Chapter 3

RESEARCH DESIGN AND METHODOLOGY
3.0 Origin of the problem

People around us suffer a lot due to lack of proficiency in English language. They fail to get employed where they wish to or dream to. They fail to find their goals meet due to lack of effective knowledge of English language. They fail to perform and showcase their talents because of the language barrier. They fail to communicate effectively and can’t get the results which they deserve to. Why do they fail though there are more than some hundred thousand teachers teaching them English from school days? Why do they fail to communicate though they have studied English as a subject in each year of their academic courses? Why do they fail to learn English language though they are smart, intelligent and capable enough to learn other things? The problem is “Why”. Simon Sinek has rightly mentioned in his book “Start with Why” that people don’t start with why and that is one of the reasons deep rooted why people rather learners struggle a lot in spite of being capable enough to acquire knowledge. It has been more than almost a century in the process of learning and teaching English language however the learners could not acquire the proficiency in the English language. The learners and the teachers are very well clear about what do they do? And how do they do it? But are they clear why they do it? The answer is no. Learners and teachers if they are not clear with why to learn and teach, they cannot be effective from either side. The first and foremost question to be asked to oneself is Why to learn English language? The clarity of Why will lead to effective How and What.
Second big issue in learning and teaching English language is that the teachers and experts many a times found barking at the wrong tree. The common fundamental and logical sequence suggested by the experts is LSRW i.e. Listening, Speaking, Reading and Writing. All of us may agree to this sequence, but is it not the sequence to learn a first language? The way everyone learns the first language. How one can apply the same logic of learning the first language to second or foreign language.

According to National Spoken English Skills Report by Aspiring Minds, out of six hundred thousand Engineers that graduate every year, only 2.9% students have proficiency in English which is required for high end jobs. The larger gap was found in Engineers with reference to elements of Spoken English, pronunciation, fluency and grammar. Only 6.8% students could show their ability to speak/respond spontaneously. 30,000 engineering students from 500+ various engineering colleges across India were tested according to Common European Framework of Reference for Languages (CEFR) and the findings were shocking. The report reflected that only 2.9% Engineers have a level of C1 or above whereas 24.9% Engineers show a level of B2. This test included the following parameters while testing the Engineers across India. (a) Fluency (b) Active listening (c) Vocabulary (d) Grammar (e) Spoken English comprehension (f) Pronunciation. Further, the researcher has come across many situations where the learners have faced difficulties while presenting their thoughts during viva voice, they prefer to answer and explain their native language rather than answering in English language. Moreover, the learners fail to write the answer of the questions asked in the exam.
On the coin side of the fact, as per the facts and figures from “We are Social”, there are 243 million active users of internet in India out of which 185 million users, access internet from their smart phones. 11% of total population uses Social media based applications and 16% of the total population watches YouTube videos from their phones. According to Informative Mobile Insights (US) – APAC in 2014, India has been ranked no. 1 for using What’s App in which average 42 minutes of engagement has been observed.

These were the reasons why the researcher thought to find the gap and bridge the same using technology for effective English language learning and teaching.

3.1 Research Design

Research is a systematic investigation into some area of knowledge to invent or to confirm the facts at which the study arrives after undertaking a process, study or particular treatment applied. Research design plays a vital role in reaching up to certain concrete conclusions at the end of the study. Research can be divided in to many types such as qualitative and quantitative research, analytical and descriptive research, experimental and quasi experimental research etc. The researcher sets the hypotheses and tests the same through the process of designing the experiments by controlling factors to define and foresee the end result.
In experimental research researchers design experiments to test hypotheses by controlling the factors of the experiment to determine or predict an outcome based on independent and dependent. This study is an experimental one.

**Features of experimental research are as following.**

- independent and dependent variables
- pretest and posttest
- Treatment group
- randomization
- measurement of outcomes

This section deals with the detailed information on methodology implemented for the study.

