A CRITICAL ANALYSIS OF NEW NCERT SIXTH GRADE MATHEMATICS TEXTBOOK IN LIGHT OF CROSS-CUTTING THEMES OF NCFSE 2023

A DISSERTATION SUBMITTED TO

BARKATULLAH UNIVERSITY, BHOPAL

IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF

THREE YEAR INTEGRATED B.Ed. M.Ed. PROGRAM

SESSION: 2022-2025

RESEARCH GUIDE RESEARCH INVESTIGATOR

DR. PAVAN KUMAR GURMEET PARMAR

ASSISTANT PROFESSOR ROLL NUMBER: 2306600316

DEPARTMENT OF EDUCATION

DEPARTMENT OF EDUCATION

REGIONAL INSTITUTE OF EDUCATION REGIONAL INSTITUTE OF EDUCATION

BHOPAL, M.P. विद्या 5 मतम्हनते BHOPAL, M.P.



DEPARTMENT OF EDUCATION

REGIONAL INSTITUTE OF EDUCATION, BHOPAL

(NATIONAL COUNCIL OF EDUCATION RESEARCH AND TRAINING)

SHYAMLA HILLS, BHOPAL

(NAAC ACCREDITED A⁺⁺ GRADE INSTITUTE)

DECLARATION

I, Gurmeet Parmar, hereby declare that the dissertation entitled "A Critical

Analysis of New NCERT Sixth Grade Mathematics Textbook in light of

Cross-cutting Themes of NCFSE 2023" submitted to Barkatullah University,

Bhopal in partial fulfilment of the degree of Three Year Integrated B.Ed.-

M.Ed. Program is an original and independent research work done by me

under supervision of Dr. Pavan Kumar, Assistant Professor Department of

Education, Regional Institute of Education, Bhopal Madhya Pradesh.

I declare that I have not submitted this dissertation earlier for any degree

either in Barkatullah University, Bhopal or any other University. I further

declare that, if anything contrary in my research work is found later on ,I shall

be fully responsible for the consequences there of.

Place: RIE, Bhopal

Date:

Gurmeet Parmar

Enrolment No. R230664070044

Department of Education

Regional Institute of Education

Bhopal, M.P

ii

CERTIFICATE

This is to certify that the dissertation entitled "A Critical Analysis of New NCERT Sixth Grade Mathematics Textbook in light of Cross-cutting Themes of NCFSE 2023" being submitted by Gurmeet Parmar, student of Three Year Integrated B.Ed.-M.Ed. bearing Roll Number 2306600316 and Enrolment Number R230664070044, Regional Institute of Education, Bhopal (M.P.) under my supervision and guidance. The work is original and it has not been submitted earlier in any form for any degree at any university.

This is further certified that the dissertation in its present form is fit for the submission to Barkatullah University for the award of degree of 3 year Integrated B.Ed. M.Ed.

Place:

Dr. Pavan Kumar

Assistant Professor

Department of Education

Regional Institute of Education

Education

Bhopal,Madhya Pradesh

ACKNOWLEDGEMENT

I express my heartfelt gratitude to the Almighty for giving me the strength, patience, and determination to complete this research successfully.

I am deeply thankful to my research supervisor, Dr. Pavan Kumar, Assistant Professor, Department of Education, RIE Bhopal, for his constant guidance, support, and encouragement. I am also grateful to Prof. S. K. Gupta, Principal, and Prof. Jaydeep Mandal, Former Principal, RIE Bhopal, for providing me the opportunity to undertake this study.

My sincere thanks to Prof. Ayushman Goswami, Head, Department of Education, and Prof. B. Ramesh Babu, former Head, for their continuous motivation and support. I also extend my gratitude to Prof. I. B. Chugthai, Prof. Ratanmala Arya, Dr. N. C. Ojha, Dr. Sanjay Kumar Pandagale, Dr. Manju, Dr. Saurabh Kumar, Dr. Triloki Prasad, Dr. Rajesh Kumar, Dr. Jayant Shankar Borgaonkar, and Dr. Madhusudhanan P.V. for fostering a rich academic environment.

I thank the principals, teachers, and staff of the schools involved in my data collection. My deepest appreciation goes to my family, especially my sister Ms. Priyanshi Parmar, for their unwavering love and support.

A special thanks to Ms. Esha Khandelwal and Ms. Shivani Agrawal for their encouragement and insightful companionship throughout this journey.

Lastly, I extend my thanks to everyone who supported me, directly or indirectly, in completing this research.

