



Strategies used by teachers and learners in technology assisted learning at the secondary level

Submitted by:

Mobasherwa Haque

Roll No: 1

Registration No: 009

Session: 2017-2018

Supervised by:

Professor Iffat Ara Nasreen Majid

Department of English Language

Institute of Modern Languages

University of Dhaka

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Dedicated to

My Parents

And

My Husband

Certificate

This is to certify that Mobasherwa Haque, while pursuing the degree of M.Phil., has successfully completed her research work titled *Strategies used by teachers and learners in technology assisted learning at the secondary level* under my supervision. To my knowledge, she did neither submit it to any other university previously for any degree nor publish it in any journal.

I, therefore, forward the submission of her dissertation titled *Strategies used by teachers and learners in technology assisted learning at the secondary level* for the degree of M.Phil.

Supervisor

Professor Iffat Ara Nasreen Majid

Department of English Language

Institute of Modern Languages

University of Dhaka

Declaration of Authorship

I, hereby declare that the thesis titled “Strategies used by teachers and learners in technology assisted learning at the secondary level” I am submitting is entirely my own original research work, and that any use of the works of any other author, in any form, is properly acknowledged at the point of use. It has not been submitted, in whole or in part, by me or another person, in any other institution for the purpose of obtaining any other credit / grade, diploma, fellowship. No part of it has been published and issues related to plagiarism of ethical considerations have been taken care of.

Mobasherwa Haque
M.Phil Researcher
Department of English Language
Institute of Modern Languages
University of Dhaka
Dhaka, Bangladesh
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Acronyms

CLT-Communicative Language Teaching

GTM-Grammar Translation Method

T (1..... 12) - Teacher

Abstract

The combination of technology and use of appropriate strategies both by teachers and students in technology assisted classroom can play an important role to uplift the education system of Bangladesh. Due to the important role of technology this study aimed at investigating what types of technologies and strategies are used by teachers and learners in technology assisted learning at the secondary level. This study also attempted to explore teachers' and students' attitudes towards the use of technology. To collect the data questionnaires were administered, interviews were taken, focus group discussion was arranged, and class observation was done. The study discovered that different types of technological tools are used by teachers and varieties of strategy are used by both teachers and learners in technology assisted classroom. It also found from the collected data teachers used Communicative Language Teaching and Participatory method while they use technology in class. The study found that both the teachers and students have positive attitudes towards the use of technology.

Table of Contents

	Page number
Abstract	vi
List of Tables	xiii
List of Figures	xiv
Chapter One: Introduction	1
1.1 Background of the Research	1
1.2 Significance of the study	2-3
1.3 Problem statement	3-4
1.4 Objectives of the study	4
1.5 Hypothesis	4
1.6 Research Questions	4
1.7 Definition of Terms	4-5
1.8 Thesis outline	5-6
Chapter Two: Literature Review	7
2.0 Introduction	7-8
2.1. Learning Strategies and Learning Styles	8
2.1.1 Learning styles	8
2.2. Learning Strategies	9
2.3. Oxford's (1990) Strategy Classification System	10
2.4. Classification of Language Learning Strategies	11

2.4.1. Direct Strategies	11
2.4.1.1. Memory Strategies	11-12
2.4.1.2. Cognitive Strategies	12-15
2.4.1.3. Compensation Strategies	15-16
2.4.2. Indirect Strategies	16
2.4.2.1. Metacognitive Strategies	16-18
2.4.2.2. Affective Strategies	18
2.4.2.3. Social Strategies	19
2.5. Previous studies on Strategies for technology assisted language learning	19-21
2.6. Language teaching in Bangladesh	22-24
Chapter Three: Research Methodology	25
3.1. Research Design	25
3.2. Nature of the study: Mixed Method Approach	25
3.3. Sample site and Sampling	25-26
3.4. Data collection methods and tools	26
3.5. Qualitative paradigm	26
3.5.1. Semi-structured interview	26-27
3.5.2. Focus group discussion	27-28
3.6. Quantitative paradigm	28
3.6.1. Questionnaire	28
3.6.2. Classroom Observation	28-29
3.7. Instruments for Collecting Quantitative Data	29
3.8. Methodology Matrix guided by Research questions	30

Chapter Four: Findings and Data Analysis	32
4.1. Findings and analysis of teachers' questionnaire	32
4.1.1. Training in Teaching or professional development	32
4.1.2. Gadgets that are available in your school	33-34
4.1.3. Tools that are used in the classroom	35
4. 1.4.Tools used by teachers (besides the above mentioned)	36
4.1.5. kind of technology used by teachers in a class	36
4.1.6. Use of technology by teachers according to the responses from the questionnaire	36
4.1.7. Statement items to know Teachers' attitudes towards the use of technology in teaching and learning	36-40
4.1.8. Scope of using technology by all secondary teachers in Bangladesh	40
4.1.9. Positive things about using technology in the class	41
4.1.10. Disadvantages about using technology in the class	41
4.1.11. Teachers preferred technology tool (multimedia projector, PowerPoint slides, cassette players, interactive cartoon, computer, podcast, you tube, Google	41
4.1.12. Usefulness of using technology to teach language and its effectiveness	41
4.2. Findings and analysis of teachers' interview questions	42
a) Technologies used by teachers in technology assisted classroom	42
b) Teaching methods used by teachers in technology assisted classroom	42-43
c) Use of internet in classroom activities by teachers	44

d) Teachers preference towards the use of Technology or traditional whiteboard/blackboard	45
e) Use of technology in the classroom, benefits and drawbacks of teaching with technology	45-46
f) Limitations of teaching with technologies	46-47
g) Teachers preferable method for effective teaching, in technology assisted classroom	47-49
h) The role of a teacher in the classroom	49-50
4.3 Findings and analysis of teachers' classroom observation	50
4.3.1. Lesson Organization	50
4.3.2. Strategies used by teachers in technology assisted classroom	51
4.3.3. Students' response when technology is used	51-52
4.3.4. Method used by teachers in technology assisted class	52
4.4. Findings and analysis of Students' questionnaire	53
4.4.1. Use of following tools for learning by students	53-54
4.4.4. Teachers use of technology to teach the following subjects	55-57
4.4.5. Usefulness of using technology in a class-	58
4.4.6. Students' preference towards the notes written on multimedia	59-61
4.4.7. Statement regarding student attitudes towards the use of technology	61-62
4.4.8. Challenges you faced in technology assisted learning	62
4.5. Findings and analysis of Students' Focus Group Discussion	63
1. Kinds of technology that are used in class	63

2. Benefits of using technology in the classroom	63
3. Drawbacks of using technology in the classroom	63-64
4. Problems faced by learners when technology is used in the classroom	64
5. Students' activity during the use of technology	64
6. Strategies used by students in technology assisted classroom	65
A. Direct strategies	65
a) Memory strategy	65
b) Cognitive strategy	65-67
c) Compensation strategy	67-68
B. Indirect strategies	68
a) Metacognitive strategy	68
b) Affective strategy	68
c) Social strategy	69
7. Students' responses towards the Teachers' use of technology or white board for teaching	69
Chapter Five: Discussion and Recommendations	70
5. Discussion	70
5.1. Discussion on findings and answer to research questions	70
5.2. Answer to research question 1	70
5.2.1. Types of technologies that are used for language learning and teaching at the secondary level	70
5.3. Answer to research question 2	70
5.3.1 Strategies used by teachers and learners for technology assisted learning	70

5.3. 2.Strategies used by teachers for technology assisted learning	70-71
5.3.3. Strategies used by students for technology assisted learning	71-72
5.4. Answer to research question 3	72
5.4.1. Attitudes of teachers and students towards the use of technology as tool for teaching and learning at the secondary level	72
5.4. 2.Teachers' attitudes towards the use of technology	72
5.4.3. Students' attitudes towards the use of technology	73
5.5 Conclusion	73
Chapter Six: Conclusion and Recommendations	74
6. Conclusion	74
6.1. Recommendations	74-75
6.2 Limitations of the study	75
References	76-78
Appendices	79
Appendix 1 Questionnaire for Teachers	79-82
Appendix 2 Teachers' Interview Questions	83
Appendix 3 Classroom Observation Guide	84-85
Appendix 4 Questionnaire for Students	86-88
Appendix 5 Students' Focus Group Discussion Questions	89

List of Tables

Table 1 Demographic background of Students (1)	31
Table 2 Demographic background of Students (2)	31
Table 3 Demographic background of Teachers	31
Table 4 Tools used in the classroom	35
Table 5 Teachers' attitudes towards the use of technology in teaching and learning	38
Table 6 Lesson organization	50
Table 7 Strategies used by teachers in technology assisted classroom	51
Table 8 Students' response when technology is used	51
Table 9 Method used by teachers in technology assisted class	51
Table 10 Usefulness of using technology in a class	58
Table 11 Students' attitudes towards the use of technology	61
Table 12 Challenges faced by students in technology assisted learning	62

List of Figures

Figure 1 Different Learning Styles	9
Figure 2 Availability of Computer	33
Figure 3 Availability of Multimedia projector	33
Figure 4 Availability of Internet	34
Figure 5 Availability of Cassette players	35
Figure 6 Scope of using technology by all secondary teachers in Bangladesh	40
Figure 7 Use of Facebook, YouTube, Google, e-mail for learning by students	53
Figure 8 Use of technology to teach English language by teachers	55
Figure 9 Use of technology to teach Bangla Language by teachers	55
Figure 10 Teachers use of technology to teach Science subjects	56
Figure 11 Use of technology to teach Maths by teachers	56
Figure 12 Use of technology to teach History by teachers	57
Figure 13 Use of technology to teach Geography by teachers	57
Figure 14 Notes written on multimedia	59
Figure 15 Learning materials mixed/combined with pictures	59
Figure 16 Pictures as learning materials	60
Figure 17 Combination of audio and video as learning materials	60
Figure 18 Only video as learning material	61

Chapter One

Introduction

1.1 Background of the Research

The 21st century is the age of technological development and this is reflected in all spheres of life, including teaching and learning. The scenario of the classroom has changed a lot, a classroom is not only a room enclosed in four walls. The magic touch of technology has changed the scenario of conventional classrooms. Nowadays the classroom is decorated with technological equipment like multimedia projector, internet, computers, and whiteboard beside the traditional blackboard. Now instead of standing with a piece of chalk in front of the blackboard, teachers used technological tools to make the class interactive. At the same time, students and teachers use different types of strategies to make language learning and teaching, learning, or language use effective. Learners intentionally or unintentionally employ various tools, actions, or self-regulate their behaviors. (Cohen, 2011; O'Malley & Chamot, 1990; Oxford, 1990) to cope with the situation.

Teachers use various strategies to make the class student oriented. Teaching strategies are the ways that teachers use to create an effective class. Different teachers have their own strategies and perform accordingly. This paper deals with how teachers use and implement various strategies in a technology assisted class to create a communicative class. Besides, the paper talked about what types of strategies students apply in technology assisted class.

Technology is the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, and the environment, drawing upon subjects such as industrial arts, engineering, applied science, and pure science. Technology is a big term, it consisting of different aspects like computer, the internet, multimedia, power point, you tube, Google etc. In our country use of technology at the secondary level is a new phenomenon. Secondary schools have started using technologies in their teaching and learning, but still, the use is not optimal.

1.2 Significance of the study:

Technology assisted learning refers to the use of computer-based communication (like the use of a multimedia projector, internet, PowerPoint, etc.) where technology is used as a tool to aid the instructional process and to facilitate learning activities. By using technological tools, to inspire students to use different strategies in activities, teachers are seen as the key player. This is due to the capability of technology to provide a dynamic and proactive teaching-learning environment. (Arnseth & Hatlevik, 2012).

In the 21st century, the term ‘technology’ is an important issue in many fields including education. Technology works as a bridge for communication between people whether it is the classroom or outside the classroom, it also works as an assisting tool to facilitate teaching and learning in the classroom. Apart from this, schools that are supposed to prepare students to live in “a knowledge society” need to consider technology integration in their curriculum (Ghavifekr, Ashrafi & Amla Salleh, 2012).

Furthermore, a study by Jamieson-Proctor et al. (2013) revealed that elements and components presented using the technological tool in education contribute a lot in the pedagogical aspects which will lead to effective learning. The usage of technology in teaching and learning could improve students’ achievement. (Nakayima, 2011, Jamieson-Proctor et al., 2013).

Again, research by Klapwijk and Toit (2009) revealed that technological advantages such as immediate feedback exposures to a variety of media (audio and video) encouraged students to read and also helped teachers by reducing their workload.

Impacts of technology are also revealed in a study conducted by Khan (2014). The study explored that students become engaged, interactive, and take part in group discussions when technology is used in the teaching-learning process. Effective use of technology can facilitate student-centered active learning (Ellis et al. 2008). For cognitive development, to lift up the level of creativity, to improve problem-solving skills technology can act as an effective tool (Khan, Hasan, and Clement 2012). In another study, Islam (2014) found that teachers of Bangladesh decide to utilize the benefits of technology as it can easily and effectively promote language learning at the secondary level. The report of UNESCO (2017) reveals the assistance of ICT in

education can complement, enrich and accelerate the teaching-learning process. This research paper is an attempt to find out what strategies are used by teachers and learners in technology assisted learning at the secondary level of Bangladesh. Through this paper researcher also tried to find out teachers' and students' attitudes towards the use of technology as a tool for teaching and learning at the secondary level.

1.3 Problem statement

Usually, research questions are stimulated by relevant literature considering researcher's interest and the significance of the concern to be uncovered (Bryman, 2015). This study focuses its investigation on issues in the realistic settings. To provide rich information on Strategies used by teachers and learners in technology assisted learning at the secondary level, teachers have been interviewed, classes have been observed. Questionnaires have been distributed among teachers and students. Focus group discussion was arranged for students to collect information. The purpose of the study is to find out what kinds of technologies are used for teaching and learning, what strategies are used by teachers and learners in technology assisted learning and teachers' and students' attitudes towards the use of technology as a tool for teaching and learning. The overall objective has been examined through following research questions:

1. What kinds of technologies are used for language learning and teaching at the secondary level?
2. What are the strategies used by teachers and learners for technology assisted learning?
3. What are the attitudes of the teachers and students towards the use of technology as a tool for teaching and learning language at the secondary level?

Answer from Research question 1 will give an idea about what kinds of technological tools are available in classroom and how frequently technological tools are used by both students and teachers for language learning and teaching. It will help to figure out how the use of different technological devices have or have not developed in secondary schools' instructional process. This answer will give a bright idea of the level using technological tools in technology assisted classroom. Research Question 2 will help to find out what strategies are used by teachers and learners in technology assisted learning. This findings will help to shed light on the real scenario of

classroom regarding the use of strategies. Findings of the research question 3 will put a ray on attitudes of the teachers and students towards the use of technology as a tool for teaching and learning language at the secondary level.

1.4 Objectives of the study

The study has been designed to achieve the following objectives:

- To find out the use of technological tools both by teachers and learners in technology assisted learning at secondary level'
- To explore the use of strategies both by teachers and students in technology assisted classroom.
- To find out teachers and students attitudes towards the use of technology.

1.5 Hypothesis

Real scenario of technology assisted classroom and use of strategies both by teachers and students will come out.

1.6 Research Questions

The core aim of this study is to explore what strategies are used by teachers and learners in technology assisted learning at the secondary level. To achieve this aim some specific research questions are designed.

1. What kinds of technologies are used for language learning and teaching at the secondary level?
2. What are the strategies used by teachers and learners for technology assisted learning?
3. What are the attitudes of the teachers and students towards the use of technology as a tool for teaching and learning language at the secondary level?

1.7 Definition of Terms:

Technology: Technology is the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives. Computers, the internet, mobile phones, multimedia projector, power point, are some very common techniques that are used in teaching and learning.

Multimedia-projector: The combined use of several media, such as sound and full-motion video in computer applications. An apparatus for throwing an image on a screen, as a motion-picture projector or magic lantern. Multimedia is the field concerned with the computer-controlled integration of text, graphics, drawings, still and moving images (video) audio, and any other media where every type of information can be represented, stored, transmitted, and processed digitally.

Interactive whiteboard: A smooth, glossy sheet of white plastic that can be written on with a colored pen or marker in the manner of a blackboard. SMART Board An interactive whiteboard. The SMART Board is the brand name of an interactive whiteboard.

Educational software: According to Industry Canada, educational software is computer software whose primary purpose is teaching or self-learning.

Power point: Power point is an application that is highly customizable and where information is very easy to edit. PowerPoint has become the worldwide standard in presentation applications, and this extends beyond higher education (Ortega et al., 2005).

Learning Strategies:

According to Oxford “Learning strategies are the kind of operations employed by the learner to aid the acquisition, storage, retrieval and use of information” (Oxford, R., 1990).

1.8 Thesis outline:

The thesis consists of the following chapters:

Chapter one provides a brief outline about the research, including the background of the topic, the specific research problem, associated research questions and objectives of the study; and lastly, the significance and delimitation of the research.

Chapter Two presents the literature review from the previous researches related to the use of strategies in technology assisted learning. In this section, the researcher tried to organize the related literature from a global context to country context and from general idea to a specific one.

Chapter Three outlines the research methods for this study by combining both qualitative and quantitative techniques. It provides a brief description of selection of the study areas, the data collection method and analysis.

Chapter Four reports on the findings and analysis of the study, where themes have created according to each research question and addressed separately through the application of literature review and conceptual framework. Results are presented in greater depth about the research purpose.

Chapter Five provides a brief account of research findings give depth insight through discussion.

Chapter six is the concluding one. It summarizes the main issues so far touched upon the study. It presents a brief account of the study and provides some recommendations and limitations of the study.

Chapter Two

Literature Review

2.0 Introduction

Technology, in the last two or three decades, has affected almost all areas of human works (Praag & Sanchez, 2015). Everywhere – educational sector, aviation, entertainment industry, medical science, factory production, global communication, and printing – technology has become essential. Different technological tools like multimedia projector, power point slides, Google, internet YouTube have changed people's ways of living, working, and communicating with one another.

In a study, Ibrahim (2010) found that new forms of technology like the internet, computers helped to make strategies in teaching and learning. In other words, it can be said that both teachers and learners use different types of strategies in technology assisted learning.

Furthermore, technology has a considerable influence on the way we teach and the content we deliver. The teacher is expected to facilitate the self-engaged, self-directed and motivated way of learning (Volman & Van Eyck 2001; De Corte et al. 2003; Khan 2014). Technology no longer serves to be a simple additional means but it is an indispensable part of the modern and contemporary learning environment (Kalnina&, Kangro, 2007).

The application of technology gives more opportunities for communication among peer learners: they can exchange information in real-time, they can participate in blog discussions, work in teams on different projects, exchange emails, search for information, etc. By using the authentic material provided by the internet we will have a better insight into the culture and people whose language we study (Padurean & Margan, 2009; Rozgiene, Medvedeva & Strakova, 2008). Moreover, the Audio/video program of a particular lesson can provide students with extra opportunities to do meaningful language learning tasks.

