

Chapter 3

Research Methodology

3.0 Introduction

This chapter discusses the research methodology of the study. It is divided into two sections. The first section deals with the rationale, assumptions, variables and hypothesis of the study while second section elaborates on the research design, methods of measurement which includes development of the tool, subjects, the tasks which were developed for the study and data collection.

3.1 Rationale of the Study

The present study intended to evaluate the effectiveness of Internet and Computer-based Tasks on the speaking and writing skills of MBA students. Specifically, this work attempts to find out the impact of using blogs, videos, podcasts, and infographics on the speaking and writing skills of the post-graduate management students when incorporated in language teaching tasks.

In addition, to assess the impact of ICT-based language learning tasks on students' productive skills, this study also aims to discover the impact of these tasks on the Critical Thinking skills of the students.

3.1.1 Assumptions

This research work is driven by the following assumptions.

1. Use of ICT technologies enables learners to develop effective speaking and writing skills.

2. Effective utilization of Internet-based resources helps learners explore more information and knowledge and use them in the process of communication.
3. Use of ICT facilitates individualised learning and presents a one-to-one interaction between teachers and learners.
4. Appropriate use of multimedia and ICT resources motivates learners to develop interest in the language learning process.
5. ICT-based tasks also help learners reflect Critical Thinking skills in the use of language.

3.1.2 Variables

There are two types of variables in a research design, i.e. independent variable and dependent variable. The independent variable is one which is selected, modified and measured by the researcher. In the present study, the research intervention which was given to the study participants in the form of Internet and Computer Based Tasks for the enhancement of speaking, writing and Critical Thinking skills is the **independent variable**.

The dependent variable is the one which is observed and measured by the researcher to determine the impact of independent variable. According to Nunan (1992), “The variable upon which the independent variable is acting is called the dependent variable”. In this study, the researcher attempts to investigate the impact of Internet and Computer Based Tasks for the enhancement of speaking and writing skills. It also intends to observe whether Critical Thinking gets reflected in their production of language. In this study therefore, the **dependent variables** are pre-test and post-test analysis of scores that measures the speaking and writing skills of the participants.

3.1.3 Hypotheses

Hypothesis is made up of one or more predictive statements about the relationship between two or more variables. It delivers a specific, testable prediction of what a researcher expects to observe in the study.

The hypothesis that the present study intends to prove are:

1. Internet and Computer-based Tasks are likely to develop writing skills of MBA students.
2. Internet and Computer Based Tasks are likely to develop speaking skills of MBA students.
3. Internet and Computer-based Tasks are likely to develop Critical Thinking in learners.
4. Internet and Computer-based Tasks are likely to develop self-directed learning and motivate them to further develop their communication skills.

Null-hypothesis:

No significant changes are seen in writing and speaking skills and critical thinking of MBA students when they are taught with the help of Internet and Computer-based Tasks.

3.2 Research Design

The testing of the hypothesis required an experiment in which the language behaviour of students can be examined in two conditions, i.e. experimental and controlled.

The study, being an experimental work, involved two groups of students as subjects from the first year MBA class of Indukaka Ipcowala Institute of Management, CHARUSAT, Gujarat. They were divided into the control and the experimental group. The experimental group was offered comprehensive input in terms of Internet-based language learning tasks which were designed with the underlying principles of the Revised Bloom's Taxonomy (Anderson &

Krathwohl, 2001). As effective communication plays a vital role in today's work environment, the tasks were designed to develop the spoken and written communication of students by engaging them in analytical and creative writing tasks and involving them in peer-group evaluation activities.

These tasks covered the six different strategies with the intention of also developing their critical thinking skills.

Though the present study follows the experimental design of research, it is important to understand why this particular kind of research was chosen over others. To arrive at this decision it is important to review the various research paradigms in education - quantitative research, qualitative research and mixed research.

3.2.1 Quantitative Research

Quantitative research involves data collection procedures that result primarily in numerical data which is then analysed primarily by statistical methods (Dorneyi, 2007), for example, survey research using a questionnaire, analysed by statistical software such as SPSS.

It primarily relies on the collection of quantitative data. As variables are the basic building blocks of a quantitative research, the kind of variables that are used in quantitative research are: categorical variable, quantitative variable, independent variable, dependent variable, mediating variable and moderator variable (Creswell, 2003). Quantitative research methods focus on maximizing objectivity, replicability, and generalizability of findings, and are interested in prediction.

Characteristics

Key features of quantitative research are:

- a) Use of instruments such as tests or surveys to collect data,

- b) Reliance on probability theory to test statistical hypotheses that correspond to research questions of interest, and
- c) Quantitative methods are deductive in nature as inferences from tests of statistical hypotheses lead to general inferences about characteristics of a population (Lincoln & Guba, 1985).

Strengths

The following are the strengths of quantitative research:

- a) It produces reliable data due to its systematic, rigorous, focused and tightly controlled nature resulting into precise measurement.
- b) It offers in-built checks and indices such as statistical significance which help readers to justify the validity of quantitative findings.
- c) The quantitative research process is quick as data analysis can be done using statistical computer software.

Weaknesses

There are some limitations of the quantitative method which are:

- a) It is not possible to do justice to the subjective variety in this type of research.
- b) This method is not very sensitive in uncovering the reasons for particular observations underlying the reasons for particular behaviour.
- c) Some kinds of information are difficult to obtain through structured data collection instruments.
- d) Self-reported information obtained through questionnaire can be inaccurate or incomplete.

- e) Sometimes administration of a structured questionnaire alienates the responders.
- f) Quantitative studies are expensive and time-consuming.
- g) Reduction of data to numbers results in information loss.

3.2.2 Qualitative Research

Qualitative research involves data collection procedures that result primarily in open-ended, non-numerical data which is then analysed primarily by non-statistical methods (Dorneyi, 2007). For example, interview research where transcribed recordings are analysed qualitatively.

Qualitative research explores meaning, purpose or reality (Hiatt, 1986, as cited by Serlin, 2011). This research design relies on the qualitative data collected during a study. By discovering and understanding the experiences, perspectives, and thoughts of participants. The use of qualitative methods in education is relatively new, dating mostly to the 1980s, with ongoing developments in methodology and reporting guidelines (Denzin, 2005).

According to Denzin & Lincoln (2005), qualitative research consists of interpretive and material practices. It is a situated activity that locates observer in the world. It studies things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

In qualitative research information is collected by a researcher through case studies, ethnographic work, interviews, and so on. It leads to a flexible and open research process by putting the researcher and participants in a naturalistic settings with few boundaries. Depending upon the objective of research, different results could be achieved from the same participants as results are created by researcher and participant in a given situation. In short, replicability and generalizations are not the goals of qualitative research (Serlin, 2011).

In this type of research, researcher can construct theories or hypotheses, explanations, and conceptualizations from details provided by a participant. That is why qualitative research methods are considered inductive. However, there are certain strengths and weaknesses of this research design which are given below.

