CONTENTS

S. NO | TITLE | PAGE NO
--- | --- | ---

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CHAPTER-1 INTRODUCTION

1.1 Universalization of Elementary Education 01

1.2 Literacy Rates In India (1951-2001) 02

1.3 Centrally sponsored schemes 03

1.4 Objectives of Elementary Mathematics 04

1.5 Importance of Mathematics 04

1.6 Need and importance of In-service course for the Teachers 05

1.6.1 Training 07

1.6.2 SSA plan about In-service training 07

1.6.3 Role of DIET in In-service 07

1.6.4 Follow up activities of a training 08

1.6.5 Methods to immediate follow up 08

1.6.6 Feedback tools to assess the impact of training 09

1.6.7 Long term impact 09

1.7 Teaching 10

1.8 Teaching of mathematics 10

1.8.1 Principles involved in class room teaching of mathematics 11

1.8.2 Activities and games 11

1.8.3 Class room discussion 12

1.8.4 Language and mathematics 12

1.8.5 Teaching mathematics (A present scenario) 12

1.8.6 Issues on mathematics teaching 13

1.9 Learning 14
2.3.1 Studies on teaching of mathematics 37
2.3.2 Studies on mathematics education in daily life 47
2.3.3 Studies on under achievement in mathematics 51
2.3.4 Studies on Remedial teaching 58
2.3.5 Studies on assessment of in-service 60
2.3.6 Studies on achievement in mathematics 65

2.4 Synthesis of foreign studies 69
2.4.1 Synthesis of studies on achievement in mathematics 69
2.4.2 Synthesis of Studies on teaching of mathematics 70
2.2.3 Synthesis on Studies on mathematics curriculum 70

2.5 Synthesis of studies in India 70
2.5.1 Synthesis of studies on teaching of mathematics 70
2.5.2 Synthesis of Studies on mathematics education in daily life 72
2.5.3 Synthesis of Studies on under achievement in mathematics 73
2.5.4 Synthesis of Studies on Remedial teaching 74
2.5.5 Synthesis of studies on assessment of in-service 74
2.5.6 Synthesis of studies on achievement in mathematics 75

2.6 Conclusion 77

CHAPTER-III METHODOLOGY
3.1 Introduction 78
3.2 Objectives 78
3.3 Hypotheses 79
3.4 Delimitations 82
3.5 Assumptions 83
3.6 Statement Of The Problem 83
3.7 Primary Education Curriculum 84
3.8 Definition Of Key Terms 85
3.9 Operational Definitions 86
3.10 Research Design 89
3.11 Experimental Design 89
3.12 Schematic Representation Of Experimental Design 89
3.13 Training Design 90
3.14 Experimental phase 91
3.15 Sample 92
3.16 **Research Tools** 97
3.16.1 Teacher tool on content & methodology 97
3.16.2 Teacher Tool on Impact of in-service training 98
3.16.3 Achievement Test 99
3.17 Data Collection 100
3.18 Scheme Of Data Analysis 101

**CHAPTER IV DATA ANALYSIS**

4.1 Introduction 102
4.2 Descriptive Analysis 103
4.3 Correlation 116
4.4 Differential Analysis 120
4.5 Gain Score Analysis 142

**CHAPTER-V SUMMARY**

5.1 Introduction 145
5.2 Need and significance of the study 146
5.3 Scope of the study 146
5.4 Statement of The Problem 147
5.5 Objectives 148
5.6 Hypotheses 148
5.7 Assumptions 151
5.8 Delimitations 152
5.9 Research Design 152
5.10 Experimental design 152
5.11 Sample 153
5.12 **Research Tools** 155
5.12.1 Teacher tool on content & methodology 155
5.12.2 Teacher tool on Impact Of In-Service Training 157
5.12.3 Achievement Test 159
5.13 Data Collection 159
5.14 Scheme of Data Analysis
5.15 Findings
5.16 Discussion
5.17 Educational implications
5.18 Suggestions for further research
5.19 Conclusion

ANNEXURE-1 BIBLIOGRAPHY

ANNEXURE-2 QUESTIONNAIRE
Teacher tool on content & methodology (English & Tamil)
Teacher tool on Impact of in-service training (English & Tamil)
Students’ tool for pre test (English & Tamil)
Students’ tool for post test (English & Tamil)

ANNEXURE-3 TRAINING PACKAGE
(English & Tamil)