### 3.2 Research Method

If the research is the goal of the researcher, research method is the channel with which the researcher can achieve the same goal. Under the umbrella of research method, the researcher plans out the way of carrying out research in order to solve the research problem. Basic Research and applied Research are two categories into which all types of research can be placed, depending on whether the research is undertaken to solve a specific problem (Applied Research) or simply to
satisfy investigator’s desire to know (Basic Research). The present study thus falls into the category of Applied Research.

### 3.3 Experimental Research

Experimentation is the most scientifically sophisticated research method. Experimentation is actually one aspect of the scientific method, on the other hand scientific method involves a great number of activities.

“Experimentation is a refined technique capable of providing precise answers to precise problems”.

The steps in the experimental method are like the scientific method. They are described as under:

1. Surveying the Literature Relating to the problem
2. Selecting and defining the problem
3. Stating of Hypotheses
4. Designing the Experimental Plan

### 3.4 Research Procedure

The researcher had designed his study keeping in mind the needs of the first year engineering students for acquiring proficiency in English language. After reviewing related literature, the researcher designed and prepared the study material as per the demand of the topic of this study.
He also collected experts’ views to validate his materials and research tools. It was appreciated by almost all the experts who viewed the study materials designed for the study and commented positively. The entire study material was designed in order to suffice the need of learners with reference to English language learning.

Firstly, the learners were asked to respond to the questionnaire and answer the pretest so that their level of understanding for ICT, its usage and knowledge of English can be measured. The responses were recorded and answers were checked, and on that basis the modules for the treatment rather trainings were designed and devised. Secondly, the researcher had used many ICT approaches for teaching English language. He had used WhatsApp, Facebook Group, Blog, YouTube and Mobile Applications as ICT tools to train the leaners. The researcher had conducted guidance lectures in person at the respective colleges to assist the learners in learning English language. There was total 40 hours of treatment period apart from online support provided to the learners in acquiring proficiency in English language. Lastly, the researcher has conducted posttest along with a questionnaire. There was the same format of posttest as it was there in pretest. The learners were asked to share their experiences of learning English language through ICT approaches and the difficulties faced by them if there were any through the responses of the questionnaire. The scores of pretest and posttests were compared and analyzed to check the effectiveness of ICT approaches in English language teaching at the end.
3.5 Implementation of ICT Approaches

The researcher had conducted the guidance sessions on how to use effectively Blogs, Facebook, You Tube Videos, Mobile Applications and WhatsApp for learning English language. He has created college wise WhatsApp groups separately for boys and girls for smooth and effective two way communication with the learners. Further, the learners were given specific time and the day of the week so that they could contact the researcher and got their doubts solved. The researcher had also used pre-recorded voice calls to remind them about the work assigned to them and used to send messages to motivate them to use ICT tools in learning English language.

3.6 Population

The students studying English Language in Engineering Colleges of Gujarat is a part of universe for the purpose of present study of effectiveness of blended learning tools in English language learning. In other words, it is a larger portion of the group to which the findings of the research can be applied.

In the present study, the researcher aimed to discover effectiveness of the ICT approaches in ELT in the students of Engineering affiliated to GTU therefore the engineering students of Gujarat can be included in the Population. The researcher selected the engineering students from six different colleges of Saurashtra region. The selected population of the study was the students of
engineering studying in GTU affiliated colleges of Saurashtra region for the purpose of carrying on the present study.

