CHAPTER-III
Methodology

3.0 Introduction

Methodology in research is a crucial part for undertaking any investigation in a systematic and scientific way. It is a science of studying how research is conducted systematically (Mishra & Alok, 2017). The choice of research methodology is crucial to the investigation process. It outlines the many measures that should be taken to resolve a research challenge that is from formulation of a problem to defining the terms, selecting the subjects for investigation, validating the data gathering tools, collecting data, analysing and interpretation of data and drawing of inferences and generalizations (Koul, 2015). He also stated that the whole process of selection of a method and the specific design to be selected within that method depends on the type of problem, research questions and the kind of data that the problem entail. Research methods are the methods by which the researcher can conduct the research but research methodology explains the methods through which the researcher may proceed with the research (Goundar, 2012).

This chapter deals with the methodology of the present study under the following headings –

3.1 Locale of the study
3.2 Research design
3.3 Participants
3.4 Clarification of the important variables and concepts used in the present study
3.5 Controlling the confounding factors/threats of the present study
3.6 Experimental process
3.7 Tools used
3.8 Procedure of collection of data
3.9 Statistical techniques used
3.10 Ethical consideration

3.1 Locale of the study

The location of the study is Majuli District, Assam. Majuli is the world's largest river island located in the state of Assam in the mid-stream of the great River

Brahmaputra. It is a water-locked inhabited zone bound by River Brahmaputra in the South and River Subansiri in the North-West and the KherkatiaSuti in the North-East. The Island has been listed as one of the World Heritage Sites by UNESCO. It is a newly created district with a population of about 1,67,304 according to 2011 census. Majuli District's entire geographic area at present is 483 sq. k.m. located between 26° 45'N to 27° 12'N latitude and 93°39'E to 94° 35'E longitude and 84.50 meters above mean sea level. The geographic location of the Majuli Island is volatile and is highly prone to Flood and Erosion (Sarmah & Mohapatra, 2017). Around the mainland there are some Islets formed, locally called as Chaporis; comes under the jurisdiction of Majuli sub-division which are highly prone to erosion as reported in the Disaster Management Plan for Majuli Sub-division (2014). The total number of revenue villages was 210 but now only 141 exist due to erosion and out of which 96 villages are vulnerable for flood (District Disaster Preparedness and Response Plan, 2019).

The people of Majuli Island have to face the problem of Flood every year at the time of Monsoon season due to mighty Brahmaputra thus making it an integral part of their life. Even though they are acquainted with it but depending on the intensity of the wave it proves to be a great loss for the masses in all sectors. They have to face at least three waves of flood with different intensities which makes them highly vulnerable and less resilient as reported in District Disaster Preparedness and Response Plan (2019).

3.2 Research Design

Present piece of research is an Experimental type of research and Quasi Experimental Research Design has been used for the study. The rationale behind choosing this design is so that there doesn’t occur any disturbance in the class setting as the experiment is of three month duration which is a long term intervention program where randomization of the groups are hardly possible. Thus the paradigm of the design of the study selected isNon-randomized Control group, Pre-test Post-test Design. This can be understood from the following table-

Table 3.1- Non-randomized control group pre-test post-test design

Groups	Pre-test	Treatment	Post-test
Experimental group (EG)	P_1	Use of Intervention program (3 months)	P_2
Control group (CG)	P1	Traditional method	P2

The details of the abbreviations used in the above table are given below:

P_1 & P1- Pre-test (Academic Resilience)

P_2 & P2- Post-test (Academic Resilience)

3.3 Participants

The study's population is all IX Standard Students of Flood Affected Areas in Majuli district, Assam.

Present study is comprised of IX Standard students who were selected from two flood affected schools in Majuli district. The researcher has purposefully selected the flood prone zone in Majuli district for the fulfilment of the objective of the study and the schools were randomly selected and assigned one as Experimental group and the other as Control group. Those who were present in both pre-test and post-test were considered in the sample group. The total sample for both the groups is 88 that is 44 in experimental group and 44 in control group.

The two schools are-

1. ChelekJanajati High School
2. Malapindha Tribal High School.

Majuli district is divided under two blocks namely- Majuli Development Block (Kamalabari) and UjaniMajuli Development Block (Jengraimukh). The people in the Majuli Development Block have to face the problem of flood at a higher risk than that of the UjaniMajuli Development Block due to the difference in the level.

The two schools mentioned above come under the Majuli Development Block and Sri Luit Cluster. The distance between both the schools is about 3 km. Both the schools are Co-ed and are affiliated to Board of Secondary Education, Assam (SEBA).

