Effectiveness of Vedic Mathematic with Multiplication of "Nikhilam Sutra" of Mathematic subject in Standard 8

DHARA R. JOSHI
Research Scholar,
H.N.G.Uni, Patan.

Abstract:
The purpose of the present study is to know the effectiveness of the Vedic mathematics verses traditional method of teaching mathematics, the mean score of post test of method of teaching. It was found that the effectiveness of Vedic mathematics of teaching was more than that of traditional method of teaching on students. Vedic mathematics helps in speed and accuracy in solving numerical, there by preparing school children to overcome the 'fear of mathematics' and to succeed in mathematics brings up the interest levels in other subjects. The present study was basically experimental and it was conducted on the Gujarati Medium students of Std-VIII of Visnagar taluka. Using purposive method 127 students were selected in the sample using two groups only post test design of true experimental design, the research conducted the experiments. The finding of the present study was that Vedic mathematics technique was more effective than conventional method.

Keywords: *Nikhilam Sutra, Vedic mathematics*

1. Introduction

"Mathematics is the gate way and key of all the sciences" says Roger Bacon. Hence, in the age of science and information technology the knowledge of mathematics is very much essential and useful. Mathematics helps to develop soft skills like self confidence, logical and critical thinking, self reliance, sense of appreciation, scientific attitude, problem solving etc. So every mathematics teacher should developed positive attitude towards learning mathematics among students. The positive attitude is helpful in improving up the thinking level of the students and plays a significant role in the developments of different mental abilities. Vedic mathematics introduces the wonderful application to Arithmetical computations, Theory of numbers, compound multiplications, algbraic operations, factorisations, simple quadratic and higher order equations, simultaneous quadratic equations, partial fraction, calculus, squaring, cubing square root, cube root and coordinate geometry etc. Vedic mathematics provides answer in one line where as conventional method requires several steps.

2. Objective of the study

1. To study the effectiveness of Nikhilam multiplication.
2. To study the scholastic achievement of experimental group.
3. To study the scholastic achievement of control group.
4. To compare the scholastic achievement of experimental and control group.

3. Hypothesis of the study

There will be no significant difference between the mean score of scholastic achievement of experimental and control group.

4. Limitations of the study

1. The research tool has been developed by the researcher himself.

2. The research being experimental in nature is restricted only to Visnagar Taluka of Mehsana District of Gujarat state.
3. There are so many techniques of mathematics subject teaching but the present research paper deals with conventional mathematics techniques and Vedic mathematics techniques only.
4. There are sixteen sutras of Vedic mathematical method but the present research paper deals with "Nikhilam Sutra" only.

5. Method of Research

In the present study, experimental research method was used because research framed the effectiveness of Vedic maths of experimental group and control group.

6. Importance of the Study

In the present education system some of the students are getting bored and are not interested in teaching with conventional mathematics Techniques. The researcher has decided to compare two methods of teaching conventional mathematics and Vedic mathematics. The result of this research will be useful to the students and teachers as this is comparative study between conventional mathematics Technique and Vedic mathematics Technique.

7. Variable of the Study

No.	Kinds of Variable	Variable	Level of Variable
1	**Independent**	Treatment	Vedic Mathematics (Nikhilam Sutra)
2	**Dependent**	Achievement in maths	Post Achievement in maths.

8. Sample

In the present study, researcher has selected 127 students of Std VIII of a gujarati stream school by purposive sampling. In which 75 students were selection of experimental group and 52 students for control group.

9. Research Design

Group	Pre test	Treatment	Post test
Experimental Group	-	x	T_2E
Control Group	-	-	T_2C

10. Procedure of experiment

The researcher taught simple multiplication to the control group by the traditional method. There were asked to clarify their difficulties of the subject through the subject teacher concern. The experimental group was also exposed to the teaching session on the same units of multiplication through "Nikhilam sutra" of Vedic mathematics instead of traditional method.

11. Tools

In the present study, the researcher used post achievement teacher made test of 40 marks. The test included following type of questions.

1. Choose the correct answer from multiple choice questions (20 marks)
2. Write the following questions (12 marks)
3. Calculate the sum (8 marks)

12. Data Analysis and Interpretation

There will be no significant difference between the mean score of scholastic achievement of experimental group and control group.

Table 1: Comparison of mean SD and t-test of scholastic achievement of Experimental and control group

Group	N	Mean	Sd	T	Significant
Experimental Group	75	28.09	4.74	4.36	Significant at 0.01 level
Control Group	52	24.50	4.30		

significant at 0.01 level of confidence

The collected data was analysed by using various statistical techniques like mean, SD and T test ans on the basis of the obtained results, the interpretation of the data was concluded in the form of findings. The obtained result showed that t value was 4.36 and it was significant at 0.01 level. So the null hypothesis "There will be no significant difference between mean scores of experimental and control group will be rejected. We can conclude that there is a significant difference between the mean score of scholastic achievement of experimental group.

13. Conclusion

Vedic mathematics were superior to their counterpart students taught only through traditional method.

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