

The Effects of Visual-Kinesthetic Activities on ESP Students' Vocabulary Learning

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Abstract

This study investigated the impact of visual-kinesthetic tasks on ESP university students' vocabulary learning. Two intact classes of university students were selected as control (23 students) and experimental (36 students) group. A proficiency test, a pretest and a posttest were administered and the students were exposed to a set of treatments. Also a questionnaire administered to students, recognized each student's learning style. The posttest mean score of experimental group was significantly different from control group's posttest proved significant effect of visual and kinesthetic activities on ESP students' vocabulary learning. Also this significant effect was repeated regarding student' related learning style.

Keywords: Learning Styles, Vocabulary Learning, ESP

1. Introduction

According to Coffield, Moseley, Hall and Ecclestone (2004) it is concluded that the fire of learning styles studies and researches have been kindled about 1970s. Today there are many cons and pros rejecting or defending the idea (Felder, 1988). Leaving those approving or disapproving debates behind, there are some internal feelings that guide students' attention and causes their attraction. Those feelings are quite familiar to anyone who experienced boring long lasting classes in their opinions while some other classmates enjoying it. Those activities such as listening to the teacher talking all the time or doing exercises one after the other may not be motivating enough to keep the students' good work. Even activities or tasks that seem to be joyful or interesting, can't satisfy all students and some of those stay away from them. Learning styles were classified and modeled in various aspects. In 1981, Barbe and Milone provided a model called VAK standing for Visual, Auditory, and Kinesthetic based on learning modalities.

In this study, the researcher tried to assess the students' learning style and then provide activities based on the curriculum and with specific learning style. Entering those tasks in class schedule in addition to the main material and comparing the results with students lacking those activities. Thus the first part of the study comprised of students' learning style effect on learning and the other part of this study is referring to specific activities applied to classes attending by university students with specific needs. These students have a degree of English language knowledge and now they are getting ready to enter a different situation such as higher academic level or a job. In both, English proficiency and special ability are needed. These learners with specific needs should be taken care of. One of those needs is vocabulary. As Nation (2001) mentions learning specialized vocabulary should occur after learning the 2000

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to 3000 general words. Then teaching vocabulary in special manner would be a duty of ESP teachers.

To accomplish the objectives of the study, the following research questions are proposed:

Q1: Does visual and kinesthetic activities have any significant effect on vocabulary learning of ESP university students?

Q2: Does visual and kinesthetic activities have any significant effect on vocabulary learning of ESP university students based on their learning style?

2. Method

This study is a quantitative and quasi-experimental research since the participants of the study were divided into two intact classes and randomization was impractical. The study tried to measure the effectiveness of the independent variables which were visual and kinesthetic activities on ESP university students' vocabulary learning as the dependent variable. After collecting data, statistical analysis was applied to acquire the impact level. In addition, students' learning style effect on their vocabulary learning is considered through a questionnaire. The data gathered by questionnaire were quantitative and analyzable statistically. Also the pre- and posttest gathered statistical data.

2.1. Participants

Two intact classes of ESP university students, with the same curriculum, subject and subject teacher including 40 participants as experimental and 25 in control group were selected. Another class for pilot study with 20 students was

considered. The pilot, control and experimental groups were included both male and female students with intermediate English language proficiency level. To select homogenized participants, after administering proficiency test, the students whose scores fell within the range of $\pm 1SD$ from the mean, they were considered as mid-level ones. Therefore 6 students were dropped out of the study. The reliability of the test was calculated using Cronbach's alpha formula as 0.822. The final number of students participated in the study were 36 in experimental and 23 in control group.

2.2. Instruments

PET (Preliminary English Test) was used to ensure homogeneity of students' level of proficiency. The learning style questionnaire is taken from Perceptual Learning Style Preference Questionnaire (PLSPQ) by Reid (1987). It is developed particularly for learners of foreign languages. The pretest was a 40-item-multiple-choice-vocabulary test including the subject materials planned to be taught to the students during the semester. Posttest was the same as the pretest. The pretest (and posttest) were developed by the researcher. The tests were scored from 0 to 40. The Cronbach's alpha results were calculated to show reliability and consistency of the tests which were 0.892 for pretest and 0.737 for posttest.