Table 3.2- School wise number of students selected

Sl. No.	School	Groups	Total No. of Students
1	ChelekJanajati High School	Experimental group	44
2	MalapindhaJanajati High School	Control group	44

3.4 Clarification of the important Variables and Concepts used in the present study

Independent variable: In the present study Intervention Program is the independent variable. The intervention program that is the self-developed Academic Resilience Module was made available to the experimental group and the Control group was not given any intervention and were taught in regular mode.

Dependent variable: In the present study Academic Resilience is the dependent variable. The main focus was to build Academic Resilience among the experimental group to see the effect of independent variable that is the intervention program on the dependent variable that is building Academic Resilience among the Secondary level students.

Extraneous/Intervening variable: There were many extraneous and intervening variables which might affect the outcome of the study such as- situation due to Covid-19 pandemic, socio-economic status, parent's educational qualification, gender, classroom environment, school infrastructure, teacher's competency, etc. The researcher has tried to control these variables as much as possible by selecting the schools from the same area with a distance of 3 km so that there is matching and homogeneity among the participants. This was also tested by applying both independent sample t test and Analysis of Co-variance after conducting the pre-test. And no significant difference was found between the groups on the pre-test.

3.5 Controlling the Confounding factors/threats of the present study

The researcher had tried to employ all the possible ways to control the factors that would otherwise create biasness in the present experiment. Along with the statistical controlling procedure, the researcher had followed certain points to control the confounding factors and keeping in mind the threats. Control of the confounding variables and the threats are described under the following headings:

Control of the threats to Internal Validity- Threats to internal validity has been described under three headings as follows-

Threats related to participants- The researcher has tried to control these threats by selecting schools where students comes from the same background such as- socio-economic status, parents educational qualification, flood affected areas etc.

The researcher has also taken care to see that the groups doesn't come in the category of extremely high academic resilience or extremely low academic resilience so that the outcome whether positive or negative is not obvious. From the pre-test scores of both the group no significant difference was found in Academic Resilience level of the students.

After conducting the pre-test the treatment continued for three month duration in which the researcher has always been in close contact with the group every alternate days as ordered by the State Govt. of Assam and has tried to know the things going on in their life. As at the time of the experiment the Covid-19 pandemic was still on. So the researcher has tried to keep a track of any positive cases in their family as this may have a direct effect on the student's outcome.

Sample mortality was taken into account. The researcher has only included those students in the sample who were present both in pre-test and post-test along with the intervention program in the experimental and control group.

Control of threats related to the treatment- Threats related to treatment was controlled by taking experimental and control group from two different schools so that both the groups cannot communicate with each other and the control group cannot know about the treatment. The data collection process was going on during the pandemic by maintaining Covid-19 protocol. The school authority has also taken initiative to make the students

and their guardians understand its seriousness and importance of following the protocol. As a result of which there was limited interaction as it was not allowed to students to move around other than their own school; from this it can be said that the threat is controlled to some point as both the groups belongs to two different schools.

Threats related to the procedure- Threats related to the procedure are controlled by taking the same scale that is Academic Resilience Scale which was administered on all the levels that is pre-test, post-test and delayed post-test.

Threats to external validity-

This study is not limited to a particular race or culture but is limited to Secondary level students from flood affected areas of Majuli district thus can be generalized to the Secondary level students of provincialized schools in flood affected areas of Majuli district, Assam.

Apart from the above points the researcher herself provided the treatment to the experimental group keeping in mind the attitude and competence of teachers that may create treatment effect and also had maintained a friendly, sympathetic and encouraging classroom environment in the experimental situation in order to reduce socio-personal differences among the subjects.

3.6 Experimental Process

The experimental process/procedure followed in the present experiment is described as below-

Control Group and Experimental Group Selection: Purposively all the IX standard students from two schools were selected and further one school is assigned as Control group (Malapindha high school) and other as Experimental group (ChelekJanajati high school).

Pre-testing: Pre-test was administered on both the groups that are the experimental group from ChelekJanajati high school and the control group from Malapindha high school through an Academic Resilience Scale to see their level of Academic Resilience.

