

Full Length Research Paper

An experimental study for effectiveness of super-learning technique at elementary level in Pakistan

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The objective of the study was to experience the effectiveness of super-learning technique of teaching at elementary level. The study was conducted at 8th grade students of a public sector school. Pre-test and post-test control group designs were used. Experimental and control groups were formed randomly, the experimental group (N = 62), underwent the complete super-learning process, and the control group (N = 53) was taught through the traditional method. In order to measure the existing achievement level of experimental and control group, an objective type Student achievement test (SAT) was constructed and administered to both the groups. Teaching material was developed for teaching science through super-learning and four teachers were trained on super-learning techniques. One of them was selected to teach the experimental and control groups on volunteer basis; the experiment lasted for a period of six weeks. Mean scores of control group on pre, post and retention tests were found 10.18, 18.32 and 14.85 respectively, while that of experimental group, the scores were 9.95, 31.41 and 25.07 respectively.

Key words: Super-learning, learning and brain, experimental study, conventional teaching.

INTRODUCTION

Super-learning is technique of teaching that speeds up learning with the help of relaxation exercises. This modern way of accelerated learning taps the reserves of the mind to release better mental abilities. Super-learning mobilizes some of the 90 percent of the brain potential that we seldom use. It is learning without stress and tension. Super-learning gives us access to something that we already have, something the scientists call hypernesia in common English, Super memory (Ostrander et al., 1994).

Focus of quality education must be on actual learning, and as a matter of fact teaching without learning about student achievement is just talking not teaching.

Elementary education is considered the right stage to initiate quality of learning. This stage of education which is the bedrock and foundation of the entire education pyramid has the highest rate of social return as compared to the other sub-sectors and levels of education (Government of Pak, 1998). The current age is of science and technology. Science is progressing day by day with an accelerating speed. Every day brings in new discoveries. These inventions and scientific equipments are not only influencing our daily life, but are leaving a deep impact on our ways of living, our beliefs and our thoughts. The knowledge is increasing at an exponential rate (Hussain, 1990). The speed at which the world is changing, demands a matching ability to learn faster (Rose, and Nicholl, 1997). According to Rose (1987) conventional teaching has assumed that learning should involve determined concentration and frequent repetition. Conventional style of learning is considered not efficient.

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because it causes unnecessary tension and it tends to involve just one half of the brain. Brain hemispheres are responsible for different set of functions. Dreaming, imagination, creativity, music, colour, rhythm, visualization, and the like are referred as right brain activities, while the left brain is sequential, analytical, rational, objective and mathematical (Klauser, 1986).

Super-learning mobilizes some of the 90% of the brain potential that we seldom use. It is learning without stress and tension. Super-learning gives us access to something that we already have, something the scientists call hypernesia-in common English, Super Memory (Ostrander et al., 1994). The supporters of super-learning technique claim that it motivates learners to become more independent, help learners trust their instincts and discover resources within themselves. Super-learning, as it is used today, is a method, which incorporates input from people all over the world. Its origin can be traced to Suggestopedia, which is holistic model of learning and teaching developed in 1978 by Bulgarian psychiatrist and educator, Dr. Georgi Lozanov. His original work dealt primarily with improving memory, breaking down barriers to learning by reawakening childlike curiosity of the learners and teaching on both conscious and subconscious levels (Rosenberg, 1997). The brain generates four types of tiny electrical pulses/waves as thoughts traverse the labyrinth of the mind. Beta waves having frequency 8-13 CPS are considered the best for super-learning (Rose, 1985). The earth vibrates at the rate of eight cycles per second (CPS), and the brain of a person in relaxed state generate waves at vibration frequency rate of 7.52 to 8 CPS (Gerber, 1988). DNA and RNA chains resonate harmoniously with the tone of the rotation of the earth (Cousto, 1988). Each person has a frequency of his or her own, which is altered by illness or imbalance, and can be altered with the application of relaxation techniques and music to come into super state. Super learning also utilize music as relaxing agent, music has been an asset in the field of education in that it served as lever of learning; a tool or vehicle in learning (Mahler, 1978). In this respect, Dr. Georgi Lozanov's suggested to use music to increase the academic achievement of students, especially in reading (Rhodes, 1977), vocational agriculture (Walters, 1977), and science (Peterson, 1977) The present study aimed at investigating the comparative effectiveness of traditional and super-learning techniques for teaching science at elementary level. The study was designed to achieve the following objectives:

Objectives of the study

- a. To investigate the effectiveness of super-learning in teaching science as compared to traditional teaching methods.
- b. To compare the retention rate of super-learning and

traditional methods after a laps of six months.

Hypotheses of the study

To achieve the objectives of the study, following null hypotheses were tested:

Ho 1: There is no significant difference between the mean scores of the students taught by super-learning and the students taught by traditional method of teaching on post-test.

Ho 2: There is no significant difference between the mean scores of the students taught by super-learning and the students taught by traditional method of teaching on retention test.

METHODOLOGY

The pre-test post-test control group designed was considered to be the most useful design for the study. Students studying science at elementary level constituted the population of the study. The students of class eight of Government Al-Islah High School Chiniot, city Pakistan were the sample of this study. The sample consisted of 115 students including 62 students in experimental group (E) and 53 students in control group (C).