Strengths

- a) This method enables researchers to explore new and uncharted areas as it does not rely on previous literature or prior empirical findings (Eisenhardt, 1989).
- b) With this method, researchers can provide fuller understanding of the research as against quantitative methods where further research is recommended most of the time.
- c) In this method, the rich data obtained about participants' experience widens the scope of understanding.
- d) It is very useful for the purpose of longitudinal research (Dorneyee, 2007).

Weaknesses

- a) There are some limitations of the qualitative method. This design
- b) lack generalizability
- c) individual factors are not isolated.
- d) quality of research is dependent on the skills of the researcher
- e) rigidity is difficult to assess, demonstrate and maintain
- f) findings can be time consuming and difficult to present in visual mode

3.2.3 Mixed Research

The qualitative versus quantitative debate has resulted into rapid development of mixed methods. It combines qualitative and quantitative methods in ways that it bridges their differences in the service of addressing a research question.

Mixed method research involves different combinations of qualitative and quantitative research either at the data collection or at the analysis level (Dorneyi, 2007).

Characteristics

Mixed Research involves the mixing of quantitative and qualitative methods or paradigm character. It involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. It also focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. The use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone (Creswell, 2007). The roots of mixed methods were seen in the multi-trait, multi-method approach of Campbell and Fiske (1959, cited in Teddlie & Tashakkori, 2010). Finally this method enables the researchers to combine qualitative and quantitative principles at the data analysis stage ‘quantifying’ or ‘qualitizing’ the data (Dorneyee, 2007). Stating the **strengths** Dorneyee (2007) states that:

- a) Mixed methods research allows the researchers to use both quantitative and qualitative approaches and apply the strengths of both. The strengths of one method can be utilized to overcome the weaknesses of the another method in a given study.
- b) It helps the researchers to carry out multi-level analysis since this method allows them to obtain data about both the individual and broader societal context.

- c) This method has the potential to produce evidence for the validity of research results by corroborating the findings.
- d) It also expands the reach of the research work as the research is by both quantitative and qualitative researchers.

However, Hesse-Biber and Leavy (2006) stating the **weaknesses** of the mixed methods research say that:

- a) a researcher cannot be well-versed in both types of methodologies combined in mixed methods.
- b) this method has been adopted as a substitute of sharp conceptual thinking and insightful analysis.
- c) diversity of possible combinations in mixed methods is greater than any typology can encompass.

However, Dorneyee (2007) advocates the adoption of mixed methods research as it facilitates the understanding of phenomenon in question.

As stated earlier, mixed methods research involves both collecting and analyzing quantitative and qualitative data. Quantitative data includes closed-ended information that deals with attitude, behavior, or performance instruments. Its analysis consists of statistically analyzing scores collected on instruments, checklists, or public documents for answering research questions or to test hypotheses.

On the other hand, qualitative data consists of open-ended information gathered by researcher from participants. Usually, it features open-ended questions asked by the researcher that allow the participants to supply answers in their own words. The qualitative data is also

collected by observing participants, gathering documents and by collecting audio-visual materials such as videotapes or audio-records. The analysis of the qualitative data follows the path of aggregating words into categories of information and presenting the diversity of ideas gathered during data collection (Creswell, 2007).

A combination of both quantitative and qualitative data provides the researcher with a better analysis and understanding of the problem than the insight offered by either of the methods. A simple 'mix' of quantitative and qualitative data does not suffice; they need to be 'mixed' in a way so that the combination forms a complete and clear picture of the problem than done on their own. The following figure shows three ways of 'mixing' the data collected using the quantitative and qualitative methods for gaining better insight into research results.

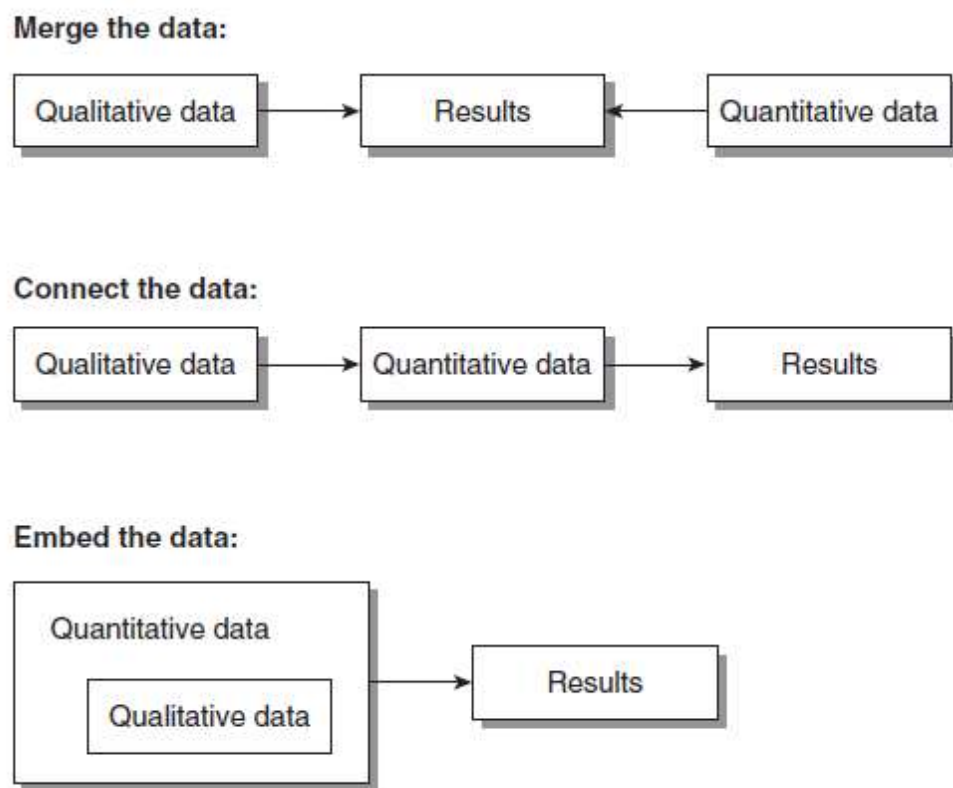


Figure 3.1 Three Ways of Mixing Quantitative and Qualitative Data (Creswell, 2007)

The following figure shows how mixed methods studies involve collecting and analyzing quantitative and qualitative data within a single study and multiple studies.

