

USING MULTI SENSORY APPROACH FOR TEACHING ENGLISH SKILLS AND ITS EFFECT ON STUDENTS' ACHIEVEMENT AT JORDANIAN SCHOOLS

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Abstract:

The purpose of this study is to investigate the effect of using Multi Sensory Approach for teaching English language skills on the tenth grade students' achievement in English at Jordanian public schools.

To achieve the purpose of the study, a pre/post-test was constructed to measure students' achievement in English. The test consisted of thirty items.

The sample of this study consisted of 122 students; fifty seven male students and sixty five female students from tenth grade students at Aisheh Bent el Rasoul secondary school for girls and Firas Al Ajlouni secondary school for boys in Amman the fifth Directorate of education during the second semester of the academic year 2010/2011.

The subjects of the study were distributed into two groups (experimental group and control group). The experimental group was taught English language using multi sensory approach while the control group was taught English language using the traditional way of teaching. The subjects were 31 male students for the experimental group and 26 male students for the control group, while the female students for the experimental and control group were 32 and 33 respectively. Those subjects were distributed into two purposefully selected sections at Aisheh Bent el Rasoul secondary school for girls and Firas Al Ajlouni secondary school for boys in Amman.

Descriptive statistical analyses were used (means and standard deviation) for the pre and post-tests of students' English language test to experimental and control groups. Comparison statistical methods were used (Two Way ANOVA) analysis of variance to make a comparison between the control and the experimental groups and gender variable (male and female).

The findings of the study indicated that there were statistically significant differences in the post- test between the control and the experimental groups in favor of the experimental group

who were taught using multi sensory approach, and there was no statistically significant difference in the students' achievement due to gender. There was no statistically significant difference due to the interaction between gender and group.

The researcher proposed some recommendations to enhance the effect of using multi sensory approach in teaching English language skills on students' performance such as conducting further studies in other schools and other areas in the kingdom.

Keywords: Multi Sensory Approach, Teaching, Jordanian schools

Introduction

The idea that learning experienced through all the senses is helpful in reinforcing memory has a long history in pedagogy. From the earliest teaching guides (Montessori, 1912), educators have embraced a range of multi-sensory techniques in order to make learning richer and more motivating for learners. The term is used to refer to any learning activity that combines two or more sensory strategies to take in or express information. Multi-sensory approaches have been particularly valuable in literacy and language learning, for example, in relationships between sound and symbol, word recognition, and the use of tactile methods such as tracing on rough or soft surfaces.

The Department for Education and Skills (DfES) (2004) defines multi-sensory as: 'using visual, auditory and kinesthetic modalities, sometimes at the same time'. Kinesthetic refers to perceiving through touch and an awareness of body movements. Teachers working with dyslexic learners have found multi-sensory approaches particularly valuable, as they help learners to make sense of information in a range of ways. Activities that harness all the senses are also an excellent way to include learners with disabilities.

But we stray into a minefield if we try to classify learners into fixed visual, auditory or kinesthetic stereotypes and teach them accordingly. As Coffield et al (2004) point out in a critical review of learning styles, there is insufficient evidence that such an approach is effective. Indeed, work with learners with learning disabilities focuses on developing all the senses as fully as possible, using techniques such as multi-sensory environments. Case studies in this area can be found on the website of the British Educational Communications and Technology Agency (BECTA). Effective teachers select and use the most appropriate approach for the learning task and the learners' situation. In particular, multimedia resources can promote inclusive learning if accessibility features are built in. This can enable learners with hearing or visual impairments to use the same resources as others.

The works of Sweller (1999) and Mayer (2001) are of particular interest to those who develop multimedia resources. Sweller's findings are relevant to those designing learning resources about technically challenging material. He advocates using worked examples, avoiding redundant information (to reduce cognitive load) and using auditory as well as visual information.