Treatments: Only after the administration of pre-test to both the groups, treatment through an intervention program was provided to the Experimental group. The basic

objective of the study was to develop Academic Resilience among IX standard students of flood affected area. The experiment continued for three months. A Module on Academic resilience was prepared keeping in mind its various dimensions on the basis of which various activity sessions were conducted with the experimental group and the control group was treated as usual. That is the experimental group was taught with the help of the Academic Resilience Module and the Control group was taught in the traditional way. That is the students from class IX of ChelekJanajati High School was taught with the Academic Resilience Module and for the students of class IX of Malapindha high school normal classes were going on.

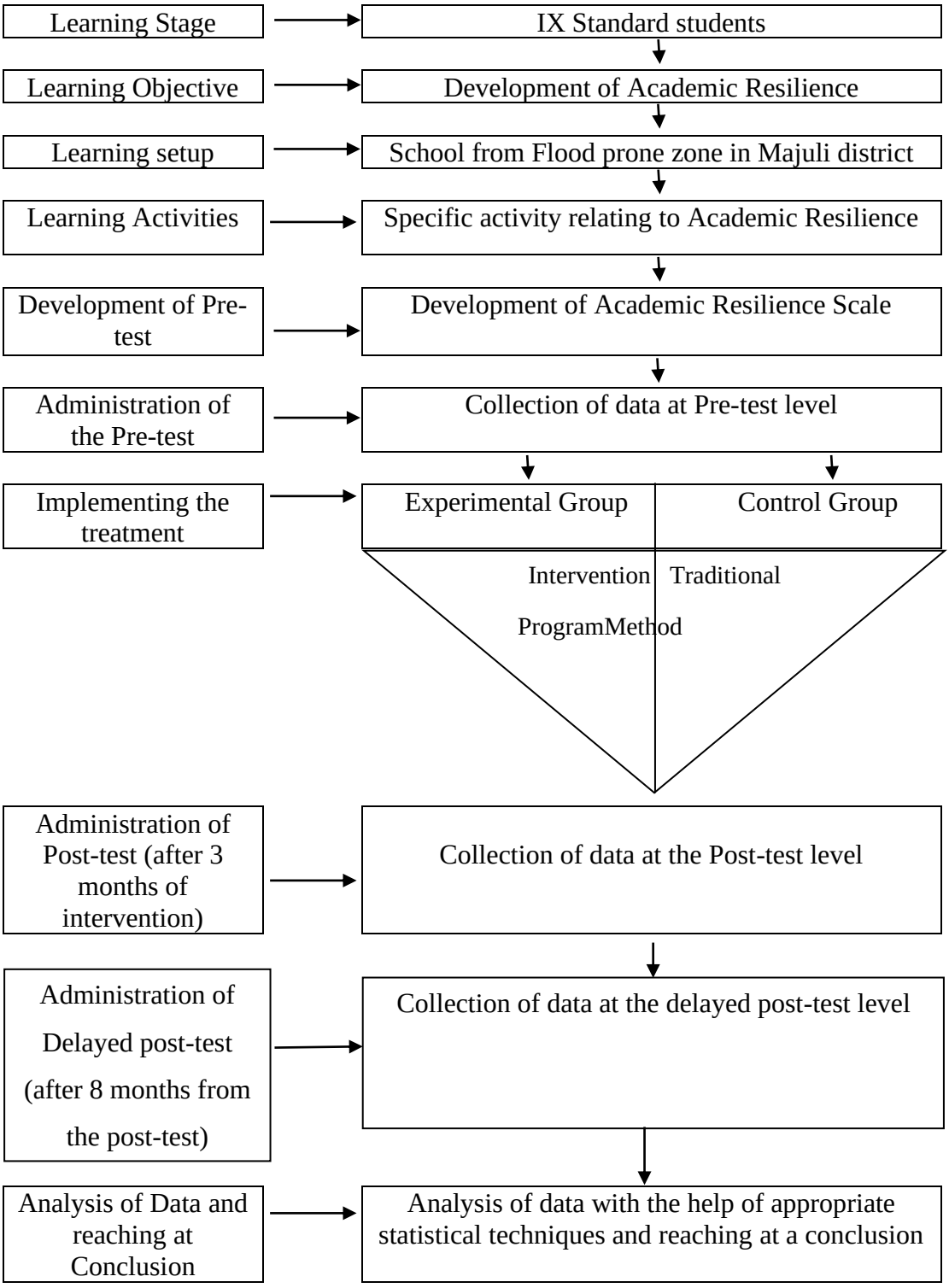
Post-testing: After the treatment Post-test was administered on both the groups that are the experimental group from ChelekJanajati high school and control group from Malapindha high school through the same Academic Resilience Scale and their Academic resilience level was found out. Post-test was conducted after a period of three months long intervention (treatment) to the Experimental group.

