

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

This chapter serves as a guide through the intricate process of investigating the effectiveness of TBLT within the unique context of the study. Building upon the extensive review, the research methodology chapter addresses the research design, data collection methodologies, and analytical tools employed in the study. The specifications of the method(s) or procedure(s) are delineated herein under clear headings, as outlined below:

- Section 3.2: Design of the Experiment
- Section 3.3: Population of the Study
- Section 3.4: Sample of the Study
- Section 3.5: Key Variables and Concepts Used
- Section 3.6: Experimental Procedure
- Section 3.7: Tools Used in the Study (Instructional tools)
- Section 3.8: Tools Used in the Study (Testing tools)
- Section 3.9: Tools Used in the Study (Attitude Scale)
- Section 3.10: Ethical Considerations

3.2 Design of the Experiment

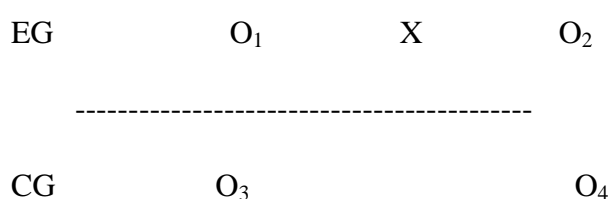
3.2.1. Quasi-experimental research method

The research conducted in this study followed an experimental approach. As highlighted in the field of educational research, conducting true experiments, such as randomly assigning participants to control or experimental groups, can be challenging (Cohen and Morrison, 2011). In the context of this investigation, due to the school academic year already being underway, it was not feasible to implement randomization or equate the groups. Implementing such methods would have disrupted the normal school operations, and school authorities would not have approved significant reassignment of students to different classrooms. Consequently, the most practical approach for the researcher was to conduct the study using intact classes of students and allocate them to distinct groups.

Therefore, the researcher opted for quasi-experimental design, where one section in each school was designated as the Experimental Group (EG), and another section as the Control Group (CG). This approach allowed for a more feasible and ethical implementation of the study.

Furthermore, the researcher employed Non-equivalent Control Group, Pretest Post-test Design' for the experimentation, the structure of which is outlined below:

Figure 3.1: Non-Equivalent Control Group Design (Cohen and Morrison, 2011)



In accordance with the characteristics of this design, both groups underwent a pre-test through the administration of an English Language Skills Test (ELST) at the outset of the study. Subsequently, the treatment, which involved TBLT intervention, was exclusively provided to the experimental group, whereas the control group received instruction through Traditional Teaching Method (TTM). Following a three-month period, a post-test, identical ELST, was administered to both groups to assess their progress. The schematic representation of the study's design can be found in Table 3.1:

Table 3.1: Study design

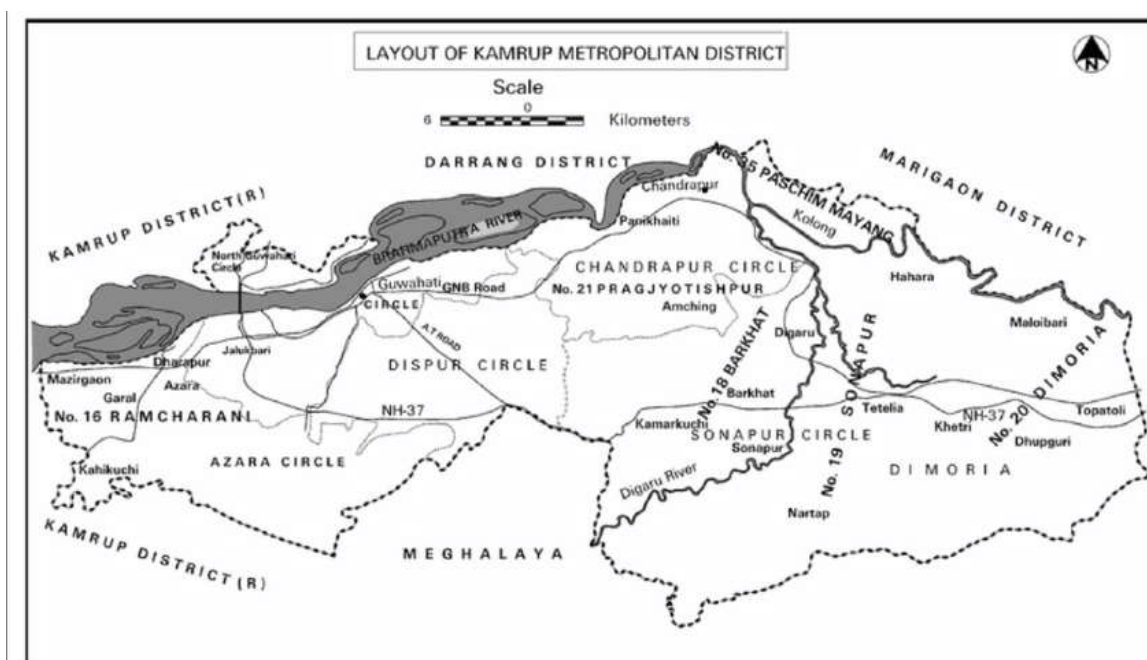
Designated Group	Pre-test (P1)	Independent Variable	Post-test (P2)
Experimental Group (EG)	ELST	Task-based Language Teaching (TBLT)	ELST
Control Group (CG)	ELST	Traditional Teaching Method (TTM)	ELST

3.3 Population of the Study

The focus of this study is Class VIII students studying in provincialized Assamese medium schools, Assam. So, all the students studying in 8th standard with mean age of thirteen in provincialized schools of Assam were considered as the population of the study.

To provide context, **Map.3.1** displays the study area, Kamrup (Metro) district, where the experiment for this study took place.

Map 3.1 Kamrup Metro District Map



3.4 Sample of the Study

In this study, simple random sampling technique was employed to select schools within the Kamrup (Metro) district. Then from those selected schools Class VIII students were chosen as the sample of the study through intact group sampling technique. There are a total of 90 provincialized schools in this area. Out of this pool, two schools were chosen randomly using a lottery method - Dakshin Beltola M.E. School, Bongaon, and Ganesh Mandir H.S. School, Khanapara – both situated in Guwahati, Assam. These are co-educational schools and have sufficient infrastructure

to support the study. The student populations in these schools come from diverse religious backgrounds, and the majority of them belong to low socio-economic strata.

The researcher selected two sections from Class VIII of each school. At Dakshin Beltola M.E. School, Section C formed the EG, and Section B formed the CG. Similarly, at Ganesh Mandir High School, Section A constituted the EG, while Section B constituted the CG. The academic year for these schools follows an April-March schedule.

Initially, 188 students participated in the experiment. However, during the intervention period, only 179 students consistently attended all stages of the experiment. Therefore, the final sample consists of 179 students. At Ganesh Mandir H.S School, Khanapara, the CG comprises 40 students and EG consists of 43 students. Meanwhile, at Dakshin Beltola M.E School, Bongaon, the CG consists of 49 students, and the EG comprises 47 students. Additional details about the sample are presented in **Table 3.2:**

Table 3.2: Description of sample

SI. No	Randomly selected target schools	Grades	No. of the sections taken for the study	Name of the Sections	Formation of Groups	No. of Students	Total
1	Ganesh Mandir HS School, Jayanagar Khanapara	Class VIII	2	Sec-A	EG	43	179
				Sec- B	CG	40	
2	Dakshin Beltola ME School, Bongaon	Class VIII	2	Sec – C	EG	47	
				Sec – B	CG	49	

3.5 Key Study Variables and Concepts Used

The definitions and interpretations of various variables employed in this study are provided in the following subsections:

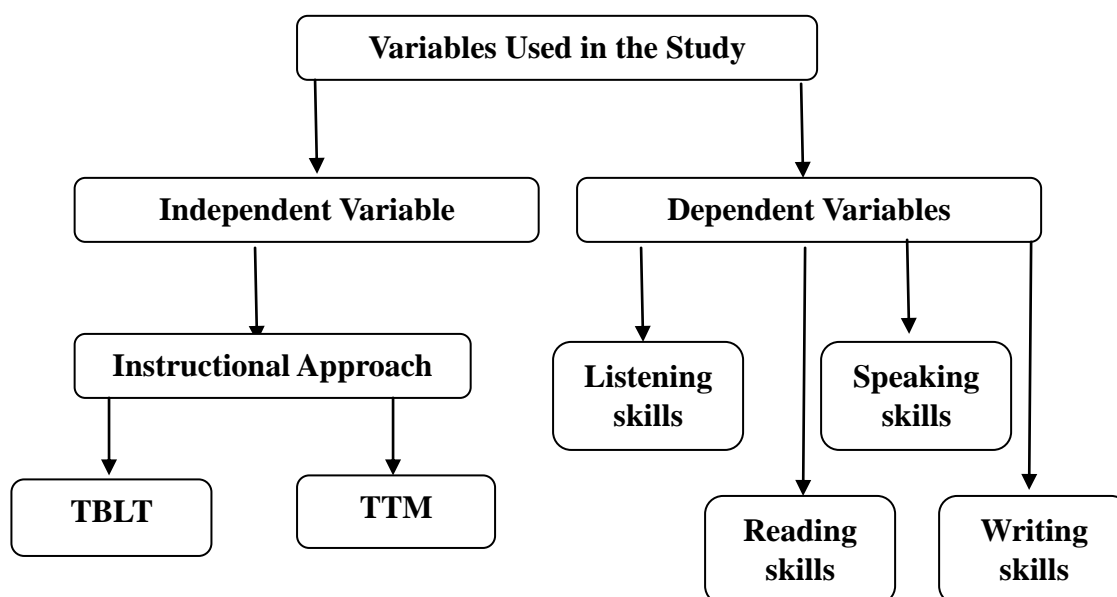
3.5.1 Independent variables

In the current investigation, the influence of TBLT on developing four language skills (listening, speaking, reading and writing) in English of eighth-grade students was examined. To do so, the CG received instruction through the TTM, while the experimental group was exposed to TBLT. In this study, both the TTM and TBLT instructional approaches were treated as independent variables.