Mayer concludes that there is growing evidence that well designed multimedia resources lead to deeper learning than traditional verbal-only messages. He offers the following guidance on what constitutes good design:

- We use 'teaching and learning' and 'teacher' as generic terms to include: teaching, training and learning teachers, tutors, trainers, lecturers and instructors in the further education (FE) system.

Significance of the study

Multi-sensory learning techniques have also proven to be helpful in the development of a foreign language. Drills that contain visual, auditory, and even tactile involvement by students improve their comprehension of the foreign language (Kalivoda, 1978). Multi-sensory techniques are very helpful when employed in adult ESL classrooms. These students speak various languages other than English and many have no formal schooling background in reading or writing. Teachers must employ activities that involve many, if not all, the senses in order to teach these non-academic students to communicate (Bassano, 1982).

Statement of the Study

Teaching a foreign language is a great challenge for teachers and they always seek to discover the most suitable strategy for their students and follow it. Many strategies are used to teach English language skills and always teachers find some weak points in different strategies, a new strategy is used for teaching English language which depends on using more than sense so students may benefit better. Using multi sensory approach for teaching English language as a foreign language is used by many teachers and the researcher tried to investigate the effectiveness of this approach.

Purpose of the study

The purpose of this study is to investigate the effect of using Multi Sensory Approach for teaching English language skills on the tenth grade students' achievement in English at Jordanian public schools.

Questions of the Study

1. Are there any statistically significant differences ($\alpha \leq 0,05$) in the tenth grade students' performance in English Language due to the teaching strategy they are exposed to (using multi sensory approach and traditional way)?
2. Are there any statistically significant differences ($\alpha \leq 0,05$) in the tenth grade students' performance in English Language due to the gender?

Literature Review

The belief that teachers need to include in each teaching presentation at least three (3) basic learning modalities (auditory, visual, and tactile), to meet the needs of most students, is a common thread among researchers. (Caudill, 1998; Gadt-Johnson, 2000)

Kuhn and Schroeder (1971) conducted a study about involving the effect of a multi-sensory approach involved testing regular (non-special education) fourth and sixth graders' learning of spelling. Students completed a series of six spelling lessons, which were followed by spelling tests in which they wrote down each word that the teacher pronounced. Each of the students graded their own tests by two different methods. Half of each student's tests were graded by hearing the teacher spell the words aloud. The other half of their tests was graded by comparing their spelling to a correct spelling list followed by the teacher spelling the words aloud. The students were given four post tests after a six week period, and the words graded by the multi-sensory method resulted in significantly higher scores than those graded by the strictly auditory method.

In a study executed across classrooms in Queensland, Australia, Thorton, Jones, and Toohey (1982) implemented a multi-sensory teaching program, Multisensory Basic Fact Program (MBFP), into remedial classrooms for students' grades two through six. The program incorporates visual learning through pictures, as teachers provide oral prompts. Students are also involved kinesthetically when learning new concepts by tapping or finger-tracing. To test the usefulness of this multi-sensory teaching program, these students were given an addition-facts test before beginning the program and again after the 11-week instruction phase. All of the grade levels except grade two (possibly because they were not yet at the stage in which the material could be absorbed) showed marked improvement from the pretest to posttest. And, although the students had not reviewed the information before the follow-up test, they retained their knowledge of the concepts after a three-week period.

An example of examining the impact of a multi-sensory approach to teaching reading is exemplified in a study by Dev, Doyle, and Valente (2002). They used the Orton-Gillingham

technique (Institute for Multi-sensory education, 2000), which involves visual, auditory, and kinesthetic modalities, with first grade children at the special education level. These children improved enough in their reading abilities to advance them out of the special education level. The maintenance of the gains that they achieved with the use of the multi-sensory approach was evaluated after a two year period. None of the children had returned to special education classes (Dev et al., 2002).