3.7 Sample

There are many sampling techniques such as

- Random Sampling
- Systematic Sampling
- Stratified Random Sampling
- Double Sampling
- Cluster Sampling
- Sequential Sampling
- Incidental Sampling
- Purposive Sampling
- Multistage Sampling

The purpose of this study is to study the effectiveness of ICT approaches in ELT on engineering students. There were total 6 colleges covered and from which total 145 students were selected for the purpose of the study. These students of 1st year engineering from various background in terms of branches were selected in which there were 120 male students and 25 female students. The selection of colleges was made on the basis of regional backgrounds having the blend of rural and urban students.
<table>
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<th>Sr.</th>
<th>Name of Colleges</th>
<th>Sample (Students)</th>
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<td>Faculty of Engineering : MEFGI, Gauridad, Rajkot</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Faculty of Technology : MEFGI, Gauridad, Rajkot</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Faculty of PG Studies : MEFGI, Gauridad, Rajkot</td>
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</tr>
<tr>
<td>4</td>
<td>V. V. P. Engineering College, Rajkot, Rajkot</td>
<td>25</td>
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<tr>
<td>5</td>
<td>Shri Labhubhai Trivedi Institute of Engineering &amp; Technology, Rajkot</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Noble Engineering College, Junagadh</td>
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<td></td>
<td><strong>Total</strong></td>
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<table>
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<td>Urban Background</td>
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<td>100</td>
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3.8 Data Collection Tools

Researcher has used variety of tools as an aid to collect data for the study. The study was mainly meant for testing the effective use of ICT approaches in ELT on engineering students of Saurashtra region. Questionnaires were designed for the purpose of collecting the data for survey one in with the pre-test and second with the post test. Tests were conducted including the grammar, vocabulary, reading, writing and speaking abilities of the students before and after providing treatments to them.

3.8.1 Pre Test and Post Test

As per the earlier discussion, being the experiment research the selected sample students were asked to write both pretest and posttest which consisted 6 sections of English Language. They were namely Grammar, Vocabulary, Reading, Listening, Speaking and Writing. The participants were asked survey questions in form of a questionnaire along with pretest and posttest.

Pre Test : The Pretest was conducted to test the learners’ knowledge of English therefore the test had six sections namely: Grammar, Vocabulary, Reading, Listening, Speaking and Writing. In the section 1- Grammar, four questions were asked related to the tenses, prepositions, and conditional sentences. Section – 2 was related to the Vocabulary which had majority words with the base of root words and Engineering background. Section -3 was of Reading skills in which a reading comprehension was asked having four questions. Section -4 was of Listening Skills in which a conversation was played and the learners were required to answer the questions given in the test on the basis of what they has listened to. Section 5 was
of Speaking Skills in which one topic was offered randomly to the learners and they were asked to speak for one minute on the same topic. This speaking exercise was recorded with the help of I-Speak Mobile application and they were made listen to the same while discussing scope of their improvements. Section – 6 was of Writing Skills in which the learners were given a topic “Importance of Communication in Engineering” on which they were asked to write 100 to 200 words. Section 1 to 4 were MCQ based questions in which each section had 4 questions having the weightage of 1 mark each. Whereas Section – 5 and 6 were measured keeping the criteria suggested by Common European Framework of Reference for Languages with the weightage of 4 marks each. The participants were given marks out of 24 i.e. 4 marks from each section.

Post Test : The Posttest was conducted to test the improvement in the knowledge of the learners with reference to English language after the treatment therefore the post test was similar to the pretest and the test had six sections namely: Grammar, Vocabulary, Reading, Listening, Speaking and Writing. In the section 1- Grammar, four questions were asked related to the tenses, prepositions, and conditional sentences. Section – 2 was related to the Vocabulary which had majority words with the base of root words and engineering background. Section -3 was of Reading skills in which a reading comprehension was asked having four questions. Section -4 was of Listening Skills in which a conversation was played and the learners were required to answer the questions given in the test on the basis of what they has listened to. Section 5 was of Speaking Skills in which one topic was offered randomly to the learners and they were asked to speak for one minute on the same
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3.8.2 Designing the Questionnaires

There were two questionnaires designed and used for the survey i.e. One was with the pretest and second was with the posttest.