The subject teacher provided the students a wordlist consisted of 2000 specific vocabularies with definition and translation of each word to students' native language followed by two to four examples in sentences. The wordlist was supposed to be taught as materials to control group and experimental group alike during the semester.

2.3. Procedure

At the beginning of the semester, a pilot study was conducted. Proficiency test, pre- and posttest were administered and to pilot group and after that they were administered to experimental and control group. Treatment sessions were conducted to experimental group. It was a set of activities such as Pictionary, puzzled story, letter scramble, hangman, hot-seat, charades and so forth which was based on the wordlist as control and experimental group material.

2.4. Data Analysis

An independent-samples t-test was used to compare the control and experimental group results in pre- and posttest. The mean score of visual and kinesthetic preferring students with mean score of auditory preferring students were compared to see any significant difference.

3. Results

Based on statistical calculations, the consequences of applying activities as treatment are being measured. The opting style preferences is being checked to see if there is any difference between students with visual and kinesthetic learning style and students with auditory learning style in their vocabulary learning.

The result of one-sample Kolmogorov-Smirnov for control group pretest and posttest scores show Sig. (2-tailed)=0.753 and 0.663 and experimental group pretest and posttest scores show Sig. (2-tailed)=0.956 and 0.700 which all are higher than P-value (0.05) indicating the normal distribution of pre- and posttest scores for control and experimental groups.

To accept or reject the H01 null hypothesis (visual and kinesthetic activities have no significant effect on vocabulary learning of ESP university students) it is needed to consider the mean differences between control and experimental groups' posttest results to see whether there is any significant difference between them or not. The values for pretest calculated ($t(57) = -0.959, p=0.05$), indicate that the difference in the pretest mean scores of the control and experimental groups was not statically significant since $\text{Sig. (2-tailed)} = 0.342 > p=0.5$. This suggested same vocabulary knowledge for both experimental and control group before treatment sessions being commenced. On the other hand for the posttest, $t(57) = -0.959, p=0.05$, indicate that the difference in the posttest mean scores of the control and experimental groups was statically significant since $\text{Sig. (2-tailed)} = 0.017 < p=0.5$. Therefore, the null hypothesis H01 was rejected. Visual and kinesthetic activities have significant effect on vocabulary learning of ESP university students.

The second null hypothesis indicated that there is no difference between the effect of visual and kinesthetic activities on vocabulary learning of ESP university students with visual and kinesthetic learning style and students with auditory learning style. Acceptance or rejection of this hypothesis is related to the significant difference between pre- and posttest result for experimental group but here the learning style preference of the students should be dealt with. The calculated values ($t(34) = 1.151, p=0.05$), indicate that the difference in the pretest mean scores of the visual-kinesthetic and auditory groups was not statistically significant since $\text{Sig. (2-tailed)} = 0.258 > p=0.5$. On the other hand for the posttest values ($t(34) = 2.080, p=0.05$), show that the difference in the posttest mean scores of the visual-kinesthetic and auditory groups was statically significant since $\text{Sig. (2-tailed)} = 0.045 < p=0.5$. This suggests that treatment sessions with visual and kinesthetic activities were more effective for visual-

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kinesthetic group. Therefore, the null hypothesis H02 was rejected. Visual and kinesthetic activities have significant effect on vocabulary learning of ESP university students with visual-kinesthetic learning style.

4. Discussion

Regarding the first question, analysis of the data revealed the significant role of visual and kinesthetic activities in ESP students' vocabulary learning.

Supported by statistics, findings of this study reinforced the influence of activities on learning process. This result is similar to studies done before such as Dunn and Dunn (1978) and Sprenger (2008) who believed different learning styles may affect learning procedure, Rezaeinejad, Azizifar and Gowhary (2015) also showed positive relationship between learning styles and vocabulary learning. Barani, Mazandarani and Rezaie (2010) obtained the result indicating significant difference between the means of pre-test and post-test of their experimental group. The aim of their study was to examine the effect of audiovisual aids on the vocabulary learning of young Iranian EFL learners.

