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TEACHING READING WITH BRAIN-BASED TEACHING STRATEGIES

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Learning is a complex process that takes place in our everyday life. Some piece of information is learned easily while some other information cannot be learned even too much effort is put in. The human being is actively engaged during the learning process both physically and emotionally. However the most important role is on the brain in the learning process. As a result it is important to understand how the brain learns. The research findings on the physiology and functions of the brain lead to the development of brain based teaching model by combining the principles of brain mechanism for learning. The aim of brain based teaching model is to get the utmost efficiency from the learning process and make the learning long-lasting. The aim of this study was to investigate the effects of brain based teaching strategies on reading comprehension skills of adult EFL learners. The study was conducted at Ataturk school and participants of this study were freshmen students attending the Basic English course. The study was designed as a quasi-experimental study with control grouped pre-test post-test implementation. Pre-test and post-test results of the experimental group and the control group were compared after 12 weeks of brain based instruction in the experimental group. The findings of the study suggested that use of brain based teaching strategies in EFL reading classes made significant improvements in the reading comprehension skills of adult EFL learners. Also students receiving brain based instruction had improved vocabulary, grammar, spelling, and speaking skills related to the reading comprehension skills, too. Furthermore; the study investigated students' views on brain based teaching strategies with the implementation of a students' views questionnaire and student interviews in the experimental group. The results indicated that students had positive views on brain based instruction and use of brain based instruction was helpful in evoking positive feelings about EFL learning in EFL students. In addition to these; the results of minute papers collected from students in the experimental group showed that use of brain based instruction in EFL reading classes may be helpful in overcoming difficulties learners face during EFL reading classes.

Keywords: brain-based, teaching, strategies, reading

Introduction

Human beings are in a constant process of learning and learning takes place in a variety of ways. Learning is a complex process with a lot of factors affecting it. Learners, learning settings, teachers, learning material, purpose of learning, process and organization of learning, and assessment of learning are main factors influential in human learning process. Each of these factors

has its own features affecting the process. For example; there are a number of learner related factors such as age, gender, socio-economic background, and abilities. All of these factors have been focused on and importance of them in the learning process understood with the findings of educational research. The research for a better education and learning process is still continuing and there have been a number of approaches and methods developed out of the research. Each of these approaches and methods has some advantages and disadvantages and with the changes in the world there is a constant need for something new in education. In today's rapidly changing society, needs of human beings is also in a constant change and as a result education and learning process need to be changed in accordance with these changes.

Learning takes place in any subject at any time but the most important part of learning takes place at schools or other educational institutions. Akyürek, E., and Afacan, Ö. (2013) state that learning in these educational settings is hand in hand with teaching. Besides other basic school subjects, language learning is a demanding learning process. The search for a more efficient method to learn a foreign language is an important issue and there have been numerous methods and strategies used to teach different languages and language skills. English as a language taught in almost all the world is still perceived as impossible to learn by some learners. In some of the developing countries like Kazakhstan teaching of English is a big problem that needs to be solved. Caine, R.N.,and Caine, G. (2000) find out that English is learned as a foreign language (EFL) and most of the learners tend to learn the language to pass certain exams. As a result; it is not a language used to communicate that is the main function of a language, but it is generally a means of getting a degree, job, and promotion. Teaching of English in Kazakhstan has undergone some changes and recently English as a foreign language has significant importance in the educational curriculum . In order to teach a foreign language successfully it is crucial to know how a foreign language is perceived, stored, and retrieved in the human brain and shortly how human brain learns a language and develop teaching methods accordingly. As a result brain-based model can be used to teach a foreign language or a second language (ESL).

In this study it is aimed to improve reading skills of EFL learners at Ataturk school. As stated before; English language teaching is a problematic issue in Kazakhstan and still traditional methods such as grammar-translation method, audio-lingual method are used at some points of language teaching. Majority of EFL learners just memorize vocabulary items and try to understand a text by translating it. In that case; it is not possible to mention meaningful and permanent language learning. Understanding of a text does not go beyond the words and most features and details of the reading text are lost in this method. Also the learners cannot add something new to their English language knowledge. In order to help learners to become successful EFL learners it is

necessary to make them actively involved in the language learning process. Brain based teaching model is thought to be efficient in teaching English language reading skills to Kazakh EFL learners.

