

**A STUDY OF LEARNING PROGRESSION IN
SCIENCE OF CLASS VII STUDENTS OF
JHARSUGUDA DISTRICT, ODISHA**

**Dissertation Submitted to Barkatullah University in Partial Fulfilment
of the Requirements for the Degree**

of

3 Year Integrated B.Ed.-M.Ed.

Session: 2018-21

**Under the supervision of
Dr. N.C Ojha
Associate Professor
Department of Education**

**Research Scholar
Bibhuti Bhusan Biswal
3 Year Integrated B.Ed.-M.Ed.**



**REGIONAL INSTITUTE OF EDUCATION
(National Council of Educational Research and Training)**

BHOPAL-462013, M.P.

A STUDY OF LEARNING PROGRESSION SCIENCE OF CLASS VII STUDENTS OF JHARSUGUDA DISTRICT, ODISHA

Dissertation Submitted to Barkatullah University in Partial Fulfilment of the
Requirements for the Degree

of

3 Year Integrated B.Ed.-M.Ed.

Session: 2018-21

10 DEC 2021

D 532

Under the supervision of

Dr. N.C Ojha *N.C. Ojha*

Associate Professor

Department of Education

Research Scholar

Bibhuti Bhusan Biswal

3 Year Integrated B.Ed.—E



REGIONAL INSTITUTE OF EDUCATION
(National Council of Educational Research and Training)
BHOPAL-462013, M.P.



Department of Education
Regional Institute of Education, Bhopal
(A Constituent Unit of NCERT, New Delhi)

DECLARATION

I, **Bibhuti Bhusan Biswal**, student of Integrated B.Ed.-M.Ed., Department of Education, Regional Institute of Education Bhopal, hereby declare that dissertation entitled “**A Study of Learning Progression in Science of Class VII Students of Jharsugudar District, Odisha**” is the outcome of the original research undertaken and carried out by me during the session (2018-2021) under the supervision of **Dr. N.C Ojha**, Associate Professor, Department of Education, Regional Institute of Education Bhopal (M.P.) in the partial fulfilment of the requirement for the degree of Integrated B.Ed.-M.Ed., Barkatullah University, Bhopal.

I further declare that I or anyone else has not previously submitted this dissertation for this or any other degree/ diploma either in this or in other any form to this or any other university from the country or abroad.

Date:

Place:

Bibhuti Bhusan Biswal



Department of Education
Regional Institute of Education, Bhopal
(A Constituent Unit of NCERT, New Delhi)

CERTIFICATE

This is to certify that **Bibhuti Bhusan Biswal** student of Integrated B.Ed.-M.Ed., RIE Bhopal during the session 2018-2021 has completed his dissertation entitled “**A Study of Learning Progression in Science of Class VII Students of Jharsuguda District, Odisha**” under my guidance and supervision.

This is further certified that the dissertation in his present form is fit for the submission to Barkatullah University for the degree of Integrated B.Ed.-M.Ed.

Date: 21/02/2021

Place: Bhopal


Dr. N.C Ojha

Associate Professor
Department of Education,
Regional Institute of Education,
Bhopal, Madhya Pradesh

ACKNOWLEDGEMENTS

Although, I have done my best efforts on this project; however, it was not possible without the kind support and help of many individuals. I would like to extend my sincere thanks to all of them.

I am highly indebted to my supervisor **Dr. N.C Ojha**, Associate Professor, Department of Education, Regional Institute of Education Bhopal (M.P.) for his constant supervision as well as for providing intellectual suggestions and facilities during my dissertation work which brought my dissertation in the present form successfully. His unique guidance, uninterrupted help, constant and timely supervision made me able to produce this research in time.

I am deeply indebted to **Prof. N. Pradhan**, Former Principal, Regional Institute of Education, Bhopal and **Prof. V.K. Kakaria**, In-charge Principal, Regional Institute of Education, Bhopal, for their kind cooperation and giving valuable suggestions at the time of need.

I am very thankful to **Prof. B. Ramesh Babu**, Dean of Research, Department of Education, Regional Institute of Education, Bhopal for providing inputs for my investigation.

My sincere thanks to **Prof. Ratnamala Arya**, Head, Department of Education, Regional Institute of Education, Bhopal for providing guidance and other official support for preparing this report.

I am very grateful to **Dr. S.K Pandagale**, Associate professor, Department of Education, Regional Institute of Education, Bhopal for providing research support, technical support and bringing this shape to this manuscript.

Furthermore, I would also like to extend my sincere regards to my teachers **Prof. LB Chughtai** and **Dr. Saurabh Kumar** who enlightened my path with their valuable knowledge during my work period.

I am very much grateful to **Dr. P.K Tripathy**, Deputy librarian and other Library staff of RIE Bhopal for providing reference materials and reading support for preparing this dissertation.

Last but not least, my sincere thanks to all those, who provided either direct or indirect support and help to complete this manuscript.

I am very much indebted to my parents who provided me all those sorts of financial and psychological support for my upbringing and developing academic career.

