DEDICATED TO MY FATHER & MOTHER:

PARASHURAM KHATIWORA & MANJU SHARMA

MY SIBLINGS -BEDANTA AND BORASHA

DECLARATION

I Miss Dimpal khatiwora is a Bonafide student of PhD in Education in Tezpur University, Assam would like to declare that the thesis entitled- "Academic Resilience and Classroom Engagement among Pre service teachers of Assam in relation to Academic Achievement" is my own work conducted under the supervision of Dr. Sashapra Chakrawarty ASSOCIATE PROFESSOR, DEPARTMENT OF EDUCATION of TEZPUR UNIVERSITY, submitted by me for the partial fulfilment of the degree of Doctor of Philosophy in Education.

TEZPUR UNIVERSITY
(A Central University established by an Act of Parliament)
Napaam, Tezpur - 784 028
District: Sonitpur, Assam, India

Dr. Sashapra Chakrawarty
M.Sc., M.Ed., Ph.D. (Education)

Phone: (03712)275650
E-mail: Sashapra@tezu.ernet.in
Contact No.: 9430832344 (M)

Ref: 6/6-4/2023/PC/304

This is to certify that the thesis entitled "**ACADEMIC RESILIENCE AND CLASSROOM ENGAGEMENT AMONG PRE-SERVICE TEACHERS OF ASSAM IN RELATION TO ACADEMIC ACHIEVEMENT"** submitted to the School of Humanities and Social Sciences, Tezpur University in requirement to partial fulfilment for the award of the degree of Doctor of Philosophy of Education in a record of research work carried out by Mrs. Dimpal Khatiwora under my supervision and guidance.

All help received by her various sources have been duly acknowledged. No part of this thesis have been submitted elsewhere for award of any other degree.

Sashapra 12/06/2025
Signature of the Supervisor

Dated: 12.06.25
Place: Tezpur

Name: Dr. Sashapra Chakrawarty
Designation: Associate Professor
School: Humanities and Social Sciences
Department: Education, Tezpur University

ACKNOWLEDGEMENT

Firstly, I wish to express my profound gratitude to the Almighty for affording me the coveted opportunity to acquire this outstanding Ph.D. degree. Since the commencement of my degree, various individuals, including my instructors, colleagues, supporters, associates, and students, have provided assistance.

That inspired me to conduct the investigation effectively.

I extend my gratitude to my supervisor, Dr. Sashapra Chakrawarty, Head of Department and Associate Professor in the Department of Education at Tezpur University, Assam. Her readiness, courtesy, patience, steadfast encouragement, and significant support for my research endeavours are highly praiseworthy. She offered her important guidance and advice throughout my academic pursuit.

I wish to convey my heartfelt appreciation to the distinguished members of my Doctoral Research committee, Prof. Nil Ratan Roy and Dr. Yeasmin Sultana, for their support, thorough assessment, and essential recommendations for enhancement. Their contributions have significantly improved the quality and depth of my research. I express gratitude for the invaluable insights and the significant time and effort they devoted to reviewing and improving my thesis.

I express my sincere appreciation to Prof. Shambhu Nath Singh and Prof. Vinod Kumar Jain, previous Vice Chancellor of Tezpur University, for granting me the opportunity to do my doctoral research at this prestigious university.

I extend my appreciation to Tezpur University for granting me access to its facilities and resources. I am grateful to all the faculty members of the Department of Education at Tezpur University for their significant assistance.

I extend my sincere gratitude to Dr. David Zyngier, Associate Professor of Education at Southern Cross University; Prof. S.K. Tyagi, Sir ICSSR Senior Fellow at Devi Ahilya Vishwavidyalaya Indore; Prof. Rajendra Pal, Head of CIET at NCERT, New Delhi; Dr. Rajendra Singh, Associate Professor in the Department of Education at Central University of Himachal Pradesh; Dr. Pranjal Burhagohain, Department of

Education at Dibrugarh University; and Dr. Poban Gogoi, Head of the Department of Education at Digboi College, for their invaluable insights in refining my research instruments.

I am delighted to recognize the exceptional faculty members of the department: Dr. Pratima Pallai, Dr. Hitesh Sharma, Dr. Sanghamitra Das, Mr. Mohammad Asif, Dr. Sradhanjali Pradhan, Dr. Rajinder Singh, Dr. R.D. Padmavathy, and Dr. Gopal Singh. Their invaluable recommendations and scholarly assistance have significantly enhanced the calibre of my research.

I express my sincere appreciation to Dr. Nandita Chitrakar, Prachurjya Borah, Padum Chetry, Dr. Happy Saikia, Dr. Ramanath Gorain, Gaurav Sarkar, Dr. Kathryn Ray, Dr. Sunita Saikia, Ujjal Tripura, Puspanjali and Lucy for their important support and generous investment of time throughout my research efforts.

I wish to express my sincere gratitude to all those who went above and beyond to assist me in doing my fieldwork and facilitating my stay at the several colleges. Their aid and support were exceptional in facilitating the seamless execution of my research. Currently, the individuals that I recall are Priyakshi Bharali, Parijat Dutta, Mayuri Borah, Prativa Devi and Rita Sharma. I am thankful to everybody who have cared for me and expressed concern during my time of need.