Technology in today's society is rapidly evolving, influencing many aspects of our social and professional lives. In a classroom setting, a crucial factor for successful integration of technology is the teacher, as she directly determines the best instructional practices for her students (Hite 2005; O'Bannon and Judge 2004).

Raymond Janssens (1977) quoted by Conlan & Ahmed (2011, p.63) that successful learning depends on student's "ability, interest, and motivation of the students. For that multimedia has become an important and essential element for the learners." "It is often true that viewers of these multimedia presentations pay attention to the fascinating PowerPoint slides at the beginning of the presentation." (Conlan & Ahmed, 2011, p.63).

Studies by different researchers find out how technologies are being used by teachers. Teachers are using computer technology since the early 1980s (Mirzajani, Mahmud, Ayub, & Wong, 2016) for their different affordances. First, technology facilitates to the preparation of lesson plans, class outlines, and develops quizzes and examinations. Second, technology enhances learners' motivation and engagement in activities improving retention rates.

2.1. Learning Strategies and Learning Styles

2.1.1. Learning styles:

The term "learning styles" refers to general approaches –for example, global or analytic, auditory or visual –that students use in acquiring a new language or learning any other subjects. Technically, an individual's learning style refers to the preferential way in which the student absorbs, processes, comprehends, and retains information. For example, when learning how to build a clock, some students understand the process by following verbal instructions, while others have to physically manipulate the clock themselves. This notion of individualized learning styles has gained widespread recognition in education theory and classroom management strategy.

Educational theorist Neil Fleming's VARK model of Student Learning, classifies learning styles into four categories. VARK is an acronym that refers to the four types of learning styles: Visual, Auditory, Reading/Writing Preference, and Kinesthetic. (The VARK model is also referred to as the VAK model, eliminating Reading/Writing as a category of preferential learning.) The VARK model acknowledges that students have different approaches to how they process information, referred to as "preferred learning modes." The main ideas of VARK have been outlined in Learning Styles Again: VARKing up the right tree! (Fleming & Baume, 2006).

2.1.2. Different learning styles

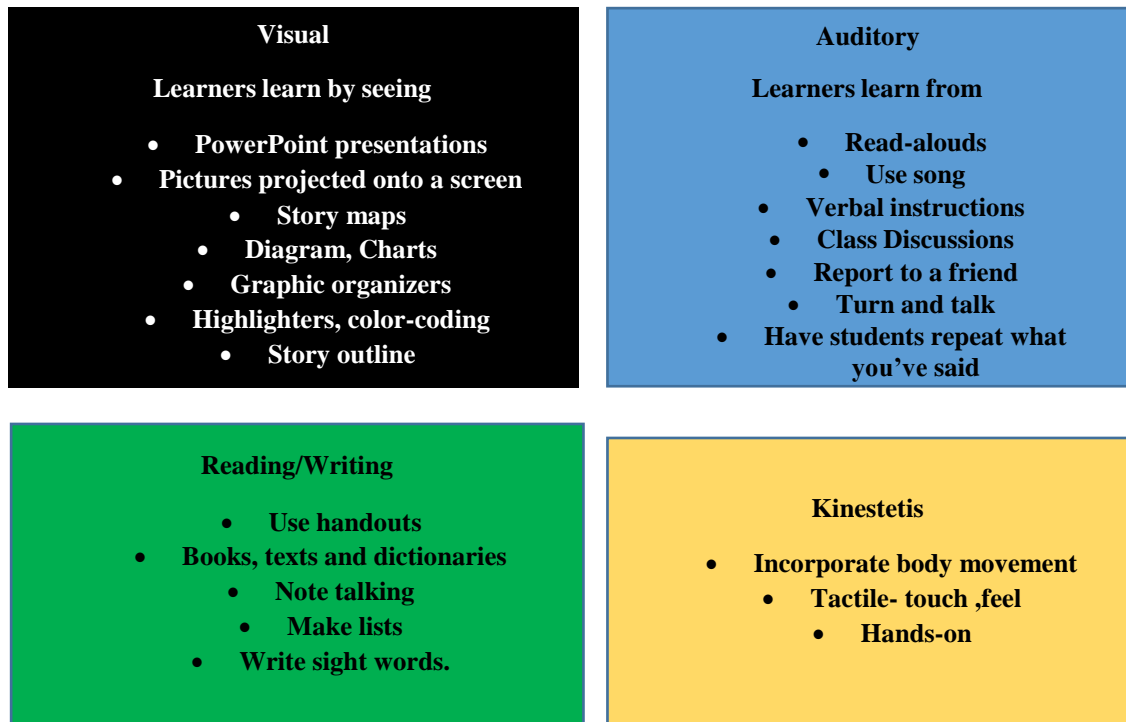


Figure 1: Different Learning Styles

2.2 Learning Strategies:

According to Oxford “Learning strategies are kind of operations employed by the learner to aid the acquisition, storage, retrieval and use of information” (Oxford, R., 1990). Again Oxford, R (1990) stated that “Language learning strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations”.

Oxford’s definition indicates that strategies make learning easier which helps learners to learn with pleasure. Learning can be done with joy learning becomes fast, effective, transformable. When such things happen reading, writing, speaking, listening abilities of learners develop.

2.3. Oxford's (1990) Strategy Classification System

Direct Strategies		Indirect Strategies	
1.Memory Strategies	Help learners store and retrieve new information (e.g., applying images and sounds, creating mental images.)	1.Metacognitive Strategies	Allow learners to control their own cognition (e.g., coordinating the planning, organizing, and evaluation of the learning process.)
2.Cognitive Strategies	Applied by learners to better understand and produce the target language(e.g., summarizing, analyzing, reasoning)	2.Affective Strategies	Refer to the methods that help learners to regulate emotions, motivation, and attitudes(e.g., taking emotional temperature, self-encouragement)
3.Compen-satory Strategies	Used for overcoming deficiencies in knowledge of the target language(e.g., guessing meaning from context, using synonyms to convey meaning)	3.Social Strategies	Include interaction with others through the target language(e.g., asking questions, cooperating with native speakers, becoming culturally aware)

2.4. Classification of Language Learning Strategies:

2.4.1. Direct Strategies:

2.4.1.1. Memory Strategies:

Memory strategies help students to store and retrieve information which is sometimes referred to as “Mnemonics”. These are more effective when used by combining with meta-cognitive strategies (paying attention) and affective strategies (reducing anxiety)

Memory strategy has 4 sets:

1. Creating mental linkages;
2. Applying images and sounds;
3. Reviewing well;
4. Employing action;

1. Creating mental linkages:

Creating mental linkages consists of three strategies (these are the cornerstone for the rest of the memory strategies)

- a. **Grouping:** classifying or reclassifying material into meaningful units, either mentally or in writing which could be based on the type of words (noun, verb, etc.), topic (weather, clothing, etc. Similarity (warm, hot, etc.) feelings (like, dislike, etc.), and so on.
- b. **Associating/ elaborating:** relating new language information to concepts already in memory or relating one piece of information to another.
- c. Placing a word or phrase in a meaningful sentence, conversation, or story in order to remember it. Sometimes we also use rhymes to remember new words.

2. Applying images and sounds:

Applying images and sounds strategy is further divided into the following types:

- a. **Using imagery:** Creating a mental image to remember what has been heard or read in the language. For example, learners remember a word by remembering the place they first read the word, again learners remember words or grammar like prepositions using a box.

- b. **Semantic mapping:** Arranging concepts and relations on paper to create a map or diagram in which the key concepts are highlighted and are linked with concepts via arrows or lines. At the time of classifying things we use such type of mapping, to distinguish things we also use it like to separate verbs, nouns, adjectives from a text we use it.
- c. **Using keywords:** combines sounds and images so that the learners can more easily remember what they hear or read in the new language.

3. Reviewing well:

The key is structured reviewing. It entails reviewing at different intervals. At first in short intervals, then increasingly far apart.

4. Employing action:

These two strategies use physical response or sensation and mechanical technique.

2.4.1.2. Cognitive Strategies:

These strategies are typically found to be the most popular strategies with language learners. Strategies for practicing are among the most important cognitive strategies.

Cognitive strategies consist of 4 sets:

1. Practicing
2. Receiving and sending messages
3. Analyzing and reasoning
4. Creating structure for input and output.

1. Practicing: 5 types of practicing strategies-

a. Repeating:

Saying or doing something over and over. Listening to something several times; rehearsing; imitating a native speaker (to improve vocabulary, pronunciation, use of idioms, tone). This strategy can also be used in reading and writing. In the case of reading, repetition might also mean reading passage more than once to understand it. Or reading it several times with different purposes in mind (general idea, prediction, reading for detail, write down question etc.) in case of

writing reaping helps to find out the mistakes as nothing ever comes out perfect the first time.

b. Formally practicing with sounds and writing systems:

These are listening perception exercises, not listening comprehension. Recordings, not live speech, are recommended for listening perception. Example: A learner listens to different words containing the letters “ough”, a combination that sounds different in various words: through, though, tough. He then creates his own phonetic spelling of these words to understand them better (throo, thow, tuff).

c. Recognizing and using formulas and patterns: Formulas are unanalyzed expressions while patterns have at least one slot that can be filled with an alternate word

d. Recombining: Combining known elements in new ways to produce a longer sentence. Example: A learner knows expressions like “weather’s fine “, “I think I’d like...”, and “take a walk”. At the time of practicing her speaking, she creates a new sentence with some additional words: “The weather is fine today, so I think I’d like to take a walk. Recombining can be used in writing also. Using these expressions one can write a short story or descriptive paragraph also.

e. Practicing naturalistically: This strategy centers on using the language for actual communication.

2. Receiving and sending messages:

It can be done by following two strategies:

a. Getting the idea quickly: this can be done by using skimming and scanning. Skimming involves searching for the main ideas the speaker wants to target. Scanning means searching for specific information.

b. Using resources for receiving and sending messages: this strategy involves using resources to find out the meaning of what is heard or read in the new language. Dictionaries, word lists, grammar books, and phrasebooks may be valuable. Nonprint resources may include tapes, radio, internet resources.

3. Analyzing and reasoning:

These strategies help the learners to use logical thinking to understand and use the grammar rules and vocabulary of the new languages. Five strategies:

- a. **Reasoning deductively:** Guessing at the meaning of what is heard by means of general rules the learner already knows. Example: June knows the sentence, “Would you like to go to the library?” is a question because he recognizes that part of the verb comes before the subject (a general rule he has learned). One problem, however, is overgeneralization. For example, Karim knows the past tense in English uses ed, so he applies this rule to “bringed”, and “goed”.
- b. **Analyzing expressions:** this involves breaking down a new word, phrase, sentence, or paragraph into its individual components. Example: A learner does not understand the phrase “premeditated crime”. She then breaks down the phrase into its parts. Crime (bad act), meditate (think about), pre- (before). So she then figures out the phrase: a bad act that is planned in advance.
- c. **Analyzing contrastively:** Most students use this one naturally. It involves analyzing elements (sounds, words, syntax) of the new language to determine likeness and differences in comparison with one’s own native language. For example- the English word “papa “sounds close to the Korean word”appa”. Both mean father. This strategy is used a lot with western languages such as English and French that have a lot of very similar words (English: cream, French: creme).
- d. **Transferring:** This involves transferring linguistic knowledge from L1 to L2. This can sometimes be a problem as language elements in the L1 and L2 are often different. For example A learner says, “Teacher, I bathroom go”. He incorrectly places the verb at the end of the sentence via grammar transferring from the L1.
- e. **Translating:** Most effective in early language learning. Uses the L1 as the basis for understanding the L2.

5. Creating structure for input and output:

The following 3 strategies are ways to create structure, which is necessary for both comprehension and production in the new language-

- a. **Taking notes:** the focus on note-taking should be on understanding, not writing. Key points can be written in the L1 first than in the L2 as the student progress. There are 5 kinds of note-taking approaches-

Raw notes, T-formation notes, Standard outline structure, Semantic map

- b. **Summarizing:** Making a summary or abstract of a longer passage.
- c. **Highlighting:** Highlighting is a way to supplement notes and summaries. It can be done by using colors, capital letters, big writings, stars, boxes, and circles.

2.4.1.3. Compensation Strategies:

Compensation strategies help the students to use the language despite having large gaps in knowledge. These strategies are intended to make up for a lack of knowledge in the areas of grammar and vocabulary. These strategies consist of **2 sets**:

1. **Guessing intelligently (in listening and reading):** Guessing is essential for listening and reading. Students need not recognize every single word before they can comprehend the overall meaning. There are two strategies in guessing intelligently-
 - a. **Using linguistic clues:** Example: if a learner knows the English word shovel, grass, mower, and lawn so he/she knows the conversation is probably about gardening.
 - b. **Using other clues:** there are additional clues that may or may not be related to language such as forms of address that imply social relations. Examples:
 - * Forms of address
 - * Observation of non-verbal behavior
 - * Knowing what has already been said
 - * Audible or visual clues
 - * Meaning in the text structure.
 - * Descriptions of people
 - * General Background knowledge.

2. **Overcoming limitations in speaking and writing:** All the compensation strategies for speaking and writing contribute to learning by allowing learners to stay in conversations or keep writing long enough to get sustained practice. It includes 8 strategies. These are-
- a. **Switching to the mother tongue**
 - b. **Getting help**
 - c. **Using mime or gesture:** Using a physical gesture in place of the word or expression in a conversation to indicate the meaning. Familiar mimes or gestures: pointing, indicating objects, clapping, or giving a “thumbs up”.
 - d. **Avoiding communication partially or totally:** Involves not speaking when a difficulty arises or is anticipated.
 - e. **Selecting a topic:** the learner choose the topic of conversation. This allows the speaker to pick something they know about and are interested in a conversation about.
 - f. **Adjusting or approximating the message:** Some items of information are omitted to make the message simple or less precise. Example: Nina says she has to leave but she doesn't indicate she has an appointment at the dentist's office in 20 minutes. Her English level limits the information she can give so she approximates the message.
 - g. **Coining words:** Making up new words in the L2 because one lacks the vocabulary knowledge to communicate a concept.
 - h. **Using circumlocution or synonym:** A circumlocution is a roundabout expression involving several words to explain a single concept. Example: Robert doesn't know “car seatbelt “so he says, “I'd better tie myself in”.

2.4.2. Indirect Strategies:

Support and management of language learning without directly involving the target language. Indirect strategies are classified into three groups. These are-

2.4.2.1. Metacognitive Strategies:

Metacognitive means beyond, beside, or with the cognitive. These strategies go beyond purely cognitive devices and provide the student with a way to coordinate their learning process.

Metacognitive strategies consist of three sets:

A. Centering your learning: This set of strategies helps learners to coverage their attention and energies on certain language tasks, activities, skills or materials. A FOCUS is provided through the use of these strategies. In the centering of your learning strategy, there have three subcategories. These are:

A.1. Overviewing and linking with already known material: This strategy involves previewing the basic principles and or material (including new vocabulary) for an upcoming language activity and linking these with what the learner already knows. Vocabulary building can be an important part of the overviewing / thinking strategy. It is helpful to follow 3 steps-

- Learning why the activity is being done.
- Building the needed vocabulary.
- Making the association.

A.2. Paying attention: This strategy involves two modes “direct attention” and “selective attention”.

A.3. Delaying speech to focus on listening: Can be used as a positive or negative. Learners don't need to teach this strategy as many students already use it automatically.

A.4. Arranging and planning your learning: Under this strategy, there are six sub-strategies:

B.1. Finding out about language learning: Uncovering what is involved in language learning. Books are a good source of information. Let students talk about their language learning problems, ask questions, and share ideas. Take class time to discuss the learning process and what the students think about it.

B.2. Organizing: This strategy includes a variety of tools such as:

Creating the best possible physical environment: Having a proper physical environment is important. Listening and reading require a comfortable, peaceful setting with little to no background noise. Also establishing a good classroom environment can encourage students to learn.

Scheduling well: This is a practical strategy for scheduling time to practice inside and outside the classrooms

Keeping a language learning notebook: This is an excellent organizational aid in learning. The student can write down new expressions, structures, and other content.

B.3. Setting goals and objectives: be SMART where –

S=Specific/sustainable

M=Measurable

A= Attainable

R= Realistic

T= Timely

2.4.2.2. Affective Strategies:

This refers to emotions, attitudes, motivations, and values. The affective side of the learner is probably one of the biggest influences on language learning success or failure. There are three sets of affective strategies:

A. Lowering self-anxiety: A certain amount of anxiety can sometimes help learners to reach peak performance levels but too much anxiety blocks language learning. Under this strategy there have 3 sub-strategies: Using progressive relaxation, deep breathing, meditation or prayer, using music, using laughter.

B.Encouraging oneself:

It includes 3 strategies-

B.1. Making positive statements: Having positive attitudes towards learning, a learner can enjoy learning the new language, can understand without knowing every word, a learner can read faster than he/she was a month ago, can tell his/her fluency is increasing, he/she is taking risks and doing well, It's OK if he/she make mistakes.

B.2. Taking risks wisely: This strategy involves taking risks regardless of the possibility of making a mistake. This is not the same as reckless or wild risks. Good judgment must be used. Taking risks also supports other affective strategies such as making positive statements or rewarding oneself.

B.3. Rewarding oneself: This is not the same as a teacher rewarding a student (External rewards). Learners need to discover how to reward themselves for good work in language learning. Rewards don't necessarily need to be tangible or visible.

C.Taking emotional temperature:

Taking emotional temperature strategy is subdivided by the following strategies:

~Listening to self-body

~Using checklist

~Writing a language learning diary

~ Discuss self-feelings with someone.

2.4.2.3.Social Strategies: A language is a form of social behavior. Communication occurs among and between people. Since communication involves others, these social strategies are very important in the process of learning another language. There are three sets of social strategies:

1. **Asking questions:** This is one of the most basic social interactions. Asking questions helps the learner better understand the intended meaning and aids in understanding. It also encourages the conversational partner to provide larger quantities of “input” in the target language and indicates interest and involvement. Asking questions strategy have two types-
 - a. **Asking for clarification:** This involves asking the more proficient speaker to slow down, paraphrase, repeat, explain, or clarify what has been said. Example: Philip does not understand when Tommy says, “ wadja wanna do?” Philip then asks Tommy to slow down and clarify by saying more distinctly, “What do you want to do?”
Sample questions:
 1. Would you please repeat that?
 2. Please speak more slowly.
 3. I’m sorry. I don’t understand.
 4. Please pardon me.
 - b. **Asking for correction:** This strategy is used mostly in speaking and writing. It is related to the strategy of self-monitoring, in which students notice and correct their own difficulties. Example: kang wants to improve his English writing, so he asks the teacher to mark his most serious mistakes. Then he makes the appropriate corrections on his own.
2. **Cooperating with others:** Cooperating with peers. Cooperating with proficient users of the new language.
3. **Empathizing with others:** Developing Cultural understanding. Becoming aware of others’ thoughts and feelings.