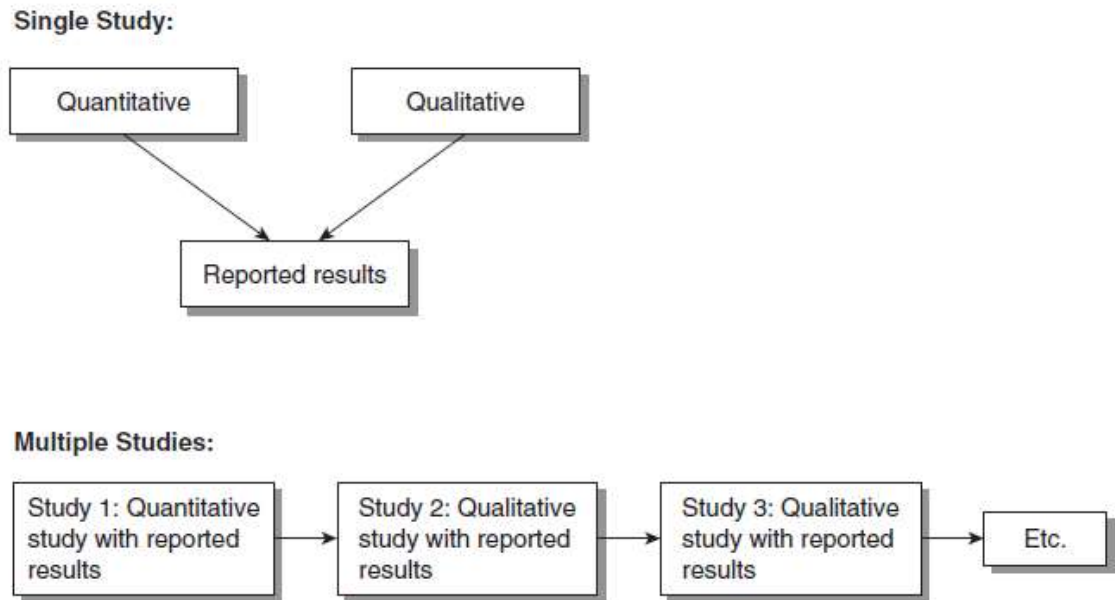


Figure 3.2 *Examples of Single- or Multiple-Study Mixed Methods Research (Creswell, 2007)*

The mixed method research offers the following advantages over the use of only quantitative or qualitative research (Creswell, 2007).

- a) The mixed method research offers the strengths that subside the weaknesses of quantitative or qualitative research (Jick, 1979).
- b) It provides more comprehensive evidence of studying the research problem than only using quantitative or qualitative research, as in this method researcher can use variety of tools available for data collection and they are not restricted to using the data collection tools associated with only quantitative or qualitative research.
- c) This method helps in answering the questions which can't be answered by quantitative or qualitative research alone.

- d) It encourages the use of multiple worldviews or paradigms rather than selecting paradigms associated with only quantitative or qualitative research.
- e) Mixed method is also considered a practical method since it allows the use of all possible methods to address a research problem.

3.2.3.1 Mixed methods and the Present Study

Taking into consideration the strengths and weaknesses of all the research methods, the researcher chose not to use the qualitative method because using this method would not have replicated and generalized the results (Serlin, 2011) which the researcher wanted. The quantitative method also could not be considered because some subjective kind of information is difficult to obtain through structured data collection instruments and more importantly, mere numbers do not uncover reasons for particular language behaviour which are observable through productive skills. The present study therefore employs **mixed method research** for improving the credibility and authenticity of the results. This method allows the researcher to -

- collect data using both quantitative and qualitative tools and present the analysis in a mixed form.
- analyse the collected data by integrating both quantitative and qualitative methods that would result in- authentic results.

Along with the mixed method, the researcher adopted the **two-group pre-test - post-test research design** which allowed the researcher to analyze the effectiveness of a specific treatment. A pre-test - post-test design is usually quasi-experimental where participants are studied before and after the intervention. The pre-test and post-test help researchers to investigate

the improvement in target skills of participants in the given research. This design includes an experimental group and a non-treated control group as:

Experimental group: $O_1 X O_2$

Control group: $O_1 O_2$

Here, O_1 represents the pre-test, X represents some kind of treatment and O_2 represents post-test.

The two group pre-test – post-test design is considered to be a strong experimental research design. This design includes two groups out of which one is given treatment and another one is not given any treatment. Both the groups take pre-test and post-test.

When the two-group pre-test - post-test design is used in an experimental research, including an untreated control group reduces threats to internal validity and allows for within-group and between-group comparisons (Salkind, 2010). The researcher therefore decided to adopt this design because the primary aim of this study was to investigate the effect of the research intervention comprising internet based tasks on the writing and speaking skills of the MBA students. This could be investigated only if the students took the post-test after the intervention. As this design suited the aim / objectives of the study, it was adopted by the researcher.

3.3 Research Tool

In any research, Data Collection is an important aspect as it provides a base to identify the problem and finally the results. Any instrument that is a means of collecting data for a study is called a research tool. The core aim of any research instrument is to collect data and if the instrument is not valid and authentic, the data collected through its use is considered inaccurate leading to invalid results. Therefore, it is very important to have a valid data collection

instrument. Depending on the nature of information to be gathered, different instruments are used; some of the classified research tools/instruments are surveys, interview schedules, questionnaires, and interview.

The research tools used for data collection help researchers translate the research objectives into specific questions/ items. These questions / items provide the data required to achieve the research objectives. Each question/item in the tool must convey to the respondent the idea / ideas required by the research objectives. This helps in obtaining required response which can be analysed for fulfilling the research objectives. These tools play a vital role in the research as gathered information provides descriptions of characteristics of participants or other phenomena under study. It helps in measuring various variables pertaining to the study. Finally researcher analyses variables and their interrelationships for testing the hypothesis and exploring the content areas set by the research objectives.

Development of Research Tool for the Present Study

The research design for the present study is a combination of pre-test, research intervention and post-test tasks where research intervention comprised Internet-based tasks developed and assigned to the participants. Major Internet resources utilized for the study were Blogging and Podcasting platforms, Emails, Facebook, You Tube and Communication Weekly, an email newsletter that helped people improve their communication skills.

The Research tool prepared for this study investigates the impact of Internet and Computer-based Tasks on speaking, writing and critical thinking skills of the MBA students. The research tool used to evaluate the above mentioned skills was divided into two sections:

- I. The tool to study the language behaviour of students - comprising tasks prepared to be used in pre-test, tasks prepared to be used post-test, and tasks prepared to be used as research intervention
- II. Questionnaire for gathering feedback from the participants.

A detailed description of the research tool is given below:

Section I. Tool to Study the Language Behaviour of Students

The tool consisting of writing and speaking tasks was based on Revised Bloom's Taxonomy developed for the pre-test, Research Intervention and the post-test. At the beginning of the research, the tool of writing strategies developed by Mujumdar (2000) was considered to investigate development of Critical Thinking and Higher Order Thinking Skills in writing skills. This tool developed from the original taxonomy of Faigley and Witte (1981) features and analyzes 63 writing strategies categorised under Surface Level Strategies, Cognitive Level Strategies and Affective Level Strategies. However it was not considered suitable for the present study and therefore, the Revised Bloom's Taxonomy (Anderson and Krathwohl, 2001), discussed in detail in Chapter II, was considered for developing the RT. The objective for preparing the tool was to investigate whether students think critically while undertaking speaking and writing tasks. While designing the research tool, the tasks used for the pre-test, research intervention and the post-test were related to the areas of remembering, understanding, applying, analyzing, evaluating and creating which assessed students' Factual Knowledge, Conceptual Knowledge, Procedural Knowledge and Metacognitive Knowledge. The cognitive functions that a student undertakes while undertaking tasks are:

- Remembering
 - Recalling information

- Recognizing information
- Understanding
 - Interpreting information
 - Exemplifying information
 - Classifying information
 - Summarizing information
 - Inferring
 - Comparing
- Explaining
 - Applying
 - Executing
 - Implementing
- Analyzing
 - Differentiating information
 - Organizing information
 - Attributing
- Evaluating
 - Checking
 - Critiquing
- Creating
 - Generating
 - Planning
 - Producing

Each task of the tool is designed given that students use these cognitive functions. All task are explained below with their individual rationale.