3.5.2 Dependent variables

Typically, the impact of independent variables is scrutinized in relation to dependent variables. In this study, the researcher has designated the development of English language skills (LSRW) as the dependent variables under consideration. The variables used are shown in **Figure 3.2** below:

Figure 3.2: Variables used in the study



3.5.3 Controlling the extraneous variables

Certain variables, although incapable of direct measurement, possess the potential to influence dependent variables. Researchers consistently aim to regulate such variables, preventing their impact on the dependent variables. These variables are commonly referred to as intervening variables. Achieving complete control over these variables can be challenging, yet efforts are made to manage them, either through experimental or statistical means.

In the context of this study, several intervening variables, such as the socio-economic status of students, classroom environment, teacher's competence, better study habits, stress and anxiety, student tutoring, contamination effects, and study habits, could conceivably have influenced the outcomes. To ascertain the genuine impact of the treatment, the researcher took meticulous precautions to minimize the influence of these variables to the greatest extent possible. This was achieved by selecting provincialized Assamese medium schools, which comprised students of same age group, from similar socio-economic background and having same English language proficiency, ensuring matching and homogeneity among the study participants. Additionally, the researcher conducted a pre-test and confirmed the absence of any significant differences between the groups, as demonstrated by the results of Repeated Measures ANOVA, Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA). However, it is important to acknowledge that not all intervening variables can be anticipated or entirely controlled in advance.

3.5.4 Controlling potential confounding factors/threats in the study

It is challenging to account for all variables that could influence the experiment's outcomes. Intervening variables, which often involve individuals' emotions, such as boredom, excitement, anxiety, fatigue, and motivation, can be particularly elusive to observe. In this study, every possible measure was taken to mitigate the impact of factors that could introduce bias into the experiment. In addition to employing statistical control procedures, the following strategies were implemented to control for confounding factors:

3.5.5 Mitigating internal validity threats

Threats to internal validity were addressed under three categories:

3.5.5.1 Addressing participant-related threats

- ✓ To mitigate this threat, the researcher conducted experiment in provincialized co-educational Assamese medium schools with similar school and classroom environments.
- ✓ The socio-economic backgrounds of students in both the groups were similar, based on the data from school records.

- ✓ Sample attrition was accounted for by including only these students who maintained consistent attendance throughout the three-month intervention, participating in both pre-test and post-test.
- ✓ The researcher fostered a friendly, supportive, and encouraging classroom atmosphere during the experiment to reduce social and personal differences among participants.

3.5.5.2 Handling treatment-related threats

- ✓ To control for potential teacher-related treatment effects, the researcher personally provided instruction to both CG and EG.
- ✓ All efforts were made to ensure that the experimental conditions were identical for both groups, except for the treatment itself. Only the instructional tool and the necessary teaching-learning materials associated with the treatment were used in the experimental class, while the control group relied solely on the textbook.

3.5.5.3 Managing procedural threats

- ✓ To address procedure-related threats, the same testing tool, i.e., the ELST, was administered during the pre-test and post-test.

3.5.5.4 Controlled mitigation of external validity threats

This study's scope encompasses a broad range of student characteristics and demographics, transcending race, culture, gender, or personality groups. However, it specifically focuses on Class VIII students from provincialized co-educational Assamese medium schools in Kamrup (Metro) district. Also, the study was conducted at the commencement of the new academic session (April 2023-June 2023). Consequently, the findings can be generalized to the population of the study.

3.6 Experimental Procedure

The experimental process/procedure followed in the present study is as the follows:

3.6.1 Groups selection

In any experimental setting, there typically exist two key types of groups: the EG and the CG. Given below, is the description of these groups in **Table 3.3** and **Table 3.4**:

Table 3.3: Description of experimental group

Groups	Name of School	No of Students	Total
EG	Ganesh Mandir HS School, Jayanagar, Khanapara	43	90
	Dakshin Beltola ME School, Bongaon	47	

Table 3.4: Description of control group

Groups	Name of School	No of Students	Total
EG	Ganesh Mandir HS School, Jayanagar, Khanapara	40	89
	Dakshin Beltola ME School, Bongaon	49	

Because the groups were not equivalent at the beginning of the study, the researcher has used statistical techniques to control for any initial differences between the groups when analyzing the results. This has helped the researcher to determine whether the observed differences in the dependent variable can be attributed to the independent variable (the treatment) or if they are influenced by other factors.

3.6.2 Assessment measures: pre-test and post-test

In an experimental context, various types of tests are employed, including pre-tests, post-tests, etc., depending on the specific requirements of the study. In the current investigation, two types of tests were utilized: pre-test and post-test. Notably, the same ELST was employed as both the pre-test and post-test in this study.

3.6.2.1 Pre-test

Prior to the TBLT intervention, the researcher employed an ELST as the assessment tool to evaluate the English language proficiency of the students. This comprehensive test consists of four sections that are divided into Listening Skill, Speaking Skill, Reading Skill, and Writing Skill. Pre-test was administered on both CG and EG prior to the application of the TBLT treatment.

3.6.2.2 Treatment

After administering pre-tests to both groups, treatments were provided for three months. This duration was chosen to align with the academic calendar (session starting from April-June) and to accommodate participant availability. The CG received TTM, while the EG received TBLT. Importantly, these treatments were implemented without disrupting the regular classroom environment.

For this purpose, the study incorporated the utilization of five specific chapters from the class VIII English textbook, namely, *Sunbeam English Reader-III*. This textbook is published by SCERT and is used in government/provincialized SEBA board schools in Assam.

A comprehensive information regarding the specific chapters that were chosen for the TBLT module is given in **Table 3.5**:

Table 3.5: Selected chapters for LSRW skills development

Subject Name	Textbook Title	Chapters	Chapter Titles
English	Sunbeam English Reader-III	Prose	(i) The Prince of Panidihing (ii) Louis Pasteur (iii) A New Day, A New Way
		Poetry	(i) My Native Land (ii) Sympathy

3.6.2.3 Post-test

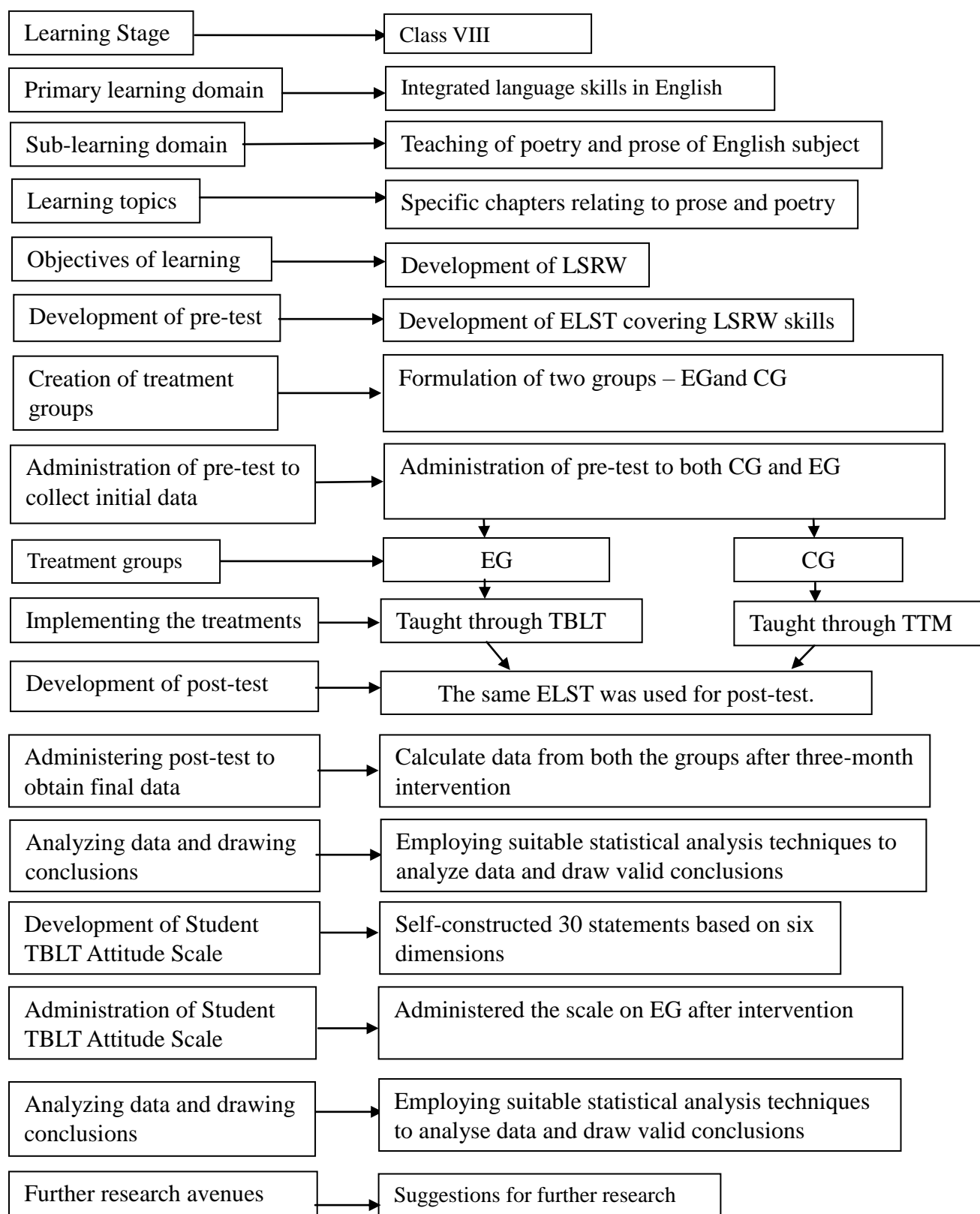
Three months later after the intervention concluded, the same ELST was re-administered to both the groups in the schools.