2.5. Previous studies on Strategies for technology assisted language learning:

One of the distinctive technological features of reading online is the interactivity between learners and texts. Nor, Hamat, Azman, Noor, and Bakar (2011) employed interactive tool like annotation to teach English reading comprehension to 81

Malaysian college students. The study reveals that the assistance of annotation to teach English reading allows the student to use strategies like, share with peers or comment on peers' notes, write down questions and notes.

Regarding online reading, another study shows that adult learners preferred metacognitive strategies over taking notes or reading aloud in online reading tasks (Ramli, Darus, and Bakar, 2011). Metacognitive strategies include advanced planning and comprehension monitoring, such as global reading strategies (e.g., having a purpose in mind when reading online, checking to understand, deciding what to read closely and what to ignore), problem-solving strategies (e.g., trying to visualize information), and support strategies (e.g., seeking tools to aid comprehension).

Research conducted by Yoon, and Jo (2014) on students of four Korean colleges explored that students employed four categories of learning strategies while performing error correction in writing with the help of a free online corpus, lextutor (A complete web site for learning about English and French words). Those strategies are: metacognitive (e.g., self-evaluation/monitoring), cognitive (e.g., making use of materials, association, grouping, and translation), affective (e.g., lowering anxiety and self-encouragement), and social (e.g., questioning for clarification). Among these, the category of cognitive strategies was found to be the most and significantly more often than in the other three categories.

To find out the role of mobile phone technology in language learning strategies, Bekleyen and Hayta (2015) conducted a study with 75 English language teaching majors in a state university in Turkey. They found that the participants used cognitive, memory, compensation, metacognitive, affective, and social strategies. It also explored that learners used affective strategies most and Social strategies were the least common.

To find out what strategies are used by learners at technology assisted speaking Hung (2016) conducted a study. Hung's findings revealed that the most frequently used strategy was modifying language for accuracy and constant practices, along with watching others' oral comments, jotting down comments for future improvements, and discussing with classmates.

Vocabulary knowledge and the capability to use proper vocabulary in the proper place have a great impact on all four of the language skills, listening, speaking, reading, and writing. Thus, how to develop good learning strategies, methods, and tools is an important issue (Liu et al., 2010; López, 2010).

To compare what strategies are used by learners in technology assisted vocabulary learning and without the integration of technology in vocabulary learning a study was conducted by Li (2009). For this purpose, the researcher divided the students into two groups where one group was taught in paper format and another was in e-Lective format. The strategies used in the e-Lective condition included using online dictionaries, taking notes, guessing and inferring, summarizing and making connections, reading aloud, and discussing. According to the participants, compared to those in printed texts, e-Lective allowed them to utilize more strategies. It also reveals that students in the e-Lective condition used higher levels of cognitive and social strategies (e.g., summarizing and discussing), whereas in the paper condition they employed fewer social strategies.

In a research conducted by Gallo-Crail and Zerwekh (2002) on 25 beginning level students of Tagalog at Northern Illinois University found that students employed various strategies like memory strategy (e.g., association), cognitive strategy (e.g., translation), compensation (e.g., use of linguistic and other clues), affective (e.g., developing cultural understanding), and metacognitive (e.g., overview and lining with previous learning materials) to support technology assisted vocabulary learning.

In a survey conducted by Goldenberg (2011), eight New York City public schools revealed that the majority of students felt science learning is more meaningful "when they can actively engage in hands-on activities, group work, discussions, and explore through digital resources" (p. 52). It is important for teachers to know how to use technology as a tool to support the learning process (Hughes 2008; Oblinger and Oblinger 2005). Therefore, it is important to expose teachers to various technologies that can be used to support many diverse teaching and learning activities (Lei 2009).

2.6. Language teaching in Bangladesh:

With regard to English language teaching, a number of methods and approaches have been introduced, and among them Grammar Translation Method dominated European and foreign language teaching for about 100 years from the first half of the 19th century to the first half of the 20th century. In modified form, it continues to be widely used in some parts of the world today. The objectives of GTM is to teach grammatical rules and train the students to write the new language accordingly, although there is much stress of knowing the rules and exception, little training is given in using the language actively to express one's own meaning.

In any classroom situation teacher's point of view is usually focused as a teacher's role is important in conducting the class. We cannot think of an effective class without a teacher. The role of the teacher is that of a facilitator who helps students become autonomous learners (Brown, 2007). With the passage of time, the role of the teacher is changing. Teachers' role as authoritative has started to change day by day, now teachers are facilitators, motivators. Two common methods applied by teachers in the classroom are the grammar-translation method and communicative language teaching. Both methods have some merits and demerits.

In technology assisted classroom teachers of secondary level of our country are often confronted with the dilemma of adopting suitable strategies in teaching. To engage students in classroom activities teachers use numerous types of strategies which can also be regarded as teaching methods or approaches. Some common teaching approaches which are used in the context of Bangladesh is communicative language teaching (CLT), and the grammar-translation method (GTM).

The teachers were highly authoritative and the teacher talking had a lion's share in the classroom from the first half of the 19th century to the first half of the 20th century. The teaching of grammar took place deductively. However, as a result, some negative results came out e.g. students memorized rules without understanding, instead of writing their own answers, they observed the question and produced the corresponding lines of the reading comprehension passage, memorized essays, and paragraphs in lieu of learning the rules to write. They also memorized the formats of letters without connecting them to the language. Meaning and answers to the questions from the literary texts were made at the house by private tutors' help or

through guide books and reproduced in the examination hall. Sometimes, due to excessive practice, they could, however, produce the correct answers but could not explain the reasons. They learned the English words without knowing their forms and functions and also the use in a sentence and so, they could not form another sentence using the same word.

As a consequence, GTM proved to be unsuccessful in teaching English in Bangladesh. Of late, communicative language teaching has been introduced at the secondary level of education in Bangladesh. However, CLT chiefly focuses on the development of the communicative competencies of the learners through the practice of four skills of the language. Communicative language teaching approach claims that learning a foreign/second language is not a matter of knowing about that language. Rather it requires the constant and regular practice of the basic language skills of that language. Hence CLT emphasizes the practice, use, and development of these skills. Communicative language teaching approach is not only applicable to teaching language but also applicable to teaching.

Raymond Janssens (1977) quoted by Conlan & Ahmed (2011) found out that successful learning depends on students' ability, interest, and motivation". For that multimedia has become an important and essential element for the learners. "It is often true that viewers of these multimedia presentations pay attention to the fascinating PowerPoint slides at the beginning of the presentation." (Conlan & Ahmed, 2011, p.63). They have also mentioned teachers and also students should not take the use of technology as the only technique for learning a foreign language. Rather these media should be taken just as "help" or to assist learners to learn effectively.

There is a connection between the teaching aids that have been used to conduct teaching in class and teachers using different teaching methods. "Traditional methods of teaching as well as multimedia teaching methods that can be attempted in imparting knowledge to the students" (Damodharan & Rengarajan, 2010, abstract para 1). "In the traditional teaching method, a teacher uses traditional teaching aids or blackboard where the teacher is the facilitator, medium of the information using chalk and blackboard to spread information" (Damodharan & Rengarajan, 2010, abstract para 1). On the other hand, teachers use e-tools to spread the information towards

students by educational technology such as an overhead projector. According to Dr. Damodharan and Rengarajan (2010) new technology helps to represent class activity in a meaningful way where media is used to convert class lessons into digital form for the presentation in class. It helps students to learn, capture the class lesson easily as the presentation motivates learners more than the traditional teaching aid.

Though there have been a number of studies in different countries regarding strategies and technology assisted language learning at different levels, there has been little research on the use of strategies by teachers and learners in technology assisted learning at the secondary level of Bangladesh. That's why this study aims at finding out what kinds of technologies are used for teaching and learning, what strategies are used by teachers and learners in technology assisted learning at the secondary level of Bangladesh. It also aims to explore teachers' and students' attitudes towards the use of technology as a tool for teaching and learning at the secondary level.

Chapter Three

Research Methodology

This chapter discusses the background of the research, participants and settings, research instruments, and data collection procedure.

3.1. Research Design

This study tried to find out what strategies are used by teachers and students in technology assisted learning at secondary schools of Dhaka city. It also tried to explore what technologies are used in the classroom and teachers' and students' perceptions towards the use of technology in the classroom. This study intends to provide a generalized view of the strategy use of both teachers and students in technology assisted learning and tries to give an insight into what types of technology is being used and teachers' and students' perception towards it.

3.2. Nature of the study: Mixed Method Approach-

"A research design provides a framework for the collection and analysis of data." (Bryman, 2015). According to Patton (2005), qualitative data tells a story, and qualitative methods allow for an in-depth inquiry into selected issues where attention to detail, context, and nuance are necessary.

To find out the strategies used by both teachers and learners the researcher employed semi-structured interviews (for teachers), focus group discussions (for students), and class observation (for teachers). Semi-structured interviews are to help the researcher to know the strategies employed by the teachers in technology assisted classroom. And classroom observations would help the researcher to know the types of strategies used by teachers. Focus Group Discussion (FGD) is to know about students' strategy use in technology assisted classroom.

3.3. Sample site and Sampling

Dhaka, the capital city of Bangladesh, was selected as a sample site for this research because some teachers from almost every school in the capital have got training on ICT integration or used ICT in classroom activities. On the other hand, this site was also convenient for the researcher to collect data regarding contact with school authorities to conduct observation in their schools.

Both teachers and students have been selected by using a purposeful random sampling method. In purposive sampling, sites, like organizations, and people (or whatever the unit of analysis is) within sites are selected because of their relevance to the research questions (Bryman, 2015). This sampling process identifies the population of interest as well as it was guided by research questions to get more credible data. The researcher has selected students of grade 9 purposively as these students are the present students of the school who are experiencing the instruction through ICT by their teachers. During focus group discussion the researcher took a group of students where every group consists of 5 students from the particular school. In boy's school or in girl's school researcher used only simple random sampling to choose the students for focus group discussion. Thus, every group consisted of students of grade 9, and they were randomly selected from their classroom.

3.4. Data collection methods and tools

Data collection for this qualitative part has been done through three different data collection methods. The researcher used semi-structured interviews, focus group discussions and classroom observations to collect data from schools and participants.

3.5. Qualitative paradigm

3.5.1. Semi-structured interview

A semi-structured interview is a widely used technique to get in-depth information about a specific topic. With a specific theme, the researcher wanted to ask some open-ended questions to the teachers in a conversational style. In a semi-structured interview the researcher should have a list of questions or relatively specific topics to be covered, often referred to as an interview guide, but the interviewee has a great deal of freedom in how to reply (Bryman, 2015). In a semi-structured interview, questions should be open-ended to help interviewees discuss more the phenomenon. Questions may not follow the exact outline of the schedule. More probe questions can come out through the discussion with interviewees.

The researcher aimed to know what strategies are used by teachers' in technology assisted classroom, as well as their perceptions towards using technology. The researcher wanted to figure out the influence of technology in the classroom behavior of both teachers and students. Conversationally it was possible to get more in depth

information about integrating ICT in schools and teachers' reaction to the training and other facilities. The interview was both in-depth and time-saving. The researcher made a set of questions that drive teachers to explain what type of technique they use, the benefits of using technology, drawbacks of using technology, and their attitudes towards technology use in secondary education. The researcher created a certain amount of topic areas so that questions about them can flow reasonably well. Though the questions were open-ended, he also added some prop questions to get an in-depth view of the situation. The interview questions had been made in both English and Bangla so that participants can answer their questions according to their wishes. Before the interview session it was, made clear by the researcher that the answer will be recorded and will be only used for research purposes. The interview schedule was prepared in light of the research questions.

3.5.2. Focus group discussion

Focus group discussions help to get more information about the situation by generating more ideas and issues among the participants. According to Bryman (2015), "An individual may answer in a certain way during a focus group. But, as he or she listens to others' answers, he or she may want to qualify or modify a view; or may wish to voice agreement to something that he or she probably would not have thought of without the opportunity of hearing the opinions of others. These possibilities mean that focus groups may also be beneficial in the elicitation of a wide variety of different views about a particular issue."

The researcher conducted 6 FGDs in 6 schools. There were 5 students in every group, and they were selected randomly from grade 9. In each students were either males or females. The researcher introduced herself and her project at the beginning of the discussion and started the conversation with greetings. Then, she wanted to know about the learning experience in classes where teachers use technology to teach them. Students expressed their comments, and they also added the difference between classes where technology is used and where it is not used. The researcher was guiding them to stay in line with the research questions, and they were keen to explain the situation of their classroom and schools.

In an FGD, it is usually not difficult to write down precisely what people say, but who says it. In an individual interview, it might be possible to ask a respondent to

wait while notes are taken. But to do this in the context of an interview involving several people is disruptive. The researcher was interested in who are expressing their views and how they were reacting to every question, but it was painful to look and listen in different directions in a particular moment. That's why the researcher humbly requested the participants to respond one by one. To conduct the FGD successfully by ensuring every student's participation the researcher provided a specific code for every student like S1...S5 and requested them to answer questions by raising hands. But sometimes they could not maintain it and started talking together. The researcher recorded the whole conversation after taking their consent and students also tried to cooperate as much as possible.

3.6. Quantitative paradigm:

3.6.1. Questionnaire:

Questionnaires are used to obtain data from individuals about themselves. A questionnaire is an important tool for collecting and analyzing information from selected individuals. A questionnaire is widely accepted as a key tool for conducting and applying basic social science research methodology. The benefits of using a questionnaire are it helps to get information from mass people at a lower cost and is easier to collect. Questionnaires are extremely efficient at providing information in a relatively brief time period at a low cost to the researcher. For these reasons, the researcher chose a questionnaire survey instrument to assess what technologies are used by teachers in classrooms and what are the perceptions of both teachers and students towards the use of technology for learning.

3.6.2. Classroom Observation

The researcher went for structured class observation to identify strategies used by teachers in technology assisted learning. Bryman (2015) stated that "Structured observation is a technique in which the researcher employs explicitly formulated rules for the observation and recording of behavior. The rules inform observers about what they should look for and how they should record behavior". This observation was a non-participant process where the researcher only observed the class but did not take part in any activities of the classes. The researcher used a checklist to observe the

class. The observation was also necessary to observe how teachers are using technology in the teaching-learning process. Observation also gave the researcher a chance to cross-check the data provided by teachers. If anything exceptional happened during the class time, the researcher took the remark for further comparison with data.

With the consent of the headmaster of the school, the researcher went to observe the classes. The researcher observed the classes of those teachers whom he interviewed before. The researcher followed the observation guide which helped him to address technology-related usage in classroom practices. The researcher observed the extent of using ICT in teaching and learning and how long teachers are using ICT in class. The researcher also tried to notice how the teachers were introducing technologies according to their lessons. It was also essential to find how teachers were using their pedagogical knowledge to include ICT in their teaching.

Use of technology, in the discussion of different topics, was also observed by the researcher as it ensures the reliable use of technology in teaching and learning. The researcher tried to figure out the challenges faced by teachers during class time which was including classroom management and setting up the ICT tools. The researcher also took notes and wrote comments in his observation guide after observing every class.

3.7. Instruments for Collecting Quantitative Data

Two questionnaires were developed, one is for the teacher and another is for the student.

3.8. Methodology Matrix guided by Research questions:

Parallel mixed method was designed by the researcher to collect the information to get the answer of the research questions which is given below:

Research Questions	Type of Data	Source of Data with Sample Size	Sampling	Tools for Data collection	Data Analysis Technique
1. What kinds of technologies are used for language learning and teaching at the secondary level?	Quantitative	Teacher(12) from different school of Dhaka city	Random sampling	Questionnaire	Descriptive Analysis
2. What are the strategies used by teachers and learners for technology assisted learning?	Qualitative	Teacher(12) for interview and students (30) for FGD	Purposive sampling for teacher. And random sampling for student.	Semi-Structured interview and class room observations for teachers. FGD and classroom observation for students.	Thematic Analysis.
3. What are the attitudes of the teachers and students towards the use of technology as a tool for teaching and learning language at the secondary level?	Quantitative	Teacher(12) and students (100)	Random sampling	Questionnaire	Descriptive analysis.

Table 1: Demographic background of Students (1)

Factors	Frequency	Percentage (%)
Gender		
Male	43	43
Female	57	57

Table 2: Demographic background of Students (2)

Factors	Frequency	Percentage (%)
Groups		
Science	38	38
Humanities	39	39
Commerce	23	23

Table 3: Demographic background of Teachers

Participants	Gender	Approximate age group	Teaching experience	Training on teaching or professional development
T1	Female	31-35 years	7 years	No
T2	Male	46-50 years	10 years	Yes
T3	Female	41-45 years	More than 16 years	Yes
T4	Male	26-30years	3 years	No
T5	Female	41-45 years	12 years	Yes
T6	Female	26-30years	2 years	No
T7	Male	26-30years	2 years	No
T8	Male	31-35 years	5 years	Yes
T9	Male	31-35 years	5 years	Yes
T10	Female	51-55 years	More than 18 years	Yes
T11	Female	26-30years	4 years	Yes
T12	Male	51-55 years	More than 25 years	Yes

Chapter Four

Findings and Data Analysis

4.1. Findings and analysis of teachers' questionnaire

4.1.1. Training in Teaching or professional development-

Among 12 teachers, 4 teachers (T1, T4, T6, and T7) replied that they did not receive any training on teaching or professional development. The rest of the 8 teachers said they received training on teaching or professional development.

Details about training or professional development workshop:

- In the training session, we've learned how to teach different age groups of students by using different techniques. (3 teachers -T5, T8, T9)
- We've learned how to comprehend the technology and use it effectively. (T10,T11,T12)
- We've learned new techniques and teaching styles and how to make the class more interesting replied by 8 teachers (T2, T3, T5, T8, T9, T10, T11, T12)
- Among 12 teachers, 8 teachers (T2, T3, T5, T8, T9, T10, T11, T12) replied they have developed better skills in overall organizing and management
- We've learned better ways to motivate, encourage and engage students-replied by 8 teachers (T2,T3,T5,T8,T9,T10,T11,T12)
- Professional development workshop makes us more confident and allows us to produce personalized lesson for students (8teachers-T2,T3,T5,T8,T9,T10,T11,T12)
- We have learned new delivery techniques, assessment styles, and record-keeping approaches. (4 teachers- T2,T3,T5,T8)
- Students expect teachers to be specialists in the subject matter for topics they teach. Professional development for teachers ensures that teachers should be able to answer every question that a student asks. Professional development programs allow teachers to expand their knowledge base in various areas of the subject. The teacher's training program we received helps to develop knowledge about the subject matter (T8, T11, and T12).