Joshi, Dahlgren, and Boulware- gooden(2002) examined the effects of using a multisensory approach to teaching reading with first graders. Language Basics: Elementary, based on Orton- Gillingham and Alphabetic phonics, is the multisensory method used for this study as the treatment. A based reader was used for the control group. When given tests of phonological awareness, decoding, and reading comprehension, the treatment group performed better than the control group. The authors noted and concluded that using the multisensory approach was effective with the first group Anselmo and Kulp(1997), they did research to see if a phonemic awareness/multisensory instructional program would increase pre-reading skills of kindergarten students who were at-risk. Their findings concluded there was an impact on the students' ability to identify initial consonant sounds using a multisensory approach. The students did not show growth in their abilities to identify or match corresponding upper and lower case letters when using the phonemic awareness/multisensory instructional intervention. The authors would like the intervention to be used with other kindergarten classes, and in the following year, with the first grade at-risk students who have reading difficulties.

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performed better than the control group. The authors noted and concluded that using the multisensory approach was effective with the first group.

Design and Methodology

Here the researcher discussed the procedures that she used to conduct the study. She described the study population, sample, variables, instrument, procedures and the statistical analyses that were used in the study.

Population of the study

The population of the study consisted of: All tenth grade students at Amman the fifth directorate of education and who are enrolling in the second semester 2010/2011, they form (12675) males and females.

Sample of the study

The sample of the study comprised of (122) tenth grade students, they were 31 male students for the experimental group and 26 male students for the control group, while the female students for the experimental and control group were 32 and 33 respectively.

Design of the study

The participants of the study were divided into two groups, experimental and control. The participants of the experimental group were taught English language using multi sensory approach for (8) weeks, While the participants of the control group were taught by the traditional way for the same period. A pre-test was given before the application of the treatment to both groups to make sure they are equivalent and the same test was administered as a post-test after applying the treatment to see whether the using of multi sensory approach for teaching English language had any influence on the experimental groups and which strategy have more influence on the subjects than the other.

Instrument of the study

The researcher used two strategies for teaching English language: A strategy by using multi sensory senses and the traditional strategy. Then the researcher designed a test based on the instructional material of the tenth grade English book and collected the data. Validity and reliability were ensured. Both groups; the experimental group as well the control group, were taught by their instructor. The subjects in both groups took a pre-test to determine their actual

level before starting the experiment, and the same test was administered as a post-test at the end of the experiment to assess subjects' achievement. The time interval between the pre-test and the post-test was (8) weeks; a period long enough to minimize the effect of the pre-test on the results and conclusions of the experiment.

Reliability of the instrument

To ensure the test reliability, the researcher followed test/retest technique. The researcher applied it to a pilot sample of (30) student who were excluded from the study with a two-week period between the test and the re-test. The reliability of the test was calculated using correlation coefficient and found to be 0.89. This is appropriate for conducting such a study.

Validity of the instrument

The researcher validated the instrument by submitting it to a jury of two EFL professors teaching at Al Balqa Applied University, and two supervisors at Amman the fifth directorate of education. The researcher asked the referees write their comments if there are any.

Instructional material

The instructional material was the tenth grade English language book which includes 12 units, but the researcher will cover at least 3 units during the application period.

Procedures of the study

There are two groups of students: one experimental group and one control group. Both groups received 8 weeks of instruction of English language. Students in the experimental group were taught English language using multi sensory approach. While Students in the control group were instructed using the traditional way. The traditional instruction in this study was reading lessons, memorize vocabulary, use of textbooks and other materials, and a clear explanation of the meaning of some words to students.

Statistical Analyses

To answer the study questions, descriptive methods (means and standard deviation) were used for pre and post tests for English language vocabulary test for both the experimental and control groups.

In addition to a Two-Way ANOVAs the statistics used T- test to show equivalence, Two-Way ANOVAs to answer the research questions.

Findings of the study

The purpose of this study is to investigate the effect of using multi sensory approach for teaching English language on tenth grade students' performance at Aisheh Bent el Rasoul secondary school for girls and Firas Al Ajlouni secondary school for boys in Amman, a control and experimental groups.