3.6.3 Treatment effect analysis

Upon data collection, information pertaining to all subjects in both the groups was aggregated for treatment effect analysis.

The details of the design of the study are provided in **Chart 3.1:**

Chart 3.1: Design of the Study



3.7 Tools Used in the Study

In this experimental study, three types of tools were designed and implemented to fulfill the objectives' requirements.

- (i) Instructional tools – TBLT Module
- (ii) Testing Tool - ELST
- (iii) Attitude scale – Student TBLT Attitude Scale

3.7.1 Instructional tools

This tool was employed to deliver instruction to the treatment groups. Two types of instructional tools were utilized:

- (A) A self-constructed TBLT module (for intervention)
- (B) TTM method

3.7.1.1A self-constructed TBLT module

In the context of this experimental study, TBLT was the chosen instructional approach for the EG. TBLT, being a distinct teaching methodology, the researcher constructed a module to develop the LSRW skills of students through various communicative tasks.

The module was meticulously designed to cater to the specific objectives of this study. Its core purpose was to provide students with a structured framework for engaging in various communicative activities that promote language proficiency and effective communication in English. The module has been prepared mainly on four dimensions of language skills of English language, along with associated skills such as vocabulary, pronunciations, sentence structure, etc. The wide range of tasks designed to encourage active participation, collaboration, and practical application of the LSRW skills as shown in **Table 3.6**:

Table 3.6: TBLT module

Purpose	Dimensions
To design a TBLT module with the primary goal of enhancing language skills in English among Class VIII school students.	Listening skills
	Speaking skills
	Reading skills
	Writing skills

The researcher has also taken into account various suggestions and opinions from subject experts from NCERT, Delhi, Guwahati University, English and Foreign Language University (EFLU, Hyderabad and Shillong), District Institute of Education and Training (DIET), Assam, and English subject teachers from Assamese medium schools.

The module's pivotal role in the study involved guiding the instructional process for the EG. Through its carefully designed communicative tasks, it aimed to facilitate meaningful language learning experiences, ultimately contributing to the assessment of the TBLT's effectiveness in enhancing students' language proficiency. The comprehensive description of the TBLT module, along with its intricate role within the study, is elaborated upon in the subsequent sections.

3.7.1.2 Concept of TBLT

In the context of the present study, TBLT represents a pedagogical approach that serves as the foundation for the designed module. The task-based approach places a strong emphasis on active student engagement and interaction in the language learning process. The module has been carefully crafted to provide students with meaningful tasks that require them to use the target language in real-world contexts. Through task-based approach, students are encouraged to apply their knowledge and actively participate in the development of their language skills, ultimately enabling them to become more confident and competent language users.

3.7.1.3 Characteristics of TBLT module used in the study

After engaging in consultations and discussions with several experts in the field of ELT, the researcher developed the TBLT module. Subsequently, incorporating relevant feedback and making necessary adjustments, the module was implemented during the intervention phase. The researcher aimed to incorporate the key characteristics of the task-based approach, which are essential for its effectiveness in language instruction. These characteristics are:

- The tasks included in the module serve a dual purpose, encompassing both pedagogical and real-world tasks. Pedagogical tasks are specifically crafted to encourage meaningful interactions among students, fostering language

acquisition and skill development within the classroom setting. These tasks provide opportunities for students to engage in structured activities that promote language use, collaboration, and communication. Simultaneously, real-world tasks within the module simulate authentic contexts, allowing students to apply language skills in practical, real-life situations. These tasks encourage students to interact meaningfully with others as they navigate real-world scenarios. By integrating both pedagogical and real-world tasks, the module offers a comprehensive approach to language learning, preparing students for academic and practical language use by providing opportunities for meaningful interaction in a variety of contexts.

- The primary focus of the module is on communication rather than just rote memorization of vocabulary and grammar rules. Learners are encouraged to use language to convey meaning and achieve specific communicative goals. This approach fosters the development of practical language skills.
- Most of the tasks within the module are carefully crafted to present learners with a linguistic or communicative gap. In other words, learners are faced with a challenge or problem that can only be addressed by using the language they are learning. This ‘gap’ motivates learners to actively seek solutions through language use. The ‘information gap’ tasks, jigsaw tasks, etc., provide learners the opportunities to communicate to get the information they do not have.
- The module sets clear the overall communicative goals and the task goals for each task. Learners know what they are expected to achieve by the end of the task, which provides a sense of purpose and direction.
- In addition to linguistic resources (vocabulary, grammar), the tasks enable learners to utilize non-linguistic resources, such as body language, gestures, and contextual cues, to achieve the task outcomes. For instance, learners can use their listening skills to complete a ‘listen-and-draw’ task, and not necessarily speak. This holistic approach to language learning acknowledges

that effective communication involves both verbal and non-verbal components, equipping students to convey messages effectively.

- Various language focus activities have been incorporated into the module to uphold a equilibrium between fluency and accuracy. Throughout the three phases, these tasks enable students to enhance their fluency, while the language focus activities assist learners in analyzing and practicing different grammar and language forms that arise during the tasks or that they wish to acquire knowledge of.
- The majority of the resources employed for task execution are readily accessible and do not necessitate extensive teaching aids. This facilitates the researcher in task implementation.
- The tasks are structured from simpler to more complex, ensuring students encounter fewer challenging tasks initially and become acquainted with the phases and objectives of each task. These activities, including sequencing, comparing, matching, and brainstorming, incorporate playful elements to actively engage students in their language learning journey. Alongside these, a selection of more challenging tasks such as creative writing, problem-solving, and critical thinking are included to provide opportunities for students to tackle complex concepts and enhance their skills.

Overall, these characteristics make the TBLT module an interactive, learner-centered approach that promotes language acquisition through practical, meaningful tasks, and aligns with modern principles of CLT.

3.7.1.4 Content validity of the module

The researcher obtained feedback on the development of the module from experts affiliated with various central and state universities, NCERT, who possess expertise in Education, Pedagogy of English Language Education, Linguistics, and ELT. Feedback was also gathered from English subject teachers in provincialized Assamese medium schools. Subsequently, the module underwent thematic and structural revisions in line

with the recommendations provided by the evaluators. The content validity of the module was thus established based on the experts' assessments.

3.7.1.5 Points of modifications as suggested by the experts

- Correction of certain grammatical error (subject-verb agreement) was highlighted, and thereby rectified.
- The number of the tasks was reduced considering the time constraint. The present module comprises three- four tasks for each lesson, followed by form-focused tasks.
- The tasks were tailored to accommodate varying student abilities, with some simplified to match their proficiency levels.
- According to the recommendations of the experts, the communicative goals for each task, in addition to the task goals, were incorporated to ensure that the learners possess a clear understanding of the anticipated outcomes during the task and upon task completion.
- Considering the proficiency level of the learners, more information-gapped tasks, jigsaw tasks were added to ensure maximum communications, such as sequencing task, sharing gapped information with the partner.
- To ensure maximum participations of the students, the researcher had added a few more pair tasks along with few group tasks and sparsely individual activities.