4.1.2. Gadgets that are available in your school:

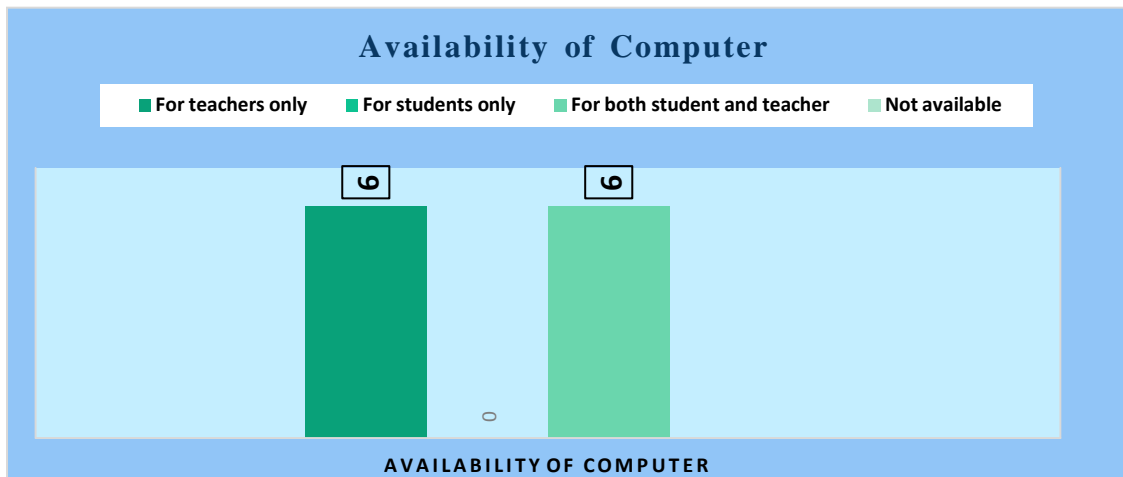


Figure 2: Availability of Computer

According to the collected data, it can be seen that among 12 participants 6 participants (T4, 6, 7, 9, 11, 12) answered that computer is available “for teachers only” and the rest of the participants opted for the option “for both student and teacher” computer is available.

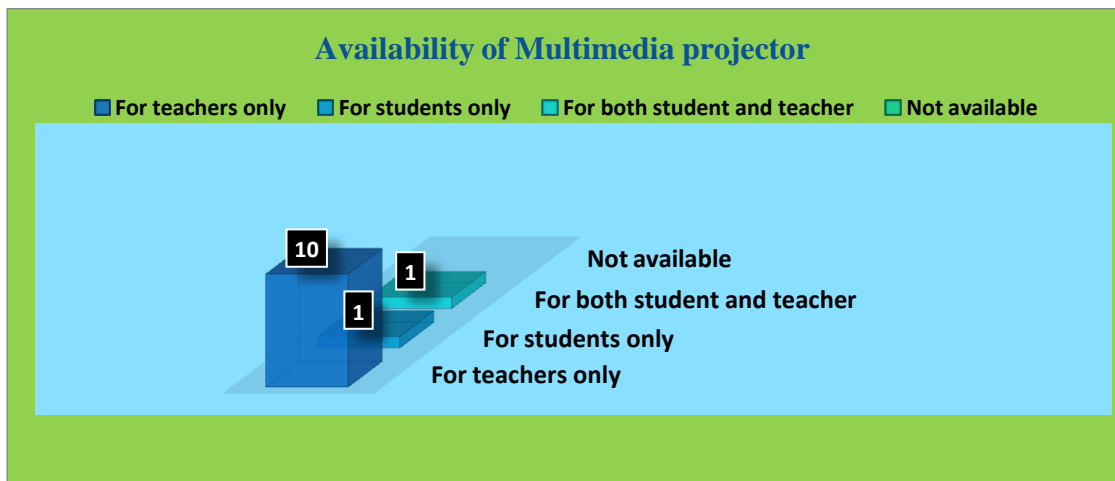


Figure 3: Availability of Multimedia projector

From the chart, it is reflected that 10 participants answered that multimedia is available “for teachers only”. Besides T2 said that multimedia is available “for students only” and T6 goes with the option “for both student and teacher”.

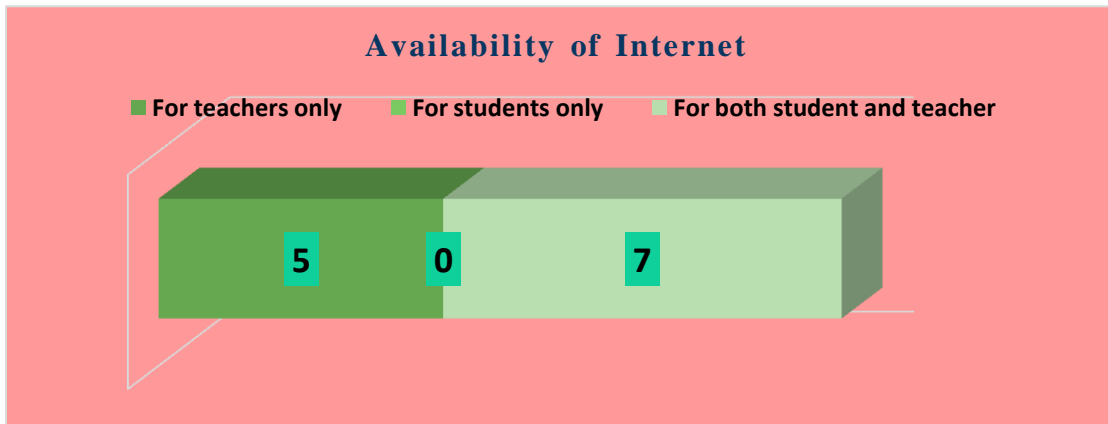


Figure 4: Availability of internet

The Chart shows that 7 teachers (T1, T2, T5, T7, T8, T9, T11) replied that the internet is available “for both student and teacher” and the rest of 5 teachers (T3, T4, T6, T10, T12) answered that internet is available “for teachers only”.

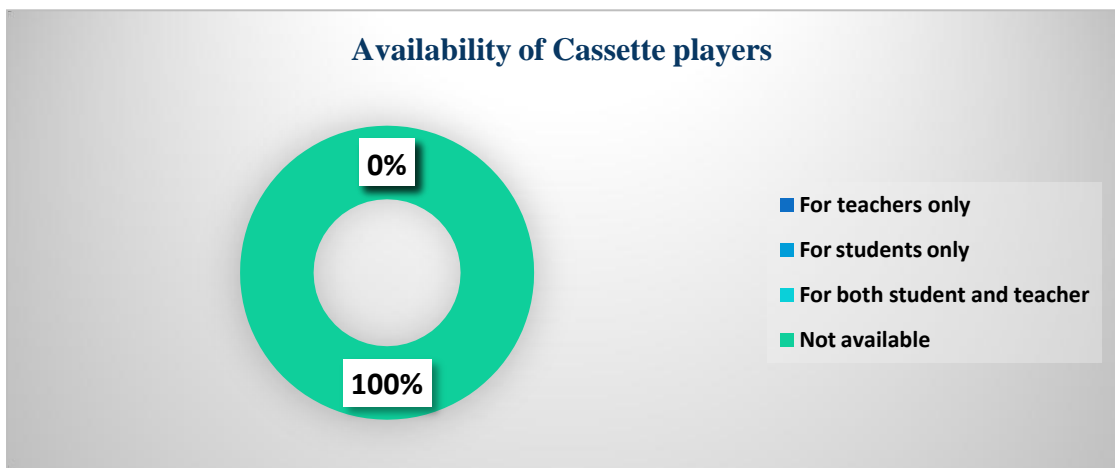


Figure 5: Availability of Cassette players

The collected data shows that all the teacher’s replied cassette players are not available at all.

4.1.3. Tools that are used in the classroom-

Items	Always	Usually	Sometimes	Rarely	Never
Whiteboard	T1,T2,T3,T4, T5,T7,T8,T9, T10,T11,T12	T6	0	0	0
Multimedia projector	T6,T7,T8,T9, T10	T1,T2,T5	T3,T4,T10,T 12	0	0
Power point slides	T3	T1,T2,T5,T7 ,T8,T9,T10, T11	T6	0	T4,T12
Cassette players	0	0	0	T7,T9	T1,T2,T3,T4,T 5,T6,T8,T10,T 11,T12
Interactive cartoon	T6	T4,T12	T1T2,T3,T11	T5,T8,T 9,T10	T7
Computer	0	T1,T2,T7,T8 ,T9	T3,T5,T6,T1 0,T11	0	T4,T12
Podcast	0	T1,T2,T6	T3,T8,T10,T 11	T5,T7,T 9	T4,T12
You tube	0	T1,T2,T5,T6 ,T8,T9,T11	T7	T3,T4,T 10	T12
Google	T8,T9,T11	T1,T2,T5,T6	T7	T3,T4,T 10	T12

Table 4: Tools used in the classroom

It is reflected from the table that the whiteboard is always used by 11 teachers (T1, T2, T3, T4, T5, T7, T8, T9, T10, T11, and T12). It can also be seen that multimedia is always used by 5 teachers (T6, T7, T8, T9, and T10). Usually 3 teachers (T1, T2, and T5) and sometimes 4 teachers (T3, T4, T10, and T12) use multimedia. Power point slides are used by 8 teachers (T1, T2, T5, T7, T8, T9, T10, and T11). A cassette player is a tool that is never used by most teachers (10 teachers-T1, T2, T3, T4, T5, T6, T8, T10, T11, and T12). About using interactive cartoons different teachers have different views as we can see from the above-mentioned table. A computer is a tool that is usually used by 5 teachers (T1, T2, T7, T8, and T9) and sometimes used by 5 teachers (T3, T5, T6, T10, and T11). 4 teachers (T3, T8, T10, and T11) use podcasts sometimes while the podcasts are never used by T4 and T12. You Tube is the tool that is usually used by 7 teachers (T1, T2, T5, T6, T8, T9, T11). In the case of using Google, different teachers have different views. Some teachers like T8, T9, T11 always use Google while T1, T2, T5, T6 teachers usually use Google.

4.1.4. Tools used by teachers (besides the above mentioned)-Besides the above-mentioned tools among 12 teachers, 8 teachers answered that they use a smartphone. Google classroom, Google meet are used by 2 teachers. Again 2 teachers mentioned that they use poster paper, colorful drawings, puzzles, newspapers and magazines.

4.1.5. Kind of technology used by teachers in a class-

Among 12 teachers all teachers answered that they use multimedia in the classroom. They also answered that they usually use power point slides too. 7 teachers said that they usually use YouTube while the podcast is also used by 7 teachers.

4.1.6. Use of technology by teachers according to the responses from the questionnaire-

- * For practicing pronunciation and free handwriting.
- * To present the topic interestingly and attractively.
- * To build rapport with the student.
- * To solve problems

4.1.7. Statement items to know Teachers' attitudes towards the use of technology in teaching and learning:

	Statement items	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1	Technology is one of the innovative tools to build rapport among the students.	T1,T2,T6, T11	T3,T5,T7, T8, T9, T10	T4,T 12	0	0
2	Use of technology saves time and students get more time to take part in classroom activities.	T1,T2,T6, T11	T8	T3,T 4,T1 2	T5,T7,T9 T10	0
3	Use of technology helps to involve students into	T1,T2,T5, T7	T3,T6,T8, T10,T11	T4,T 12	T9	0

	pair/group work					
4	Following tools act as teaching aid in the major part of classroom activity:					
	a. Computer	T1,T2,T11	T3,T5,T6, T7,T8,T9, T10,T12	0	T4	0
	b. Internet	T6	T1,T2,T5, T7,T8,T9, T11,T12	0	T3,T4,T10	0
	c.Multimedia projector	T1,T2,T5, T7,T8,T9, T11	T3,T6, T12	T4	0	0
	d. Google	T8,T9,T11	T1,T2,T5, T6,,T7,T12	T10	0	0
5	Technology can be used more often to help students to improve their skills (e.g. reading, speaking, writing, and listening) in the classroom.	T1,T2,T5, T6,T7,T8, T11	T9,T12	T4	T3,T5	0
6	The use of technology can provide students with more practical and useful knowledge.	T1,T2,T5, T6,T7	T4,T11,T12	T3,T8,T9, T10	0	0
7	The communication with classmates and teachers can be easy after technology is used.	T1,T2,T6	T4,T8,T11, T12	T5,T7,T9	T3,T10	0
8	Technology helps to trigger the background knowledge for the students.	T5,T6,T7	T1,T2,T4, T11,T12	T8,T9	0	T3,T10
9	Technology helps to follow 3 stages of teaching like pre, while and post activities in the	T1,T2	T3,T4,T5, T6,T7,T8, T9,T10,T11,T12	0	0	0

	classroom.					
10	Using technology helps student to think positively makes everyone interested in class activity.	0	T1,T2,T4, T6,T8,T12	T9	T3,T5,T7 ,T10,T11	0
11	Use of technology allows students to be more creative and imaginative.	T6	T1,T2,T4, T7,T8,T11 ,T12	T3,T5,T9, T10	0	0
12	Students pay less attention when it is used in teaching.	T4,T12	T3,T9,T10	0	T5,T6,T7	T1,T2,T8,T11
13	Student makes no effort for their lesson if technology is used in teaching.	0	T4,T9,T12	T6	T1,T2,T3 ,T5,T7,T10	T8,T11
14	Technology supported teaching makes learning more effective.	T1,T2,T5, T6,T7	T3,T4,T8, T9,T10,T11	T12	0	0
15	Teaching is easier while technology is used.	T1,T2,T5, T6,T7,T8, T11	T3,T4,T9, T10	T12	0	0
16	I think use of technology is a waste of time.	0	0	0	T3,T6,T9 ,T10	T1,T2,T4,T5, T7,T8,T11,T12

Table 5: Teachers' attitudes towards the use of technology in teaching and learning

From the above-mentioned table, it is clear that teachers have positive attitudes towards the use of technology in teaching and learning. Among 12 teachers, 4 teachers (T1, T2, T6, and T11) strongly agree and 6 teachers (T3, T5, T7, T8, T9) and T10 agree that technology is one of the innovative tools to build rapport among students.

4 teachers (T1, T2, T6, and T11) strongly agree, while 4 teachers T5, T7, T9, and T10 disagree that use of technology saves time and students get more time to take part in classroom activities. Again regarding using technology students' involvement in

group/pair work teachers show positive attitudes. Among 12 teachers, 9 teachers (T1, T2, T5, T7, T3, T6, T8, T10, and T11) stated that the use of technology helps to involve students in pair/group work.

Among 12 teachers, 11 teachers (T1, T2, T3, T5, T6, T7, T8, T9, T10, T11 and T12) either strongly agreed or agreed that, computer act as teaching aid in the major part of classroom activity. 9 teachers (T1, T2, T5, T6, T7, T8, T9, T11, T12), 10 teachers (T1, T2, T5, T7, T8, T9, T11, T3, T6, T12), 9 teachers (T8, T9, T11, T1, T2, T5, T6, T7, T12) either strongly agreed or agreed that, internet, multimedia projector, and Google are the tools those act as teaching aid in the major part of classroom activity.

Among 12 teachers, 7 teachers (T1, T2, T5, T6, T7, T8, and T11) strongly agreed that to improve skills (e.g. reading, speaking, writing, and listening) technology can be used more often. Again it can be seen from the table that, 4 teachers (T1, T2, T5, T6) and T7 strongly agreed the use of technology can provide students with more practical and useful knowledge while 4 teachers (T3, T8, T9, T10) are not sure about it.

“The communication with classmates and teachers can be easy after the technology is used” regarding this statement 3 teachers strongly agreed and 4 teachers agreed. On the other hand, 3 teachers are not sure about it while 2 teachers disagree with the statement.

The number of the teachers who strongly agreed T5, T6, T7 (3 teachers) and agreed T1, T2, T4, T11, T12 (5 in number) is more than the disagreed T3, T10 regarding the statement “Technology helps to trigger the background knowledge for the students”. All teachers (12) agreed (T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12) that to follow 3 stages of teaching like pre, while and post activities technology helps.

Teachers’ number of agree (6-T1, T2, T4, T6, T8, T12) and disagree (5-T3, T5, T7, T10, T11) is almost the same regarding the statement “Using technology helps a student to think positively makes everyone interested in-class activity”. Among 12 teachers 8 teachers think that use of technology allows students to be more creative and imaginative.

7 teachers disagree that students pay less attention when technology is used in teaching. At the same 8 teachers disagree with the statement “Student makes no effort for their lesson if technology is used in teaching.”

“Technology supported teaching makes learning more effective and makes teaching easier” regarding this statement, among 12 teachers 11 teachers either strongly agree or agree with this. No teacher agrees with the statement “I think the use of technology is a waste of time”. Rather, 4 teachers (T3,T6,T9,T10) disagree and 8 teachers strongly disagree (T1,T2,T4,T5,T7,T8,T11,T12) with this statement.

4.1.8. Scope of using technology by all secondary teachers in Bangladesh-

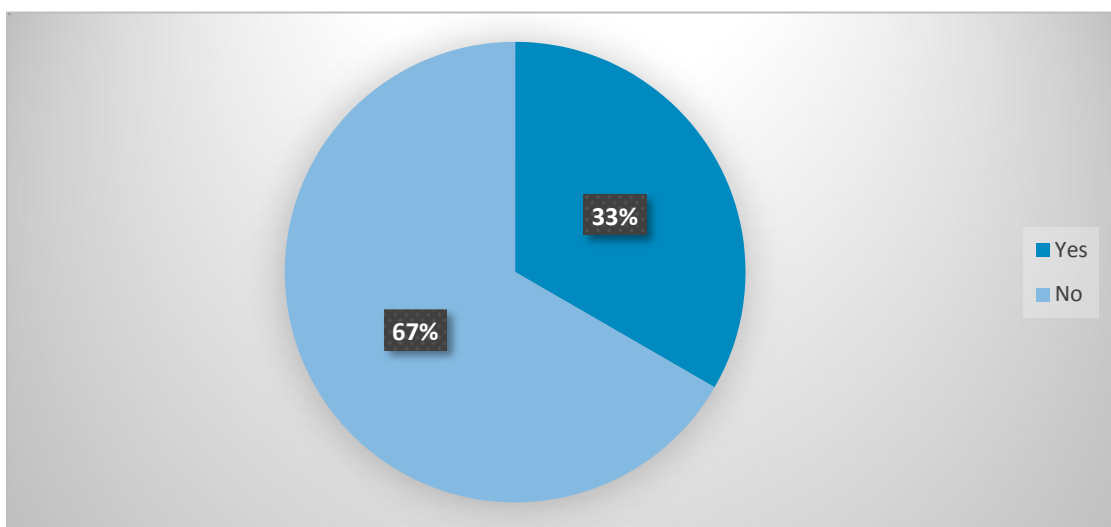


Figure 6: Scope of using technology by all secondary teachers in Bangladesh.

The pie chart shows that 33% of teachers opted for the option yes, while 67% of teachers opted for option no.

Explanation about their answer is given below-Yes, it is possible replied by only 4 teachers among the 12 teachers. If the government takes the necessary steps and provides sufficient help and arrange enough training it will be possible to use technology for all secondary teachers in Bangladesh to use technology in the class.