I extend my heartfelt appreciation to all administrators, teacher-educators, and student-teachers from Teacher Education Institutions for their cooperation during the data collection process.

I express my sincere appreciation to my colleague Dr. Jugesh Changmai, Aroti Newar, Rashmi Rekha Charah, and the Head of Department, Dr. Suvash Chandra Das, from the Department of Education at D.C.B. Girls' College, Jorhat.

I am profoundly appreciative of the department's office staff for their assistance and encouragement during each progress presentation and during all stages of my Ph.D. journey. I wish to convey my gratitude to Nilakshi Saikia, Laboratory Assistant; Amarnath Sah, Technical Assistant; Suman Handique, Office Assistant; Chandan Nath, Library Attendant; Anupam Saikia, Laboratory Attendant; and Nitai Bauri.

Finally, my greatest debts to Maa, Papa (Manju Sarmah, Parashuram Khatiwora) and my sister and Brother (Dr Borasha Khatiwora and Bedanta Bikash Khatiwora) for

their unconditional love and support. I feel exceedingly blessed to have them during the numerous fluctuations of this path. They are the fundamental pillars of my life, the bedrock of my existence and accomplishments, who have constantly supported me and prioritized my needs over their own throughout their lives. I extend my heartfelt gratitude to my cherished companion, Pankaj Upadhyay, whose affection, support, and encouragement sustained my perseverance. I appreciate your support during my difficult times.

Thank you so much, everyone.

With regards

Dimpal Khatiwora

ABBREVIATION

TEI	Teacher Education Institution
NCTE	National Council of Teacher Education
NEP	National Education Policy
B. Ed.	Bachelor of Education
ICT	Information Communication Technology
ARS	Academic Resilience Scale
CES	Classroom Engagement Scale

List of Table

Table No.	Table name	Page no
3.1	Table for determining sample size of a known population	88
3.2	List of the Colleges and number of Pre service teachers selected for the present study	89
3.3	List of the Tools selected according to the objective for the present study	91-93
3.4	Item wise Discriminatory power value of the Classroom Engagement Scale	97-98
3.5	Raw score expressed as Z score for knowing the Classroom Engagement as rated by Pre service teacher	100-101
3.6	Norms for interpretation of the levels of Classroom Engagement	101
3.7	5-point Likert scale	102
3.8	Dimensions wise distribution of items	102-103
3.9	Coefficient of Correlation between pairs of the factors of the scale	104
3.10	Internal consistency Reliability	104
3.11	5-point Likert scale	105
3.12	List of Positive and Negative item numbers of Academic Resilience scale	105
3.13	Statical results of Academic Resilience scale on the basis of the scores of 1000 protocols	105
3.14	Academic Resilience norms	106
3.15	Statistical techniques used for data analysis in connection with the objectives of the study	111-112
4.1.1	Descriptive Statistics related to Academic Resilience	114
4.1.2	Levels of the Academic Resilience of Pre-Service Teachers	116
4.1.3	t value of Academic Resilience of Pre service teachers in regard to Gender	117
4.1.4	t value of the Academic Resilience of Pre service teachers of Assam in relation to Locality	119
4.1.5	Comparison of the Academic Resilience of Pre service teachers of Assam in relation to Stream	120

4.1.6	t value of the Academic Resilience of Pre service teachers of Assam in relation to Types of institution	122
4.1.7	Dimension-wise t value of Academic Resilience among Pre service teachers of Assam teachers based on Gender	123
4.1.8	Dimension-wise Academic Resilience among Pre service teachers of Assam teachers based on Locality	125
4.1.9	Dimension wise Academic Resilience of Pre service teacher in terms of stream	126
4.1.10	Dimension-wise t value of Academic Resilience among Pre service teachers of Assam teachers based on Types of institution	128
4.1.11	Descriptive statistics related to Classroom Engagement	129
4.1.12	Levels of the Classroom Engagement of Pre service teachers	131
4.1.13	t value of Classroom Engagement of Pre service teachers of Assam in relation to Gender	132
4.1.14	t value of Classroom Engagement of Pre service teachers of Assam in relation to locality	134
4.1.15	Comparison of the Classroom Engagement of Pre service teachers of Assam in relation to Stream	135
4.1.16	t value of Classroom Engagement of Pre service teachers of Assam in relation to Types of institution	137
4.1.17	Dimension wise t value of Academic Resilience of Pre service teacher in terms of gender	138
4.1.18	Dimension wise t value of Academic Resilience of Pre service teacher in terms of locality	140
4.1.19	Dimension wise Classroom Engagement of Pre service teacher in terms of stream	142
4.1.20	Dimension wise t value of Classroom Engagement of Pre service teacher in terms of Types of institution	144
4.1.21	Descriptive statistics Related to Academic Achievement	146
4.1.22	Total number of Pre service teachers and their percentage lying in each level of Academic Achievement	148
4.1.23	t value of Academic Achievement of pre service teachers of Assam in relation to gender	149

