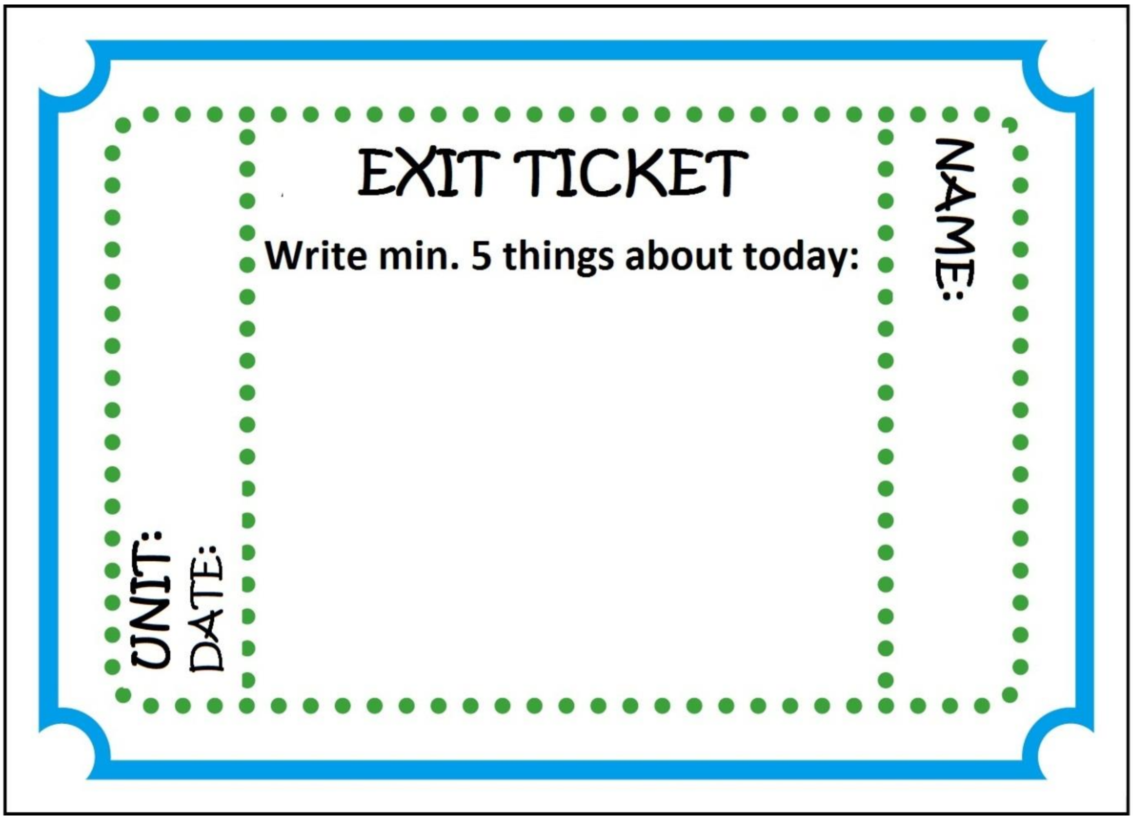
The front picture	What is at the back	How I remember it

Appendix 2. Classroom Materials Based on Brain Based Strategies

At the beginning of the each unit:

NEW UNIT :		
 *Yes! I know it:*	 *I want to learn this:*	 Yippee! I've learnt this:

At the end of the each lesson:



Classroom Management Board

Today's Map Sample:

Follow me. Today we will…

1. check the homeworks.
2. remember what we learnt yesterday.
3. talk about different countries.
4. read the text at page 35.
5. watch a video about an interesting country.
6. listen to different traditional songs. (If we have enough time.)

Appendix 3. Word List

Unit 1. How do people have fun?

Get Ready	**Words in Context**	**Word Study**	**Passive Vocabulary**
fair (event)	athlete	answer	candles
family reunion	band (musical)	end	children
festival	championship	laugh	colorful
folk dance	envelop (n)	paint	couple
player		place	decorate
race (n)		show	delicious
score			married
team			popular
wedding			
winner			

Unit 2. Why do people move to new places?

dancing	classmate	unbuttoned	angry
fishing	curry	uncovered	camp (n)
ice skating	monsoon	unplugged	canoeing
meeting neighbors	surgeon	untangled	coming over
moving		untied	hiking
packing		unwrapped	movies
raking leaves			visit
shopping			weather
sleeding			
throwing snowballs			

clinic	belongings	Australian	change
country (nation)	experiences	Brazilian	nearby
factory	immigrant	Chinese	perhaps
hospital	move abroad	Irish	possible
rural area		Japanese	reason
shopping mall		Swedish	reasons
suburb			space
university			
urban area			
zoo			

Unit 3. Why do people write poems?

bee	escaped	article	cantle-light
beetle	insect	bubble	creative
butterfly	leaping	gentle	feelers
cricket	shooting star	handle	joy
grasshopper		single	playwright
kangaroo		staple	poet
katydid			
ladybug			
raisin			
thicket			

adjective	describe	automobile	become
angelfish	exact	calendar	example
letter (alpha)	imagine	secretary	ideas
noun	observe	television	imagination
rhyming words		thermometer	lines
robin		understand	topic
sentence			
snowflakes			
syllable			
verb			

Unit 4. Where does energy come from?

hour	accurate	celebrate	complete
minute	axis	celebration	disappeared
month	opposite	preparation	divide
multiply	planet	prepare	imaginary
noon		suggest	measure
orbit		suggestion	modern
second			movement
spin			plan
time zone			
year			

coal	fossil fuels	conserve	burn
electricity	nonrenewable	harm	grain
natural gas	renewable	harvest	hollow
oil	source	plant	powers
pollution		shield	propeller
power plant		waste	pump
sailboat			replace
wind farm			
wind turbine			
windmill			

Unit 5. How do people make music?

astronaut	beekeeper	amaze	booming
bassoon	deafening	amazing	buzzing
baton	gym	challenge	confidence
cello	mystery	challenging	enormous
circus trainer		relax	farmer
conductor		relaxing	humming
orchestra			
scientist			

Unit 6. How do inventions change our lives?

eyeglasses	bump	careful	base
frames	delicate	careless	bumped
furnace	footsteps	fearful	curved
glass	pound	fearless	pounded
glassbower		harmful	talented
glassware		harmless	wrapped
pitcher			
vase			
wire			
workshop			

axe	jar lids	garbage bag	bicycle
doorknob	nails	glasses	board
hammer	seesaw	glider	bottle opener
lever	wheelchairs	globe	car
light bulb		gramophones	chopping
ramp		gum	daily
screw			sharp
stairs			vehicle
wedge			winds
wheel and axle			

Unit 7. Why do we need plants?

roots			
seeds			
soil			
stem			
humans	flat	length	moisten
leaves	important	long	remember
nectar	round	strength	smooth
oxygen	sprout	strong	sunlight
petals		wide	warmth
pollen		width	

GAZİ GELECEKTİR...