The purpose of this study is to improve English language reading comprehension skills of adult EFL students at Ataturk school. To achieve the purpose of the study English reading classes are designed in accordance with the principles of brain based teaching model. The study aims to raise the awareness of EFL learners about their skills and abilities, get them actively involved in the learning process, use their knowledge to connect the ideas and find solutions to the problems. Shortly; it is aimed to have EFL learners that are capable of use full potential of their brain in language learning and responsible for their own learning. At the end of the study; students are expected to better understand pre-intermediate level English texts, analyze them, make inferences and comments, relate to their own life, be aware of what they know and what they do not know, gain self-confidence and use English language productively in different situations.

Another objective of this study is to examine students' attitudes towards brain based teaching model by surveys and interviews. In this way; it is expected to analyze students' reflections on reading classes designed according to the principles of brain based teaching model.

Method

This study aims to find out answers to the following research questions:

1. Is there a statistical difference in reading comprehension achievement level between the control group and the experimental group based on the implementation of brain based teaching strategies?
2. If there is; what are these differences?
3. What are the students' views on the implementation of brain based teaching strategies?

Brain based teaching model is closely related to the constructivist approach to the learning as the emphasis is on meaningful learning which can be explained as a way of learning in which learners make use of previous knowledge to make inferences and learn something new. Caine and Caine (2011) [33] suggested that human brain is capable of detecting patterns and making approximations, learning from the experience, and also it has a huge capacity of memory and creativity. ın order to improve the education it is essential to learn about the potential of the human brain. Sprenger, M. (2015) argues thar learning is not just memorization of facts and events, our brains search for meaning in the learning process. In order to achieve brain based learning it is essential to know about brain functions and principles for meaningful learning and plan the teaching and learning process according to these principles.

In this study both qualitative and quantitative research methods were used and as a result the study has a mixed methods research design. Mixed methods research design is thought to have some advantages such as the chance of using strong features of one method and eliminating weaknesses of the other method. Also in mixed methods research a variety of data can be analyzed

and complex issues can be understood better. The other advantages of mixed methods research are the improved validity and reaching multiple audiences as Dörnyei (2007) stated.

The study sampled two groups of students studying at Ataturk school. There were 25 students in each group and all of them were 9th grade students attending the English course.

As this study was designed as a quasi-experimental study; one of these sections (1A) was the experimental group and the other section (1B) was the control group. Sampling the groups at the similar department and at the similar grade is thought to decrease the number of other factors affecting the research findings. The students in these groups are thought to have similar academic background and they follow the similar academic program; thus much difference in the amount of language education or language exposure between these two groups is not expected. Also they are at similar age group; aged between 15 and16.

The experimental group (1A) consisted of 14 female students and 11 male students and there were 25 students totally attending the course. In the control group there were 15 females and 10 males attending the course. Actually there were more than 25 students registered for the English 101 course in each group but these students were exempt from the course or they only took the exams and did not attend the course. To summarize; the number of students attending the course in both of the groups was similar.

Pre-test and post-test results of the experimental group and control group were analyzed statistically to find out any significant difference between the groups. Pre-test results were analyzed to determine success level of the groups in the test prior to the brain based instruction and post-test results were analyzed to find out any significant difference between the groups after the instruction. Also analysis of the test parts provided information about the differences in the reading comprehension tests. The pre-test and post-test scores were calculated out of 55, giving 1 point to each correct answer and analysis were made accordingly. All of the statistical analysis regarding the quantitative data was made with SPSS 16.0 program.

Findings

Findings of Pre-Test

Pre-test results were analyzed in detail to get information about the reading comprehension skills of the participants in the beginning of the study. Pre-test results were analyzed descriptively to provide general information about the number of participants in each group and mean scores of pre-test results.

The mean score of pre-test results in experimental group is 15, 84 while the mean score in the control group is calculated as 16, 28. These results show that the control group's mean score for pre-test is higher than the experimental group and the control group performed relatively better on the pre-test than the experimental group.

There is a difference in the mean scores of experimental group and control group in the pre-test. In order to decide whether this difference is significant or not further analysis of the results is required. For this purpose firstly the test of normality was implemented to see whether the data has normal distribution and accordingly decide on the parametric or non-parametric tests for analysis of the data.the data gathered from the pre-test results has a normal distribution as *Sig.* value is higher than 0, 05 (,200>0,05; ,426>0,05; ,663>0,05) on both Kolmogorov-Smirnov and Shapiro-Wilk tests. The test values of both experimental group and control group indicate that the data is normally distributed and parametric tests can be applied for analysis of pre-test results in both groups. As the data is normally distributed Independent Samples Test was implemented to find out whether there is a significant difference in the pre-test results of experimental group and control group. Table 3 shows the test results.the test results show that variances are equal (Sig. = ,822 > 0,05) and results of t-test indicates that there is not any significant difference between the pre-test results of experimental group and control group (Sig. = ,828 > 0,05). It can be concluded that there is not any significant difference between the success level of control group and experimental group on the reading comprehension test in the beginning.