No, it's not possible for all secondary teachers in Bangladesh to use technology in class replied by 8 teachers. There is a lack of technological types of equipment in most of the secondary schools. Multimedia is not available in every secondary school in Bangladesh. In rural areas use of technology is nothing but a dream. There doesn't even have an organized classroom. There are many areas where electricity is not available.

4.1.9. Positive things about using technology in the class-

Out of 12 teachers, 7 teachers agreed that the use of technology Saves time, makes the lesson interesting and attractive, uses technology to help students to improve their skills like reading, listening, speaking. Some of them answered that audiovisual teaching enhances the learning process, and enhances knowledge. Half of the teachers said that teaching is easier while technology is used.

4.1.10. Disadvantages about using technology in the class-

All teachers answered one of the major disadvantages of using technology in class in our country is sudden break down of electricity. When electricity is gone it becomes difficult to continue the class and it's a common phenomenon in the summer. Almost half of the teachers point out that students pay less attention when technology is used. Among them, one said when technology is used there is less scope of creativity.

4.1.11. Teachers preferred technology tool (multimedia projector, PowerPoint slides, cassette players, interactive cartoon, computer, podcast, you tube, Google)-

Google- As it is helpful to get any kind of information we use Google (out of 12 teachers 8 teachers T1, T2, T5, T6, T7, T8, T9, T11 use Google)

Multimedia projector-All teachers use multimedia (12 teachers-T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12), and except 2 teachers (T4 and T12) other teachers use PowerPoint slides. These tools help them to show the facts about the topic. Make the lesson attractive and interesting.

Podcast- Podcast is helpful while teaching listening. Replied by 7 teachers (T1, T2, T3, T6, T8, T10, T11)

YouTube -To provide the students clear conception about a topic we use you tube, answered by 8 teachers.

4.1.12. Usefulness of using technology to teach language and its effectiveness-

It's very effective for language learners for example we cannot learn phonic sounds correctly without technology, it helps to practice listening and speaking. It also helps to make any lesson attractive and interesting. Helpful for providing a clear conception of any topic.

4.2. Findings and analysis of teachers' interview questions

a) Technologies used by teachers in technology assisted classroom-

Multimedia: 12 teachers use multimedia in technology assisted classroom (T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12).

Power point slides: Number of teachers are 7, who use power point slides in technology assisted classroom (T3, T4, T5, T7, T9, T10, and T12)

You tube: You tube is used by 6 teachers (T3, T4, T5, T6, T8, and T9)

Google: 8 teachers use Google in technology assisted classroom. (T3, T4, T5, T6, T7, T9, T10, T11)

Computers: T2, T3, T4, T6, T8, T11-6 teachers

Interactive cartoon: T4, T7, T10, T11-4 teachers

Podcast: T6, T7, T10, T11.-4 teachers

Laptop: T2, T5, T8-3 teachers.

Internet: T2T8, T12-3 teachers.

Smartphone: Smartphone is used by T5 in technology assisted classroom.

b) Teaching methods used by teachers in technology assisted classroom-

T1: I use a participatory method, both teachers and students contribute here. When a teacher use multimedia for taking the class he/she use a mobile phone for taking pictures as he/she has to send pictures to the ministry of education. After taking the picture using apps he/she send it. The picture includes students, a slide that contains the content of that class, a teacher who is taking the class. Then it is sent to the ministry of education using the apps, so it is used as a teaching purpose the teacher replied.

T2: Student participatory method which we call Communicative Language Teaching. To engage students sometimes I made pairs, sometimes they perform activities in a group, depending on the type of lesson.

T3: I use a participatory method, as in this method both students and teacher have the opportunity to take part. When students get the opportunity to take part in the class they attend the class with concentration.

T4: I prepare the lesson in a way so students get the floor to participate in class. Students can talk more and the teacher guides them. In my class students' participation is my main focus.

T5: In the context of our country it is difficult to maintain any specific teaching method. Our class time is very short and we have to take 5 classes back to back. Truly speaking in spite of having the interest to follow specific teaching I fail to do so. I entered the class and take the class, students listen to me and I finish the class.

T6: I use the Communicative Language Teaching (CLT) method in my class. I strongly believe that CLT is the most effective teaching method as it inspires students to participate in classroom activities.

T7: Communicative Language Teaching (CLT) is my preferred teaching method whether it is technology assisted classroom or a normal classroom.

T8: Students' participation is my main focus when I take a class. It is called the participatory method. To ensure students' participation I engage students in pairs or groups.

T9: Communicative Language Teaching (CLT) is a learner-centered approach so I prefer this approach in the class.

T10: Teachers and learners need to co-operative with each other to complete a class successfully. I have to deal with almost 44/50 students in a class. So it becomes difficult to implement any specific teaching method and ensure students' participation.

T11: Participatory method.

T12: Communicative Language Teaching (CLT).

Summary: Responses from teachers represent that, most of the teachers replied the name of the teaching methods only. They were not eager to give a detail about their teaching methods. Proper training can solve this problem.

c) Use of internet in classroom activities by teachers-

T1: Yes, I use the internet. I use it to send a picture to the ministry. Rarely do I use the internet to show lesson-related pictures or videos.

T2: Often I use the internet in the classroom. As our class time is very short so we cannot use the internet randomly, every minute's matter, to get connected with the internet it takes a few minutes sometime. Because of the shortage of time, we fail to use the internet in spite of our interest.

T3: I use the internet sometimes to show documents related to the lesson. When students see any video on YouTube related to the topic it becomes easier for them to understand.

T4: Normally I try to avoid using the internet in class time. I bring the necessary document in pen drive, as our class time is short it I use the internet in class it becomes difficult to finish the class on time.

T5: I rarely use the internet in the classroom.

T6: I try to avoid using internet in the classroom.

T7: Sometimes I use internet in the class. To give a clear conception about any topic I use internet.

T8: I do not use internet in the class.

T9: To correct the pronunciation I sometimes use internet in the classroom.

T10: Rarely I use internet in the class.

T11: I do not prefer using internet in class time as our class time is short.

T12: Yes, I use internet in the class. Sometimes it happens that students do not want to do regular classes. That time I show something interesting on the internet which is related to their lesson.

Summary: Among 12 teachers 6 teachers replied that they use internet and rest of the teacher do not use internet. T2 replied that our class time is very short so we cannot use the internet randomly, every minute's matter, to get connected with the internet it takes a few minutes sometime. Because of the shortage of time, we fail to use the internet in spite of our interest.

d) Teachers preference towards the use of Technology or traditional whiteboard/blackboard-

T1: I prefer a technology based classroom that is projector related class, in that case, students are more interested in taking part in a classroom activity. But we also use whiteboard sometimes simultaneously while using multimedia.

T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, and T12 (11 teachers): 11 teachers replied both should be there traditional method and integration of technology to teach students. In our country, technological tools are not available always and there have electricity problems too. The use of technology is important as students seem more interested in taking part in a classroom activity. At the same time sometimes we need to use a whiteboard when we face trouble in using technological tools due to different problems. So we prefer both technology and traditional whiteboard/ blackboard.

e) Use of technology in the classroom, benefits and drawbacks of teaching with technology-

T1 T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, and T12 (12 teachers): Yes, we use technology in the classroom. Multimedia is beneficial for the students and teachers also, as we are already prepared for the class, there is no confusion, there is no scope for wastage of time, everything is scheduled, time maintained. Students get benefits from fixed time, they can participate, they can see which is not possible by reading books, they cannot imagine. If we take a class with a projector they can see, they can see the real scenario, what is happening, what is the theme, it enhances their knowledge also. In a multimedia class, there are scopes of engaging the students in group work, pair work, silent reading. Besides, there are activities included in every lesson. There are also have some drawbacks to using technology in the classroom. Students are not always interested in a multimedia class. Continuous use of multimedia in class made the students bored sometimes. Especially if 3 or 4 classes of a day are taken continuously using multimedia they feel monotonous and started to gossip with their friend. They regarded it as TV where something is happening. But if classes are taken with intervals like one class by using multimedia and the next one is without multimedia their interest remains the same.

T9, T10, and T11 (3 teachers): In our English textbook there is some lesson that requires the use of multimedia class and use of the internet. When a text is related to a foreign country or geography technology plays a most important role. Using the internet we try to make the lesson interesting. For example, when I teach my student about the Statue of Liberty I always use the internet to show the picture and location of the statue. When I use pictures or videos students become more attentive and it helps me to grab the attention of my students till the end of the class. I always try to put some pictures in my lesson when I take a multimedia class. In a multimedia class students have more questions than in a traditional class.

T3, T4: When we teach heritage-related topics using multimedia I show them a map. This stimulates my students to ask questions and take notes so that they do not need to memories the lesson, they can visualize the lesson and remember it. History-related videos also inspire students to concentrate in the class as history is a subject where there is less scope to show innovation or bring variety.

f) Limitations of teaching with technologies-

T1, T3, T4, T5, T10, T11, and T12 (7 teachers): Where there have been benefits it's obvious that there must have some limitations too. One of the major limitations of using technology in the context of our country is the electricity problem. Electricity went out without any notice and put us in trouble. Students remain mentally prepared for multimedia class but because of a sudden interruption of electricity, they lost their eagerness in a classroom activity. Again sometimes multimedia does not work properly it hinders the harmony of the class. We have to prepare for a multimedia class very earlier because we have to mention our multimedia class in our lesson plan. But it is not possible to make the students do all these things in every single class. So we have to choose only a few of them for the class. Thus participation of all students is not assured in a multimedia class.

T2, T6, T7, T8, and T9 (5 teachers): There are limitations to teaching with technology. Sometimes there arrivers load-shedding problem. Then it becomes impossible to take a class on multimedia. The students remain mentally prepared that they will attend a multimedia class but, they lose their interest due to load-shedding. Sometimes there are technical problems with the machinery. We have to take 5/6 classes per day. When we take the class using multimedia sometimes it

takes a huge time to set the lesson properly, it happens mostly when multimedia does not work properly. Our class time is very short, if the setting takes 10 minutes it becomes quite difficult to complete the task.

Summary: from the findings it can be seen that all teachers mainly focus on three major limitations when they use technological tools in classrooms in a technology assisted classroom. These are as follows-

- Sudden breakdown of electricity.
- Technical problems with technological tools.
- Sometimes multimedia does not work properly and it hinders the harmony of the class.

g) Teachers preferable method for effective teaching, in technology assisted classroom-

T1 T2, T3, T4, T8, and T11 (6 teachers): We prefer a participatory method of teaching in technology assisted classroom. Strongly believe that participatory is the most effective teaching method as it inspires students to participate in classroom activities. For instance, we use individual and group, group and pair or pair and individual to ensure the participation of students when we use multimedia, power point slides in the classroom. Actually, it depends on which lesson we are teaching. We have to manage the class so that we can finish it on time. We always reserve the last 5-7 minutes for feedback (using multimedia) we also assure the overview of the whole class and the realization of the lessons of the students. As our class time is very limited, the students who could not understand the lesson we try to make them understand the lesson outside the class. Sometimes, students need a lot of time while doing group work. In such cases, we discuss that in the next class.

Communicative language teaching is more effective than any other method. If students learn about grammar (responses from T9, T10, T11), they feel afraid, they do not feel interested. If they do not know that they are going to teach grammar explicitly they feel interested, they like to share, and they like to

practice. If we give them an example on multimedia - but do not tell them which tense it belongs to, then they feel comfortable. But when we give them a structure and then give them an example, they get afraid. If we give them an example before and then make them understand its details then they get it easily. We divide the students into groups and give them tasks. As a result, they discuss among themselves and thus increase their communication skill.

When a topic is presented in the multimedia and they write they develop their writing skills, they enhance their ability to generate ideas. We encourage them to read the example by themselves and to identify the mistakes which is presented in multimedia/power point slides. Then one of the group members presents it. Sometimes we make them exchange their writings among the group member so that they themselves can recognize their mistakes and learn new words or sentences because different groups have different writing styles, thinking abilities, mode of the answer, word choice. If still any student does not understand we give guidelines in every group and thus help them. Thus we monitor the class. Sometimes we also check the writings of the groups.

If there is a lack of time, we give them oral feedback. When a group presents, the other group listens to it. Thus they engage themselves in listening. They understand that there is a substitute for their thinking. Thinking brings out their realization. Sometimes students do not want to indulge themselves in these activities. Then we call their names and inspire them to engage themselves in these activities. In the case of English 1st paper, (responses from T9, T10, and T11) provide them with silent reading then teachers give students a picture where some things are marked about which we will give them some information. Some students find answers from books. Again some of them reply from multimedia. Some students answer orally, again some of them write it down into their notebook. In the case of grammar, they note it down.

T5, T6, T7, T9, T10 and T12 (6 teachers): We Communicative Language Teaching method to teach students in a technology assisted classroom. To get the best output or make the class meaningful or interactive we always try to follow a

lesson plan. We make a schedule so that I can properly utilize the class time by using multimedia, where students are my focus. We prepare the lesson in a way where students get more scope to involve in the class. We use multimedia to warm up the students by showing any pictures or any formula using a different color. We help to catch the attention of the students. Students get an idea about the topic. They start to ask questions about the content. There are activities which students need to do individually, the scope for pair work, group work. Here we would like to mention that when we use multimedia students take notes, even some students use the colorful pen as I use color in my lesson. In group or pair work they talk with each other, thus their communication power develops, they ask questions when they don't understand anything.

Summary: To sum up it is found from the findings, that teachers' preferable method for teaching in technology assisted classroom is either communicative language teaching (T5, T6, T7, T9 T10 and T12 -6 teachers) or participatory method (T1 T2, T3, T4, T8, and T11 6 teachers)

h) The role of a teacher in the classroom-

The teacher as a motivator (12 teachers-T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, and T12): In the classroom, there are students from different competency levels. All students do not have the same eagerness to participate in the class. Motivation plays an important role to make all the students active in the class. I think one of the major roles of a teacher is to motivate students which means the teacher needs to act as a motivator.

The teacher as Controller (5 teachers-T6, T7, T8, T9, and T10): Management of the class depends on the teacher. A teacher must have the ability to control the class to make the teaching-learning process successful. With patience, teachers have to handle students so that students do not make unnecessary noise.

The teacher as Facilitator (12 teachers-T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, and T12): Supporting the students when they are stuck in problems. Teachers' role is not to inform students but to encourage and facilitate them to learn themselves. Facilitator- he/she will lead the students to go ahead how to learn, how to grow themselves, to make them conscious, to make them interested.

The teacher as an information provider (5 teaches-T1, T3, T4, T9, and T12):

The teacher must have adequate knowledge about his/her subject.

The teacher as organizer (9 teachers-T2, T4, T5, T6, T7, T8, T9, T10, and T11):

teachers must have good organizing power. They need to prepare the lesson in a well-planned way. They need to organize the class in a way so that all students get equal opportunity to take part in a classroom activity.

4.3 Findings and analysis of teachers' classroom observation

4.3.1. Lesson Organization

	Score
1. Made clear statement of the purpose and learning outcomes of the lesson using tools like-multimedia projector, power point slide.	4-(T1,T2,T5,T6,T7,T8,T9) 3-(T3,T4,T10,12)
2. Presented an overview of the lesson using multimedia/power point slide.	4-(T1,T2,T5,T6,T7,T8,T9, T3,T4,T10,12)
3. Presented topics in a logical sequence.	4-(T7,T8,T9,T10,T11) 3-(T1,T4,T5,T8) 2-(T2,T3,T6, 1- (T12)

Table 6: Lesson organization

Findings of classroom observation reflected that- the use of technology is very evident throughout the class or Evident during most, but not all, of the class sessions. At the time organizing lesson most of the teachers try to use technological tools. Most of the teachers made clear statement of the purpose and learning outcomes of the lesson using tools like-multimedia projector, power point slide, presented an overview of the lesson using multimedia/power point slide.

4.3.2. Strategies used by teachers in technology assisted classroom-

	Score
1. Provided group tasks that were related to the lesson's learning outcome	4-(T9,T10,T11) 3-(T1,T2,T3,T4,T5,T6,T7,T8,T12)
2. Encouraged student question	4-(T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12)
3. Encouraged students to answer each other's questions.	3-(T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12)
4. Presented helpful audio visual materials to support lesson organization and major points.	4-(T1,T2,T5,T6,T7,T8,T9) 3-(T3,T4,T10)
5. Presented examples to clarify points using technological tools like Google, you tube, internet.	3-(T1,T2,T5,T6,T7,T8,T9) 4-(T3,T4,T10) 1-(T12)
6. Defined unfamiliar terms, concepts and principals using technological tools.	4-(T9,T10,T11,T5) 3-(T3,T4,T1,T2) 2-(T6,T7) 1-(T12,T8)

Table 7: Strategies used by teachers in technology assisted classroom

From the observation it was also found that teachers use various types of strategies. Teachers provide group tasks, encourage students to ask questions so that students participation can be ensured, provided required audio visual materials to make the class enjoyable, presented examples to clarify points using technological tools like Google, you tube, internet, defined unfamiliar terms, concepts and principals using technological tools.

4.3.3. Students' response when technology is used-

	Score
1. Students were eager to ask questions.	3-((T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12)
2. Students willingly participated in in-class activities.	4-(T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12)
3. Most students were engaged in the lesson throughout the class	3-(T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12)

Table 8: Students' response when technology is used

Evident from the observation showed that students were eager to ask questions, willingly participated in in-class activities, and were engaged in the lesson throughout the class or most of the class time when technology was used by the teachers(T1,T2,T3,T4,T5,T6,T7,T8,T9,T10,T11,T12).

4.3.4. Method used by teachers in technology assisted class-

	Score
1. Communicative Language Teaching	4-(T5,T6,T7,T8,T10,T12)
2. Participatory method.	4-(T1,T2,T3,T4,T8,T11)
3. Grammar Translation method	
4. Others	

Table 9: Method used by teachers in technology assisted class

It is also found from the observation that Communicative Language Teaching method was used by teachers (T5,T6,T7,T8,T10,T12-6 teachers) and Participatory method was applied by teachers(T1,T2,T3,T4,T8,T11-6 teachers) throughout the class which is similar as the responses of teachers interview.