A. Pre-test Tasks

The first section deals with the pre-test tasks for assessing speaking and writing skills of the participants.

Speaking

The **speaking pre-test tasks** were prepared to assess the level speaking of participants before offering Research Intervention. The speaking pre-test required the students to audio-record their responses which had five questions. Each task was designed and intended to address the six levels of thinking defined in the Revised Taxonomy (2001). The aim of the tool was to collect data on their speaking skills and also to observe whether it reflected Critical Thinking in learners.

The speaking pre-test comprised the following five questions. Each question is followed by its rationale.

Question 1. Which book have you read recently? Write some salient points on a paper on what you learnt and discovered from the book. Using the points, audio record your review of the book. If you have not read any book recently, you may record your views on the news story you have recently read.

Rationale: This question assesses the remembering skill of students. Motivation is aroused when one asks them to recall what they have read in the past. It helps to retrieve information they have derived while reading a particular text.

Question 2. Observe the following graph which features US Financial Services Digital Ad Spending predictions and describe the graph in an audio / video recording.

Rationale: This question assesses the participants' ability to understand and analyze graphical information in an oral manner. The foundation of this question is based on the areas of their core studies in the financial segment. This question requires students to have the basic understanding of numbers which any Management graduate is supposed to possess.

Question 3. Read the following report on Email as a tool for marketing and share the data in the form of a 5-minute speech. Audio record the speech.

Rationale: The analytical ability of the participants is put to test in this question. The report requires the students to have an understanding of basic linguistic expressions to understand the data and transfer it in an audio-recording.

Question 4. Visit the site www.lifehacker.com and look at the different articles and tips shared. Audio record the site review on the basis of what you find useful on the site.

Rationale: This question tests students' application and evaluation skills by making them evaluate different facets of the information and knowledge sharing website. They need to put forward their evaluations in a way that can tell readers exactly what the site offers. This refers to the application part of the language knowledge they possess.

Question 5. Depending upon your interest, assume a role of a radio jockey or a business analyst and audio record a 5-minute script on the topic / area of your interest.

Rationale: This question aims at checking the participants' ability to be creative. It is aimed to express their creative self in terms of oral expressions. It is a blend of being a radio jockey and dealing with the business segment.

Writing

The **writing pre-test** incorporates six questions based on the cognitive domain in the RBT and its sub set of skills. Apart from evaluating their writing skills, these questions also attempts to find out whether their language use depicts critical thinking skills.

Question 1. Write in about 300-500 words what your plans were before entering the undergraduate college. Also what do you intend to achieve at the end of your MBA course?

Rationale: This question attempts to help students recall their days before enrolling in the MBA program. The scope of the question requires that they recall and express their ideas in an elaborative manner. It also assesses their ability to express their thoughts and ideas appropriately.

Question 2. Observe the following table adopted from the Q3 financial results of TCS. Describe the financial performance of the company based on the data given in the table (in about 300-500 words).

TATA CONSULTANCY SERVICES LIMITED CONDENSED CONSOLIDATED STATEMENT OF PROFIT AND LOSS			
		(₹ crores)	
	Note	For the quarter ended June 30, 2013	For the quarter ended June 30, 2012
I. Revenue from operations	23	17987.07	14868.71
II. Other income (net)	24	258.49	186.26
TOTAL REVENUE		18245.56	15054.97
III. Expenses:			
(a) Employee benefit expenses	25	6965.25	5706.61
(b) Operation and other expenses	26	5877.70	4838.21
(c) Finance costs	27	6.75	6.55
(d) Depreciation and amortisation expense	12	297.15	247.04
TOTAL EXPENSES		13146.85	10798.41
IV. PROFIT BEFORE TAX		5098.71	4256.56
V. Tax expense:			
(a) Current tax	28	1224.86	993.70
(b) Deferred tax		21.35	22.01
(c) Fringe benefit tax		0.05	0.11
(d) MAT credit entitlement	28	(20.41)	(116.93)
		1225.85	898.89
VI. PROFIT FOR THE PERIOD BEFORE MINORITY INTEREST		3872.86	3357.67
VII. Minority interest		42.22	39.99
VIII. PROFIT FOR THE PERIOD		3830.64	3317.68
IX. Earnings per equity share :- Basic and diluted (₹)		19.54	16.92
Weighted average number of equity shares (face value of ₹ 1 each)		1,95,72,20,996	1,95,72,20,996

Rationale: This writing question attempts to collect data on participants' ability to understand, interpret and express in writing how they understand the table. As the report shows

financial details including numbers of various financial segments, the skill lies in the transfer from the visual to written.

Question 3. Read the case study carefully and list the communication issues involved in it. According to you, what could be the likely solutions to the problem. Write each in about 100 words.

Rationale: This case is intended to make participants put their critical thinking skill in practice. That is, how they can analyze a problem, see things critically and think of certain a workable solution.

Question 4. Study the details from this Infographic and describe the information in about 300-500 words)

Rationale: This Infographic-based question is incorporated to check their analytical ability. They have to break-up the information contained in the Infographic and write it in a manner that the information is conveyed to the readers.

Question 5. Read the following paragraph on advertising and express your opinion in about 300-500 words.

Rationale: Similar to the previous question, this question also assesses their ability to think critically and evaluate the written text and write about it. Evaluation plays a major role for the Management graduates in their dealings at work. This question attempts to make them justify how they can evaluate the text.

Question 6. Write a business plan based on the knowledge you have gained while doing graduation. Keep the following points in mind while writing your plan: (A). Provide a description of the business, (B). Choose the best marketing strategy, (C). Identify the

management plan, and (D). Analyze the finances needed to start the business and make it successful.

Rationale: The highest thinking skill in the Revised Bloom's Taxonomy is the ability to create. This question required the participants to create a plan with the help of given inputs. It can be considered the most challenging question because they have to apply the knowledge learnt to create something new.

B. Post-Test Tasks

The second section of the research design is the post-test. After designing the Internet and Computer-based Tasks to the students as research intervention to the experimental group, the post-test tasks were designed. The post-test was having similar scheme as the pre-tests but prepared with more complex information to analyze and present.

Speaking

The **speaking post-test** carried the following five questions.

Question 1. Which website or portal have you visited recently? Recall your surfing experience and make a note of the things that you discovered on that site. Using the points audio record your experience.

Rationale: This question is aimed at assessing the remembering skill of the participants. In the electronic era when learning is blended, most students surf Internet sites for information and knowledge. It places the challenge of recalling what they saw on one of the websites they visited. The question would direct them to recall the information they would surf.

Question 2. Observe the following graphs which feature the US Bank Customers' Digital Activities. Describe the graphs in an audio / video recording.