3.7.1.6 Glimpse of tasks used in the TBLT module

The tasks within the module encompass various types, each serving distinct pedagogical purposes and are intended to create meaningful learning experiences for students. An essential aspect of these tasks was the incorporation of “gaps” as described by Prabhu (1987). The module predominantly features ‘information-gap’ tasks, ideal for beginners and basic language learners as they promote successful communication. Genuine communication is likely to occur when students use language to obtain information and not just to practice. In this way they are expected to use vocabulary, grammar, and other communicative strategies at their disposition to complete their task. Additionally, some tasks also encompass reasoning-gap- and opinion-sharing tasks, information-transfer activities, role plays etc.

Keeping the gapped-tasks as the base, the researcher has included a mélange of activities. There are ‘input-based’ tasks such as listening comprehension tasks that require minimal speaking to arrive at the task outcome. Certain output-based tasks that required productive output, such as role-play scenario and paragraph writing, etc. are also included.

Additionally, the module includes ‘closed tasks’ with clearly defined outcomes, where students work toward specific goals (for example, matching tasks, sequencing tasks, listing task, structure of the letter), conversely, open tasks with no pre-determined outcomes, allowing for creative exploration and interpretation (for example, timeline tasks, composing paragraphs, poems, etc.) are also included. The module features arrange of authentic tasks (for example, dictogloss, sequencing, jigsaw, story writing, etc.) which are integrated to provide students with structured learning experiences that align with educational objectives. These tasks are not typical real-life situations, but they help students learn language by practicing different skills together. A few real-world tasks such flood-preparation to-do list, letter writing, etc. feature in the module.

These diverse task types collectively contribute to a well-rounded language learning experience, catering to a range of linguistic and cognitive needs of the learners, as well generate the option for the learners to engage in meaning-making and understanding descriptions/instructions.

East (2017) emphasized that CLT approaches should promote a holistic approach to language learning, aiming to enable learners to practice and develop all language skills simultaneously. While the primary task may focus on one or two skills, the entire task phase (from pre-task to language focus) involves both receptive and productive skills. This also enables learners to engage in the associated activities related to the fundamental language skills.

The tasks were specifically designed based on chapters from the Class VIII textbook, *Sunbeam English Reader-III*, which includes both prose and poetry sections. In the study, recognizing the basic level of English proficiency level of the students, the researcher provided a concise introduction to the lesson content at the pre-task phase, followed by task instructions and its expected outcomes. This introductory information aimed to give the students a brief overview of what they were about to

learn, ensuring they had a foundational understanding of the topic. This approach was chosen to facilitate their engagement with the subsequent tasks.

Table 3.7 showcases the diverse task types utilized, each designed to engage learners in meaningful and integrated language practice. From sharing anecdotes and role-play to problem-solving and opinion exchange, these tasks go beyond individual language skills, promoting collaborative learning, problem-solving and critical thinking skills.

Table 3.7: Task included in TBLT module

Task Types	Description of Tasks	Skills Assessed	Learning Outcomes
Spot-the-difference task	Tasks aimed at identifying distinctions	LSRW	Improve visual discrimination skills; enhance attention to detail
Anecdote sharing task	Tasks focused on sharing personal stories	LSRW	Enhance oral communication skills; encourage storytelling
Role-play task	Scenarios with role-playing for communication and solving problems	LSRW	Develop conversational skills; practice language in context, enhance critical thinking
Sequencing task	Tasks centered around arranging events or information	LSRW	Improve reading comprehension; enhance logical sequencing
Dictogloss task	Tasks involving listening comprehension and drawing	LSRW	Enhance listening skills; develop drawing based on auditory input
Listing task (preparing To-do list)	Tasks related to creating lists or enumerating items	LSRW	Develop writing skills; practice organizing information
Timeline task	Tasks involving the creation of timeline of events	LSRW	Improve chronological understanding; practice summarizing events

Creative task (paragraph writing, story writing, letter	Tasks aimed at fostering creativity In language use	LSRW	Encourage creative language use; stimulate imagination.
Matching task	Tasks involving matching items or concepts and justifying their choices	LSRW	Enhance vocabulary comprehension; reinforce associations.
Categorizing task	Tasks requiring classification or grouping	LSRW	Enhance organization and categorization skills
Opinion task	Tasks involving the exchange of opinions	LSRW	Encourage critical thinking; develop persuasive language skills
Information-sharing task	Tasks involving exchange of information	LSRW	Improve information exchange skills; practice listening and speaking

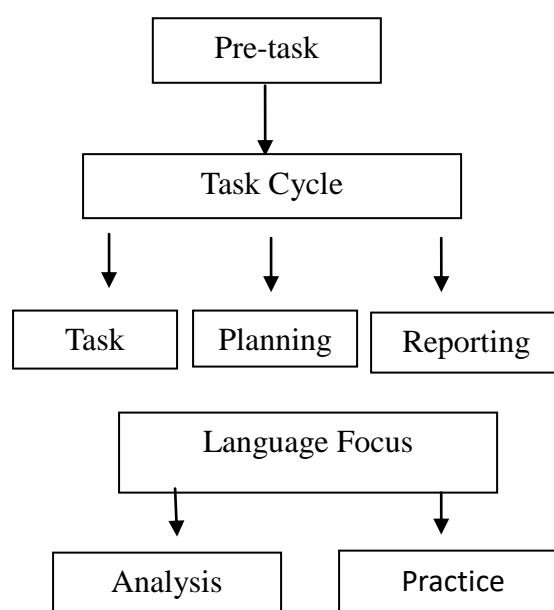
The majority of these tasks were conducted in pairs, although some were carried out in small groups of four. The use of larger group tasks was limited due to space constraints and limited flexibility in arranging seating in the government school classrooms selected for the study. The researcher has meticulously maintained a pairing record for the students during the tasks. For instance, when a student was paired with another student for a particular task, it was ensured that they were paired with a different partner in the subsequent task. Similarly, when forming groups great care was taken to ensure that, across multiple tasks, each student had the opportunity to work with various classmates. This approach was implemented to diversify the learning experience and promote interaction among all students, allowing them to collaborate and exchange ideas with different peers throughout the course of the study. Therefore, every student had the opportunity to report in some tasks or another. Furthermore, it is important to note that the researcher meticulously recorded these instances to ensure that each student had an equitable chance to participate in reporting tasks throughout the study.

Detailed tasks are presented in the TBLT module, in **Appendix I**, which was used for the experimental group.

3.7.1.7 TBLT framework used in the module

While TBLT practitioners have proposed various task frameworks, the tasks in this study adhere to the structure based on Willis' Framework for TBLT (1996), as shown in **Figure 3.3**:

Figure 3.3: Willis' (1996) TBLT Framework



3.7.1.8 Traditional Teaching Method (TTM)

In this study, the term Traditional Teaching Method (TTM) refers to a conventional approach to instruction, which is predominantly teacher-centered and involves a passive learning experience for students. TTM typically included direct instruction from the teacher, where the primary activities involved lecturing, textbook-centric teaching, and the use of blackboards for delivering content. The same chapters from *Sunbeam English Reader-III* were taught using specific practices under TTM, which included having students write questions and answers from the textbook, complete textbook exercises, and engage in model reading by the teacher, followed by turn-wise reading by students. The teacher led the class with a focus on content delivery and rote learning, without incorporating interactive or student-centered activities. In the

context of this study, TTM was employed to teach the control group, ensuring no additional activities or tasks were designed to actively develop their four language skills in English.

In contrast, as discussed in the intervention section, the TBLT module emphasizes student-centered learning through meaningful tasks that mimic real-life language use. By comparing these methods, it becomes evident that TTM is more focused on traditional, passive learning methods, whereas TBLT encourages active participation, practical use of language, and collaborative learning, fostering a more dynamic and engaging learning environment.

3.8 Testing Tools

3.8.1 Self-constructed ELST

The researcher constructed an ELST to gauge the proficiency level of the students in the four basic language skills in English, in segregated as well as in overall. The same test was used for post-test to gauge the development of the learners in LSRW skills, post-intervention.

3.8.1.1 Nature of the ELST

Following consultations and discussions with a few experts in ELT, the researcher designed an ELST, which was segmented into four sections: listening skills, speaking skills, reading skills, and writing skills. The items included in the test were tailored to align with the content from the five chosen chapters of the Class VIII textbook, while also incorporating broader language context. This encompasses a wider range of linguistic situations, settings, and topics that are relevant to the students' language learning and proficiency development. During the item creation process, the researcher ensured that each item reflected engaging tasks, providing students with opportunities to apply language skills in meaningful contexts and promoting authentic language use. This approach mirrors the objectives of TBLT. For example, items included tasks such as writing letters, introducing oneself in a phone call, and completing a loan application, among others.

Although the assessments focus on individual language skills but these skills are interconnected and integrated within the TBLT framework. For example, reading-

related items may require writing responses, thereby encouraging critical thinking. Additionally, one of the listening items prompt students to draw based on audio cues, aligning with TBLT's emphasis on using non-linguistic resources to achieve task outcomes. Similarly, writing tasks involve reading comprehension, demonstrating the holistic nature of language use. However, the ELST requires students to work independently, without collaboration with peers. This testing format ensures that each student's performance is solely based on their individual knowledge and abilities. By completing the test independently, students have the opportunity to showcase their comprehension, vocabulary, grammar, and other language skills without external assistance. This individualized approach to assessment fosters a fair and accurate evaluation of each student's language proficiency.