4.4. Findings and analysis of Students' questionnaire

4.4.1. Use of following tools for learning by students-

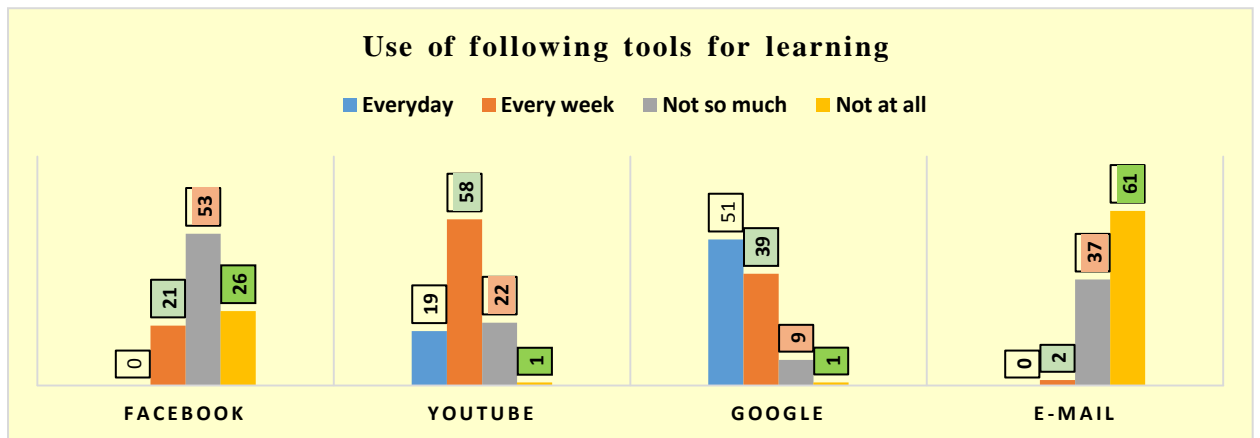


Figure 7: Use of Facebook, YouTube, Google, e-mail for learning by students.

In the chart, it is seen that the tool Google is mostly 'Everyday' used tool which is used by 51 students. On the other hand, 19 students used YouTube as a learning tool 'Every day. In the case of weekly use, 58 students used YouTube and 39 students answered they used Google 'Every week'. The chart also reveals that 53 students said they not so much use Facebook. E-mail is the tool that is 'Not at all used by the participants for learning purposes.

2. Use of "Google" by students-

All the participants replied that they use Google and it is related to their classroom studies. Though they use Google for other purposes too. Use of Google by students are given below-

- Students said that by providing boundless information and resources Google makes our study easier.
- Google provides the opportunity to become more familiar with the material that is prescribed in the books.
- To complete the homework Google helps.
- To get a clear conception about any topic we use Google sometimes.
- To know the meaning of a word and enrich our vocabulary we use Google.

- Google makes it easy to get instant access to reliable information. Instead of going to the library, it is possible to save time and find the necessary information using Google.
- Moreover, Google is very helpful when the information isn't available in the library. We find sample papers as well as helpful guidelines on how to complete assignments the right way.

3. Use of “You Tube” by students-

- When we don't understand some topic we use YouTube. YouTube enhances our ability to understand complex things, it helps to understand difficult topics.
- Videos on different topics help us to engage ourselves to study with merriment.
- Videos on difficult topics presented in You Tube in different manners using different ways, colors, and pictures help us to understand topics easily.
- Sometimes, the topic presented using different colors motivates us to learn, forgetting the fear of memorization.
- Some students said they learn better with visual aids like You Tube. When they use you tube, see the topic what was/is being taught it helps them to understand the course work better,
- If a student isn't able to understand a concept they have an option to watch it again and again.
- To develop their speaking and listening skill they use You Tube most.

4.4.4. Teachers use of technology to teach the following subjects-

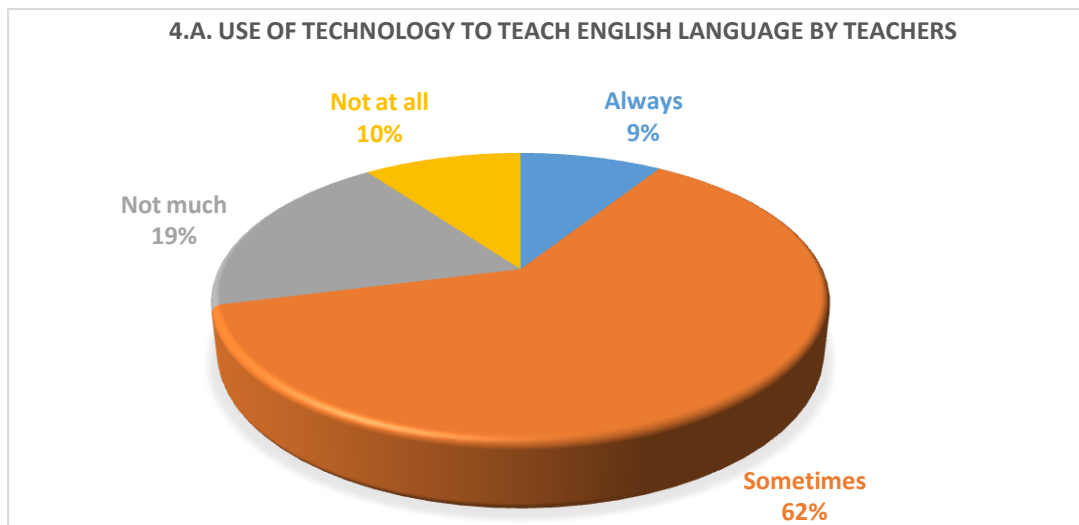


Figure 8: Use of technology to teach English language by teachers

This pie chart illustrates the percentage of using technology by teachers to teach the English language. From the pie chart, it can be observed that participants replied that the majority of teachers ‘Sometimes’ used technology to teach the English language which is 62 in percentage. This chart also reveals that only a small minority 10% ‘Not at all’ use technology to teach the English language.

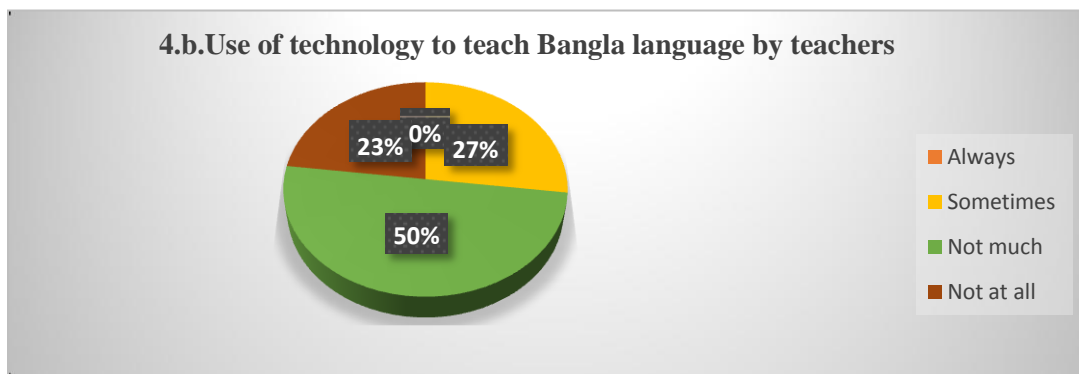


Figure 9: Use of technology to teach Bangla Language by teachers

In the distributed questionnaire, participants were asked whether their teacher use technology to teach Bangla language. They were given four options. This can be observed in the chart that among 100 students 50 % of students answered that their teacher ‘Not much’ using technology and 23% students replied technology is not at all used by their teachers. 27% of students said ‘Sometimes’ their teachers use technology to teach the Bangla language.

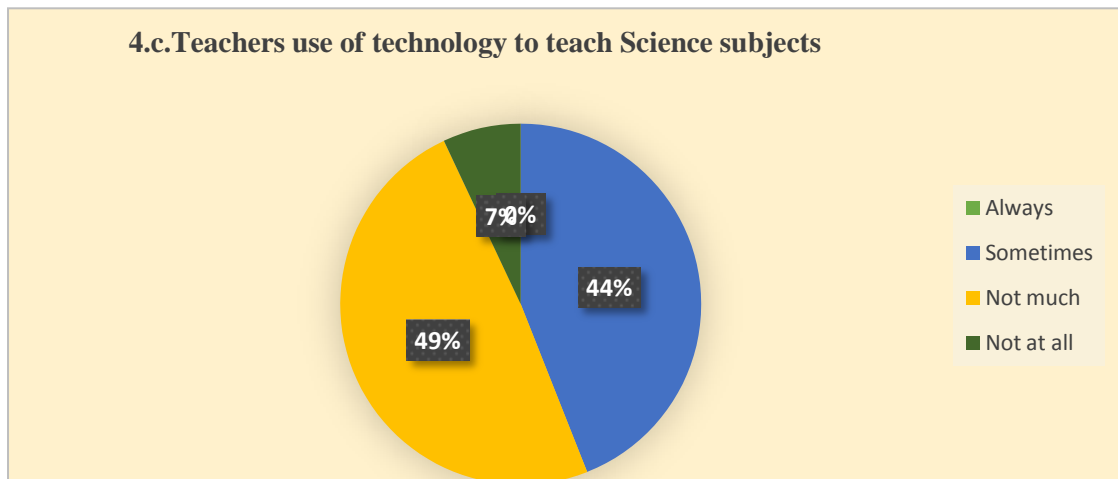


Figure 10: Teachers use of technology to teach Science subjects

If we have a look at the chart we can see that 44% of respondents opted for the option ‘Sometimes’ when their teacher uses technology to teach Science subjects. ‘Not much’ and ‘Not at all’ opted by 49% and 7% students. Percentage of not much and not at all is more than the sometimes. Overall, it can be said from the answer of the participants that, their teacher doesn’t use technology to teach science subjects.

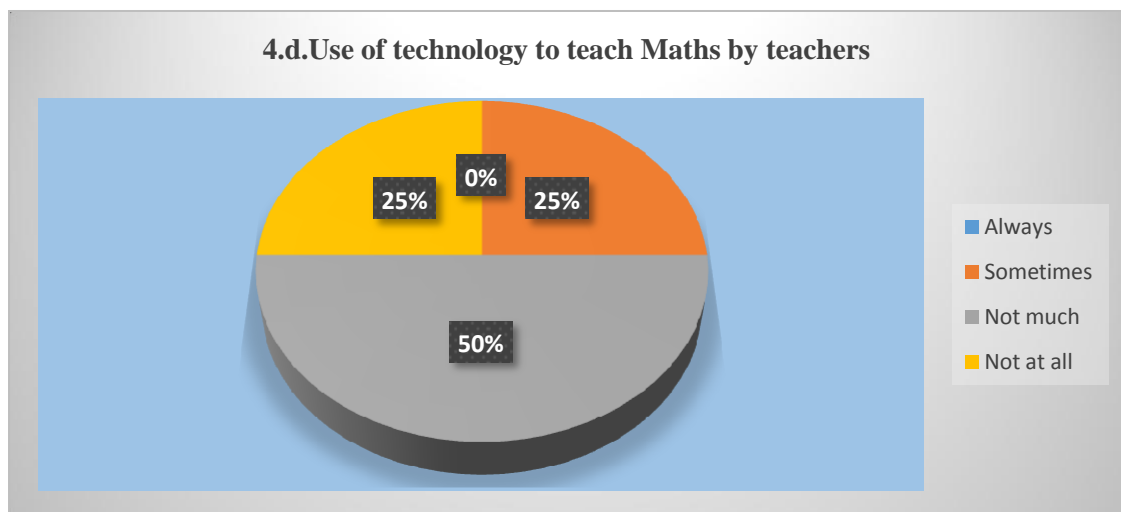


Figure 11: Use of technology to teach Maths by teachers.

It is reflected in the chart that half of the respondents answered that their teacher not much use technology to teach Math. On the other hand, a quarter (25%) of students replied their teachers ‘not at all’ use technology in their math class. The percentage of

technology use (Sometimes 25%) in math class by teachers is less than technology not used in class (Not much 50% and Not at all

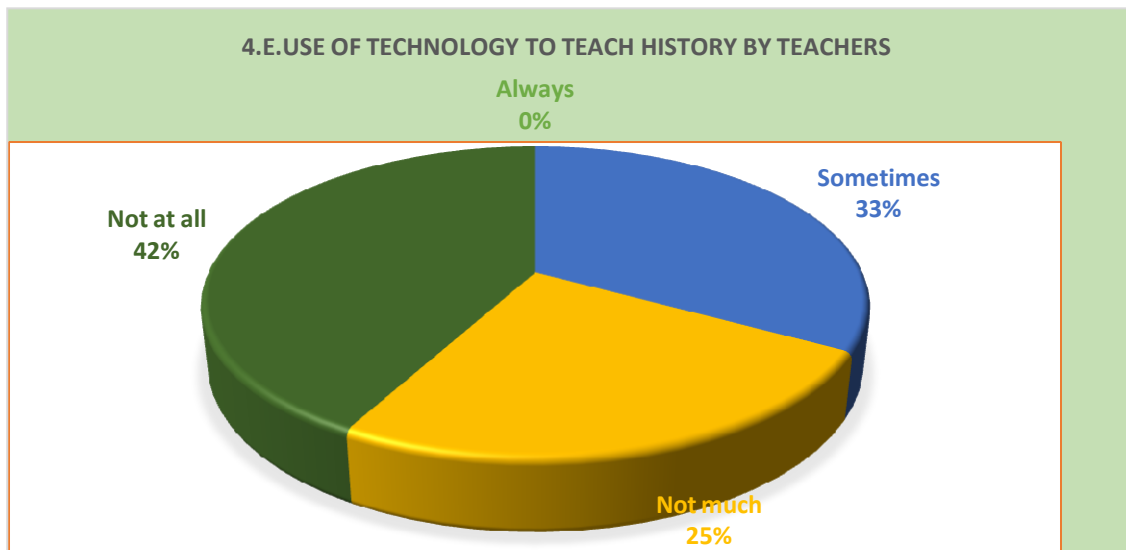


Figure 12: Use of technology to teach History by teachers

This can be observed in the chart that among 100 students 25 % of students answered that their teacher “Not much” use technology and 42% students replied technology is ‘Not at all’ used by their teachers. 33% of students said “Sometimes” their teacher used technology to teach History.

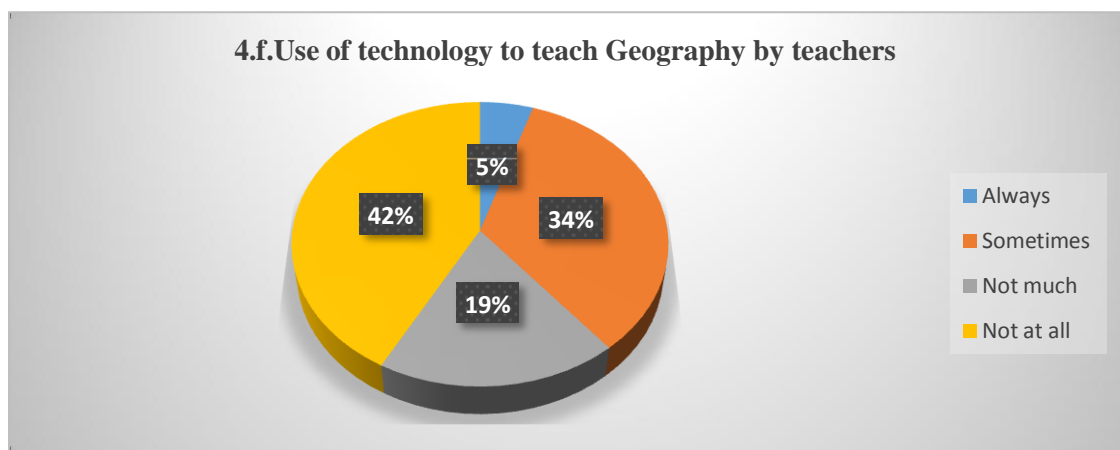


Figure 13: Use of technology to teach Geography by teachers

This pie chart illustrates the percentage of using technology by teachers to teach Geography. From the pie chart, it can be observed that participants replied that majority of teachers ‘Not at all’ used technology to teach Geography which is 42 in percentage. This chart also reveals that only a small minority 5% “always” use technology to teach Geography.

4.4.5. Usefulness of using technology in a class-

	Agree	Not sure	Disagree
a. See pictures, graphs, maps, charts help me to visualize ideas.	88%	11%	1%
b. To identify the highlighted important things	75%	19%	0%
c. I feel encouraged in classroom activities, discussions, feedback on when topics are presented in multimedia.	81%	17%	2%
d. Materials presented in multimedia help to concentrate in class as it is clear, colorful.	83%	6%	1%

Table 10: Usefulness of using technology in a class

If a look at the table, it can be observed that the use of technology has positive impacts on students. Among 100 students 88% students agreed that seeing pictures, maps, and charts helps them to visualize ideas. Technology also helps them to identify the highlighted important things answered by 75% of students. 81 % of students agreed with the option “Agree” that technology helps them to feel encouraged in classroom activities, discussion, and feedback on when topics are presented in multimedia. Three-quarter (83%) of students said that materials presented in multimedia help them to concentrate in class as it is clear and colorful.

4.4. 6. Students' preference towards the notes written on multimedia-

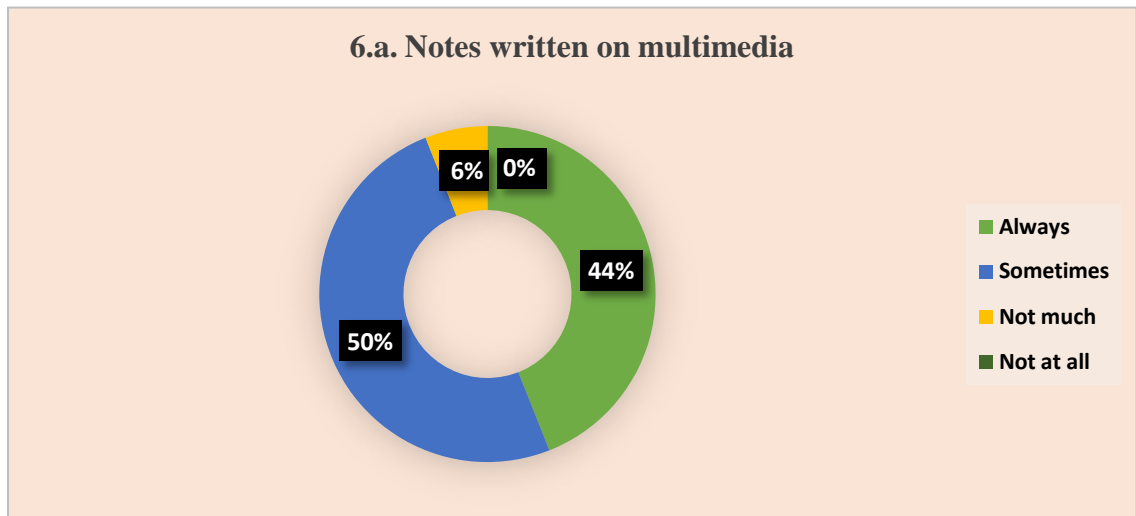


Figure 14: Notes written on multimedia

94% of participants answered that either “Always” (44%) or “Sometimes” (50%) they prefer notes written on multimedia while learning at technology assisted learning. Only 6% of participants replied that they “Not much” prefer notes written on multimedia.