The core objective of designing pretest questionnaire and data collection along with the pretest was to make a survey about how the learners are familiar to ICT approaches and their usages. There were 13 questions asked to the learners which were aimed to seek information about their internet usage, purpose of internet usage, and their preferences of using Internet as well as other social media tools to learn English language and to test their comfort zone of using English as a medium of communication.

On the basis of pretest questionnaire, the posttest questionnaire was set. The main objective of designing posttest questionnaire and data collection along with the posttest was to make a survey to check the experience of the learners about
learning English through ICT approaches. There were 9 questions asked to the learners which were aimed to seek information about their experience of ICT based language learning, to check their convenient ICT tool in learning a language, their preferences of learning language through ICT, their improvement in English language and the limitations and difficulties faced while learning a language through ICT.

3.9 Designing Material for Treatment

A Short term course explaining how ICT can be effective in learning ELT is prepared and the same is carried out before the respondents enabling them to learn English through effective use of ICT.

A Four Month Long Exercise for each class training them for 40 hours of effective teaching through online media like WhatsApp, Blog, You Tube etc. along with automated voice calling was done to understand the aspects of ELT.

Each topic (Listening, Reading, Writing, Speaking, Grammar and Vocabulary) are given equal weightage. The session plan contains two hours of introduction, four hours of learning and two hours of recap was added.

The methodology for the teaching English language was crafted as follows:

The students were offered four sessions, each of one hour session for enhancing their understanding about skills and the tools available for learning through ICT, i.e. Listening, Reading, Writing, Speaking. The student respondents were offered learning of skills through various tools like WhatsApp, Blog, You Tube videos and Mobile applications.
3.10 Making Study Material Available Online Through ICT Approaches

As discussed earlier, the researcher had used various ICT approaches in making the study material available online. He had used Blog, Facebook Group, YouTube Videos, Mobile Applications and WhatsApp messages to share the study material online. He had also used prerecorded voice calls to intimate the learners about updates.

3.11 Course Materials

The term ‘materials’ refers to textbooks, workbooks, manuals and other such supplements which are used to implement and execute teaching-learning process. Here in the context of using ICT Approaches for this study, the term ‘materials’ refers to compilation and preparation of certain Grammar Lessons, Vocabulary Flash Cards, Facebook Posts, Mobile Applications, Videos and Blog entries which can be utilized to impart the basic skills of learning English Language. Here in this study, the researcher has prepared the study materials being offered to first year engineering students.

3.11.1 Criteria Used for Preparing the Course Materials

Earlier in education, conventional materials were produced and used for teaching-learning. In earlier age of ELT in India, books were imported from U.K. and that’s why they were not culture-specific for Indian context. So in this situation materials remained far removed from the real life situations and that’s why they
failed to grab the interest of learners and ultimately this affects the process of language learning. As per the demand of the hour techno-materials such as videos, podcasts, educational applications and so on are more welcome. This is due to the increasing use of web 2.0 in daily life by younger generation. Their perspective has been changed; they wish to learn new things in novel ways and through innovative techniques. Social networks have evolved an altogether a new style of communication. This trend has also coined certain new words such as ‘netiquette’, ‘netizen’, ‘unfriend’ which were never ever a part of any dictionary in the world. In accordance with this viewpoint, web 2.0 with great scope and potential to educate today’s learner the way he/she wants and is acquainted with, needs to be experimented with for wider and more effective use in teaching learning situations.

3.11.2 Study materials of Listening, Speaking, Reading, Writing and Vocabulary

The learners were provided various platforms for acquiring proficiency in English language. Such platforms were; Blogs, YouTube Videos, WhatsApp creative images, Facebook posts, Mobile Applications. The screen shots of such material have been mentioned here for the reference.
**Blog Posts**: The researcher had used blog posts for the purpose of sharing the information of teaching material for English language.
Learn English Language through ICT Approaches.