3.8.1.2 Focus of the ELST

The ELST utilized in this study is meticulously designed to assess learners' proficiency levels in listening, speaking, reading, and writing. With a dual purpose, the test serves as a pre-intervention diagnostic tool, evaluating entry-level proficiency, and post-intervention, gauging the effectiveness of the treatment. Individual section scores provide detailed insights into specific language skills, while an overall score captures the holistic impact of the intervention on learners' overall language proficiency. This focused approach ensures a comprehensive evaluation of language development throughout the study.

3.8.1.3 Nature of the test items in the ELST

The test items are carefully crafted to function as valuable tools for assessing the four language skills in a standardized and meaningful manner. Drawing upon extensive research and valuable insights from experts in ELT, the researcher has thoughtfully incorporated three distinct categories of test items into the ELST:

- (i) Very short question (VSQ)
- (ii) Short question (SQ)
- (iii) Long question (LQ)

Each of these categories has been strategically designed to evaluate various facets of language proficiency, aligning the assessment with global standards and offering a comprehensive view of students' language abilities.

3.8.1.4 Development of scoring criteria for assessment of ELST

The scoring criteria for assessment of ELST have been meticulously developed after extensive research and benchmarking against internationally recognized language proficiency frameworks, such as Common European Framework of Reference for Languages (CEFR), the International English Language Testing System (IELTS), while also being in line with NCERT guidelines for learning outcomes for English for Class VIII.

Based on brief interactions with students and insights from the English subject teacher, it was observed that the majority of learners possess a basic proficiency in English. Therefore, efforts were made to align the test with global language proficiency standards and ensure its adaptability for assessing language skills at the CEFR A1 level. CEFR A1 level signifies a basic language proficiency wherein individuals can understand and use familiar, everyday expressions and very simple phrases to meet immediate needs.

3.8.1.5 Initial draft of the ELST

The initial draft of the ELST consisted of 55 items. After receiving feedback from subject experts at Gauhati University, NCERT, DIET, EFLU, and Nagaland University, the researcher made the necessary revisions, resulting in a test comprising 42 items. The researcher also took into consideration feedback obtained from English subject teachers of Assamese medium government schools.

3.8.1.6 Pilot Study

3.8.1.6.1 First phase - Individual tryout

After modifying the items based on the feedback obtained from the experts, the researcher has given the ELST to 12 students of Beltola High School, Guwahati who had agreed to be part of the tryout. The purpose of Individual try-out was to find out whether the instructions and items are meaningful, understandable and readable to the

students (Sansanwal, 2020). On the basis of the data obtained, no major modification was made to the test. However, as per the need of the situation, the duration of the test was increased to 30 minutes. So, the duration became 2.5 hours. 42 items were retained in the ELST.

3.8.1.6.2 Second phase - Group tryout

The main purpose of the group tryout is to do the item analysis. For this, 42 items were administered to 45 students at Beltola High School, Guwahati, excluding the 12 students who were included in the individual tryout. Following the data collection, the researcher conducted the item analysis procedure.

3.8.1.6.3. Item analysis

Item analysis was conducted through a three-stage process:

- (i) **Item selection:** The initial item selection involved the researcher's judgment in addition to input from experts. Selection criteria were in accordance to the test's objectives and purposes.
- (ii) **Item difficulty level:** Only items demonstrating a moderate level of difficulty were retained for further consideration.
- (iii) **Item discrimination:** Items exhibiting high positive discrimination values were chosen for inclusion in the final test.

Following the group try-out, data from all participants were aggregated for item analysis. A total of 42 items were administered in the test. To establish distinct groups of performance, the total marks achieved by each student were computed. The upper and lower groups consisted of 27% of the students who answered correctly.

To compute the Discriminatory Index and Difficulty Index for objective-based questions (Items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20,24,25,26,27,28,29,30, 31,32,33,38 and 40), the following formulas were employed:

- Discrimination Index = $(RU-RL)/N1$
- Difficulty Index = $(RU+RL)/N$

➤ RU-27% of upper group who answered the item correctly.

- RL-27% of lower group who answered the item correctly.
- N1: Total number of students in either the upper group (RU) or lower group (RL).
- N= Total number of students in upper group (RU) and lower group (RL).

Table 3.8: Item wise Discrimination Index and Difficulty Index (for objective questions)

Dimension	Item	Discrimination Index		Difficulty Index		Remarks
		Value	Result	Value	Result	
Listening	Item 1	0.23	Average	0.65	Average	Accepted
	Item 2	0.62	High	0.46	Average	Accepted
	Item 3	0.69	High	0.5	Average	Accepted
	Item 4	0.46	High	0.62	Average	Accepted
	Item 5	0.62	High	0.69	Average	Accepted
	Item 6	0.69	High	0.58	Average	Accepted
	Item 7	0.62	High	0.69	Average	Accepted
	Item 8	0.69	High	0.58	Average	Accepted
	Item 9	0.62	High	0.46	Average	Accepted
	Item 10	0.69	High	0.5	Average	Accepted
	Item 11	0.18	Low	0.77	Easy	Rejected
	Item 12	0.38	Average	0.5	Average	Accepted
	Item 13	0.23	Average	0.65	Average	Accepted
	Item 14	0.38	Average	0.58	Average	Accepted
	Item 15	0.46	High	0.62	Average	Accepted
	Item 16	0.38	Average	0.65	Average	Accepted
	Item 17	0.77	High	0.62	Average	Accepted
	Item 18	-0.15	Low	0.77	Easy	Rejected

Table 3.8: Item wise Discrimination Index and Difficulty Index(for objective questions)

contd.

Dimension	Item	Discrimination Index		Difficulty Index		Remarks
		Value	Result	Value	Result	
Reading	Item24	0.69	High	0.58	Average	Accepted
	Item25	0.62	High	0.54	Average	Accepted
	Item26	0.12	Low	0.09	Very Difficult	Rejected
	Item27	0.54	High	0.65	Average	Accepted
	Item28	0.62	High	0.54	Average	Accepted

	Item29	0.69	High	0.58	Average	Accepted
	Item30	0.46	High	0.62	Average	Accepted
	Item31	0.46	High	0.62	Average	Accepted
	Item32	0.38	Average	0.73	Average	Accepted
	Item33	0.44	High	0.51	Average	Accepted
	Item34	0.31	Average	0.54	Average	Accepted
	Item35	0.31	Average	0.62	Average	Accepted
	Item36	0.46	High	0.62	Average	Accepted
Writing	Item41	0.23	Average	0.73	Average	Accepted
	Item42	0.23	Average	0.65	Average	Accepted

From **Table 3.8**, it is evident that items 11, 18, and 26 are rejected because their discriminating indices are low and difficulty indices are easy, difficult and very difficult, respectively. Further items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 41 and 42 are accepted as their discrimination index and difficulty indices are within acceptable limits.

For items 19, 20, 21, 22, 23, 37, 38, 39, 37, 38, 39, 40, 43, 44 and 45 which are subjective questions, the previously mentioned calculation method is not applicable. Therefore, Alternate Approach—‘T-test Approach’ was used. Specifically, independent sample t-test was conducted to determine the discrimination index for each of these items. Consequently, items for which the ‘t’ statistics yielded significance at a two-tailed p-value of less than 0.05 ($p < 0.05$) were retained, while those failing to meet this threshold were rejected. The detailed outcomes of this analysis are presented in **Table 3.9**:

Table 3.9: Item wise Discriminatory Index (for subjective questions)

Dimensions	Item	Discrimination Index (Value of t)	Value of p	DF	Remarks
Listening	Item 19	1.416	0.170	24	Rejected
	Item 20	3.722	0.001	24	Accepted
Speaking	Item 21	3.263	0.003	24	Accepted
	Item 22	1.797	0.084	24	Rejected

	Item 23	2.182	0.039	24	Accepted
Reading	Item 37	2.794	0.010	24	Accepted
	Item 38	3.699	0.001	24	Accepted
	Item 39	5.069	0.000	24	Accepted
	Item 40	4.088	0.000	24	Accepted
Writing	Item43	2.416	0.022	24	Accepted
	Item44	1.662	0.109	24	Rejected
	Item45	1.839	0.078	24	Rejected

Based on the findings presented in **Table 3.9**, items 19, 22, 44 and 45 have been rejected because their t-values are not significant at 0.05 level, which means these items do not discriminate between top 27% and bottom 27% subjects. On the other hand, items 20, 21, 23, 37, 38, 39, 40, 43 are significant at 0.05 level. These items discriminate between top 27% and bottom 27% subjects; hence, they are accepted in the ELST.

In summary, the final draft of the test included 38 items, comprising both subjective and objective questions. These items, covering Listening, Speaking, Reading, and Writing (LSRW) skills, were organized under each respective skill. Specifically, the Listening skill test included four questions, each containing relevant items. Similarly, the Speaking skill test comprised two questions, the Reading skill test encompassed four broad questions with relevant items, and the Writing skill test featured three main questions.