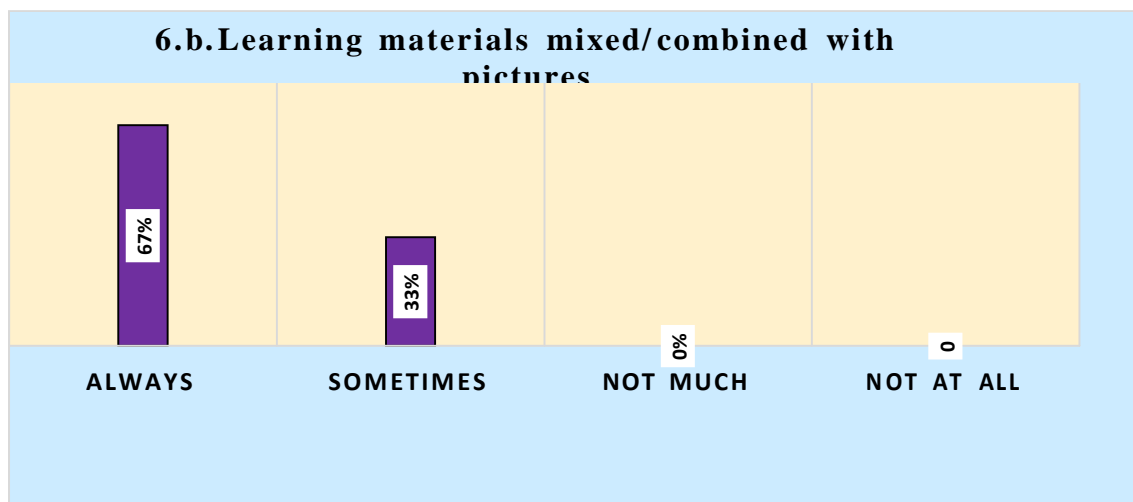


Figure 15: Learning materials mixed/combined with pictures.

The bar chart above shows 67% of students prefer learning materials mixed/combined with pictures while learning at technology assisted classrooms. 33% of students opted for the option “sometimes”. No students go with the option “not much” and “not at all”

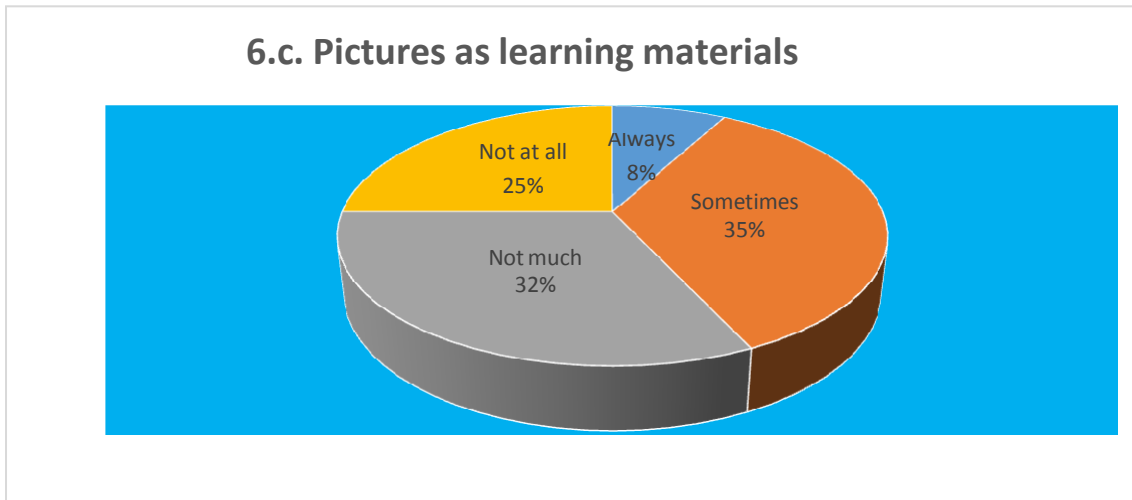


Figure16: Pictures as learning materials

It is reflected in the chart that only 8% of students replied that they prefer pictures as learning materials while learning in technology assisted classrooms. On the other hand, (35%) students said “sometimes” they prefer pictures as learning materials. It is also reflected in the graph more than 50% (32%+25%) of students opted for the option “not much” and “not at all”.

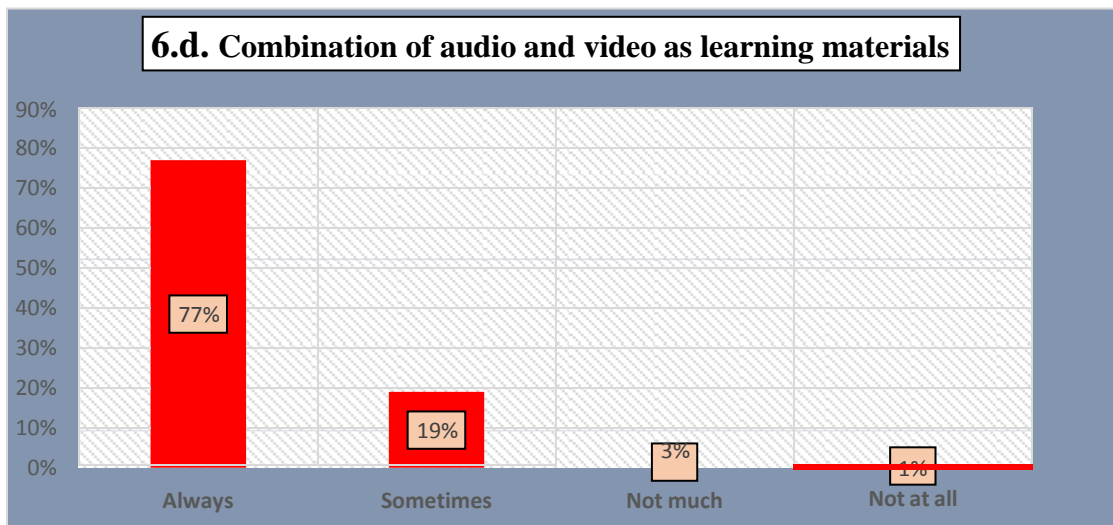


Figure 17: Combination of audio and video as learning materials

This bar graph shows students’ preference (77%) towards the combination of audio and video materials while learning in technology assisted classrooms. Only 19% of students said “sometimes” they prefer a combination of audio and video materials while learning in technology assisted classrooms.

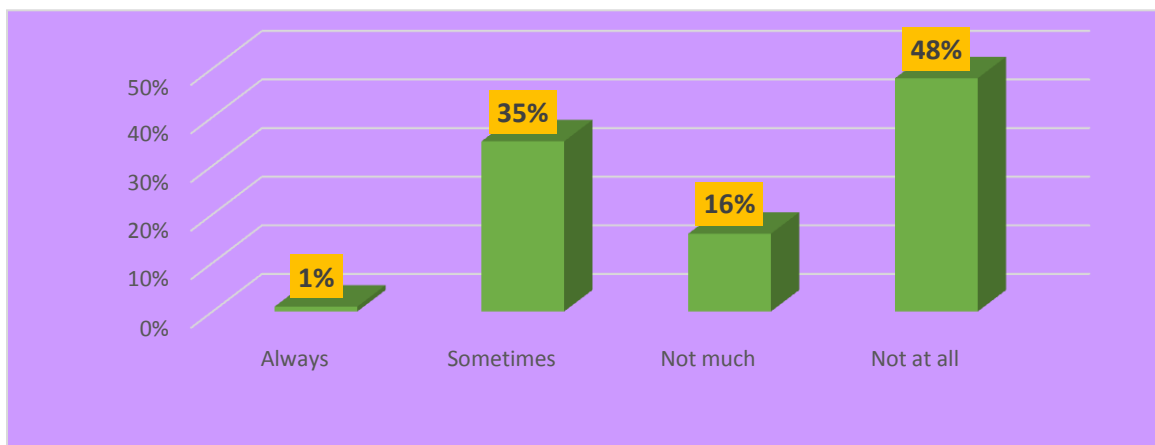


Figure 18: Only video as learning material.

Almost half of the total students (48%) said that they “Not at all” prefer only videos as learning material. It is also reflected in the bar that 35% of participants replied that “sometimes” they prefer only videos as learning materials.

4.4.7. Statement regarding students’ attitudes towards the use of technology

From the data provided in the table about students’ attitudes towards the use of technology, it shows that most participants have shown their positive vibe towards the use of technology in the classroom. They are aware of the goodness and usefulness of using technology in learning.

		Agree	Not sure	Disagree
1.	Use of technology helps to improve students’ ability especially speaking and listening.	90%	9%	1%
2.	Student makes no effort for their lesson if technology is used in teaching.	7%	40%	53%
3.	Students pay less attention when it is used in teaching.	9%	18%	73%
4.	The use of technology increases confidence to participate actively in the class.	80%	16%	4%
5.	The use of technology enables students to express their ideas and thoughts better.	78%	22%	0
6.	Use of technology allows students to be creative and imaginative.	90%	10%	0
7.	The use of technology promotes active and engaging lesson for students’ learning experience.	83%	14%	3%
8.	Use of technology sometimes demotivate students in classroom activity	21%	26%	53%
9.	I feel bored when technology is used	3%	15%	82%
10.	Teacher fails to complete the class when technology is used in class.	18%	7%	75%

Table 11: Students’ attitudes towards the use of technology

Besides, most participants (90%) agreed that the use of technology helps to improve their speaking and listening ability and makes them creative and imaginative too. Data also shows that (80%) of students said the use of technology increases confidence to participate actively in the class and 78% of students stated that the use of technology enables students to express their ideas and thoughts better. It is also reflected from the table that 83% of students agreed that the use of technology promotes active and engaging lessons for students learning experience.

On the other hand, 73% of students replied they disagreed with the statement that students pay less attention when technology is used in teaching. They don't feel bored and demotivated when technology is used so they disagreed with the statement use of technology demotivate students in classroom activity. It is found from the table that 75% of students disagreed with the statement that the teacher fails to complete the class when technology is used.

4.4.8. Challenges you faced in technology assisted learning-

	Always	Sometimes	Not much	Not at all
a. It's hard to concentrate	3%	40%	11%	46%
b. It's not enjoyable	3%	24%	27%	50%
c. It's boring	0	30%	19%	51%
d. I can't understand the lesson properly.	1%	25%	20%	54%

Table 12: Challenges faced by students in technology assisted learning

It is reflected from the data that, 40% of participants said "sometimes" it's hard to concentrate in the class when technology is used while 11% of participants thought it's "not much" 46% of participants answered that "not at all" hard to concentrate in the class when technology is used.

"It's not enjoyable" regarding this statement half of the students opted for the option "not at all" which means they disagreed with this. Again 24% of the students said for them "sometimes" it's not enjoyable.

51% of total students think the use of technology in the class is not a boring thing. On the other hand, 30% of students think it's sometimes boring while technology is used in the class. Percentage of not much (20%) and not at all (54%) is more than the option sometimes (30%) regarding the statement "I can't understand the lesson properly".

4.5. Findings and analysis of Students' Focus Group Discussion

1. Kinds of technology that are used in class-

Almost all the participants replied- that, Technology used in their classroom are - Multimedia projector mainly, sometimes Google, YouTube. Rarely use E-mail to show how to write an e-mail.

2. Benefits of using technology in the classroom-

- Students think they involve more now in the classroom. Before introducing technologies most of the students were only listening to the teacher's lecture, and they were not interested in discussing with the teacher. Most of the students agreed that now the lessons are becoming easy to understand as they can watch visualization besides listening to audio or the teacher's lecture.
- Most of the students replied that the use of technology allows them to become more creative, develops their ability to express their thoughts and ideas.
- Use of technology enhances their thinking ability.
- Most of the students agreed that when technologies are used in class it helps them concentrate more on class activities. They can concentrate more and get more information about the topic when teachers use multimedia during class time.
- All the students also agreed that now it's becoming easy for them to concentrate more on the classroom activities. The classes have become lively and exciting because of using different technologies.
- Technologies attract them more than their traditional lecture-based courses, and they eagerly wait for those classes where teachers use multimedia content.
- Students also assert that not only do they get more information in a shorter time, but even they can remember this information for a more extended period as they can see and listen at the same time.

3. Drawbacks of using technology in the classroom

- Use of technology can disconnect students from face-to-face relationships with their teachers, classmates. Sometimes it happens with us we become too busy to write down notes, without understanding the content properly we engage ourselves to write down notes. We do not even talk to our teachers if

we don't understand anything. We do not share our thoughts with classmates not even our teacher.

- In the Bangladeshi context, it is very hard to complete a technology-based class as there are electricity problems. If the electricity went there is a mess. Students lost their patience, concentration, motivation.
- Use of technology requires proper management, it requires professionals to help set it up, maintain it, and support teachers and students in its use which is inadequate in our country.
- Moreover, if there is any interruption of electricity happen during the classes, some teachers do not continue their lessons and leave them for the next classes. It makes an obstacle to their regular flow of that particular subject.

4. Problems faced by learners when technology is used in the classroom-

- Sometimes it becomes harder to listen, watch and write down notes simultaneously.
- Some teachers sometimes face trouble describing the topic when the content is presented in multimedia.
- Sometimes it becomes difficult for students to make a linkup between shown presentation and the teacher's speech together.
- When electricity is gone teachers fail to complete the class, which creates problems to understand the lesson.

5. Students' activity during the use of technology-

- Most of the students from the focus group discussion said, when technology is used by their teacher in the classroom they concentrate more on the class. They feel motivated to take part in the class. They try to take notes. They try to use different colors to identify important things. Some of them said we try to write the summary only so that we can study the lesson properly at home. Our teachers put some relevant information in technology-assisted class, we try to collect that information.
- Few students said that they get to know about language learning strategies from their teacher. But most of the students replied, for the first time they get to know about language learning strategies from the researcher.

6. Strategies used by students in technology assisted classroom:

A. Direct strategies:

a) Memory strategy:

Out of 30 students from 6 FGD groups, 20 students mentioned that they remember words by memorizing where the word is situated in the slide. (**Using imagery**). They also added that sometimes they make a sentence by using the words which helps us to remember the words. (**Creating mental linkages.**)

Sometimes they use physical action. Participants from FGD groups 1 and 2 gave an example that in their Bangladesh and Global Studies (BGS) class a list of functions of UNICEF was presented in the slide and some pictures were also included. The teacher called some students and asked them to match the function appropriately with the picture accordingly. Students one by one went near the slide to perform their activity and match functions with pictures. All 10 students from FGD groups 1 and 2 said that it was interesting to work it helped them to remember the functions of UNICEF. (**Using Physical action**)

One of the students from group 1 said *“When I attended in my Bangladesh and Global Studies (BGS) class and teacher integrated pictures with slide, I enjoyed the class very much. Though the teacher took these classes only once or twice a week, I eagerly wait for these classes”*. Most of the students from the six groups think that they involve more now in the classroom as classes are conducted by using technology. All the students also agreed that now it's becoming easy for them to concentrate more on the classroom activities. The classes have become lively and exciting because of using different technologies. Technologies attract them more than their traditional lecture-based courses, and they eagerly wait for those classes where teachers use multimedia content and projection.

Few students also claimed that, as all teachers don't use technology in class it becomes difficult for them to concentrate where technology is not used. Students made a differentiate of using their sensors and find out the lessons where they can both listen and watch that's become more interesting for them as well as they do not forget those experiences easily. On the other hand, where they only hear from teachers it becomes difficult for them to keep in mind.

b)Cognitive strategy:

Practice means repeating the work again to understand the thing. Sometimes, the passage presented in the slide requires two or more times to read to understand the message. Again sometimes we don't need to read the whole passage repeatedly. We only read the part that we fail to understand. By reading repeatedly we understand the topic. When multimedia is used in class as the font is bigger than the textbook it seems easier for us to read. Again we are assigned to do group work our teachers inspire us to check repeatedly to find out our mistakes. It helps us to become confident. In our maths class and English class teachers use the trick, they show wrong math on the multimedia and tell that whether there is any mistake or not. When our teacher does it we unconsciously look at the slide repeatedly and try to find out the mistakes. Again in English class, teachers put wrong sentence patterns, articles, tense, spelling and instruct us to find out the mistakes. **(Practice, repeating)**

One of the students from FGD group 3 said *“When a picture with some words is put in the slide it inspires me more to engage myself in the class. I find some scope to write something using creativity, but it's true that the number of such type of class is less.”*

“Use of pictures encourages us to participate in the classroom activity more, use of pictures inspires us to remain attentive in the class” replied most of the students of the six groups.

In a descriptive paragraph writing class, our teacher put a picture of ‘Sat Gambuj Mosque’ and attached words like a historical place, beautiful, attractive, and so on with the picture. Our teacher made some groups and told us to write a descriptive paragraph. Before that teacher showed a demo of the descriptive paragraph in the slide. We were discussing with each other using the word attached with the picture to develop our paragraph. That means we were recombining words shown in the slide with other parts of the sentence by practicing. **(Practicing-recombining)**

To get an idea quickly sometimes we read from the slide only specific words like date, year, formula, equation, any kind of name quickly(**scanning**) and sometimes they read the passage with details to get a detailed answer or to summarize the lesson(**skimming**).{ **Getting idea quickly**}

In Technology assisted English classes we sometimes analyze the lesson by using different techniques. Among 30 students from six groups, nineteen students said *“We break the sentence into its components for better understanding. Sometimes it brings advantage but sometimes it’s put us in dilemma, we lost the real meaning”* (**Analyzing expression**)

One of the most common strategies they employed in the classroom is translation whether it’s a technology assisted class or traditional class. All the respondents say *“Even they don’t say it, sir, I don’t understand it, and they say sir ami eta bujini”* (**Translation**).

Note-taking is one of the common strategies used by them in technology assisted classroom, as they don’t get the hard copy of the slide. When teachers use different colors in the slide it attracts them most. There are no other options for them but to take notes. But there have differences in taking notes. Some use a colorful pen, some use markers to highlight the important things, some give tick marks or circles to identify the important thing. One of the respondents said, *“I love to take notes using a colorful pen as it is presented in the slide, I usually use green, blue, red colors. It helps me to learn better”*. Again *“I prefer to give tick marks to identify important parts of the lesson”* replied 20 students out of 30 students. The remaining 10 students said *“We use markers to highlight the important parts”* (**Creating mental structure for input and output**)

c) Compensation Strategies:

It’s a common phenomenon for them that sometimes they don’t understand the lesson presented in multimedia. It happens regarding all subjects. When such a situation occurs they try to look back or forward of the sentence to get some idea. Sometimes pictures are added to give some indirect instructions to get the idea. (**Guessing intelligently**)

When a topic is presented in multimedia and our teacher told us to say something about the topic some students can speak fluently at the same time some fail to speak in English. At that time of conversation, they continue the conversation by combining Bangla and English. Three participants said when they fail to continue the conversation in English they totally stop the conversation. The rest of the participants replied that they take the help of other students or teachers or combine Bangla and

English to continue the conversation. **(Overcoming limitations in speaking and writing)**

B. Indirect strategies:

a) Metacognitive strategy

All the participants replied Multimedia classes help them to focus more on class activity. They pay more attention when technology is used. One of the greatest benefits of using technology in the class is they can see the lesson on a large screen. Students from all corners can see the lesson clearly. As they are used to studying only by looking at the books, multimedia class inspires them to concentrate more on class and also motivates them to take part in the class with great enthusiasm. **(Paying attention)**

Again all the students said they write down new expressions, structures, and other important content that is shown in the multimedia. As they don't get the hard copy of the lesson they prefer to use a different notebook so their activity remains in an organized manner. Some students replied that they divided a notebook into different parts and organized their lessons on a different subject in different parts. They use the same notebook for the different subjects because it seems troublesome for them to carry a huge notebook for different subjects **(Keeping a learning notebook)**

b) Affective strategy:

Affective strategy refers to emotions, attitudes, motivations, and values. All the respondents said that when the teacher shows some motivational elements in lessons they feel confident and inspired. When multimedia is being used in the class they get more scope to participate in the class, the class becomes student-centered. Most of the participants said some of their teachers use some jokes using the internet to grab the attention of students especially when the class is in the last period, students feel very tired, but when motivational video or jokes are shown their tiredness vanishes.

