Chapter – 1

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Chapter – 1

Statement of the Problem and Terms defined

1.1 Introduction

This century is known as the age of science and technology. The technology is developing very rapidly and the construction and machinery is based on principle of science and maths. Maths is in the base of modern invention. However the man is rich or poor, Maths thoughts are on the top of all the process of life of a man. According to an article of Desai (2007) the place of Maths is very important in India from the ancient time. Importance of Maths can explain very well through the following shlok.

यथा शिखा मन्यूराणं नामानां मण्यो यथा ।
तद्वाद् यदांग शास्त्राणां गणितेषु मूर्तिः स्थितिम् ॥

It means, "Like the crowning crest of a peacock and the shining gem in the cobra’s hood, mathematics is the supreme Vedanga Sastra" There are six Vedanga Sastras viz. Siksa (phonetics), Niruktam (etymology), Vyakaranam (grammar), Chandas (prosody), Kalpam (ritualistics) and Ganitam (mathematics)

The whole world also believes that India is the origin of Mathsematicians. The very old book “Kodex Vigilance” is kept in museum of Spain which is capital of Europe. It is mentioned in this book that ancient Hindus were very intellectual then the people of other countries in calculation, geometry or other scientific knowledge. Scholars of all over the world praised India’s number invention and journey or that is indicated in Vedic maths of Shankracharya Bharti Krishna Tirthji Maharaj (1984 – 1960) of Puri.

Shankracharya Bharti Krishna Tirthji Maharaj of Puri had invented a new Mathsematical method by his Sadhana for eight years, he named it Vedic
maths. According to his research the whole Maths is based on 16 main formulas and 13 sub formulas. These formulas are normal and written in original Sanskrit. According to Tirthji (1965) these formulas, slogans are as below.

<table>
<thead>
<tr>
<th>Main Equation</th>
<th>Sub Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. एकाधिकेन पूर्वेण</td>
<td>1. आनुस्ययोण</td>
</tr>
<tr>
<td>2. निकिलं नवतंशरमं दशतः</td>
<td>2. शिक्षते शेषसंख्यः</td>
</tr>
<tr>
<td>3. उध्रवीतिमभाम्</td>
<td>3. आधामाधोनान्यमन्त्वेन</td>
</tr>
<tr>
<td>4. परिवयो योजयेत्</td>
<td>4. केवले सप्तक गुण्यात्</td>
</tr>
<tr>
<td>5. गूणं सामयसमुच्चये</td>
<td>5. वेष्टनम्</td>
</tr>
<tr>
<td>6. (अनुरुपै्र) गूणमन्त्राद्र</td>
<td>6. यावदूनं तावदूनम्</td>
</tr>
<tr>
<td>7. संकलनवकलनान्यभामू</td>
<td>7. यावदूनं तावदूनीकृत्य वर्ग च योजयेत्</td>
</tr>
<tr>
<td>8. पूरणपूर्णाभामू</td>
<td>8. अन्त्य्योर्द्धशकेकद्विपि</td>
</tr>
<tr>
<td>9. चलनकलनाभामू</td>
<td>9. अन्त्य्योरेव</td>
</tr>
<tr>
<td>10. यावदूनम्</td>
<td>10. समुच्चयागृहिणि:</td>
</tr>
<tr>
<td>11. व्यक्तिसमिति:</td>
<td>11. लोपनस्थापनाभामू</td>
</tr>
<tr>
<td>12. शेषाण्यङ्केन चरमेन</td>
<td>12. विलोकनम्</td>
</tr>
<tr>
<td>13. सोपनस्थायमयमचम्</td>
<td>13. गुणितसमुच्चय: समुच्चयागृहिणि:</td>
</tr>
<tr>
<td>14. एकन्यूनेन पूर्वेण</td>
<td></td>
</tr>
<tr>
<td>15. गुणितसमुच्चय:</td>
<td></td>
</tr>
<tr>
<td>16. गुणकसामुच्चय:</td>
<td></td>
</tr>
</tbody>
</table>

By the study of these slogan, the calculation of arithmetic, algebra, geometry, trigonometry, cube, geometry, synthesis and analysis etc., could done in very less time that can very helpful to the students in exams. Calculation can be very fast by principles of Vedic maths then the general Maths; it also develops mental ability and problem solving skill in students.
Hard and boring subjects like Maths can make interesting. According to Tandel\(^3\) (2010) ancient Vedic maths, before few years, in S. T. James School or other some schools Maths was taught by Vedic method and they got noticeable success. In many schools in abroad and India, Maths is taught by Vedic method. The present study is conducted with aim that the students develop interest in Vedic maths in present condition.