3.8.1.6.4 Final draft of the ELST.

In the final draft of the test, the weightage to the different aspects of the test was given in the following manner in accordance with the experts' judgments.

3.8.1.6.5 Third phase - final tryout

To establish the reliability, validity and norms, a final tryout was administered to 70 Class VIII students at Dispur HS School, Guwahati.

3.8.1.6.6 Reliability of the test

After the final tryout, the reliability of the test was determined using the Test-Retest method, within a 20-day gap between administrations. The reliability coefficient was calculated using the Pearson Product Moment Correlation, for individual LSRW test-retest as well as for overall test and re-test resulting in a value of 0.774 for overall items and 0.845, 0.795, 0.763, 0.780 respectively for listening, speaking, reading and writing skill tests (Table 3.10).

The Cronbach's Alpha Reliability Coefficient is found to be 0.776 for overall items and 0.765, 0.764, 0.714 and 0.764 for the items related to listening, speaking, reading and writing respectively (Table 3.11). This confirmed the reliability of the test.

Table 3.10: Pearson Product Moment Correlation for Test-Retest of ELST

Co-relation Test-Retest	Listening		Speaking		Reading		Writing		Overall	
	Test	Retest	Test	Retest	Test	Retest	Test	Retest	Test	Retest
Pearson Co-relation Co- efficient	0.845		0.795		0.763		0.780		0.774	

Table 3.11: Cronbach's Alpha reliability for items with individual dimensions and all items

Dimensions	Cronbach's Alpha	No of Items
Listening	0.765	17
Speaking	0.764	2
Reading	0.714	16
Writing	0.764	3
Overall	0.776	38

3.8.1.6.7 Norms for the ELST

To establish z-score norms of ELST, statistical calculations were conducted to determine the mean (m) and standard deviation (SD) for the raw scores obtained from this tool. Accordingly, Z-scores norms were prepared for each objective: The

descriptive statistics for the raw scores for each individual skills and overall skills are as follows:

Table 3.12: Descriptive statistics of the raw scores

Dimensions	n	M	SD	Max	Min	No of items
Listening	70	7.55	1.41	10.5	4.5	17
Speaking	70	6.02	1.35	10	3.5	2
Reading	70	7.05	1.4	10	5	16
Writing	70	7.05	1.44	10.5	5	3
Overall Language Skills	70	28.21	5.63	43	20	38

Objective 2: To study the effectiveness of TBLT on listening skills development among Class VIII students in Assam.

For second objective, Z-score for ELST (listening skills) are given in **Table 3.13** and based on these norms for interpreting the levels are given in **Table 3.14**:

Table 3.13: Z-Score for ELST (listening skills)

RAW Score	Z Score
4.5	-2.14
5	-1.85
5.5	-1.56
6	-1.27
6.5	-0.97
7	-0.68
7.5	-0.39
8	-0.1
8.5	0.19
9	0.49
9.5	0.78
10	1.07
10.5	1.36

Table 3.14: Norms based on Z Score for ELST (listening skills)

SL/No	RAW Scores	Range of Z-Score	Grades	Levels
1	10 and above	+1.07 & above	A	Excellent
2	9 -9.5	+0.20 to +0.78	B	Very Good
3	8-8.5	-0.38 to +0.19	C	Good
4	7-7.5	-0.96 to -0.39	D	Above Average
5	6-6.5	-1.55 to -0.97	E	Average
6	5-5.5	-2.13 to -1.56	F	Below Average
7	4.5 and below	-2.14 and below	G	Poor

Objective 3: To study the effectiveness of TBLT module for developing speaking skills in English among Class VIII students.

For third objective, Z-score for ELST (speaking skills) are given in **Table 3.15** and based on these norms for interpreting the levels are given in **Table 3.16**:

Table 3.15: Z-Score for ELST (speaking skills)

RAW Score	Z Score
3.5	-1.84
4	-1.54
4.5	-1.23
5	-0.93
5.5	-0.63
6	-0.33
6.5	-0.03
7	0.27
7.5	0.57
8	0.87
8.5	1.17
9	1.48
9.5	1.78
10	2.08
10.5	2.38

Table 3.16: Norms based on Z Score for ELST (speaking skills)

SL/No	RAW Scores	Range of Z-Score	Grades	Levels
1	10 and above	+1.79 & above	A	Excellent
2	9-9.5	+1.18 to +1.78	B	Very Good
3	8-8.5	+0.56 to +1.17	C	Good
4	7-7.5	-0.02 to +0.57	D	Above Average
5	6-6.5	-0.62 to -0.03	E	Average
6	5-5.5	-1.22 to -0.63	F	Below Average
7	4.5 and below	-1.23 and below	G	Poor

Objective 4: To study the effectiveness of TBLT module for developing reading skills in English among Class VIII students.

For fourth objective, Z-score for ELST (reading skills) are given in **Table 3.17** and based on these norms for interpreting the levels are given in **Table 3.18**

Table 3.17: Z-Score for ELST (reading skills)

RAW Score	Z Score
5	-1.46
5.5	-1.1
6	-0.75
6.5	-0.39
7	-0.04
7.5	0.14
8	0.67
8.5	1.03
9	1.38
9.5	1.74
10	2.09
10.5	2.44

Table 3.18: Norms based on Z Score for ELST(reading skills)

SL/No	RAW Scores	Range of Z-Score	Grades	Levels
1	10.5 and above	+2.10 & above	A	Excellent
2	9.5 -10	+1.39 to +2.09	B	Very Good
3	8.5-9	+0.68 to +1.38	C	Good
4	7.5-8	-0.03 to+0.67	D	Above Average
5	6.5-7	-0.74 to -0.04	E	Average
6	5.5-6	-1.45 to -0.75	F	Below Average
7	5 and below	-1.46 and below	G	Poor

Objective 5: To study the effectiveness of TBLT module for developing writing skills in English among Class VIII students.

For fifth objective, Z-score for ELST (writing skills) are given in **Table 3.19** and based on these norms for interpreting the levels are given in **Table 3.20**:

Table 3.19: Z-Score for ELST (writing skills)

RAW Score	Z Score
5	-1.42
5.5	-1.07
6	-0.73
6.5	-0.38
7	-0.03
7.5	0.31
8	0.66
8.5	1
9	1.35
9.5	1.7
10	2.04
10.5	2.39

Table 3.20: Norms based on Z Score for ELST (writing skills)

SL/No	RAW Scores	Range of Z-Score	Grades	Levels
1	10.5 and above	+2.05 & above	A	Excellent
2	9.5 -10	+1.36 to +2.04	B	Very Good
3	8.5-9	+0.67 to +1.35	C	Good
4	7.5-8	-0.02 to+0.66	D	Above Average
5	6.5-7	-0.72 to -0.03	E	Average
6	5.5-6	-1.41 to -0.73	F	Below Average
7	5 and below	-1.42 and below	G	Poor

Objective 6: To study the effectiveness of the TBLT module for developing overall language skills in English among Class VIII students.

Based on the raw scores, z-score is developed and further norms for interpreting the levels of uses of activities are prepared for overall language skills which are given in the **Table 3.21** and **Table 3.22**.

Table 3.21: Z-score for ELST (overall language skills)

RAW Score	Z Score	RAW Score	Z Score
20	-1.57	32	0.82
21	-1.37	33	1.02
22	-1.17	34	1.22
23	-0.97	35	1.42
24	-0.77	36	1.62
25	-0.57	37	1.82
26	-0.38	38	2.01
27	-0.18	39	2.21
28	0.02	40	2.41
29	0.22	41	2.41
30	0.42	42	2.41
31	0.62	43	2.41

Table 3.22: Norms based on Z Score for ELST (overall language skills)

SL/No	RAW Scores	Range of Z-Score	Grade	Levels
1	42 and above	+2.62 & above	A	Excellent
2	38 -41	+1.83 to +2.61	B	Very Good
3	34-37	+1.03 to +1.82	C	Good
4	30-33	+0.23 to +1.02	D	Above Average
5	26-29	-1.16 to +0.22	E	Average
6	22-25	-1.56 to -1.17	F	Below Average
7	21 and below	-1.57 and below	G	Poor

3.8.1.6.8 Validity of the test

Both the face validity and content validity of the test were established through meticulous consultations with experts in the relevant field. In order to ensure content validity, a rigorous process of item selection and analysis was conducted in accordance with the test's intended objectives and inherent nature. To determine the content validity index for the test, the C. H. Lawshe's (1975) method was employed, yielding a computed value of 0.81. This value stands as an indicator of adequate content validity of the ELST.

The blueprint of the ELST is given in **Appendix II**, the ELST is given in **Appendix III** and the scoring criteria for assessment of ELST is provided in **Appendix IV**.

3.8.1.6.9 Procedure for data collection

ELST was administered to both the experimental group and the control group in two phases:

- (i) **Pre-test (prior to any intervention):** The primary objective of this pre-test was to obtain entry level data about students' proficiency levels of both the groups in overall English language skills as well as in each individual skill.
- (ii) **Post-test (following the intervention):** After the implementation of the intervention, the same ELST was administered again to both EG and CG. This post-test aimed to gauge any noticeable improvements in the students'

proficiency in overall English language skills and in the specific skill areas.

