LIST OF CONTENTS

Acknowledgements ................................................ (ii)
List of Contents ................................................ (iii)
List of Tables ................................................ (vii)
List of Figures ................................................ (x)

Chapter I
INTRODUCTION ................................................ 1 - 14
Organization of Research Report ................................ 14

Chapter II
REVIEW OF RELATED STUDIES AND THE
HYPOTHESES ............................................... 15 - 53

Educational Environment ...................................... 15
Student Variables ............................................. 17
Intelligence and Academic Achievement ...................... 17
Time Devoted to the Study of Mathematics, Additional Help taken at Home and Academic Achievement ........................................ 22
Interest and Academic Achievement ......................... 22
Sex Differences and Academic Achievement ................... 24

Home Variables ................................................ 26
Socio-Economic Status and Academic Achievement .......... 26
Father's Absence or Presence and Academic Achievement .... 29
Size of the Family and Academic Achievement ................ 30
Ordinal Position of the Child and Academic Achievement .... 31
Income of the Father and Academic Achievement ............. 32
Working or Non-Working Mothers, Encouragement given by Parents and Academic Achievement ......................... 34
Education of the Parents and Academic Achievement .......... 35

Teacher Variables ............................................. 36
Academic and Professional Qualification and experience of Teacher and Academic Achievement ....................... 36
CHAPTER III  METHOD AND PROCEDURE

Size of the Class and Academic Achievement
Effect of Home Work and Academic Achievement
In-Service Training of the Teacher and Academic Achievement
Use of Audio-Visual Aid and Academic Achievement
Feedback and Academic Achievement
Attitude of the Teacher and Academic Achievement
School Variables
Size of the School and Academic Achievement
Type of School and Academic Achievement
Hypotheses

Design of the Study
Sample
Tools
Raven's Standard Progressive Matrices
Jalota (1972) Group Test of General Mental Ability (72)
Numerical Ability Test (1965)
Joshi (1969) Algebraic Concept Test
Geometric Concepts Test
Socio-Economic Status Scale
Student Information Proforma
Teacher Attitude Scale
Teacher Information Proforma
School Information Proforma
School Characteristics Index
Data Collection
Statistical Analysis of Data
Statistical Techniques Employed for Analysis of Data
Statistical Techniques Used
Chapter IV  DEVELOPING TOOLS FOR DATA COLLECTION  82-109

Construction of Geometric Concept Test  82
Administration of the Test  85
Final Tryout of the Test  88
Scoring of the Test  88
Item Analysis of the Test  89
Discriminative Value of the Items  92
Serial Number of Items in the Final form of the GC Test bearing correspondence with the serial number in the Final Tryout of the Test Explaining the Geometric Concepts  99
Method to Estimate Reliability  101
Reliability of the GC Test  101
Method of Validation  103
Student Information Proforma  105
Teacher Information Proforma  107
School Information Proforma  109

Chapter V  DESCRIPTION OF VARIABLES  110-133

Non-Verbal Intelligence Test Scores (NVI)  110
Verbal Intelligence Scores (VI)  112
School Characteristics Index (C₁)  112
School Characteristics Index (C₂)  112
School Characteristics Index (C₃)  113
School Characteristics Index (C₄)  113
School Characteristics Index (C₅)  113
Socio-Economic Status Scores (SES)  114
Achievement Scores on Numerical Ability (ASNA)  114
Achievement Scores on Algebra(ASA)  114
Achievement Scores on Geometry(ASG)  115
Total Intelligence Scores (Tl )  115
Total School Characteristics Index (TSCI)  115
Total Achievement Scores on Mathematical Concepts Test (TASM)  115
| Variables of Students and Home | 130 |
| Variables of School            | 131 |
| Variables of Teacher           | 132 |
| Continuous Variables of Teacher| 132 |
| Discrete Variables of Teacher  | 132 |

**Chapter VI**

**ANALYSIS OF DATA AND DISCUSSION OF RESULTS**

- **Section One: Factor Analysis**
- **Section Two: Co-efficient of Correlation and Multiple Regression Equations**
- **Section Three: Analysis of Variance**

**Chapter VII**

**SUMMARY AND CONCLUSIONS**

- **BIBLIOGRAPHY**
- **APPENDICES**