Delayed post-testing: After the post-test, a delayed post-test was conducted through the same Academic Resilience Scale after a period of eight months on both the groups that are the experimental group from ChelekJanajati high school and control group from Malapindha high school through the same Academic Resilience Scale. This was done to see any improvement in the Academic Resilience level of the experimental group from the intervention in between the post-test to the delayed post-test period.

Treatment effect analysis: After data-collection, the data relating to all the subjects under the experimental group from ChelekJanajati high school and control group from Malapindha high school were pooled together for treatment effect analysis.

The detail of the design of the study can be understood from the following diagram-

Table 3.3- Design of the Study



3.7 Tools used

The following are the tools employed in the present study-

1. Instructional tools
2. Testing tool

The detail description of the tools are given below-

3.7.1 Instructional tools

The instructional tools used in the present study are-

A. Teaching based on Academic Resilience Module

B. Traditional teaching learning

3.7.1.1 Academic Resilience Module

The Academic Resilience Module was used for the present study for providing the Intervention Program (treatment) to the Experimental group for a three month period to see its effectiveness in fostering Academic Resilience among Students. This module has been taught through various ways and activities to the experimental group. It has been prepared based on the five dimensions of "within child protective factors" of Academic Resilience. These dimension are- Socio-emotional skill, Motivation, Cognitive, Meta-cognitive and Self-belief.

Table 3.4- Academic Resilience Module

Purpose	**Activities on the basis of the following Dimensions**
To design an Intervention Program for fostering Academic Resilience among Secondary Level Students in Flood Affected Areas of Majuli district in Assam.	Socio-emotional skills
	Motivation
	Cognitive
	Meta-Cognitive
	Self-belief

The researcher has also taken into account various suggestions and opinions from subject experts from NCERT Delhi, MS University, Gauhati University, Tezpur University and also from one expert from the Department of Assamese as the module was also translated into the local language that is Assamese for the better understanding of the students. And from Abroad the researcher was able to get response from one of the Professor from the University of Crete (Greece). The experts from these institutes have provided various suggestions and accordingly the Module has been modified.

At the first stage of Module development the researcher has done a detailed review on factors that fosters Academic Resilience. This was done for the selection of appropriate dimensions on the basis of which the module will be developed. From literature it was found that various studies have given emphasis on certain factors known as Protective factors for fostering Academic Resilience among students. Gafoor and Kottalil (2015) stated that the factors which help the at-risk individual to demonstrate resilience are termed as protective factors.

Some of the Reviews on Protective factors are as follows- McMillon and Reed (1993, 1994) stated the factors of resilience that contributes to Academic success are- optimistic, have clear long term goals, confidence, internal locus of control, high positive expectations, healthy internal attributions, taking personal responsibility for one's success and failure, realistic, positive choices and psychological support system. Wagnild and Young (1993) gave importance on five essential characteristics of resilience- equanimity, perseverance, self-reliance, meaningfulness and existential aloneness. Wang, Haertal and Walberg (1993) observed resilient children as perceiving experiences constructively, maintaining healthy expectations, set goals, having a purpose in life, problem solving skill, socially competent, proper communication and independence. Masten and Reed (2002) divided protective factors into 3 groups- within the child, within the family and within the community. Martin and Marsh (2006) found five factors that predict academic resilience: self-efficacy, control, planning, low anxiety, and persistence. Stein (2008) gave importance on placement stability, gender, commitment of caregiver, and a supportive environment for studying to foster Academic resilience. Norris (2014) stated the factors associated with the student's academic success and resilience are- positive attitude, clear goals and aspiration, belief, problem solver, supportive parents, motivation, active, well organised, responsible and positive relationship with teachers. According to Sharma (2014) factors predicting Adolescent

resilience includes coping styles, personality dimensions, parenting bonding and interpersonal reactivity. Gafoor and Kottalil (2011) stated that the factors that mainly help in depiction of high Resilience inspite of adversities are within child protective factors, within family protective factors, within school protective factors and within community protective factors which are considered as the real sources of resilience. Zulfikar, Hidayah, Triyono and Hitipeuw (2020) stated five dimensions of Academic Resilience: self-efficacy, control, plan, low anxiety and diligence.

After detail review the researcher gave emphasis on "Within Child Protective Factors" for preparing the Academic Resilience Module and selected the five dimensions that come under it that is- Socio-emotional, Motivation, Cognitive, Meta-cognitive and Self-belief as stated by Gafoor and Kottalil (2011) Kottalil and Gafoor (2012).