3.8.1.6.10 Methods of data analysis

In the context of this current research endeavor, the researcher employed descriptive statistical techniques such as calculating the mean, standard deviation, and visual representation of data. Additionally, inferential statistical methods including Repeated measures ANOVA, ANOVA, ANCOVA were utilized to analyze the collected data through IBM SPSS Statistics software and MS Excel.

3.9 Student TBLT Attitude Scale

For this study, the researcher developed and standardized the Student TBLT Attitude Scale to assess the experimental group's attitude towards task-based approach after they had undergone the TBLT treatment process. This 5-point Likert-type scale comprises 30 statements in English, designed for Class VIII students. Additionally, the scale has been translated into the local language, Assamese, to facilitate better comprehension among the students.

After an extensive literature review, six dimensions were identified, 'Collaborative Learning', 'Teacher's Role', 'Motivation', 'Practical Relevance', 'Satisfaction', and 'Relevance to Assessment Method'. The statements were formulated within these dimensions. The response categories include Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD).

3.9.1 Development of the Student TBLT Attitude Scale

During the initial phase of scale development, an initial draft consisting of 45 statements was created. After consulting with subject experts from NCERT, Gauhati University, the National Council for Teacher Education (NCTE), and the Department of Education at Tezpur University, the scale was refined to 35 statements. The researcher also sought input from English subject teachers in Assamese medium schools to ensure that the language used in the scale was comprehensible to the students. Following expert advice, the researcher engaged two Assamese language experts to translate the scale items into Assamese.

3.9.2 Pilot study

3.9.2.1 First phase - Individual tryout

To ensure that the statements are meaningful, understandable and readable to the students, especially in terms of language, the researcher gave the scale for individual tryout. The purpose of the tryout was explained and expectations from the students were explained.

Twelve students of Class VIII, Beltola High School, Guwahati, who agreed to be part of the tryout were included in this phase. The students were given 30 minutes to respond. On the basis of the data obtained, no further modifications were made to the statement and also the time given was found to be sufficient

3.9.2.2 Second phase - Group tryout

Following the first phase, the attitude scale with 35 items was again administered on 45 students of Class VIII at the same school, excluding the 12 students who were part of individual tryout. Before administering the scale, to familiarize the students with TBLT and 'task', the researcher conducted a few tasks with the students and also gave a brief explanation about the task-based approach.

This preliminary assessment aimed to refine the scale and ensure its effectiveness in measuring students' attitudes. The data obtained was computed for item analysis.

3.9.2.3 Item analysis

The individual scores of all 45 students were arranged in ascending order, creating a ranked list from the highest to the lowest scores. Subsequently, 27% of the respondents, specifically the top 13 students with the highest total scores, and another 27%, comprising the lowest-scoring 13 students, were identified.

Each item from the scale was then analyzed individually. For both the high and low-scoring groups, the researcher determined the number of students who selected each response category: SA, A, UN, D, and SD. This process was conducted separately for all 35 items, resulting in a breakdown of the number of students falling into each response category within both the high and low-scoring groups.

Subsequently, an Independent Sample t-test was performed using SPSS software, and the discrimination index for each of the 35 items was calculated through the t-test procedure. Items for which the 't' value was found to be statistically significant at a p-value of less than 0.05 ($p < 0.05$) were considered accepted, while those with non-significant 't' values were rejected. The detailed results are presented in **Table 3.23**:

Table 3.23: Item wise discrimination index of the Student TBLT Attitude Scale

Dimension	Item	Value of t	Value of p	Df	Remarks
Collaborative learning	Item1	3.904	0.007	24	Accepted
	Item2	1.768	0.089	24	Rejected
	Item3	2.889	0.008	24	Accepted
	Item4	3.773	0.009	24	Accepted
	Item5	3.08	0.005	24	Accepted
	Item6	4.186	0.003	24	Accepted
Teacher's role	Item7	4.308	0.002	24	Accepted
	Item8	4.01	0.102	24	Rejected
	Item9	4.779	0.001	24	Accepted
	Item10	4.737	0.001	24	Accepted
	Item11	4.332	0.002	24	Accepted
Motivation	Item12	3.128	0.004	24	Accepted
	Item13	4.454	0.001	24	Accepted
	Item14	3.773	0.009	24	Accepted
	Item15	3.813	0.008	24	Accepted
Practical relevance	Item16	5.516	0.001	24	Accepted
	Item17	4.667	0.001	24	Accepted
	Item18	7.138	0.001	24	Accepted
	Item19	4.332	0	24	Accepted
	Item20	8.768	0	24	Accepted
	Item21	3.904	0.006	24	Accepted
	Item22	3.269	0.003	24	Accepted
	Item23	1.414	0.17	24	Rejected
Satisfaction	Item24	5.839	0	24	Accepted
	Item25	6.501	0	24	Accepted
	Item26	2.961	0.006	24	Accepted
	Item27	7.115	0	24	Accepted
	Item28	7.766	0	24	Accepted
	Item29	3.77	0.009	24	Accepted
	Item30	1.698	0.102	24	Rejected
	Item31	4.332	0.002	24	Accepted
	Item32	0.569	0.574	24	Rejected
	Relevance to assessment method	Item33	4.737	0.008	24
Item34		4.332	0.002	24	Accepted
Item35		3.128	0.004	24	Accepted

From the **Table 3.23**, it is clear that items 2, 8, 23, 30 and 32 are not significant at 0.05 level and therefore, they do not discriminate between top 27% and bottom 27 % subjects. So, they are eliminated and not used in the scale. The t-values of all the other remaining items are significant at 0.05 level. They clearly discriminate between both the top and bottom subjects, and so they are kept in the scale. The items are distributed with respect to dimensions as mentioned in the table.

3.9.2.4 Revised scale

Out of the original 35 items, 5 were identified as lacking discriminative power and were consequently omitted. The final version of the scale comprises 30 items, with 19 items reflecting positive aspects and 11 items reflecting negative aspects. The distribution of the statements is given in **Table 3.24** and the scoring pattern is given in **Table 3.25** below:

Table 3.24: Distribution of positive and negative statements regarding students' TBLT attitudes

Dimension	Nature of Items	Total No. of Items	Total
Collaborative learning	Positive	3	5
	Negative	2	
Teacher's role	Positive	2	4
	Negative	2	
Motivation	Positive	3	4
	Negative	1	
Practical relevance	Positive	4	7
	Negative	3	
Satisfaction	Positive	5	7
	Negative	2	
Relevance to assessment method	Positive	2	3
	Negative	1	
Total			30

Table 3.25: Scoring pattern of the statements

SI. No	Type of Statements	SA	A	UD	D	SD
1	Positive	5	4	3	2	1
2	Negative	1	2	3	4	5

3.9.2.5 Third phase – Final tryout

To establish the validity, reliability and norms of the scale, which comprised 30 items, it was administered to 70 students at Dispur HS School, Guwahati. In order to ensure a comprehensive understanding of the TBLT approach and to facilitate accurate responses to the scale items, the researcher conducted a few preparatory TBLT activities with these students and also gave a brief introduction about the task-based approach.

3.9.2.6 Reliability of the scale

The reliability of the scale was established using the Test-Retest method. After the first administration of the scale, within a 20-day interval, the same scale was again given to the same group of 70 students. Through the application of Pearson Product Moment Correlation, an overall reliability coefficient of 0.792 was obtained (**Table 3.26**), while the Cronbach’s Alpha reliability is found to be 0.768(**Table 3.27**). These results indicate the reliability of the scale. The Pearson co-efficient and Cronbach Alpha of the categorized dimension is also indicated (**Tables 3.26 and 3.27**).

Table 3.26: Pearson Product Moment Correlation for Test-Retest of the Student

TBLT Attitude Scale

Co-relation Test_Retest	Collaborative learning		Teachers role		Motivation		Practical relevance		Satisfaction		Relevance to assessment method		Overall items	
	Test	Retest	Test	Retest	Test	Retest	Test	Retest	Test	Retest	Test	Retest	Test	Retest
Pearson Co-relation Co-efficient	0.759		0.972		0.785		0.799		0.755		0.734		0.792	

Table 3.27: Cronbach's Alpha reliability overall and individual dimensions of attitude scale

Dimension	Cronbach's Alpha	No of Items
Collaborative learning	0.733	5
Teachers' role	0.726	4
Motivation	0.752	4
Practical relevance	0.801	7
Satisfaction	0.812	7
Relevance to assessment method	0.773	3
Overall Items	0.768	30

3.9.2.7 Norms for the Student TBLT Attitude Scale

The Z-scores norms were further established based on the data obtained from 70 students. The descriptive statistics for the raw scores are as shown in **Table 3.28:**

Table 3.28: Descriptive statistics of the raw scores

Dimensions	N	m	SD	Max	Min	No of items
Collaborative learning	70	18.68	5.84	25	2	5
Teachers' role	70	11.11	3.6	18	4	4
Motivation	70	8.22	3.06	17	2	4
Practical relevance	70	23	5.89	35	9	7
Satisfaction	70	23.55	5.97	33	8	7
Relevance to assessment method	70	12.5	1.8	15	6	3
Overall Items	70	97.43	13.39	120	71	30

Based on the above statistics, z-score norms are prepared for overall attitude and individual dimensions, which are mentioned in the below tables.