In order to measure the existing achievement level of students an objective type Students achievement test (SAT) consisting of five parts (Incomplete items, True/False items, Multiple choice items, Short answer items and Matching items) and 50 items was constructed covering three chapters of Class eight science. Initially the test comprised of 75 items, 15 in each part. Ten teachers teaching science to class eight assessed the content validity and language of the SAT in a meeting lasting for two hours. Fifty items (ten in each part) were selected after a careful discussion on each item separately.

Procedure of the experiment

Super-learning cassettes were prepared to teach the specified curriculum with Baroque in the background.

Four teachers were trained to teach by super-learning method. One of them was selected on volunteer basis. During the experiment two different treatment patterns were applied. Control group was provided with traditional routine situation in the classroom, while experimental group was taught with super-learning techniques as treatment. The experiment continued for six weeks. Soon after the treatment was over, post-test was administered to measure the achievement level of the sample subjects. After a gap of six months the same post-test was administered as a surprise test for the measurement of retention of the samples; during this period these chapters were not taught in the school. Finally, there were 42 students of the experimental group (out of 62) and 39 students of the control group (out of 53) in the retention test. Pre-test scores of the sample serve as data to equate the control and experimental groups, post test scores serve as data to measure achievement of the students as a result of treatment and the retention test scores serve as to check the retention rate of the experimental and control groups after a laps of six months.

The responses of the subjects on pre, post and retention test were scored according to a key. If the subject gave correct response to an item he was given one score for that item, while

Table 1. Significance of difference between the mean scores of experimental group and control group on pre-test.

Group	N	Mean	SD	SE _D	z-value
Experimental group	62	9.95	3.08	0.37	0.56*
Control group	53	10.16	2.66		

*Not significant, z at 0.05 = 2.00.

Table 2. Significance of difference between the mean scores of experimental group and control group on post-test.

Group	N	Mean	SD	SE _D	z-value
Experimental group	62	31.41	8.40	1.04	12.61*
Control group	53	18.32	7.30		

*Significant, z at 0.05 = 2.00.

Table 3. Significance of difference between the mean scores of experiment group and control group on retention test.

Group	N	Mean	SD	SE _D	z-value
Experimental group	42	25.07	6.72	0.93	10.98*
Control group	39	14.85	5.06		

*Significant, z at 0.05 = 2.00.

zero score was earned by a blank or an incorrect response. The maximum possible score obtainable by a subject was 50.

RESULTS

Significance of difference between mean scores of the experimental group, control group, on the variable of pre-test scores, post-test scores and retention test scores was tested at 0.05 levels by applying z-test. Following is the analysis and interpretation of data collected through pre-test, post-test and retention-test.

It appears from Table 1 that the mean achievement score on pre-test in the subject of science of experimental group was 9.95 and that of the control group was 10.16. The difference between the two mean was not statistically significant at 0.05 levels. Hence, both the groups were found to be equal at the outset of the study.

Table 2 indicates that the mean score on the post-test of the experimental group was 31.41 and mean score of the control group was 18.32. The difference between the two means was found to be significant in favour of experimental group at 0.05 levels that shows the effectiveness of the super-learning method. Ahmed (1998) and Hameed (1990) also found that students who were taught by super-learning method showed greater increase in their achievement score.

Table 3 reflects that the mean score on the retention-test of the experimental group was 25.07 and mean score of the control group was 14.85. The difference between the two means was found to be significant on retention-

test in favour of experimental group at 0.05 level, that shows the effectiveness of the super-learning method.

DISCUSSION

Both the experimental and control groups were compared on the variable of pre-test achievement scores. The results obtained from the statistical analysis showed that no significant difference existed between the two groups with respect to pre-test in the subject of science, as the z-value (0.39) was not statistically significant at 0.05 level (Table 1). Hence both the groups could be treated as equal. The performance of the experimental group was found to be significantly better than that of the control group on post-test. The difference between the two means was statistically significant at 0.05 level (Table 2). Thus, the null hypothesis that, "There is no significant difference between the mean scores of the students taught by super-learning and the mean scores of students taught by traditional method of teaching on post test", was rejected at 0.05 level in favour of the experimental group. The performance of the experimental group was found to be significantly better than that of the control group on retention-test. The difference between the two means was statistically significant at 0.05 level (Table 3). Thus, the null hypothesis that, "There is no significant difference between the mean scores of the students taught by super-learning and the mean scores of students taught by traditional method of teaching on retention test", was rejected at 0.05 level in favour of the

experimental group.

The performance of the experimental group was better than that of the control group on post-test as well as on retention-test. The overall performance of the experimental group remained better as compared to the overall performance of the control group after treatment, which reflected that the super-learning remained more effective than traditional method of teaching. These results are in line with Ahmed (1998) and Hameed (1990). Since the results of the experiment show the successfulness of the super-learning, so it is suggested that this method can be applied to other classes and for different subjects taught in the Pakistani institutions. The performance of the experimental group was significantly higher than Control group at post-test and Retention-test. Therefore, it is recommended that super-learning can be implemented by replacing traditional method of teaching for high achievers. As the experiment was done in a large class (N = 62) and the results remained positive in favour of experimental group as compare to the control class (N = 52). Hence, it is suggested that super-learning can be used in crowdy and noisy environment also. Super-learning proved to be the best method for memory test and memory retention. Therefore, it will help our students to memorise more texts within a short period of time and for a long period.

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