Table 3.5- Dimensions of Academic Resilience Module

Within Child Protective Factors				
Socio-emotional Skills	Motivation	Cognitive	Meta-cognitive	Self-belief

The Academic Resilience Module with the above five dimensions covers a total of 19 Units adapted keeping in mind its importance/relevance in relation to Academic Resilience which can be understood from the following table-

Table 3.6- Academic Resilience Module

Within Child Protective factors					
Sl. No.	**Socio-emotional skill**	**Motivation**	**Cognitive**	**Meta-cognitive**	**Self-belief**
1.	Communication	Achievement motivation	Decision making	Self-regulation	Self-concept
2.	Adjustment	Optimism	Creativity	Reflective thinking	Self-esteem
3.	Managing emotions	Curiosity	Problem solving	Positive coping strategies	
4.	Empathy	Persistence	Critical thinking	Internal locus of control	
5.	Interpersonal skill				

The dimensions Socio-emotional skill covers 5 units, Motivation covers 4 units, Cognitive covers 4 units, Meta-cognitive covers 4 units and self-belief covers 2 units (Table 3.6). Each unit covers the following points-

- Introduction
- Learning outcome of the session
- Transactional part
- Key learning points
- Activities
- Self-check exercise with answer key
- Tips for the Resource Person for Transaction
- Lastly references for further learning

3.7.1.1.1 Characteristics of the Academic Resilience Module

Some of the key characteristics of the Academic Resilience Module include the following:

a) This module along with the basic concept also comprises of various activities and strategies/ways which could be practiced by the students in day to day life.
b) This module creates a congenial classroom environment for the learners as it is student friendly in nature.
c) This module facilitates in the teaching and learning process making the role of teacher a facilitator and a guide rather than dictator.
d) Inclusion of this module will make students more active and increase their participation in the classroom.
e) This module focus on overall development of the students by giving emphasis on the three domains that is- cognitive, affective and psychomotor aspect of the child's personality.

3.7.1.1.2 Importance of designing Academic Resilience Module

Academic resilience is the need of the hour among the students for their well-being in this competitive world. At the present time the life of every individual is becoming too complicated and it is not the same as it was in earlier times. With the development that is taking place in every aspect the expectations are rising even from a

kid who has not started his/her school yet. Parents, neighbours, society's expectation from the students are rising day by day which automatically lead them to a state full with stress. To deal with all these kind of stress they need to be resilient enough. Students may or mayn't come from disadvantaged situation but to maintain their level or to progress they need to be academically resilient. And in this process only knowing about the protective factors of academic resilience will not be enough but focus should be on its enhancement through practice should be of main concern. Therefore, designing of such modules on academic resilience focusing on various protective factors from time to time is very important. Designing of the Academic Resilience module may differ from context to context in relation to the risk factors- such as poverty, socio-economic status, location, disadvantaged group, etc., protective factors such as- within child, within family, within school, within community, etc., different levels of students such as- primary, secondary, graduation, etc. Academic resilience module provides a clear direction in terms of the objectives, activities to be done, strategies to be applied, total duration, etc., which make it more systematic and scientific in nature. If the particular module has turned out to be effective it could be applied in different areas of same kind of background and could be generalized in future if found effective making it a contribution in the area of education.

In the current study, designing of the Academic resilience module focus on the risk factor that is flood affected area; protective factors focused on is within child protective factor and the level selected is the secondary level students. The Academic Resilience module has been prepared based on the five dimensions of "within child protective factors" of Academic Resilience that are- Socio-emotional skill, Motivation, Cognitive, Meta-cognitive and Self-belief. With the help of this module the student's performance could be understood in all the five dimensions thus could understand their Academic Resilience level from the scores obtained in the Academic Resilience test developed by the researcher herself based on the same dimensions.

3.7.1.1.3 Glimpse of the activities used and ways/strategies taught for the development of the Academic Resilience

The researcher had used different activities and taught different ways, strategies for the development of the Academic Resilience among the Secondary level students.