Rationale: The second question on speaking skill tries to assess the change in participants' oral expressions and their contents after taking the tasks and without it. It is similar in nature to the second question of speaking pre-test and requires the participants to deal with financial figures, understand and express them appropriately.

Question 3. Read the following report on Microsoft's Acquisition of Nokia's Devices and Services Unit and share the information in the form of a 5-minute speech. Audio record the speech.

Rationale: The third question puts the participants in a situation where they are supposed to apply their critical thinking skills and find out the deliberations of an organization on acquiring another company.

Question 4. Go to the site podacademy.org and listen to the podcasts available under various categories. Audio record a site review on the basis of the podcasts you have listened.

Rationale: This analysis driven question has another electronic resource to be explored by the participants and put forward in a way so that their presentation skills could be evaluated. It requires ability to observe keenly to review a website. They are also asked to evaluate the podcasts found on the websites which means that this question has a blend of two-skill assessment.

Question 5. 'Where would you like to see yourself ten years from now?' – Answer this question in a 5-minute audio recording.

Rationale: The present future prospects based question is intended to make participants think of their future and showcase the creative aspect of their personality. It means talking about their future plans and what they intend to accomplish once their studies are over.

Writing

The **writing post-test** carried the following six questions.

Question 1. In which area of management do you plan to specialize? Write in about 300-500 words the reason why have you chosen this area and how are you trying to achieve a higher level position in it?

Rationale: The question attempts to help them recall the information they possess about the area in which they are planning to earn their masters. Such a question is formed to make them write about the details of what they know about the field of their study.

Question 2. Check the Q3 Fiscal 2013 Fact Sheet of ‘accenture’. Observe details such as net revenue, operating and industry groups, income (generated) by geography, income by type of work, income by operating group etc. In about 300-500 words, describe the financial performance of the company based on the studied data.

Rationale: This question demands an understanding and analysis of figures by the participants and the manner to write the information they retrieve from the sheet in the form of a paragraph. The variables set in the question are aimed at making them study all the segments of the financial report published by the organization.

Question 3. Read the following case study carefully and list the communication problems. Suggest solutions to the communication problems. Write each communication issue along with its solution in about 100 words.

Rationale: This higher-level and a more complex case study would allow them to express their ideas and opinions without inhibitions after reading the case. It would require critical thinking abilities to find out and express one’s opinion on a communication related issue.

Question 4. Study this Infographic and describe the information in it, in about 300-500 words).

Rationale: This analytical question is focused on retrieving and presenting the information from an infographic. It is crucial for management graduates to be able to transfer the information from the visual to written with the given details. The question intends to check their observation and analytical ability leading them to write effectively.

Question 5. Read the paragraph on business forecast and express your opinion in about 300-500 words.

Rationale: The fifth writing post-test question is on evaluating a written discourse where the participants are supposed to write their views on the ideas presented in it. The objective of this question is to investigate their ability to analyze and critique upon the given issue.

Question 6. Write a 300-500 word note on the topic of your choice. Express your ideas and information with examples.

Rationale: This question offered the participants freedom to express whatever they wanted to – in writing. The question is intended to assess the way they plan their topic and the matter they express in writing.

C. Research Intervention

The third part of the tool consisted of the Internet-based tasks for research intervention. As mentioned in Chapter II, many studies have been conducted to analyze the impact of new technologies on language learning around the world. This study intends to analyze the impact of Internet and Computer-based Tasks on the language use of the Post Graduate Management students in Gujarat where Communication or Business Communication is taught in one of the

four semesters. MBAs are supposed to be excellent communicators having thinking skills as they are future managers and need to make people work in the right direction.

The researcher created tasks which engaged students in activities where they got an opportunity to use and improve their speaking and writing skills. The tasks were based on RBT so that the students got an opportunity to use cognitive strategies. All the tasks were designed with a focus on content having direct relationship with the field of their studies.

The speaking and writing tasks developed as a part of the research intervention for the students are given below. They were assigned two speaking and two writing tasks every week and there were a total of 20 tasks.

Speaking

Speaking Task 1

Step 1. Go to the college library and pick up a book on ‘Business Communication’.

Step 2. Review the book and audio record your notes using your mobile phone / tablet or laptop. Try to focus on all the aspects of the book and show how it could help the readers. Also include a section on the chapters of the book and introduction to the authors.

Step 3. Save the audio file as “EnrolmentNo_1” in any audio format.

Rationale: The rationale behind this speaking task is to make them read, learn new things and recall information when required. Also as they read, they get introduced to new vocabulary items and they would be able to explore new horizons expanding their knowledge. Also they could critique, analyze the advantages of reading the book they chose. It attempted to give them an opportunity to do an activity where they would be able to recognize information and reproduce it in an audio format, which made this task more challenging

Speaking Task 2

Step 1. Watch the following videos on Social Media. Watch the video in a group of 3-4.

(Decide your group members on your own.)



Video#1 - David Armano – Reinventing Social Media



Video #2 - Clay Shirky - How social media can make history

Step 2. After watching the video, work together and write a note on various aspects of Social Media Marketing.

Step 3. Now, as a group, carry out a discussion on ‘Social Media Marketing as an industry’. Audio / video record the discussion.

Focus on the topic as a mainstream for reaching out to more and more people for growing any business. Make it a lively discussion by deciding your dialogues before going ahead for actual discussion.

Rationale: This task is designed with a view to make students cultivate the habit of summarizing the video contents as they watch and differentiate the information shared in the two videos. Further, the task leads them to analyze the social media as an industry which requires deep thinking and the ability to make statements which are valid and accepted during the

discussion. An analysis of the information is presented in both the videos. Finally, the discussion that they are to carry out would also require some preparation and arrangement of ideas in a logical manner as they are supposed to audio record it. It would give them a feel of doing a task in an extremely formal environment which is required as they are supposed to conduct negotiation talks and presentations while working in an organization.

Speaking Task 3

Step 1. Go to thebusinessferret.com and have a look at the 12 metrics. You can have a look at the summary of the metric on the main page and depending upon your interest, read the full metric.

Step 2. Prepare a note on the metric you have chosen. Using the points, prepare an outline for a video presentation.

Step 3. Video-record yourself delivering a presentation on the selected metric. Make it a 5-8 minute presentation.

Rationale: This speaking task was intended to enable participants evaluate management terminologies and concepts from a website related to management. Combining web surfing and exploration of management domain knowledge, the task was planned to make participants evaluate the concepts enlisted and summarize the information for their presentation. Such a task would cultivate the habit of critically analyzing the received knowledge and presenting it in an appropriate way.

Writing

Writing Task 1

Step 1. Read any one set of articles from the following.

Set 1

Management tips: How to manage people by D. P. Noe

Being a manager vs. being a leader by Dossie M Terrell.

Set 2

The difference between marketing and promotion by Paul Lines

The difference between marketing and promotion by Kathy Heasarlen.

Step 2. After reading the two articles, note major points from them. Critically evaluate the articles in terms of authentication.

Step 3. Now, write a comparative note on the information shared in the articles. Make sure that you write this note in at least 300 words.