Some researches show no significant difference between learning processes considering learning styles. For instance Emamipour and Shams Esfandabad (2008) concluded in the study, there is no significant relationship between the learning style and the student's educational advancement. The difference in the results may arise from the difference in the questionnaire they used in their study which considered different aspects of learning style. 1. Perception aspect: intuitive-feeling learning styles 2. Input aspect: Visual-Verbal learning styles 3. Processing aspect: Active-reflective learning styles 4. Understanding aspect: sequential-global learning styles. Dunn, Beaudry and Klavas (2002), argued sensory preferences influence on students learning. They mentioned eight studies within the past decade that revealed, when youngsters

were taught with instructional resources that both matched and mismatched their preferred modalities, they achieved statistically higher test scores in modality-matched, rather than mismatched, treatments. Dunn et al. (2002) named some researches with the same results. Dunn et al. (2002) also mentioned, when children were taught with multisensory resources, but initially through their most preferred modality and then were reinforced through their secondary or tertiary modality, their scores increased even more. High school teachers who have translated their curriculum into electroboards, Flip chutes, multipart task cards, and Pick-A-Holes reported increased achievement and interest when such manipulatives were available for highly tactual students (Dunn & Griggs, 1988).

5. Conclusion

Two entangled questions were asked in this research. First one is: “Does visual and kinesthetic activities have any significant effect on vocabulary learning of ESP university students?”

The effectiveness of special aimed activities based on students’ preferences on their learning process and achievement is marked.

Second question wants to investigate the comparison of such activities effectiveness on different students with different preferences. Is there any difference between the effect of visual and kinesthetic activities on vocabulary learning of ESP university students with visual and kinesthetic learning style and students with auditory learning style?

Learning style based teaching and learning hold promise for improving students’ achievements in different educational programs and variety of proficiency levels. Many research studies such as Claxton and Murrell (1987), Willing (1988), and Abidin, Rezaee, Abdullah and Singh (2011) claim that

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learning methods that match with learning style preferences lead to academic achievements. Final outcomes of the current study also emerged to support the positive influence on vocabulary learning through visual and kinesthetic activities treatments. Also the questionnaire distinguished visual-kinesthetic learning style preference students from auditory ones and statistical calculations proved significant effects of visual-kinesthetic activities on students with visual-kinesthetic learning style preference.

References

- Abidin, M. J. Z., Rezaee, A. A., Abdullah, H. N., & Singh, K. K. B. (2011). Learning styles and overall academic achievement in a specific educational system. *International Journal of Humanities and Social Science*, 1(10), 143-152.
- Barani, G., Mazandarani, O., & Rezaie, S. H. S. (2010). The effect of application of picture into picture audio-visual aids on vocabulary learning of young Iranian ELF learners. *Procedia-Social and Behavioral Sciences*, 2(2), 5362-5369.
- Barbe, W. B., & Milone, M. N. (1981). What we know about modality strengths. *Educational Leadership*, 38(5), 378-380.
- Claxton, C. S., & Murrell, P. H. (1987). Learning styles: Implications for improving educational practices. ASHEERIC Higher Education Report No. 4, Washington, DC: George Washington University.
- Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review*. Learning and Skills Research Centre: London.
- Dunn, R. S., & Dunn, K. J. (1978). *Teaching students through their individual learning styles: A practical approach*. New Jersey: Prentice Hall.
- Dunn, R., & Griggs, S. A. (1988). *Learning styles: Quiet revolution in American secondary schools*. Reston: NASSP.

- Dunn, R., Beaudry, J. S., & Klavas, A. (2002). Survey of research on learning styles. *California Journal of Science Education, 2*(2), 75-98.
- Emamipour, S., Shams Esfandabad, H., Sadrossadat, S. J., & Nejadnaderi, S. (2008). Comparison of life quality and psychological disorders in drug-using, drug-using HIV infected, non-drug using HIV infected and a reference group of healthy men. *Journal of Shahrekord Uuniversity of Medical Sciences, 10*(1), 69-77.
- Felder, R. M. (1988, October). How students learn: Adapting teaching styles to learning styles. *In Frontiers in Education Conference, 1988, Proceedings* (pp. 489-493). IEEE.
- Nation, P. (2001). *Learning vocabulary in another language*. Cambridge: CUP.
- Rezaeinejad, M., Azizifar, A., & Gowhary, H. (2015). The study of learning styles and its relationship with educational achievement among Iranian high school students. *Procedia-Social and Behavioral Sciences, 199*(15), 218-224.
- Sprenger, M. (2008). *Differentiation through learning styles and memory*. Corwin Press.
- Willing, K. (1988). *Learning strategies in adult migrant education*. National Curriculum. Adelaide: NCRC.