1.2 Statement of Problem & Operational Definition of Key Words

The following title was decided after the mature thinking.

**A Study of Effectiveness of Vedic Maths on ‘Expansion’ Unit of Maths Subject of Std. 8**

It is clarify from the title that investigator had tried to study whether the Vedic method is effective for teaching Expansion unit of Class – 8 Maths.

The key words have special meaning. Here the definitions of such key words are given.

**Maths**

According to Bhagvatsinhji\(^4\) (2002), Maths means “science of calculation of numbers”.

In the present study, Maths means one subject among many subjects taught at higher primary level.

**Expansion**

To get result by multiplication of Polynomial.

In the present study Expansion means one chapter of class – 8 Maths of higher primary level.

**Vedic maths**

According to Tandel\(^5\) (2010) what is Vedic maths is,
Vedic Maths is the name given to the ancient system of mathematics which has rediscovered then from the Vedas between 1911 and 1918 by Shri Bharti Tirthji Maharaj (1884 – 1960).

Effectiveness

Effectiveness according to Bhagvatsinhjı\textsuperscript{6} (2002) is,

1. To make beneficial
2. Strong
3. Successful

In the present study effectiveness means efforts to test effect of learning by Vedic maths on selected unit.

Study

According to Desai, Shah and Shah\textsuperscript{7} (1984)

1. To indulge in problem solving.
2. To research and criticizes in depth of any subject.

In the present study, study means efforts, to test effectiveness of Vedic maths on ‘Expansion’ unit.

1.3 Objectives of the Study

Following were the general objectives of the present study.

General Objectives

1. To test the effectiveness of Vedic maths on ‘Expansion’ unit in Maths of Std. 8 students.
2. To get opinions of students about Vedic maths.
Specific Objectives

1. To compare improved mean of post-test score of experimental group and controlled group as taken pre-test scores of students on ‘Expansion’ unit of maths subject of Std. 8 as co –variable.

2. To study effect of mean score of post-test of achievement level as taken pre-test scores of students on ‘Expansion’ unit of Maths subject of Std. 8 as co-variable.

3. To study effect of score of achievement level and teaching method as taken score of pre-test of students on ‘Expansion’ unit as co –variable.

1.4 Hypothesis of the Study

Hypothesis formulated on the bases of objectives are as under.

1. There is no significant difference between improved mean of post –test score of experimental group and controlled group as taken pre-test score of students on “Expansion” unit of Std. 8 Maths as co – variable.

2. There is no significant effect between mean score of post-test of achievement level as taken pre-test score of students on ‘Expansion’ unit of Maths subject of Std. 8 as co variable.

3. There is no significant effect of interaction of achievement level and teaching method on post-test score of students as taken pre-test score of students on ‘Expansion’ unit of Std. 8 Maths as co variable.

1.5 Importance of the Study

The present study can be helpful in the following ways.

➢ The present study would prove useful to know how the Vedic maths is effective in teaching ‘Expansion’ unit of Maths subject.

➢ The present study also can useful in teaching other units of Maths subject.
➢ It will motivate students and teacher for studying Vedic maths.

➢ The teachers can be motivated to teach other units of Maths subject by Vedic maths.

➢ It will also provide motivation to other researchers to study on Vedic maths in future.

➢ It will also be useful in removing monotonous and boredom of Maths subject in students.

1.6 Limitations & Delimitations of the Study

Any research cannot be perfect. There are some limitations in context of time and money and the result can accepts accordingly.

The present study is conducted as a part of curriculum of M.Phil. So, limitations of the study are as below.

1. The present study was limited to ‘Expansion’ unit of Mathss subject of 1st semester of Std. 8.

2. The present study was limited to (a+b)^2, (a-b)^2 to Algebraic Identities.

3. The present study was limited to Gujarati medium students only.

4. The present study was limited to Std. 8 students of one school of Daman district.

5. In the present study only target test and opinionnaire were used as tool.

1.7 Outline of the Next Chapter

In this chapter, investigator has discussed statement of problem, operational definition of key words, objectives, hypothesis of the study.

In Chapter – 2 Past researches of India and abroad reviewed and how the present study different from those researches.
Chapter – 3 planning for research design and procedure is presented in this chapter.

Chapter – 4 statistical analysis and discussion of result is discussed in this chapter.

Chapter – 5 summary, findings, educational implications and areas for future researches or bibliography are discussed in this chapter.
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