Rationale: This writing task attempts to make students evaluate two articles dealing with the same subject and analyze it for authenticity of the contents they feature. This would require them to surf websites dealing with the management domain and compare the ideas expressed in various articles. The management graduates are expected to have an ability to judge the concepts they explore in an effective manner to empower their decision making ability and manage their work and people who work with them. It is an attempted simulated situation where they have to write an explanation on a topic they read, the topic which touches their area of studies.

Writing Task 2

It's time to get down to serious business. In this task we are going to work on financial aspects of an organization.

Step 1. Read this press release with utmost interest - [Google's financial performance in the second quarter of 2013.](#)

Step 2. Now have a look at Infosys' Financial performance reports for the year 2012-2013.

[Report for the first quarter ended June 30, 2012](#)

[Report for the second quarter ended September 30, 2012](#)

Observe the report and note the key points. Make notes based on the performance report you have read in Step 1.

Step 3. Now write a comprehensive report based on the above two reports of Infosys. Try to highlight all the important points from the above reports. Compare and contrast the important elements of the financial performance of the company.

E.g. What was the total revenue in the first quarter and what the revenue is in the second quarter?

Try to make the report as formal as possible. Write the report in not more than 400-500 words.

Rationale: Financial performance analysis is an important element of any business which management graduates are supposed to be well-equipped with. This task is planned to make them analyze the numbers and put their thoughts in a written report. The blend of strategies involved, are summarizing, comparing, explaining and organizing. Use of these techniques justify the quality of a business report. An important aspect of this task was its authenticity

which would motivate the participants to work on the assignment in a way that gives them a feel of working on something extremely important in the area of their studies.

Writing Task 3

Let us review a site dealing with business news.

We are going to review the site ‘Business Insider’ ([businessinsider.com](https://www.businessinsider.com)).

Remember, reviewing is not just putting down positive aspects of something. We have to be critical in our observations and expressions.

Step 1. Read the reviews of the following three websites. Observe how they have been divided into various segments and note what kind of information has been shared.

Site Review: All Things D[igital]

Site Review: MindMixer

Site Review: ABC Mouse.

Step 2. Now visit the site [businessinsider.com](https://www.businessinsider.com) and start surfing. Have a look at the major themes of the site. Make notes based on your observations.

Step 3. Now, write a site review of the [businessinsider.com](https://www.businessinsider.com). Try to justify how the site could be useful to the people around the world. You may also suggest improvements for the site. Write the review in 300-400 words.

Rationale: This task is aimed at helping participants recognize a piece of information, analyze how it is formed and create another piece of content on the basis of another source provided to them. Reviewing a book or a website requires ability to think critically and organize the analyzed information in a way that the reader can easily grasp and remember it. It also requires the ability to plan the process of expressing the contents the participant has analyzed.

All the tasks used research for the research intervention are available on **eguide.wordpress.com**, a platform used by the researcher for pre-test, post-test and the intervention.

Section II. Questionnaire

Questionnaires are one of the most popular data collection tools. A well-designed questionnaire can be a powerful tool for data collection and analysis. It is mainly made up of list of questions. An ideal questionnaire should include clear instruction to help participants understand questions and provide appropriate input. Questionnaires are commonly used for (1) collecting factual information; (2) gathering straightforward information relating to participant's behaviour; (3) gathering basic attitudes/opinions of people; (4) measuring satisfaction level by gathering feedback; and (5) collecting information which can be tracked over time to examine changes.

In the present study the questionnaire was used for two reasons. One, to collect the personal and educational information of the students and two, to collect post training feedback of students and to investigate their perceptions towards using ICT for learning English language (Appendix IV).

The questionnaire having 36 questions was developed in a way so that it can be analyzed on a 5-Point Likert Scale. The following were the major sections of the questionnaire.

- a) Impact of ICT on their learning
- b) Their attitude towards ICT, post-intervention
- c) Feedback on the tasks given to them
- d) Change they could observe in themselves after the research intervention
- e) Impact of research intervention on their speaking and writing skills.

3.4 Assessment Tools

To assess speaking, writing and critical thinking skills of the participants, different assessment tools were used.

For assessing writing skills of students, the rubric by Hughey et al. (1983) was used. However, the original had to be modified (Appendix I) to suit the present requirements. The writing skills were analyzed on five major sub-skills: Style, Content and Organization, Analysis and Synthesis, Persuasiveness, Vocabulary and Mechanics. For analysing speaking skills, rubrics were adopted and adapted from BULATS and CEFR proficiency indicators (Appendix II).

The frequency of Critical Thinking skills used were analyzed using the tool based on Revised Bloom's Taxonomy (Appendix III) which mapped the changes in critical thinking pattern in speaking and writing in pre-test and the post-test tasks.

To validate the Research tool and the assessment rubrics a pilot study was conducted the details of which are given below.

3.5 Pilot study

To validate the research tool and create a foundation for this study, a pilot study was conducted on a group of 30 first semester students from the Indukaka Ipcowala Institute of Management of which 18 were male and 12 female. All of them were having Gujarati as their mother tongue and all participated voluntarily in the research.

In the pilot study conducted, the students were given a Pre-test and a post test. They were also subjected to research intervention which used the following ICT-based tasks like:

1. Watching YouTube videos and transcribing the script
2. Describing the infographics

3. Creating written and oral reviews of various website
4. Creating and sharing podcast of book reviews
5. Rewriting the quarterly reports of various organizations
6. Creating oral presentations on the financial performance of various organizations.

The students were asked to describe the infographics orally and make oral presentations based on given financial information for various organizations. The students were assigned writing exercises and were made to write book and website reviews. They used computers and Internet for completing their tasks. While doing these tasks, the students were encouraged to undertake peer-evaluation.

The study was conducted for 15 days leading to extensive student engagement, language improvement and learner satisfaction. After the study, when pre-experiment write-ups and presentations of the participants were compared with that of post-experiment write -ups, they showed improvement in the following areas:

- Self-confidence while giving a presentation
 - Clarity of thoughts in both written and oral expressions
 - Presence of critical analytical skill in the post-experimental expressions
- which were the results of review and peer-evaluation activities.

Moreover, the students in their feedback reflected that they enjoyed strengthening their language in an indirect way, as they were using the language and technology to enhance their control over it. They found the podcast preparation tasks specifically interesting and challenging

as it required them to prepare, rehearse and produce professional-like audio forms on the basis of what they had read and written.

In addition to the techniques which were employed to put them in a situation where they could utilize English language for communication, what they appreciated the most was the optimum use of technology in doing the tasks. Most of them were having laptops and mobile phones which they could use to produce the podcasts. They never knew nor had ever planned to produce short audio files and convert them into podcasts which could be shared with anyone on the Internet.

This pilot study laid the foundation for the present research work, giving the researcher insights into the use of ICT tools which could be incorporated to help improve the writing and speaking skills of Management graduates. It also gave direction for the final data collection for the present research work.