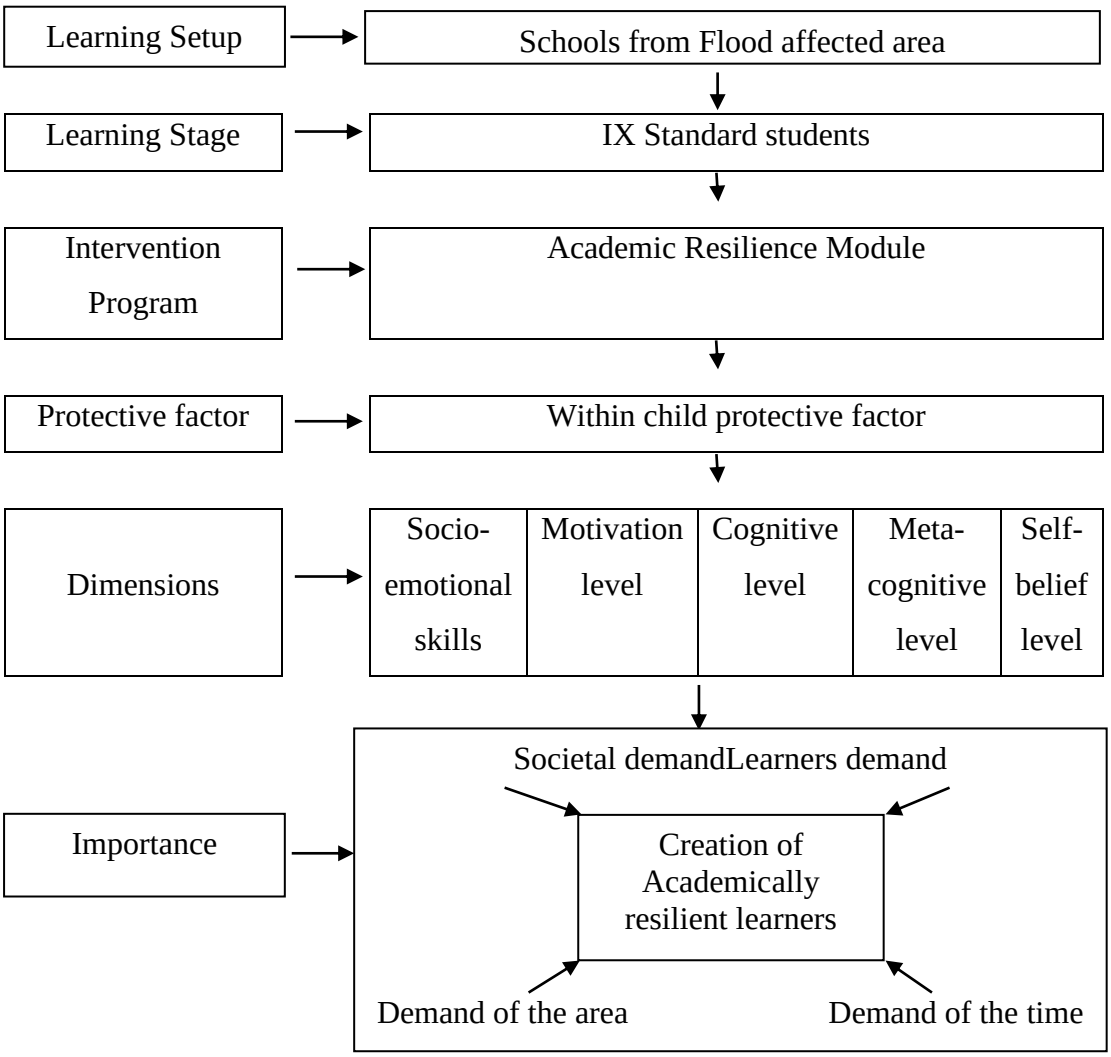
Activities used and ways and strategies taught in the present study are shown dimension wise in the following table-

Table 3.7- Activities, ways and strategies dimension wise

Dimensions	Activities	Ways/Strategies
Socio-emotional skills	1. Chinese whisper game 2. Listen, Interpret and Draw 3. Role play 4. Relaxing and calming exercises 5. Student's optimistic thinking and positive self-talk 6. Emotions guessing game 7. Sharing one's story	1. Effective communication skills 2. Characteristics of a well-adjusted person 3. Positive ways to deal with challenges and setbacks 4. Skills that can promote Inter-personal Relationship
Motivation	1. Students aim in life and things they do or follow on daily basis to achieve it. 2. Movie screening- 'Mary Kom'	1. Tips to stay motivated 2. Ways to boost optimism 3. Ways to increase one's curiosity 4. Ways to build persistence 5. Skills to be developed to stay persistence
Cognitive level	1. Movie screening- 'Taare Zameen Par' 2. Consequence test 3. New Relationship test 4. Line figure completion test 5. Traffic-Jam Exercise 6. Debate	1. Characteristics of Creative Person 2. Characteristics of an ideal critical thinker
Meta-cognitive level	1. Freeze game 2. Problems faced by students due to flood 3. State any positive coping strategies you used to apply 4. Write two of your hobbies you would like to do	1. Strategies to build Self-regulation 2. Strategies for Reflective thinking 3. Positive coping strategies 4. Ways to develop internal locus of control
Self-belief	1. Write a paragraph on yourself 2. Movie screening- ' English Vinglish'	1. Ways to improve one's self-concept 2. Characteristics of a healthy self-esteem person 3. Ways to enhance one's self-esteem

