A Study of Effect of Toy Based Pedagogy on Achievement in Mathematics of Class 6th Students

A Dissertation Submitted to Barkatullah University, Bhopal in the partial fulfilment of the requirement for the degree of

Two-Year M.Ed. (R.I.E.) Session 2023-25

Supervisor

Dr. Saurabh Kumar

Associate Prof. in Education,

Department of Education,

RIE, Bhopal

Research Scholar

Archit Nema

Student of Two-Year M.Ed. (R.I.E.)

RIE, Bhopal

Roll No. - 2406600303



REGIONAL INSTITUTE OF EDUCATION, BHOPAL

National Council of Educational Research and Training (NCERT)

Shyamala Hills, Bhopal -462002

DECLARATION

I hereby declare that this study entitled, "A Study of Effect of Toy Based Pedagogy on Achievement in Mathematics of Class 6th Students" has been carried out by me during the academic years 2023-2025 in partial fulfilment of the requirement for the degree of Two-year M.Ed. course of Barkatullah University, Bhopal (M.P).

This study has been conducted under the guidance and supervision of Dr. Saurabh Kumar, Asso. Prof., Department of Education, Regional Institute of Education (NCERT), Bhopal (M.P.).

I hereby declare that the research work done by me is original. This dissertation has not been submitted by me for the award of any degree or diploma in any Institute/University.

Place: Regional Institute of Education ARCHIT NEMA

Bhopal Two-year M.Ed.

Date:

CERTIFICATE

This is to certify that **Archit Nema** student of two-year M.Ed. course in the year 2023-2025 of Regional Institute of Education, Bhopal has worked under my guidance and supervision for his dissertation "A Study of Effect of Toy Based Pedagogy on Achievement in Mathematics of Class 6th Students". This piece of research work is genuine and ready for submission and evaluation.

Place: Regional Institute of Education

Bhopal

Date:

Dr. Saurabh Kumar

Associate Prof.

Department of Education RIE, Bhopal

ACKNOWLEDGEMENT

I would like to express my deep sense of gratitude and admiration to my guide Dr.

Saurabh Kumar, Asso. Prof., Department of Education, Regional Institute of

Education (NCERT), Bhopal (M.P.) for her constant encouragement, kind support, and

invaluable guidance to carry out the work presented in this dissertation. She has been a

great driving force and inspiration for me throughout the dissertation work.

I am indebted to Prof. Shiv Kumar Gupta, Principal, RIE, Bhopal, Prof. Ayushman

Goswami, Head of Department of Education, for providing enough learning facilities

and educational environment in the campus.

I am very thankful to **Dr. P.K. Tripathy**, Deputy Librarian and the staffs of the library

who rendered all kind of possible support by providing source material for completion

of my dissertation work.

I would like to give my special thanks to the principal and faculties of DMS school for

granting me permission to collect the data from the students of their Institutes. Students

selected in the sample deserve my sincere thanks for cooperating with me and for

providing the required information regarding the present work.

I am also indebted to the authors and researchers whose studies have enriched my

knowledge and was useful in my research work.

I am especially beholden to my parents and family members for their unconditional love,

encouragement and blessing, which I needed the most in its completion. I am especially

thankful to my friends for their immense contribution which enabled me to complete this

dissertation work.

Place: Regional Institute of Education

ARCHIT NEMA

Bhopal

Date:

Two-year M.Ed.

CONTENTS

Chapter No.	Description	Page No.
Chapter-I	INTRODUCTION	01-07
	1.1 Introduction	01
	1.2 Concept and Definition of Toy-based pedagogy	03
	1.2.1 Characteristics of Toy-based pedagogy	03
	1.2.2 Types of Educational Toys	04
	1.2.3 theoretical foundation of Toy-based pedagogy	04
	1.3 Rationale of the study	05
	1.4 Statement of the problem	06
	1.5 Objectives of the study	07
	1.6 Hypotheses of the Study	07
	1.7 Operational Definition	07
	1.8 Delimitations of the Study	07
Chapter-II	REVIEW OF RELATED LITERATURE	8-11
	2.1 Introduction	9
	2.2 Theoretical Foundation and Global Perspectives	9-10
	2.3 Empirical studies in the Indian context	10-11
	2.4 Research gaps identified	11
	2.5 Conclusion	11

Chapter-III	METHODOLOGY	12-17
	3.1 Research Method	13
	3.2 Variables	14
	3.3 Population	14
	3.4 Samples	14
	3.5 Data Collection	15
	3.6 Tools	15
	3.7 Achievement Test	15
	3.8 Development of Test	15
	3.9 Administration of the Pre-Test	16
	3.10 Administration of the Post-Test	16
	3.11 Procedure for Data Collection	16
	3.12 Statistical Techniques	17
Chapter-IV	DATA ANALYSIS AND INTERPRETATION	18-23
	4.1 Introduction	19
	4.2 Scheme of Analysis	19
	4.2.1 Testing of Hypotheses	20
	4.2.2 Statistical Presentation of Data	21-22
	4.3 Discussion and Conclusion	23

Chapter-V	RESULTS AND FINDINGS	24-28
	5.1 Results	25
	5.2 Major Findings	25
	5.3 Educational Implications of the Study	26
	5.3.1 For Students	26
	5.3.2 For Teacher	27
	5.3.3 For Teacher Educators	27
	5.3.4 For Curriculum Designers	27
	5.3.5 For Administrators	28
	5.4 Suggestion for Further Studies	28
SUMMARY		29
BIBLIOGRAPHY		30-32
APPENDICES		33-73

LIST OF TABLES

Sl. No.	Table Name	Page No.
Table-3.1	Design of the Study	13
Table-3.2	Details of Sample	14
Table-3.3	Achievement Test Questionnaire	16
Table-4.1	Mean, S.D, and t-value of experimental and control group student on pre-test and post-test scores on achievement in mathematics taught through Toy-based pedagogy and traditional methods.	20
Table-4.2	Mean, S.D, and t-value on pre-test and post-test scores on achievement in mathematics taught through Toy-based pedagogy and traditional method on the basis of gender.	21