Research Paper Physical Education

Effect of Yogic Exercise on Academic Performance of School Going Children's of Sundarban Delta Region In West Bengal

* Dr. Sandip Sankar Ghosh** Mr. Azizul Haque

* Assistant Professors, State Institute of Physical Education for women, Hastings House, Alipore, Kolkata-700027, West Bengal, India

** Assistant teacher, Barunhat High School, 24 pg's(N). West Bengal, India

ABSTRACT

This study was conducted to determine the effect of selected yogic exercise programme on academic performance school going children's with 14-16 years. For the purpose of the study sixty students (Experimental Group N=30, Control Group N=30) were selected randomly from the Barunhat High School located at Sundarban Delta region in West Bengal. After the First semester of the school, the yoga treatment was intervened in the morning session, 7am-8.30am, for five days per week to the Experimental group for twenty four weeks. During this control group did not participate yoga training. The other physical activities that they participated as an essential part of their curriculum were not under the control of the researcher. After twenty four weeks of yoga exercise treatment the spectacular effects of improvement in the academic performance of the experimental group was found. To test the academic performance a teacher made test on mathematical science were conducted prior to the initiation of the treatment and just after the completion of the treatment program. The tests were conducted by investigator in collaboration with the mathematics teacher of the said school. Institutional Ethical consents were taken prior to the initiation of the research work. The data was analyzed & compared with the help of standard statistical procedures that includes mean, standard deviation, mean difference, standard error of mean and 't' test. Result of this study revealed that the Experimental group improved significantly in mathematical science as a measure of their academic performance in the present study than control group. It's suggests that practicing yoga exercise daily helps to improve not only health but academic performance also of school going children's.

Keywords : Yogasanas, Academic performance, Mathematic Science, Exercise.

INTRODUCTION

Now, we are living in the world of 21st century which is known as the world of 'mental stress' in these circumstances, knowledge amplifies day by day. There is a knowledge explosion in the world, hence each &every person tries to get this knowledge by new & most recent Medias &they also use it. Yoga is a very ancient practice that originated in India. Yoga is viewed as a physical exercise, mental & spiritual discipline that confers a sound body & a sound mind. Despite the recent studies on the effects of yoga on mental health, but there is no hardly research undertaken on the effects of yoga on mathematic academic performance. In this article investigated the effect of yoga on the mathematic performance in high school in Sundarban delta region in west Bengal.

The Sanskrit word yoga has the literal meaning of "yoke" from a root 'Yuj' which means union or merger of soul with God and the experience of oneness with him. It has been defined and explained in many ways such as (i) uniting Shakti with Shiva (ii) merging soul with God (iii) uniting psyche with body (iv) uniting physical body with social body, etc. It is the process of controlling mind for self awareness and attaining the highest level of knowledge. Yoga is the process of using physical exercise & mental imagery that originated in the Indian culture & more than three thousand years ago. It is the name given to that helps create a union between the mind, body & spirit (Kalish, 2001). Yoga as a life style or systematic technique for improving the physical body & mind has so many benefits that the first and essentials of them is personal discipline is stabilizing in life it seem of yoga techniques considered in physical education program it can be affect on all the students functions special in academic performance. Siar (2005) conducted a study to measure the effect of the super brain yoga with fifty six middle school students in Norristown, Pennsylvania, who were experiencing academic and behavioral problems. The results of the study showed that there is a positive relationship and significant improvement in the academic and behavioral performance of a middle school adolescent by using the super brain yoga. So it is definitely true that yoga has an effect on body, mind and emotion but the research question is recognized impact of yoga on mathematic academic achievement.

OBJECTIVE OF THE STUDY

To study the effect of yoga on the academic performance of the school going students of mathematic subject.

METHODOLOGY

Subjects

For the purpose of this study sixty school going students (60) who were studied in Barunhat high school, Sundarban delta region in west Bengal were selected randomly. Their age ranged from 14-16 years. The selected students were randomly assigned into two equal groups. The experimental group (N=30) and the control group (N=30) for the experiment.

Academic performance test

The researcher has made 50 marks & 1.30 hours objective type academic achievement test for eight to ten class standard mathematic subjects with the help of mathematics teacher.

Asana

The main purpose of this research was specifying effective-

ness of yoga in improving of the academic performance. After the first semester, the yoga practice was given in morning 1.30 hour (5 days /week) to the experimental group for twenty four weeks. During this treatment control group did not participate yoga training. Both groups were not controlled for their activity. The marks of first semester were considered as pre and post test data for the investigation of mathematic academic performance of the students. Some asana are selected for the promotion of mathematic academic performance and presented in below.