4.1.24	t value of Academic Achievement of Pre service teachers of Assam in relation to locality	151
4.1.25	t value of Academic Achievement of Pre service teachers of Assam in relation to Type of institution	152
4.1.26	t value of the Academic Achievement of Pre service teachers of Assam in relation to Stream	154
4.1.27	Correlation between Academic Resilience and Academic Achievement of Pre service teachers of Assam	155
4.1.28	Correlation between Classroom Engagement and Academic Achievement of Pre service teachers of Assam	157
4.1.29	VIF values testing multicollinearity	158
4.1.30	A summary of the R, R Square, and adjusted R square in multiple regression analysis	159
4.1.31	The Beta coefficient in a multiple Regression Analysis	160
4.1.32	Barriers and underlying factors in regard to Adoption of technology	162
4.1.33	Barriers and underlying factors in regard to Classroom Communication	166-167
4.1.34	Barriers and underlying factors in regard to Pedagogical Practices	171
4.1.35	Barriers and underlying factors in regard to Curriculum and subject matter	176

List of Figure

Figure No.	Name of figure	Page no
1.1	Protective constructive model of Academic Resilience	15
1.2	Fredricks et al.'s model of Engagement	21
1.3	Student Involvement theory	22
1.4	Conceptual framework of the study	28
3.1	Geographical location of the selected districts	83
3.2	Research design of the study	85
3.3	Six-elements of content analysis framework	111
4.1.1	Graphical representation of the Academic Resilience	115
4.1.2	Graphical representation of percentages of sample belonging to different levels of Academic Resilience	116
4.1.3	Mean scores of Academic Resilience of the Pre service teachers with regard to their gender	115
4.1.4	t value of the Academic Resilience of Pre service teachers of Assam in relation to locality	119
4.1.5	Mean score of Pre service teachers Academic Resilience regards to stream	121
4.1.6	t value of the Academic Resilience of Pre service teachers of Assam in relation to Types of institution	122
4.1.7	Dimension wise Mean score of Pre service teachers Academic Resilience regards to gender	124
4.1.8	Dimension wise Mean score of Pre service teachers Academic Resilience regards to locality	125
4.1.9	Dimension wise Mean score of Pre service teachers Academic Resilience regards to stream	127
4.1.10	Dimension wise Mean score of Pre service teachers Academic Resilience regards to type of institution	128
4.1.11	Descriptive statistics related to classroom enagement	130

4.1.12	Levels of Classroom Engagement	131
4.1.13	Mean score of Pre service teachers Classroom Engagement regards to Gender	133
4.1.14	Mean score of Classroom Engagement of Pre service teachers in regards to their locality	134
4.1.15	Mean score of Classroom Engagement of Pre service teachers in regard to stream	136
4.1.16	Mean scores of Classroom Engagement of Pre service teachers in regard to types of institution	137
4.1.17	Mean score of dimensions wise Classroom Engagement of Pre service teachers of Assam in regard to gender	139
4.1.18	Mean score of dimensions wise Classroom Engagement of Pre service teachers of Assam in regard to locality	141
4.1.19	Mean score of dimensions wise Classroom Engagement of Pre service teachers of Assam in regard to stream	143
4.1.20	Mean score of dimensions wise Classroom Engagement of Pre service teachers of Assam in regard to Type of institution	145
4.1.21	Graphical representation of Academic Achievement	147
4.1.22	Levels of Academic Achievement	148
4.1.23	Mean score of Academic Achievement of Pre service teacher in regards to their gender	150
4.1.24	Mean score of Academic Achievement of Pre service teacher in regards to their locality	151
4.1.25	Mean score of Academic Achievement of Pre service teacher in regards to their Types of institution	153
4.1.26	Mean score of Academic Achievement of Pre service teachers in regards to stream	154
4.1.27	Scattered Plot for Correlation between Academic Resilience and Academic Achievement	156
4.1.28	Scattered Plot for Correlation between Academic	157

	Resilience and Academic Achievement	
4.1.29	Normal P-P Plot of Regression Standardized Residual	159
4.1.30	Percentage of factors related to Technical Profiency	163
4.1.31	Percentage of factors related to Integration of technology	164
4.1.32	Percentage of factors related to Keeping up with Technological advancement	164
4.1.33	Percentage of factors related Critical thinking and Problem-solving skills	165
4.1.34	Percentage of factors related Classroom Participation	167
4.1.35	Percentage of factors related to Classroom collaboration	168
4.1.36	Percentage of factors related to Emotional and behavioural responses	168
4.1.37	Percentage of factors related to Disruptive Classroom Environment	169
4.1.38	Percentage of factors related to Professional development	172
4.1.39	Percentage of factors related to maintaining up to date subject knowledge	172
4.1.40	Percentage of factors related to lack of confidence in the Teaching abilities	173
4.1.41	Percentage of factors related to Self-reflection	174
4.1.42	Percentage of factors related to adapting for shifts in Curriculum and Discipline	177
4.1.43	Percentage of factors related to over emphasize Content over Pedagogy	177
4.1.44	Suggestions for overcoming barrier in terms of Classroom transaction	178