Yocab Magic | Idiom – I’ll bite
02 May 2015 by
No Comments
TweetShare TweetShare
Read More

Yocab Magic | Idiom – Go fly a kite.
02 May 2015 by
No Comments
TweetShare TweetShare
Read More

Yocab Magic | Idiom – Act your age
02 May 2015 by
No Comments
TweetShare TweetShare
Read More
Toll free number for free English lessons

Dear friends,

Now you can learn English for free. Just dial the number below, enter your name and start learning English at your convenience.

No email & no smart phone are required for this.

18003000881

Mobile Applications to acquire proficiency in English Language

Speak English Daily
**YouTube Videos:**  The researcher had used YouTube videos for the purpose of sharing the information of teaching material for English language.
before

after
**Facebook Posts** : The researcher had used Face Book posts for the purpose of sharing the information of teaching material for English language.
WhatsApp Images : The researcher had used WhatsApp images for the purpose of sharing the information of teaching material for English language.
The shortest English word that contains the letters A, B, C, D, E, and F is feedback.

eDidYouKnow.com

GO UNDER THE KNIFE

Meaning
TO HAVE A MEDICAL OPERATION

More and more women are choosing to go under the knife to improve their appearance.
**Dreamt**
is the only English word that ends in the letters mt.

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**EXpressing FrustRation**

- I can't stand + noun/gerund
- I can't bear + noun/gerund
- I can't put up with + noun/gerund
- noun/gerund annoys me
- noun/gerund bugs me
- noun/gerund gets on my nerves
- noun/gerund pisses me off (slang)
- I can't stand it when + sentence
- I can't bear it when...
- It annoys me when...
- It bugs me when...
- It gets on my nerves when...
- It pisses me off when...

- I can't stand losing because I'm very competitive.
- I can't bear Irish weather. It depresses me.
- I can't put up with him. He's really annoying!
- That kind of thing really annoys me.
- Waiting for public transport bugs me.
- The sound of my alarm clock gets on my nerves.
- People who lie all the time piss me off.
- I can't stand it when people don't tell the truth.
- I can't bear it when my feet are cold and wet.
- It annoys me when you do that so please, stop it.
- It bugs me when my boss asks me to work weekends.
- It gets on my nerves when people are late for meetings.
- It pisses me off when politicians don't listen to us.
LIVID (ADJ.)

Feeling or showing extreme anger

Wilful stupidity makes him absolutely livid.
**PARSIMONY** (NOUN)

/pahr-suh-moh-nee/

Extreme care in spending money or excessive economy or frugality; stinginess; niggardliness

*Synonyms:* selfishness, miserliness

*Due to official parsimony only one building was built.*

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**LOQUACIOUS** (ADJ.)

*Very talkative*

Loquacious people spend their time in talking. It doesn’t matter what they talk.
Images of Mobile Application: The researcher had used I-Speak, Mobile Application for recording the voices of the student respondents.

![Image of iSpeak mobile application]

- Favourite
- Topic: Laboratory
- Hints: Speak at least 1 minute on the given word

Playlist | Category | Mode | Timer
Tell me about a specific skill that you have learned.

10/06/2014 | 18:50 (0:9)
Tell me about a specific skill that you have learned.
3.12 DATA ANALYSIS

To study the effectiveness of ICT approaches in ELT on technical students of Saurashtra, two tests (pre and post) were conducted and two questionnaires were offered to the respondents to know their feedback, responses and difficulties faced in using ICT in learning English language. The tests has six sections which had 4 marks of weightage of each section. The sections of Grammar, Vocabulary, Reading and Listening had MCQs whereas in the Speaking Section, the respondents were asked to record their voices on the topic which randomly appeared on the Mobile screen. One topic was given to the respondents to write about 100 – 200 words in the writing task. These both the tasks were measured as per the Common European Framework References for Languages (CEFR). Whereas questionnaires had 13 and 9 questions respectively.

The present research was aimed to find out the effective use of ICT approaches in ELT in the technical students of Saurashtra region.