3.6 Subjects

As mentioned earlier, for this study, data was collected from the first year MBA (Master of Business Administration) students of Charotar University of Science & Technology, Gujarat. In mixed research, a random selection and assignment of subjects is very important so that the claims put forward in the hypothesis can be justified. In the present research work, the researcher was required to work with an *intact group* of 109 students. Intact group are students grouped together on the basis of certain principles such as test score and eligibility criteria. An intact group of subjects enables the researcher to provide evidence in support of links between variables if not cause effect relation statements about findings (Hatch and Lazarton, 1991). The Intact group was divided into the Control and Experimental Group.

Two groups of first year MBA (Master of Business Administration) students of Charotar University of Science & Technology, Gujarat, were selected. All of them had studied English as a compulsory subject in their undergraduate programs. The students were divided according to their divisions in the university. Division – A students (55 students) comprised the Experimental Group (EG) and Division – B students (54 students) were treated as the Control Group (CG). 42 were female and 67 were male students. 62.5% students had completed their undergraduate education in BBA, 3.12% in BCA, 28.12% in B.Com and 6.25% in Engineering.

In their SSC examination 3.12% had scored more than 80% marks, 38.5% had scored more than 70% marks, 37.5% had scored more than 60% marks and 18.75% had scored between 40-60% marks.

In their HSC examination, 4.16% had scored more than 80% marks, 46.87% had scored more than 70%, 31.25% had scored more than 60% marks and 15.62% had scored between 40-60% marks.

In their graduation, 1.04% (i.e. 1 student) had scored more than 80% marks, 21.87% of students had scored more than 70% marks, 38.54% of students had scored more than 60%, 36.45% had scored more than 60% and 1.04% (i.e. 1 student) had scored between 40-50% of marks.

The next section presents the details of students under experimental and control groups. The details were gathered using an online registration form that the students were required to fill before the pre-test.

3.6.1 Experimental Group

In experimental group, out of 55 students 40% were female and 60% were male. 28% of the students were taught in schools with English as a medium of instruction, whereas 72% of the students had done their schooling from the schools having Gujarati as medium of instruction.

Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
22%	37%	38%	3%

Table 3.1 SSC result of experimental group students

In SSC examination, 22% students had scored between 50-60% marks, 37% had scored between 60-70% marks, 38% had scored between 70-80% marks and 3% had scored more than 80% marks.

Students having 40-60% marks	Students having more than 60% marks	Students having more than 70% marks	Students having more than 80% marks
31%	32%	29%	8%

Table 3.2 Experimental group students' performance in English subject in SSC

In the SSC examination, 8% students had scored more than 80% marks, 29% had scored more than 70% marks, 32% had scored more than 60% marks and 31% had scored between 40-60% marks in English subject.

Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
18%	31%	47%	4%

Table 3.3 HSC result of experimental group students

In HSC examination, 18% students had scored between 50-60% marks, 31% had scored between 60-70% marks, 47% had scored between 70-80% marks and 4% had scored more than 80% marks.

Students having more than 50%	Students having more than 60%	Students having more than 70%	Students having more than 80%
18%	48%	23%	11%

Table 3.4 *Experimental group students' performance in English subject in HSC*

The above table shows students' result in English subject in HSC. In HSC examination, 18% students had scored between more than 50% marks, 48% had scored more than 60% marks, 23% had scored more than 70% marks and 11% students had scored more than 80% marks in English subject. None of the students had scored less than 50% marks in English subject.

Students having 40-50% marks	Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
1%	36%	40%	22%	1%

Table 3.5 *Result of experimental group students in final year UG examination*

In their final year graduation examination, only 1% of students had scored between 40-50% marks, 36% students had scored between 50-60% marks, 40% had scored between 60-70% marks, 22% had scored between 70-80% marks and 1% had scored more than 80% marks.

Students having 40-50% marks	Students having more than 50%	Students having more than 60%	Students having more than 70%	Students having more than 80%
10%	16%	57%	13%	4%

Table 3.6 *Experimental group students' performance in English subject at UG level*

All the students had English/communication skills as a compulsory subject during their undergraduate courses. In English at the UG level 10% students had scored between 40-50% marks, 16% had scored more than 50% marks, 57% had scored more than 60% marks, 13% had scored more than 70% marks and 4% had scored more than 80% marks.

As far as the experimental group students' parents' educational background was concerned:

- 12% parents achieved some form of post-graduate education
- 46% students' parents were graduates
- 42% students' parents had attended only schools.

The researcher had also collected the details of the income of the parents. 21% students belonged to the income group of INR 50,000 – 1 lakh, 30% students were from the INR 1 – 2 lakhs income group, 26% students came from INR 2 – 3 lakh income group, 15% students were from INR 3 – 4 lakh income group and 8% students were from INR 4 – 5 lakh income group.

3.6.2 Control Group

In control group, 37% students were female and 63% were male. 30% of the students from this group were taught in schools with English as a medium of instruction, whereas 70% of the students had done their schooling from the schools having Gujarati as medium of instruction.

Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
20%	35%	42%	3%

Table 3.7 *SSC result of control group students*

In SSC examination, 20% students had scored 50-60% marks, 35% had scored 60-70% marks, 42% had scored 70-80% marks and 3% had scored more than 80% marks.

Students having 40-60% marks	Students having more than 60% marks	Students having more than 70% marks	Students having more than 80% marks
33%	35%	24%	8%

Table 3.8 *Control group students' performance in English subject in SSC*

In SSC examination, 33% students had scored between 40-60% marks, 35% had scored more than 60% marks, 24% had scored more than 70% marks and 8% students had scored more than 80% marks in English subject.

Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
18%	35%	45%	2%

Table 3.9 HSC result of control group students

In HSC examination, 18% students had scored 50-60% marks, 35% had scored 60-70% marks, 45% had scored 70-80% marks and 2% had scored more than 80% marks.

Students having more than 50%	Students having more than 60%	Students having more than 70%	Students having more than 80%
15%	45%	27%	13%

Table 3.10 Control group students' performance in English subject in HSC

In their HSC examination, 15% students had scored between more than 50% marks, 45% had scored more than 60% marks, 27% had scored more than 70% marks and 13% had scored more than 80% marks in English subject.

Students having 40-50% marks	Students having 50-60% marks	Students having 60-70% marks	Students having 70-80% marks	Students having more than 80% marks
-	38%	42%	20%	-

Table 3.11 Result of control group students in final year UG examination

In their final year undergraduate examinations, 38% students had scored 50-60% marks, 42% had scored 60-70% marks, and 20% had scored 70-80% marks.

Students having 40-50% marks	Students having more than 50%	Students having more than 60%	Students having more than 70%	Students having more than 80%
8%	21%	59%	9%	3%

Table 3.12 Control group students' performance in English subject at UG level

In English/Communication skills at the UG level 8% students had scored between 40-50% marks, 21% had scored more than 50% marks, 59% had scored more than 60% marks, 9% had scored more than 70% and 3% students had scored more than 80% marks.

Here are the details of parents' educational background of students belonging to the control group:

- parents of 14% students had achieved some form of post-graduate education
- 41% students' parents were graduates
- 45% students' parents had only school education.

In control group, 18% of students belonged to the income group of INR 50,000 – 1 lakh, 32% of the students were from the INR 1 – 2 lakhs income group, 23% of students came from INR 2 – 3 lakh income group, 17% of students were from INR 3 – 4 lakh income group and 10% of students were from INR 4 – 5 lakh income group.