Table 3.29: Z-score for overall attitude of students towards TBLT

RAW Score	Z Score	RAW Score	Z Score
71	-1.84187	92	-0.34987
74	-1.63007	93	-0.28868
75	-1.55947	95	-0.14748
77	-1.41827	96	-0.07688
78	-1.34767	97	-0.00628
81	-1.13587	98	0.06432
85	-0.85347	99	0.14432
86	-0.78287	100	0.20552
90	-0.50047	101	0.27612
91	-0.42987	102	0.34672
103	0.41732	113	1.12332
104	0.48792	115	1.26452
105	0.55852	116	1.33512
106	0.62912	117	1.40572
107	0.69972	119	1.54692
109	0.84092	120	1.61752
110	0.91152		

Table 3.30: Norms for interpretation of Z-score for attitude of students towards TBLT

Norms for overall attitude of students towards TBLT			
SL/No	RAW Scores	Range of Z-Score	Definition
1	107 & above	+0.63 and above	Extremely Favourable
2	106-100	+0.62 to +0.15	Highly Favourable
3	99-93	+0.14 to -0.33	Above Moderate Favourable
4	92-86	-0.34 to -0.84	Moderate
5	85-79	-0.85 to -1.33	Below Moderate
6	78-72	-1.34 to -1.83	Highly Unfavourable
7	71 & below	-1.84 & below	Extremely Unfavourable

Further the researcher has also determined the norms based on the dimensions of the attitude scale.

Table 3.31: Z-score for Dimension-1 (collaborative learning)

RAW Score	Z Score	RAW Score	Z Score
24	0.36247	12	-0.14499
23	0.28998	9	-0.72494
22	0.21748	8	-0.79743
21	0.14499	7	-0.36247
20	0.07249	6	-0.94242
19	-0.067347	5	-1.01492
18	-0.07249	3	-1.1599
17	-0.14499	2	-1.2324
15	-0.28998		

Table 3.32: Norms for Dimension-1 (collaborative learning) based on the Z-scores

Norms for dimension-1 (collaborative learning)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	24& above	+0.36 and above	Extremely Favourable
2	23-20	+0.28 to -0.05	Highly Favourable
3	19-16	-0.06 to -0.27	Above Moderate Favourable
4	15-12	-0.28 to -0.72	Moderate
5	11-8	-0.71 to -0.35	Below Moderate
6	7-4	-0.36 to -1.158	Highly Unfavourable
7	2 & below	-2.85 & below	Extremely Unfavourable

Table 3.33: Z-score for Dimension-2 (teacher's role)

RAW Score	Z Score	RAW Score	Z Score
19	1.1701	12	-0.5685
18	0.9217	11	-0.8168
17	0.6733	10	-1.065
16	0.425	8	-1.562
15	0.1766	7	-1.8103
14	-0.0717	6	-2.058
13	-0.3201	3	-2.803

Table 3.34: Norms for Dimension-2 (teacher's role) based on the Z-scores

Norms for dimension-2 (teacher's role)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	19& above	+0.93 and above	Extremely Favourable
2	18-16	+0.92 to +0.18	Highly Favourable
3	15-13	+0.17 to -0.55	Above Moderate Favourable
4	12-10	-0.56 to -1.27	Moderate
5	9-7	-1.26 to -2.04	Below Moderate
6	6-4	-2.05 to -2.79	Highly Unfavourable
7	3 & below	-2.80 & below	Extremely Unfavourable

Table 3.35: Z-score for Dimension-3 (motivation)

RAW Score	Z Score
15	1.0274
14	0.6995
13	0.3716
12	0.0437
11	-0.2841
10	-0.6121
9	-0.94002
8	-1.26793
7	-1.5958
6	-1.9237
5	-2.2516
4	-2.5795

Table 3.36: Norms for Dimension-3 (motivation) based on the Z-scores

Norms for dimension-3 (motivation)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	15& above	+0.7 and above	Extremely Favourable
2	14-13	+0.69 to +0.44	Highly Favourable
3	12-11	+0.43 to +0.62	Above Moderate Favourable
4	10-9	-0.61 to -1.25	Moderate
5	8-7	-1.26 to -1.91	Below Moderate
6	6-5	-1.92 to -2.57	Highly Unfavourable
7	4 & below	-2.58 & below	Extremely Unfavourable

Table 3.37: Z-score for Dimension-4 (Practical relevance)

RAW Score	Z Score	RAW Score	Z Score	RAW Score	Z Score
35	2.03499	24	0.16958	17	- 1.01749
30	1.18708	23	0	15	- 1.35666
29	1.01749	22	- 0.16958	13	- 1.86541
28	0.84791	21	- 0.33916	10	- 2.20457
27	0.67833	20	- 0.50875	9	- 2.37415
26	0.50875	19	- 0.67833		
25	0.33916	18	- 0.84791		

Table 3.38: Norms for Dimension-4 (practical relevance) based on the Z-scores

Norms for dimension-4 (Practical relevance)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	30& above	+1.02 and above	Extremely Favourable
2	29-26	+1.01 to +0.34	Highly Favourable
3	25-22	+0.33 to -0.32	Above Moderate Favourable
4	21-18	-0.33 to -1.00	Moderate
5	17-14	-1.01 to -1.85	Below Moderate
6	13-10	-1.86 to -2.36	Highly Unfavourable
7	9 & below	-2.37 & below	Extremely Unfavourable

Table 3.39: Z-score for Dimension-5 (satisfaction)

RAW Score	Z Score	RAW Score	Z Score
30	1.4032	19	-0.35524
29	1.2433	18	-0.5151
28	1.0834	17	-0.6749
27	0.92363	16	-0.8348
26	0.76377	15	-0.9946
25	0.6039	14	-1.1545
24	0.444	12	-1.4742
23	0.2841	11	-1.6341
22	0.1243	10	-1.7939
21	-0.0355	9	-1.9538
20	-0.1953	8	-2.1136

Table 3.40: Norms for Dimension-5 (satisfaction) based on the Z-scores

Norms for dimension-5 (satisfaction)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	29& above	+1.09 and above	Extremely Favourable
2	28-25	+1.08 to +0.45	Highly Favourable
3	24-21	+0.44 to -0.18	Above Moderate Favourable
4	20-17	-0.19 to -0.82	Moderate
5	16-12	-0.83 to -1.46	Below Moderate
6	12-9	-1.47 to -2.10	Highly Unfavourable
7	8 & below	-2.11 & below	Extremely Unfavourable

Table 3.41: Z-score for Dimension-6 (relevance to assessment method)

RAW Score	Z Score	RAW Score	Z Score
15	1.0274	9	-0.94002
14	0.6995	8	-1.26793
13	0.3716	7	-1.5958
12	0.0437	6	-1.9237
11	-0.2841	5	-2.2516
10	-0.6121	4	-2.5795

Table 3.42: Norms for Dimension-6 (relevance to assessment method) based on the Z-scores

Norms for dimension-6 (relevance to assessment method)			
SL/No	RAW Scores	Range of Z-Score	Definition
1	15& above	+0.7 and above	Extremely Favourable
2	14-13	+0.69 to +0.44	Highly Favourable
3	12-11	+0.43 to +0.62	Above Moderate Favourable
4	10-9	-0.61 to -1.25	Moderate
5	8-7	-1.26 to -1.91	Below Moderate
6	6-5	-1.92 to -2.57	Highly Unfavourable
7	4 & below	-2.58 & below	Extremely Unfavourable

3.9.2.8 Validity of the scale

The scale's face and content validity were established through in-depth discussions with experts in the field of education. Following C.H. Lawshe's (1975) method, the Content Validity Ratio (CVR) was computed for each item. Subsequently, the Content Validity Index (CVI) was calculated, resulting in an overall value of 0.81. This CVI value serves as an indicator of the Attitude scale's content validity.

The final translated Attitude Scale is given in **Appendix V**.

3.9.2.9 Procedure for data collection

The researcher administered the final Student TBLT Attitude Scale to the experimental groups in both schools, totaling 90 students, following the conclusion of the three-month intervention period. The Assamese-translated version of the scale was provided to the students along with clear and concise instructions to ensure accurate responses to all the items. All completed instruments were collected, and the data obtained was systematically compiled for the purpose of analysis.

3.9.2.10 Method of data analysis

For data analysis and interpretation, frequency distribution is used. The scoring of all test data has been meticulously organized and entered into both Excel and Statistical Package for Social Science (SPSS), facilitating seamless statistical computations and analyses.

3.10 Ethical Considerations

Following the completion of the experiment spanning three-months, the researcher obtained the signatures of the headmaster and headmistress from both the schools on certificates, signifying their cooperation and acknowledgment of the researcher's successful completion of three-month intervention period.