CONTENTS

INTRODUCTION	1
1.0.0 INTRODUCTION	1
1.1.0 CONCEPT OF LEARNING PROGRESSION	2
1.1.1 LP IN SUPPORT OF TEACHING AND LEARNING	4
1.1.2 DEVELOPMENT OF LEARNING PROGRESSION	5
1.1.3 HOW LEARNING PROGRESSION ARE BEING USED TODAY.....	7
1.1.4 ROLE OF LEARNING PROGRESSIONS	9
1.2.0 ATTITUDE	10
1.2.1 SCIENTIFIC ATTITUDE	10
1.2.2 THE CHARACTERISTICS OF SCIENTIFIC ATTITUDE	11
1.2.3 DEVELOPMENT OF SCIENTIFIC ATTITUDE.....	11
1.2.4 ATTITUDE TOWARDS SCIENCE	12
1.2.5 CHARACTERISTICS OF A PERSON WITH ATTITUDE TOWARDS SCIENCE.....	12
1.2.6 IMPORTANCE OF SCIENCE ATTITUDE	13
1.3.0 NEED AND JUSTIFICATION OF THE STUDY.....	13
1.4.0 STATEMENT OF THE PROBLEM.....	13
1.5.0 OBJECTIVES OF THE STUDY	14
1.6.0 HYPOTHESIS.....	14
1.7.0 OPERATIONAL DEFINITIONS OF THE TERMS USED.....	14
1.8.0 SCOPE OF THE STUDY.....	14
1.9.0 DELIMITATION OF THE STUDY	15
REVIEW OF RELATED LITERATURE	16
2.....	16
2.1.0 INTRODUCTION	16
2.2.0 SIGNIFICANCE OF REVIEW OF RELATED LITERATURE.....	16
2.3.0 STUDY RELATED TO LEARNING PROGRESSION.....	17
2.4.0 CONCLUSION	24
METHOD AND DESIGN OF THE STUDY	25
3.....	25
3.1.0 INTRODUCTION	25
3.2.0 ORIGIN OF THE STUDY	25
3.3.0 SELECTION OF RESEARCH METHOD	26
3.4.0 POPULATION	26

3.5.0	SAMPLE	27
3.6.0	TOOLS DEVELOPMENT FOR THE STUDY	28
3.6.1	Development of Constructivist teaching model-	28
3.6.2	Implementation of Traditional Teaching Model-	29
3.6.3	Construction of Achievement Test	29
3.6.4	Measure of Attitude towards Science	29
3.7.0	PROCEDURE OF DATA COLLECTION	30
3.8.0	STATISTICAL TECHNIQUE	31
3.9.0	CONCLUSION	31
ANALYSIS OF DATA AND INTERPRETATION OF RESULTS AND FINDINGS		32
4.1.0	INTRODUCTION	32
4.2.0	LEARNING PROGRESSION IN SCIENCE OF CLASS VII STUDENTS	32
4.3.0	EFFECT OF TREATMENT, GENDER AND THEIR INTERACTION ON ACHIEVEMENT IN SCIENCE OF CLASS VII STUDENTS.....	36
4.3.1	Effect of Treatment on learning progression in Science of Class VII Students	38
4.3.2	Effect of Gender on Achievement in Science of Class VII Students	39
4.3.3	Interaction of Treatment and Gender on learning progression in Science of Class VII Students	39
FINDINGS, DISCUSSIONS, SUMMARY, IMPLICATION, SUGGESTIONS AND CONCLUSION.....		42
5.1.0	INTRODUCTION	42
5.2.0	FINDINGS OF THE STUDY	42
5.3.0	LEARNING PROGRESSION IN SCIENCE OF CLASS VII STUDENTS	43
5.4.0	ATTITUDE TOWARDS SCIENCE OF CLASS VII STUDENTS	43
5.5.0	Effect of treatment on achievement in science of class vii students	44
5.6.0	Effect of Gender on Achievement in Science of Class VII Students	45
5.7.0	Interaction of Treatment and Gender on Achievement in Science of Class VII Students	45
5.8.0	TO SUM UP	46
5.8.1	INTRODUCTION	46
5.8.2	STATEMENT OF THE PROBLEM.....	46
5.8.3	RATIONAL OF THE STUDY	46
5.8.4	OBJECTIVES.....	47
5.8.5	HYPOTHESIS	47
5.8.6	METHODOLOGY	47
5.8.7	DESIGN.....	47

5.8.8	SAMPLE.....	47
5.8.9	TOOL.....	48
5.8.10	PROCEDURE OF DATA COLLECTION	48
5.8.11	STATISTICAL TECHNIQUE	48
5.9.0	FINDINGS.....	48
5.10.0	IMPLICATIONS	49
5.11.0	SUGGESTIONS FOR FURTHER STUDIES	49
5.12.0	CONCLUSION	50
	REFERENCES	52
	APPENDIX-1	56
	APPENDIX-2	58

LIST OF TABLES

Table No.	Details of table	Page
Table 3.1	Sample School of the Study	28
Table.3.2	Scoring Scheme of the Science Attitude Scale	30
Table 4.1	Mean, SD, Range, N and Percentiles for Achievement in Science and Attitude towards Science of Class IX Students of Experimental and Control Group	32
Table.4.2	Mean, SD, Range, N and Percentiles for Attitude towards Science of Class IX Students of Experimental and Control Group	35
Table.4.3	Summary of 2 X 2 Factorial Design ANCOVA for Achievement in Science of Class IX Students by Taking Pre-test Scores of Achievement in Science of as Covariate	37
Table 4.4	Mean and SD for Achievement in Science of Experimental and Control Group	37

LIST OF FIGURES

Figure No.	Details of figure	Page
Fig 3.1	Population and Sample of the Study	27
Fig. 4.1:	Achievement in Science of Class IX Students of Experimental and Control Group	34
Fig. 4.2:	Attitude towards Science of Class IX Students of Experimental and Control Group	36
Fig. 4.3	Interaction of Treatment and Gender on Achievement in Science	40