In terms of educational qualifications, their background at the undergraduate level, the marks they scored in the SSC, HSC and undergraduate levels (general result and the result of English subject), their parents' educational qualifications and their household incomes of the students of both the groups, there was a noticeable variation among each variable.

3.7 Data Collection

The data was collected at the Indukaka Ipcowala Institute of Management affiliated to CHARUSAT, Gujarat – India, over a period of 3 months. As data collection and research intervention required a computer laboratory, this college was selected because the computer laboratory of this college is well equipped with latest computers and 24/7 Internet connectivity. The pre-test and post-test data for both, the writing and speaking skills was collected using this laboratory. The researcher also used this laboratory for the Research Intervention.

On data collection a point to be noted is that, first, pre-test writing skills data was collected followed by the Pre-test data on speaking skills. After the Pre-test, Research intervention was carried out every Saturday for 12 weeks. Every Saturday, the researcher met

with students for four hours. The first 2 hours were devoted to writing skills and the next two hours for speaking skills. The post-test data was also collected in a similar manner. The of data collection procedure for writing skills, speaking skills, critical thinking and questionnaire are detailed below.

3.7.1 Writing skills

Writing skill data was collected by administering a pre-test followed by research intervention and then the post-test.

First, 55 students of the experimental group and 54 students of the control group, were administered the pre-test writing tasks. The tests were conducted in the computer lab and were for duration of 2 hours. This was done during class time. Google Docs service was used by the researcher. After the pre-test the researcher met the Experimental group students once a week, for 2 hours every Saturday for 12 weeks. The rationale for holding the sessions on Saturdays was that the intervention should not clash with their normal schedule and affect their studies. As mentioned earlier, the subjects voluntarily participated in the study and therefore they had no problems coming on Saturdays for the research intervention. The research intervention in writing skills was held in the computer laboratory of the college as the main objective of the research was to study the intervention of tasks using online tools for developing writing skills. The control group students on the other hand, were not subjected to any research intervention and they attended their normal class schedule.

After the completion of the research intervention, the following Saturday, students of both groups, control and experiment were called and given the post-test. All students who took the pre-test did not take the post test. Post-test was taken by fifty (50) experimental group students while 47 students from control group took the post test.

3.7.2 Speaking Skills

After collecting data on writing skills, speaking data was also collected by administering a pre-test followed by Research intervention and then the post-test to the same set of students.

The same 55 students of the experimental group and 54 students of the control group (who undertook the Pre-test writing test) were administered the pre-test on speaking skills. Like the writing test, the speaking tests also were conducted in the computer lab and were for duration of 2 hours. This was done during class time. The students were made to record their answers using Microsoft Windows' in-built voice recording software. After the pre-test, the researcher met the experimental group students once a week, for 2 hours every Saturday for 12 weeks. This was done after the writing intervention. The rationale for holding the sessions on Saturdays was that the intervention should not clash with their normal schedule and affect their studies. As mentioned earlier, the subjects voluntarily participated in the study and therefore they had no problems coming on Saturdays for the research intervention. The research intervention in speaking skills was held in the computer laboratory of the College as the main objective of the research was to study the intervention of tasks using online tools for developing speaking skills. The control group students on the other hand, were not subjected to any research intervention and they attended their normal class schedule.

After the completion of the research intervention, the following Saturday, students of both groups, control and experimental, were called and given the post-test. All students who took the pre-test did not take the post test. Post-test was taken by fifty (50) Experimental group students while 47 students from control group took the post test.

3.7.3 Questionnaire

The data collection procedure ended with the students responding to the online questionnaire after the post-test in speaking. Only experimental group students were sent the link to the questionnaire through an email and they were asked to respond to it. Their responses were important to get a feedback on the research intervention. The students took 30-50 minutes to complete the questionnaire.

3.7.4 Critical Thinking

For analysing critical thinking skills, data was not collected separately. Analysis of critical thinking was to be done on the pre-test and post-test data collected on writing and speaking skills of both the experimental and the control groups.

3.8 Scoring of Skills

After collecting data as detailed above, writing, speaking, critical thinking skills and the questionnaire of both the control and experimental group was scored using various rubrics which is explained below.

3.8.1 Scoring of Writing Skills

The scores on writing of students were obtained by evaluating the drafts written by students in pre-test and post-test. Two English Language teachers having experience of teaching writing and speaking skills for over ten years (10 years), one from Gujarat Technological University and another from Sardar Patel University and the researcher himself evaluated the written scripts on the basis of assessment rubric by Hughey et al. (1983) (Appendix I).

All the writing scripts of the students were coded and sent to the teachers so that names and the disciplines in which they had graduated were not revealed. This was done to keep up the level of confidentiality and to be free of any bias and prejudice. The evaluators analyzed the

written scripts for: a) writing style, content and organization, b) analysis and synthesis, c) persuasiveness, d) vocabulary and e) mechanics. At first, their scoring was tested for rater reliability; that is, the final scores each teacher gave was not too far away from the median. Once rater reliability was established, they were asked to go ahead with the scoring of the scripts of both the groups.

The teachers rated the scripts by giving scores between 27-30 (highly satisfactory/excellent to very good), 17-26 (satisfactory/good to average) and 0-16 (unsatisfactory/fair to poor). Both the evaluators were allowed three months' time to complete the evaluation process as the scripts were both from the control group and the experimental group.

The scores given by all the three evaluators were combined and the average was considered as the final score of the learners' writing skill.

This methodology was resorted to get an unbiased rating of the students and also to find out how the experimental students had fared after the research intervention, which was key to this research study.

3.8.2 Scoring of Speaking Skills

The scoring of students' speaking skills was done over a period of six months.-Students' pre-test and post-test speaking performance was recorded and then transcribed. These transcriptions were then scored using rubrics from BULATS and CEFR proficiency indicators (Appendix II) as mentioned in section 3.4. The same panel of evaluators, as mentioned above in 3.6.1, one from Gujarat Technological University, and another from Sardar Patel University and the researcher analyzed the speaking data of the students. In scoring speaking skills also, rater reliability was established before the final scoring of the transcripts of both the groups.

Based on the BULATS and CEFR rubrics, the students' speaking transcripts were rated as upper advanced, advanced, upper intermediate, intermediate, elementary and beginner.

3.8.3 Scoring of Questionnaire

The student questionnaire (Appendix III) was scored by the researcher on a five point rating scale. It had options such as 'strongly disagree', 'disagree', 'not sure', 'agree', and 'strongly agree'. The student responses for the questionnaire were collected using Google Forms as a result of which percentages of the responses (Appendix IV) were available automatically.

3.8.4 Scoring of Critical Thinking Skills

For analyzing and scoring critical thinking skills, frequency count of the strategies used was calculated using a tool based on Revised Bloom's Taxonomy (Appendix III). The frequency count for the writing skills and speaking skills were counted separately for both, the experimental group and the control group students. The final frequency count became the score of that particular strategy used.

A detailed analysis and interpretation of the data collected is presented in the next chapter.