3.7.1.1.4 Design of the Academic Resilience Module for the development of Academic Resilience among the Secondary level Students

Table 3.8- Design of the Academic Resilience Module



The full description of the module dimension wise is given in APPENDIX A.

3.7.1.2 Traditional teaching learning

Traditional teaching learning was used to teach the students in the Control group for the three months duration when the experimental group was given the treatment that is taught with the Academic Resilience module.

3.7.2 Testing Tool

The testing tool used in the present study is-

A. Academic Resilience Scale

The detail description of the Academic Resilience Scale is given below-

3.7.2.1 Academic Resilience Scale

The researcher developed and standardised an Academic Resilience Scale for the present study which was used for data collection in the pre-test, post-test and delayed post-test phase. It is a 40 items Likert type scale in English for the Secondary level Students which has also been translated to the local language that is Assamese for their better understanding of the items. The aim of the scale is to see the level of Academic Resilience among adolescents studying in Secondary Level.The items of the scale is prepared under five dimensions of Academic Resilience that is- Socio-emotional, Motivation, Cognitive, Meta-cognitive and Self-belief. These five dimensions come under the 'Within Child Protective Factors' of Academic Resilience as stated by Gafoor and Kottalil (2011), Kottalil and Gafoor (2012). As the researchers main focus is on finding out the Academic Resilience level of the students so emphasis is only given on factors that come within child which has a direct effect in fostering Academic Resilience among students.

3.7.2.2 Development of the Academic Resilience Scale

An initial draft of 75 items was prepared at the first phase of the Scale development which was limited to 47 items after discussion with subject experts from National Council of Educational Research and Training (NCERT) and some of the experts from Department of Education, Tezpur University, Gauhati University, M.S. University and also experts from Dept. of English and Assamese.

3.7.2.3 Pilot Study

For the pilot study the 47 items were administered on 110 secondary level students from both rural and urban area in Tezpur, Assam.

3.7.2.4 Item Analysis

After pilot study the data were pooled for item analysis. At first the individual score of all the 110 students were ranked from the highest to the lowest. Then 27% of the respondents with the highest total scores and 27% of the respondents with the lowest total scores were sorted out. Then each item was taken individually and the number of students who responded Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree was found out for both the high and low groups separately. Thus for all 47 items, the number of students coming under each category was found out separately for both the high and low groups and the discriminatory power value for all the 47 items were calculated with the help of t test. If the discriminatory power value of the item was greater than 1.99 at 0.05 level of significance then the item was accepted otherwise rejected.

Table 3.9- Item wise Discriminatory power value of the Academic Resilience Scale

Item No.	Discriminatory Power value	Remarks	Item No.	Discriminatory Power value	Remarks
1.	2.61	Accepted	**25.**	**0.10**	**Rejected**
2.	2.85	Accepted	**26.**	**0.02**	**Rejected**
3.	2.34	Accepted	**27.**	2.11	Accepted
4.	5.04	Accepted	**28.**	5.28	Accepted
5.	**0.87**	**Rejected**	**29.**	3.34	Accepted
6.	2.40	Accepted	**30.**	3.70	Accepted
7.	2.96	Accepted	**31.**	3.39	Accepted
8.	2.62	Accepted	**32.**	5.19	Accepted
9.	4.72	Accepted	**33.**	2.79	Accepted
10.	**0.09**	**Rejected**	**34.**	**1.69**	**Rejected**
11.	3.81	Accepted	**35.**	5.50	Accepted
12.	4.48	Accepted	**36.**	2.63	Accepted
13.	2.27	Accepted	**37.**	5.83	Accepted
14.	2.28	Accepted	**38.**	3.80	Accepted
15.	3.88	Accepted	**39.**	3.71	Accepted