One of the students said, *“I love to take a risk, I always believe in participating in conversation whether it's right or wrong especially when something is presented in the multimedia.”*

C) Social strategy:

When they don't understand something presented in the class they ask the teacher, 'can you explain the topic again'? Again it happens with them that they feel shy or hesitate to ask sir/madam to explain the lesson. At that time they talk with their classmates to solve the problem. They cooperate with each other to find out a solution.

7. Students' responses towards the Teachers' use of technology or white board for teaching-

Most of the students from the focus group discussion replied they prefer the use of technology in the class. They also add that combination of both is important sometimes. All the time use of technology makes us monotonous and as technological devices are electronic devices they can stop working any time without any reason. In that case, whiteboard gives support to complete or finish the class properly. Use of technology makes the class interesting, attractive. At the same time, we feel motivated when technology is used. When technology is used in the class we get more opportunities to take part in classroom activities, teachers talk is less and students get more time to participate.

Chapter Five

Discussion

5. Discussion

5.1. Discussion on findings and answer to research questions

5.2. Answer to research question 1-

5.2.1 Types of technologies that are used for language learning and teaching at the secondary level-

Findings of the study represent that different types of technologies are used for language learning and teaching at the secondary level. The most common technological tools used by teachers in technology assisted classrooms is multimedia projectors (among 12 teachers all teachers replied that technology means multimedia). You tube(T3,T4,T5,T6,T8, T9), Power point slides(T3,T4,T5,T7,T9,T10,T12) Google(T3, T4, T5, T6, T7, T9, T10, T11), internet (T2,T8, T12), podcast (T6, T7, T10, T11), interactive cartoon (T4, T7, T10, T11) are also used by teachers. Google is mostly 'Everyday' used tool which is used by 51 students. On the other hand, 19 students used YouTube as a learning tool 'Every day. In the case of weekly use, 58 students use YouTube and 39 students answered they use Google 'Every week'. The chart also reveals that 53 students said they not so much use Facebook. E-mail is the tool that is 'Not at all used by the participants for learning purposes.

5.3. Answer to research question 2-

5.3.1 Strategies used by teachers and learners for technology assisted learning

5.3. 2.Strategies used by teachers for technology assisted learning-

The study conducted by Khan (2014) explored that students become engaged, interactive, and take part in group discussions when technology is used in the teaching-learning process. Effective use of technology can facilitate student-centered active learning (Ellis et al. 2008). From the findings collected from teachers' s data, it's also found that, to use these tools teachers used various types of strategies like teachers providing pair works, group tasks, encourage students to ask questions so that students 'participation can be ensured, provided required

audio visual materials to make the class enjoyable, presented examples to clarify points using technological tools like multimedia, Google, you tube, internet, defined unfamiliar terms, concepts and principals using technological tools engage students in classroom activities. 4 teachers (**T5, T6, T7, and T8**) replied they use multimedia to warm up the student by showing any pictures or any formula using different color. To make the class student oriented they prefer to use Communicative Language Teaching (**T5,T6 ,T7,T9,T10,T12**) and Participatory methods (**T1 ,T2,T 3, T4,T8,T11**). **T9, T10, and T11 (3 teachers)** answered in our English textbook there is some lesson that requires the use of multimedia class and use of the internet. When a text is related to a foreign country or geography technology plays a most important role. Using the internet we try to make the lesson interesting. For example, when I teach my student about the Statue of Liberty I always use the internet to show the picture and location of the statue. When I use pictures or videos students become more attentive and it helps me to grab the attention of my students till the end of the class. I always try to put some pictures in my lesson when I take a multimedia class. In the case of English 1st paper, (responses from **T9, T10, and T11**) provide them with silent reading then teachers give students a picture where some things are marked about which we will give them some information.

5.3.3. Strategies used by students' at technology assisted classroom-

Findings of the study show that students use different types of learning strategies at different extents at technology assisted classroom. By using technological tools, to inspire students to use different strategies in activities, teachers are seen as the key player. This is due to the capability of technology to provide a dynamic and proactive teaching-learning environment. (Arnseth & Hatlevik, 2012).

Findings show that mostly used strategies are memory strategy, cognitive strategy, compensation strategy, metacognitive strategy.

Out of 30 students from 6 FGD groups, 20 students mentioned that they remember words by memorizing where the word is situated in the slide. (**Using imagery, a branch of memory strategy**). They also added that sometimes they make a sentence by using the words which helps us to remember the words. (**Creating mental linkages,**

branch of memory strategy) Physical action is a sub-branch of memory strategy which is also used by 10 students when technology is used in the class.

Cognitive strategy: *“Use of pictures encourages us to participate in the classroom activity more, use of pictures inspires us to remain attentive in the class”* replied most of the students of the six groups. To get an idea quickly sometimes we read from the slide only specific words like date, year, formula, equation, any kind of name quickly(**scanning**) and sometimes they read the passage with details to get a detailed answer or to summarize the lesson(**skimming**).{ **Getting idea quickly**}

Among 30 students from six groups, nineteen students said *“We break the sentence into its components for better understanding. Sometimes it brings advantage but sometimes it’s put us in dilemma, we lost the real meaning”* (**Analyzing expression, branch of compensation strategy**)

Metacognitive strategy: One of the greatest benefits of using technology in the class is they can see the lesson on a large screen. Students from all corners can see the lesson clearly. As they are used to studying only by looking at the books, multimedia class inspires them to concentrate more on class and also motivates them to take part in the class with great enthusiasm. (**Paying attention**).

5.4. Answer to research question 3-

5.4.1. Attitudes of teachers and students towards the use of technology as tool for teaching and learning at the secondary level-

5.4. 2. Teachers’ attitudes towards the use of technology-

As technology has enormous benefits teachers show a positive attitude towards the use of technology in technology classrooms. It can be observed from the findings that students were eager to ask questions, willingly participated in in-class activities, and were engaged in the lesson throughout the class or most of the class time when technology was used by the teachers(**T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12**). At the same time, teachers also agreed that though technology has positive impacts on learning and teaching it has some drawbacks too. Electricity problems, inadequate technological tools, lack of training are the most common problems that teachers faced in the classroom.

5.4.3. Students' attitudes towards the use of technology-

Findings and analysis of students' questionnaire also represent that students have a positive attitude towards the use of technology in technology assisted classroom. Besides, most participants (90%) agreed that the use of technology helps to improve their speaking and listening ability and makes them creative and imaginative too. Data also shows that (80%) of students said the use of technology increases confidence to participate actively in the class and 78% of students stated that the use of technology enables students to express their ideas and thoughts better. It is also reflected from the table that 83% of students agreed that the use of technology promotes active and engaging lessons for students learning experience.

On the other hand, 73% of students replied they disagreed with the statement that students pay less attention when technology is used in teaching. They don't feel bored and demotivated when technology is used so they disagreed with the statement use of technology doesn't hamper to complete the class for that reason it is found from the table that 75% of students disagreed with the statement that the teacher fails to complete the class when technology is used.

5.5. Conclusion

From the responses of teachers and students, some important and interesting data were found. Some of the information gathered from data contradicted each other. However, from the above discussion, we get a present scenario of using strategies both by teachers and students in technology assisted learning at the secondary level and then it is proved that the hypothesis is valid.

Chapter Six

Conclusion and Recommendations

6. Conclusion

Use of technology in education is a comparatively new phenomenon in Bangladesh like many other developing countries. This research was designed with the purpose of finding out about strategies used by teachers in technology assisted learning at the secondary level. The results found from questionnaire, interviews, classroom observation show that teachers use communicative language teaching in technology assisted classroom, but most of the teacher do not give details, when and how they use this strategy. This findings from the study offer to look into the present situation about the use of strategies at technology assisted classroom. Most of the teachers who are in the teaching profession for a long time were used to with their traditional teaching instructions though they said they use communicative language teaching. This study also investigated what kinds of technologies are used for learning and teaching at the secondary level. The findings revealed that at the secondary level technology means mainly use of multimedia. Regarding the attitudes towards use of technology in classroom it is found from the findings that both teachers and students have positive attitudes. There are also more opportunities to study what types of technological tools are used, what strategies are used by teachers and students and teachers attitudes towards the use of technology in education especially in rural areas and even in Madrasah education of Bangladesh.

6.1. Recommendations:

1. Long term teacher training programs need to be organized, monitored and patronized. This will help teachers to become confident. At the time of taking interview most of the teachers were shaggy, they were not showed their interest to give the answers of the questions of the researchers. Proper initiatives need to be taken to ensure participation of every teacher in training in professional development.
2. Secondary schools must gradually manage more technological facilities in all regular classrooms, not only in ICT labs; some schools' financial constraint has to be addressed.

3. All the teachers must be adequately trained on the technology used to enhance skills and confidence.
4. Effective monitoring is needed to ensure teachers' regular use of technology in classes; head teachers can play an important role in this regard.
5. The teachers must develop the skills to arrange listening and speaking practices for learners using technology.
6. Individual teachers should be skilled to prepare his/her own digital contents, and use appropriate aural and visual materials.
7. For collaboration and professional development teachers need to use technology more.
8. Class duration must be extended for effective technology use.
9. Class burden should be reduced, so that teacher can put more effort to make class successful.
10. Teachers are in direct contact with students. They are responsible for the integration of each work and activity in the class. With the changed view of teaching the teachers should change their strategies in the classroom.

6.2 Limitations of the study:

This study is done to find out kinds of strategies used by teachers and learners in technology assisted learning at the secondary level. The researcher has tried to present a scenario of the present case of strategies use in technology assisted learning at secondary level, teachers and students attitudes towards the use of technology and what types of technological tools are used. A number of limitations have appeared during the planning and implementation stages of this study. Due to time limitation, covid-19 pandemic, and convenient accessibility in schools, the researcher selected Dhaka, the capital city, as her research site. This study has further narrowed down the breadth and investigated only some specific schools of Dhaka city. However, schools in the capital city do not represent the situation of the whole country. Moreover, covid-19 pandemic created problems to carry out the plan of this study smoothly and made it difficult to finish the research in time. Teachers were very busy and unable to give much time for interview and classroom observations. Moreover, they were very reluctant to give the interview when they heard it would be audio taped.

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Appendices

Appendix 1-Questionnaire for Teachers:

The following survey contains questions about **Strategies used by teachers and learners in technology assisted learning at the secondary level**. Please do NOT write your name on the questionnaire as this study is anonymous. We would be grateful if you could spend 4 or 5 minutes answering the questions.

Background information:

Name of School: _____

Approximate age group:

20-25 years	
26-30 years	
31-35 years	
36-40 years	
41-45 years	
46-50 years	
51-55 years	

Gender: Male Female:

Teaching Experience:

1. Have you received any training on Teaching or professional development?

* Yes

*No

If yes, please give details of the training:

2. Please tick the gadgets that are available in your school:

Items	For teachers only	For students only	For both student and teacher	Not available
Computer				
Multimedia projector				
Internet				
Cassette players				

3. Which following tools do you use in the classroom? Tick the tools you used.

Items	Always	Usually	Sometimes	Rarely	Never
White board					
Multimedia Projector					
Power point slides					
Cassette players					
Interactive cartoon					
Computer					
Podcast (A digital recording of music, news or other media that can be downloaded from the internet to a portable media player.)					
YouTube					
Google					

4. If anything else please write down:

5. Which kind of technology have you used in a class?

6. How did you use it?

7. Statement items to know Teachers' attitudes towards the use of technology in teaching and learning:

		Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1.	Technology is one of the innovative tools to build rapport among the students.					
2.	Use of technology saves time and students get more time to take part in classroom activities.					
3.	Use of technology helps to involve students into pair/group work					
4.	Following tools act as teaching aid in the major part of classroom activity:					
	a. Computer					
	b. Internet					
	c. Multimedia projector					
	d. Google					
5.	Technology can be used more often to help students to improve their skills (e.g. reading, speaking, writing, and listening) in the classroom.					
6.	The use of technology can provide students with more practical and useful knowledge.					
7.	The communication with classmates and teachers can be easy after technology is used.					
8.	Technology helps to trigger the background knowledge for the students.					
9.	Technology helps to follow 3 stages of teaching like pre, while and post activities in the classroom.					
10.	Using technology helps student to think positively makes everyone interested in class activity.					
11.	Use of technology allows students to be more creative and imaginative.					
12.	Students pay less attention					

	when it is used in teaching.					
13.	Student makes no effort for their lesson if technology is used in teaching.					
14.	Technology supported teaching makes learning more effective.					
15.	Teaching is easier while technology is used.					
16.	I think use of technology is a waste of time.					

8. Do you think it is possible for all secondary teachers in Bangladesh use technology in the class?

Yes

No

Please explain your answer-

9. Write 3 most positive things you find about using technology in the class?

10. Write 3 disadvantages you find about using technology in the class?

11. What is your preferred technology tool (multimedia projector, PowerPoint slides, cassette players, interactive cartoon, computer, podcast, you tube, Google). Please give reasons.

12. How useful is it to teach language? Please explain its effectiveness?

Appendix 2-Teachers' Interview Questions

- a) What technology do you use in your classroom?
- b) What teaching method do you use in your technology assisted classroom?
- c) Do you use the Internet in your classroom activities? If yes, explain in which purpose you use internet?
- d) Technology or traditional white board/blackboard which you prefer to teach students? Explain from your own experience.
- e) Do you use technology in the classroom? If yes, explain what are the benefits you get of teaching with technology? If not, explain what are the drawbacks of using technology?
- f) What are limitations of teaching with technologies?
- g) Which teaching method do you think is most effective for your teaching, Communicative Language Teaching (CLT) or Grammar translation Method (GTM) in technology assisted classroom?
- h) What according to you is the role of a teacher in the classroom?

Appendix 3-Classroom Observation Guide

Name of School:

Name of teacher:

Subject:

Topic:

Date:

Duration of class:

Name of the observer:

Scoring Guidelines:

4	3	2	1
Very evident throughout the class	Evident during most, but not all, of class session	Evident during a limited portion of the class session	Not evident to any degree during the class session

Lesson Organization

	Score
1.Made clear statement of the purpose and learning outcomes of the lesson Using tools like-multimedia projector, power point slide.	
2. Presented an overview of the lesson using multimedia/power point slide.	
3. Presented topics in a logical sequence.	

Strategies used by teachers in technology assisted classroom-

	Score
1.Provided group tasks that were related to the lesson's learning outcome	
2.Encouraged student question	
3. Encouraged students to answer each other's questions.	
4. Presented helpful audio visual materials to support lesson organization And major points.	
5. Presented examples to clarify points using technological tools like Google, you tube, internet.	
6. Defined unfamiliar terms, concepts and principals using technological tools.	

Students' response when technology was used-

	Score
4. Students were eager to ask questions.	
5. Students willingly participated in in-class activities.	
6. Most students were engaged in the lesson throughout the class	

Method used by teachers in technology assisted class-

	Score
5. Communicative Language Teaching	
6. Participatory method.	
7. Grammar Translation method	
8. Others	

Appendix 4-Questionnaire for Students

The following survey contains questions about **Strategies used by teachers and learners in technology assisted learning at the secondary level**. Please do NOT write your name on the questionnaire as this study is anonymous. We would be grateful if you could spend 15-20 minutes answering the questions.

Background information:

School: _____

Gender: Male Female

Class:

Group:

1. Which one of the following do you use for learning?

	Everyday	Every week	Not so much	Not at all
Facebook/twitter				
YouTube				
Google				
e- mail				

2. If you use “Google” why do you use it? Is it related to your classroom studies?

3. If you use “You tube” why do you use it? Is it related to your classroom studies? _____

4. Do your teachers use technology to teach the following subjects-?

	Always	Sometimes	Not much	Not at all
a. English language				
b. Bangla language				

Strategies used by teachers and learners in technology assisted learning at the secondary level

c. Science subjects				
d. Maths				
e. History				
f. Geography				

5. How do you think use of technology will help you in a class?

	Agree	Not sure	Disagree
a. Sees pictures, graphs, maps, charts help to visualize ideas.			
b. To identify the highlighted important things.			
c. I feel encouraged in classroom activities, discussions, feedback on when topics are presented in multimedia.			
d. Materials presented in multimedia help to concentrate in class as it is clear, colorful.			

6. Which following ways will you prefer while learning at technology assisted classrooms?

	Always	Sometimes	Not much	Not at all
a. Notes written on multimedia				
b. Learning materials mixed/combined with pictures				
c. Pictures as learning materials.				
d. Combination of audio and video materials.				
e. Only videos				

Statement items to know students attitudes towards the use of technology

		Agree	Not sure	Disagree
1.	Use of technology helps to improve students' ability specially speaking and listening.			
2.	Student makes no effort for their lesson if technology is used in teaching.			
3.	Students pay less attention when is used in teaching.			
4.	The use of technology increases confidence to participate actively in the class.			

Strategies used by teachers and learners in technology assisted learning at the secondary level

5.	The use of technology enable students' to express their ideas and thoughts better.			
6.	Use of technology allows students to be creative and imaginative.			
7.	The use of technology promotes active and engaging lesson for students' learning experience.			
8.	Use of technology sometimes demotivate students in classroom activity			
9.	I feel bored when technology is used			
10.	Teacher fails to complete the class when technology is used in class.			

What are the challenges you faced at technology assisted learning?

	Always	Sometimes	Not much	Not at all
e. It's hard to concentrate				
f. It's not enjoyable				
g. It's boring				
h. I can't understand the lesson properly.				

Strategies used by teachers and learners in technology assisted learning at the secondary level

Appendix 5-Students' Focus Group Discussion Questions

1. What kind of technology is used in your class?
2. What are the benefits of using technology in the classroom?
3. What are the drawbacks of using technology in classroom?
4. What are the problems you faced when technology is used in classroom?
5. What do you do when technology is used in your classroom? How did you know about Language Learning Strategies? Did you know it before?
6. Do you use any Language learning strategies? What are they?
7. Teachers' use of technology or white board for teaching, which will you prefer and why?