The researcher followed the equivalent pre /post test two group designs. Therefore, the means, standard deviations and Two-Way ANOVA analysis of variance were used to analyze data. The results will be displayed based on the questions of the research.

To determine if there is a statistically significant difference between the male and the female groups, a t-test for independent samples was conducted. Table 1 shows the results.

Table 1: Means and Standard Deviations of the Achievement of Male and Female Groups on the Pretest.

GROUP	SEX	Mean	Std. Deviation	N
Experimental	Male	54.07	6.602	30
	Female	54.71	8.719	32
	Total	54.39	7.693	62
Control	Male	54.65	7.467	27
	Female	53.55	6.815	33
	Total	54.03	7.069	60
Total	Male	54.34	6.958	57
	Female	54.11	7.754	65
	Total	54.22	7.364	122

Table 1 shows the mean and standard deviation of the groups on the pre-test. It shows the experimental group at 54.39. While the control group at 54.03. As for the males and females, the males were 54.34 and the female were 54.11.

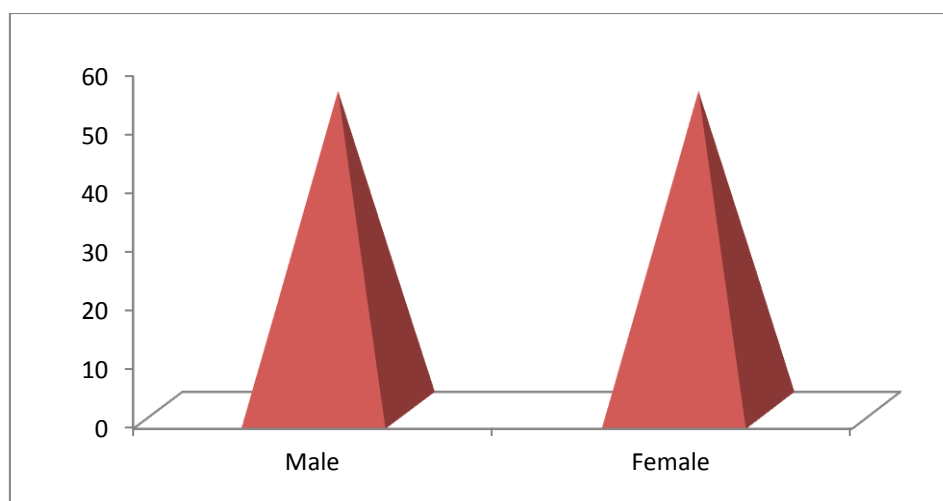


Diagram 1: Means and Standard Deviations of the Achievement of Male and Female Groups on the Pretest.

To determine if the two groups are equivalent in their English language, a pre-test was conducted and Table 2 presents the results.

Table 2: Two-way ANOVAs Results of the Experimental and the Control Groups on the Pretest.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
GROUP	2.478	1	2.478	.045	.833
SEX	1.612	1	1.612	.029	.865
GROUP * SEX	22.830	1	22.830	.412	.522
Error	6424.320	116	55.382		
Corrected Total	6452.367	119			