Gurmeet Parmar

Integrated B.Ed.-M.Ed. Student

Department of Education

RIE, Bhopal

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	.1
1.1 PRESENT STUDY	.3
1.2 RATIONALE OF THE STUDY	.3
1.3 STATEMENT OF THE PROBLEM	.4
1.4 OBJECTIVES OF THE STUDY	4
1.5 OPERATIONAL DEFINITIONS OF THE TERMS	.5
1.6 DELIMITATION OF STUDY	
	•••
CHAPTER 2: REVIEW OF RELATED LITERATURE	7
2.1 LITERATURE REVIEW	7
2.2 STUDIES CONDUCTED IN INDIA	
2.3 STUDIES CONDUCTED ABROAD	
2.4 IDENTIFIED RESEARCH GAPS	
CHAPTER 3: RESEARCH METHODOLOGY	12
3.1 METHODOLOGY	.12.
3.2 POPULATION AND SAMPLE	
3.2.1 POPULATION OF THE STUDY	
3.2.2 SAMPLE FOR THE STUDY	
3.2.3 SAMPLING TECHNIQUE	
3.3TOOL	
3.3.1 QUESTIONNAIRE	
3.3.2 CHECKLIST	
3.3.3 CONTENT ANALYSIS TOOL	
3.3.4 VISUAL ANALYSIS TOOL	
3.4 PROCEDURE OF THE STUDY	
CHAPTER 4: DATA ANALYSIS AND INTERPRETATION	18
4.1 DATA ANALYSIS METHODOLOGY	18
4.2 ANALYSIS AND INTERPRETATIONS OF DATA USING VARIOUS	
TOOLS	20
4.2.1 ANALYSIS OF QUESTIONNAIRE RESPON	24
4.2.2 ANALYSIS OF CHECKLIST	
4.2.3 FINDINGS FROM CROSS-CURRICULAR THEMES CONTENT	
ANALYSIS	39
4.2.4 FINDINGS FROM CROSS-CURRICULAR THEMES VISUAL'S	
ANALYSIS	53
4.3 INTERPRETATION	66
4.3.1 PRESENCE AND FREQUENCY OF CCT	67
4.3.2 ALIGNMENT WITH NCFSE 2023 GUIDELINES	
4.3.3 PEDAGOGICAL STRATEGIES FOR CCT	
INTEGRATION	68.
4.3.4 INCLUSIVITY AND RELEVANCE OF EXAMPLES	
4.4 DISCUSSION	
4.5 IMPLICATIONS.	
4.6 SUMMARY	

CHAPTER 5: SUMMARY, FINDINGS, AND SUGGESTIONS	73.
5.1 INTRODUCTION	73
5.2 STATEMENT OF THE PROBLEM	73
5.3 OBJECTIVES OF THE STUDY	73
5.4 METHODOLOGY	74
5.5 FINDINGS OF THE STUDY	75
5.6 IMPLICATIONS OF THE FINDINGS AND SUGGESTIONS	77
5.7 FUTURE RESEARCH DIRECTIONS	79.
5.8 CONCLUSION	80
BIBLIOGRAPHY	82
APPENDICES	
A1: Content Analysis Checklist for Cross-Cutting Themes (CCTs) – NC	CFSE
2023	
A2: Content Analysis Tool for Grade 6 Mathematics Textbook	
A3: Visual Analysis Tool for Grade 6 Mathematics Textbook	

LIST OF TABLES AND FIGURES

- 1. Table 4.1 Distribution of responses on Likert scale from the Questionnaire Responses
- 2. Table 4.2 Count of Instances of CCT 1 across various lessons
- 3. Table 4.3 Count of Instances of CCT 2 across various lessons
- 4. Table 4.4 Count of Instances of CCT 3 across various lessons
- 5. Table 4.5 Count of Instances of CCT 4 across various lessons
- 6. Table 4.6 shows Count of Instances of CCT 5 across various lessons
- 7. Table 4.7 Count of Instances of CCT 6 across various lessons
- 8. Table 4.8 Depth of integration of Rootedness in India and Indian Knowledge Systems
- 9. Table 4.9 Depth of Integration of Learning about and Caring for the Environment
- 10. Table 4.10 Depth of Integration of Inclusion in Schools
- 11. Table 4.11 Depth of Integration of Values and Dispositions
- 12. Table 4.12 Depth of Integration of Educational Technology in Schools
- 13. Table 4.13 Depth of Integration of Guidance and Counselling in Schools
- 14. Table 4.14 Depth of Integration of Teacher–Student Relationships
- 15. Table 4.15: Depth of Integration of Interdisciplinary Learning
- 16. Table 4.16 Depth of Integration of Contemporary Relevance
- 17. Table 4.17 Depth of Integration of Digital Compatibility
- 18. Table 4.18 Depth of Integration of Rootedness in India and Indian Knowledge Systems in Visuals
- 19. Table 4.19 Depth of Integration of Environmental Awareness in Visuals
- 20. Table 4.20 Depth of Integration of Inclusion in Visual Content
- 21. Table 4.21: Depth of Integration of Values and Dispositions in Visual Content
- 22. Table 4.22: Depth of Integration of Educational Technology in Visual Content
- 23. Table 4.23 Depth of Integration of Guidance and Counselling in Visual Content
- 24. Table 4.24 Depth of Integration of Clarity and Accuracy in Visual Content
- 25. Table 4.25 Depth of Integration of Engagement and Motivation in Visual Content
- 26. Table 4.26 Depth of Integration of Contextual Relevance in Visual Content
- 27. Table 4.27 Depth of Integration of Cognitive Scaffolding through