Findings of Post-Test

Post-test results were analyzed comparatively to find out any significant differences between the groups and also the results of post-test were compared to the results of pre-test to determine any significant difference between the pre-test and post-test result in both of the groups. Firstly the test of normality was applied to see whether the data is normally distributed. Then parametric and non-parametric tests were applied to analyze and compare the test results.The descriptive analysis of post-test results indicate that 25 students participated in both groups and the mean score for the experimental group is calculated as 37,20 while the mean score for the control group is calculated as 16,64. In order to find out whether there is any significant difference between the experimental group and the control group with regard to the post-test results; firstly the normality of data was tested demonstrates that the results of Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that the data collected from post-test results in both the experimental group and the control group has normal distribution. The results show that Sig. = ,200 for both the experimental group and the control group in Kolmogorov-Smirnov test and it is bigger than 0,05. Also the results of Shapiro-Wilk test shows that Sig.= ,409>0,05 for experimental group and Sig.= ,562>0,05 for the control group. These results indicate that parametric tests can be used for the analysis of post-test results. To find out whether there is any significant difference between the post-test result of the experimental group and the control group; Independent Samples Test was implemented. The previous analysis presented the differences between the experimental group and the control group on the pre-test and post-test separately. However; it is important to find out the differences in the

pre-test and post results in both of the groups comparatively. In order to find out whether there is any significant difference between the pre-test and post-test results of the groups Wilcoxon Signed Ranks test was used. The results present pre-test and post-test results comparatively both for the experimental group and the control group. the mean score for pre-test is 15,84 and the mean score for post-test is 37,20 in the experimental group. Also the minimum score is 4 and the maximum score is 31 for the pre-test in the experimental group. The minimum and maximum scores for the post-test is relatively high; minimum = 27 and maximum = 45 in the experimental group.

The comparison of pre-test and post-test result for the experimental group was presented above and it was found out that the post-test results of the experimental group were significantly higher than the pre-test results. Similar tests were implemented to analyze the pre-test and post-test results of the control group.

Analysis of pre-test and post-test results indicated that there is a significant difference between the post-test results of the experimental group and the control group. The experimental group found out to be significantly more successful on the post-test. As a result; it can be said that brain based instruction was helpful in improving reading comprehension skills of participants in the experimental group.

In order to answer the second research question of this study, which is about the differences in the reading comprehension skills after brain based instruction, it is 54 necessary to analyze the differences made in the test parts in the pre-test and post-test. As it was stated before there was not any significant difference between the pre-test results of the experimental group and the control group. However; it is useful to search for any significant differences in the test parts. For this reason 8 parts in the pre-test were analyzed to see if there is any significant difference in the test parts between the experimental group and the control group. The analysis of 8 parts in the pre-test showed that there is not any significant difference between the experimental group and the control group with regard to the test parts.

Conclusion

This study aimed to find out the efficiency of brain based instruction in adult EFL reading classrooms. The study was conducted with freshmen university students studying at Ataturk school. The main purpose of the study was to improve reading comprehension skills of adult EFL learners with the implementation of brain based teaching strategies.

The results of the study indicated that use of brain based strategies in adult EFL classroom was effective in improving reading comprehension skills. While the use of traditional method for reading classes did not make any significant improvement in the EFL learners' reading comprehension skills; English language courses designed according to the principles of brain based teaching model were effective in observing significant improvements in their reading

comprehension skills. Also the students had improved vocabulary, grammar, spelling, and speaking skills related to the reading comprehension skills as they are integrated in reading comprehension tasks.

Furthermore use of brain based instruction was effective in evoking positive feelings about the course in EFL learners. Students liked attending EFL classes with brain based instruction and had positive views on the implication of brain based teaching strategies.

The purpose of this study was to help students have self-confidence in language learning, be responsible for their own learning and use their learnings productively in different situations. The results of the students' views survey and student interviews indicated that at the end of the study the students gained self-confidence in EFL learning, they were aware of their learning and their needs, and they could use their previous learnings for solution of a problem in a different situation.

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