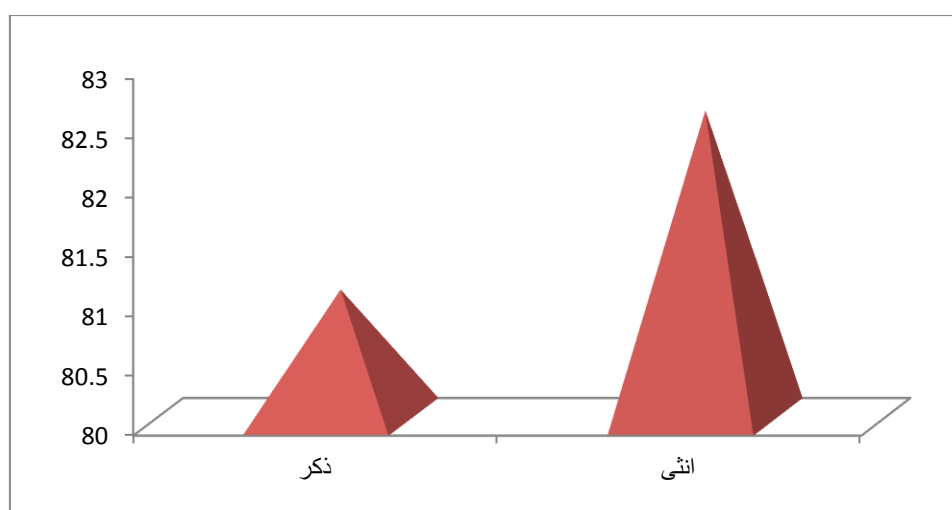
Based on the Two-way ANOVAs on the pre-test, the groups were equivalent. Hence, level of significance is .833 while is not significant at $\alpha \leq 0, 05$. Also the groups in terms of gender were equivalent at a level of .865 this is not statistically significant at $\alpha \leq 0, 05$. This means that the groups were equivalent on the pre-test.

At the end of the experiment, a t-test for independent samples was conducted to determine if there was any statistically significant difference between the males and the females on the posttest, which may be attributed to gender. Table 3 shows the results.

Table 3: Mean and Standard Deviations of the Achievement of Male and Female Groups on the Posttest.

GROUP	SEX	Mean	Std. Deviation	N
Experimental	Male	84.57	8.253	30
	Female	86.94	6.889	32
	Total	85.77	7.621	62
Control	Male	77.04	10.022	27
	Female	78.48	11.843	33
	Total	77.85	11.009	60
Total	Male	81.07	9.794	57
	Female	82.58	10.581	65
	Total	81.88	10.207	122

Table 3 shows the mean and standard deviation of the groups on the post-test. It shows the experimental group at 85.77. While the control group at 77.85. As for the males and females, the males were 81.07 and the female were 82.58. so the group who were taught English language using multi sensory approach got higher mean than the group who were taught using the traditional way.



The researcher also conducted a two-way analysis of variance to analyze the posttest achievement scores of the two groups. Table 4 shows the results.

Table 4: Summary of the Two-way Analysis of Variance of the Achievement of the control and the Experimental Groups on the Post-test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
GROUP	1900.350	1	1900.350	21.199	.000
SEX	108.337	1	108.337	1.209	.274
GROUP * SEX	6.333	1	6.333	.071	.791
Error	10398.442	116	89.642		
Corrected Total	12397.125	119			

To answer the first question: Are there any statistically significant differences ($\alpha \leq 0,05$) in the tenth grade students' performance in English language due to the teaching strategy they are exposed to (using multi sensory approach and traditional way)? The table shows that the level of significance is .000 which is statistically significant at $\alpha \leq 0,05$ on favor of the experimental group. To answer the second question: Are there any statistically significant differences ($\alpha \leq 0,05$) in the tenth grade students' performance in English language due to the gender? Table five shows significance .274 which means it is not significant at ($\alpha \leq 0,05$)

To sum up, the researcher believes that the difference in the achievement of the tenth grade students was attributed to the using of multi sensory approach for teaching English language. The experimental group subjects managed to significantly improve English vocabulary they already have in a period of 8 weeks. The improvement achieved by the control group subjects, however, was not statistically significant. By comparing the results achieved by the two groups, the researcher reached the conclusion that the improvement achieved by the experimental group may have been attributed to the way he rendered instruction; teaching English language using multi sensory approach.

As a result of this experience, the researcher concluded that students were more engaged in learning when they were given a chance to use all their senses.

Furthermore, using multi sensory approach is a powerful tool with which students can learn English language with entertainment.

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