16.	3.02	Accepted	**40.**	4.54	Accepted
17.	**0.66**	**Rejected**	**41.**	4.46	Accepted
18.	2.98	Accepted	**42.**	2.38	Accepted
19.	4.96	Accepted	**43.**	4.67	Accepted
20.	2.23	Accepted	**44.**	**1.50**	**Rejected**
21.	5.69	Accepted	**45.**	2.34	Accepted
22.	2.62	Accepted	**46.**	4.05	Accepted
23.	5.03	Accepted	**47.**	2.92	Accepted
24.	2.57	Accepted			

*Values marked in bold are non-significant and hence rejected

3.7.2.5 Final Draft of the Scale

A total of 7 items were found with non-discriminatory power value and hence rejected. Thus the final scale consist of 40 items out of which 30 items are positive and 10 items are negative which can be understood better with the help of the following table-

Table 3.10- Dimension wise distribution of the items in the Final Draft of the Scale

Sl. No.	**Dimensions**	**Nature of Items**	**Total No. of items**	**Total**
I	Socio-emotional skill	Positive items	7	9
		Negative items	2	
II	Motivation level	Positive items	9	12
		Negative items	3	
III	Cognitive level	Positive items	4	6
		Negative items	2	
IV	Meta-cognitive level	Positive items	5	7
		Negative items	2	
V	Self-belief level	Positive items	5	6
		Negative items	1	
Total				**40**

The lowest and highest score for the Scale is 40 to 200. Higher score indicates high Academic Resilience and Lowest Score indicate Low Academic Resilience of the students.

Table 3.11- Scoring pattern

Sl. No.	Type of items	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	Positive	5	4	3	2	1
2.	Negative	1	2	3	4	5

3.7.2.6 Standardization of the Scale

For the purpose of standardization process the Academic Resilience Scale prepared with 40 items was administered on 300 Secondary level students of Provincialized schools from both Rural and Urban area that is 150 secondary level students from rural area and 150 secondary level students from urban area under Jorhat District in Assam. From which the reliability and validity of the scale was found out.

3.7.2.7 Reliability of the scale

The test's reliability was established with the help of Split Half (Odd-Even) method and by applying Spearman-Brown formula it was found to be 0.75 and by applying Cronbach's Alpha method it was found to be 0.76.

3.7.2.8 Validity of the scale

Both Face and Content Validity of the Scale was established through critical discussions with eight experts from Education background. Content Validity Index found was 0.81 which determine that the items were highly relevant. The Content validity index was found through the method developed by C. H. Lawshe, 1975. And the Intrinsic validity was found to be 0.86 which is the square root of the reliability coefficient measured through Spearman Brown Formula. From this it can be considered that the test measures what it determines to the extent of 86%; thus the validity of the scale can be considered to be 0.86.

3.8Procedure of Collection of Data

The researcher has first selected the two Flood affected schools and has administered pre-test on both the schools through Academic Resilience Scale to know the level of their Resilience. After getting the pre-test data from both the schools independent sample t test and ANCOVA was applied to see whether there is any difference between the schools on the pre-test. After finding out the result that is- no significant difference between the schools on the pre-test; one school was selected as the experimental group and the other school was selected as the control group randomly. After that, the researcher has provided the Intervention program through a self-developed academic resilience module to the Experimental group and the Control group was not provided with any kind of intervention but was taught in a regular pattern as it used to be. After the treatment was over that is after three months the researcher again conducted the post-test to both the groups with the help of the same Academic Resilience scale. Again after eight months a delayed post-test was conducted to both the groups to see any improvement in the Academic Resilience level of the students from the intervention in between the post-test to the delayed post-test period. Clear-cut instructions were given to the students at all the stage of pre-test, post-test and delayed post-test to give the responses to the items in the scale. The filled in tool were collected and the collected data was systematically pooled for analyses purpose.

3.9 Statistical Techniques used

For the analysis and interpretation of data, statistical techniques include - Independent sample t test, Analysis of Co-variance (ANCOVA) and Paired Sample t test. Scoring of all test data were done and uploaded on Excel and SPSS sheet systematically so that the statistical computation can be done with the help of MS Excel and IBM SPSS Statistics 22.

The detailed description of the analysis process has been given in the Chapter 5: Analysis and Interpretation.

3.10 Ethical Consideration

For ethical consideration of the present research, the researcher has taken due permission from both the schools authority for the collection of the data and caring out the experiment for three months duration. The researcher also took due consent from the

participants of both experimental and control group. Informed consent to voluntarily participate in the study was obtained from each participant of the study. After the experiment the researcher took signature from the Headmaster of both the schools in certificate.