1.Shashangasana 2.Meditation in padmasana 3.Shirshasana 4.Deep Breathing 5. Pabana Muktasana 6.Ardha Kurmasana 7.Salavasana 8.yogamudra 9.Ardha Matsendrasana 10.Gmukhasana 11.Utthita Padmasana 12.Sarbangasana 13.Bhadrasana 14.Matsyasana 15.Halasana 16.Bajrasana 17.Ustrasana 18.Om Chanting 19. Paschimotanasana 20.Savasana

Statistical Technique

The data was analyzed & compared with the help of statistical procedures in which mean, standard deviation, mean difference, standard error mean and't' test was used.

RESULT

Table1. Mean & standard deviation, Mean deference, standard error of mean &'t' value of mathematic academic performance pre test.

	Group	N	Mean	S.D	S.E.M	D.M	't' value
Academic performance pre	Experimental	30	35.06	5.90	0.10	0.73	1.52^
	Control	30	34.23	5.87	1.00		

t 0.05(58)=2.00 ^ not significant at 0.05 level

Table 1 reveals that the pre test of Mathematic academic performance the mean scores of experimental & control group were 35.06 (SD=5.90) and 34.23 (SD= 5.87) respectively whereas, the mean difference was 0.73 and the 't' values of pre test was 1.52 which is not significant it reflects that the mean score of pre test of mathematic academic performance of experimental &control group do not differ significantly. This result indicates that the pre test means of yoga training group & control group in mathematic academic performance test were more or less similar.

Table2. Mean & standard deviation, Mean deference, standard error of mean &'t' value of mathematic academic performance post test (after 12 weeks).

	Group	N	Mean	S.D	S.E.M	D.M	't' value
Academic performance post	Experimental	30	37.06	6.08	0.999	1.30	1.55^
	Control	30	35.76	5.97	0.998		

t 0.05(58)=2.00 ^ not significant at 0.05 level

Table 2 reveals that the post test(after 12 weeks) of Mathematic academic performance the mean scores of experimental & control group were 37.06 (SD=6.08) and 35.76 (SD= 5.97) respectively whereas, the mean difference was 1.30 and the 't' values of post test was 1.55 which is not significant it reflects that the mean score of post test of mathematic academic performance of experimental &control group remarkable difference is not noticed between the first & second semester but mean score development in experimental group is noticed from pre test.

Table3. Mean & standard deviation, Mean deference, standard error of mean &'t' value of mathematic academic performance post test (after 24 weeks).

	Group	N	Mean	S.D	S.E.M	D.M	't' value
Academic performance post	Experimental	30	47.00	18.28	2.66	6.00	5.27*
	Control	30	41.00	22.35	3.49		

t 0.05(58)=2.00 * significant at 0.05 level

Table3. reveals that the post test (after 24 weeks) of Mathematic academic performance the mean scores of experimental & control group were 47.00 (SD=18.28) and 41.00 (SD=22.35) respectively whereas, the mean difference was 6.00 and the 't' values of post test was 5.27 which is significant it reflects that the mean score of post test of mathematic academic performance of experimental &control group differed significantly. This result helps to interpret the yoga practice were effective in improving mathematic academic performance of the school going students, Sundarban delta region in west Bengal.

DISCUSSION

This study investigated the effects of yoga exercise technique on mathematic performance of the high school students and analysis of result showed that there is a significant influence of yoga asana on academic performance, in control group scored significantly lower than students who were in experimental group. In other words, asana techniques had positive impact on mathematic performance of students.

Attention is highly necessary for brilliant performance in mathematics and that is possible only through yoga. Though remarkable difference is not noticed between the first & second semester, development in experimental group is noticed. But the difference can be remarkably discerned after the third semester. In this case the academic performance of the experimental group is developed much more than the control groups. From this it is proved that the symptoms developed are well marks after twenty four weeks though they were discerned after the first three months. Therefore the result reveals that, the subject of experimental group could show higher score in academic performance, as measure by test, than the control group. Thus, the mean gain in academic performance has increased significantly in experimental group as compared to control group and the result of the t- value showed significant difference between the experimental and control group students. So result showed that one of the best strategies for improving the Mathematic academic performance is expanding the use of yoga techniques in physical education program in school. Yoga has impact on some important features same as the self confidence, self concept and in mental health, there four it can effect on mathematic academic performance.

CONCLUSION

This experimental study suggests that, daily yoga practice helps to improve mathematic academic performance of school going students.

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