METHODOLOGY

4.1 INTRODUCTION:

A method and its design within it, is used according to the type of data that the research problem entails. A research method is the systematic procedure for carrying out a research work from the identification of its problem leading to its final conclusion. There are various methods for conducting a research like the Historical, Descriptive and the Experimental Research Method. According to Good, Barr and Scates (1941), methods may be classified from various points of view; the field to which applied; education, history, philosophy, psychology, biology, purpose: description, prediction, determination of causes, determination of status, etc.; place where it is conducted; in the field or in the laboratory; application; pure research or applied research; data gathering devices employed; tests, rating scales, questionnaires, etc. nature of the data collected; objective, subjective, quantitative, qualitative etc. symbols employed in recoding, describing, or treating results: mathematical symbol or language symbols; forms of thinking : deductive, inductive, control of factors; controlled and uncontrolled experimentation; methods employed in establishing casual relationships: agreement, difference, residues and concomitant variation.

Surveys are a classic method for data collection. They are flexible, easy to implement and offer a nearly limitless range of data with reliable results. The data gathered during an effective survey provides a unique opportunity to obtain detailed insight into a study. As we can gather large amounts of feedback directly from the individuals, they can be utilized to gather extensive data regarding perceptions of the participants because all respondents receive exactly the same questions in exactly the same way. Surveys can be utilized in a number of ways. They can be Descriptive Survey, Normative Survey and Evaluative Survey.

The present study has been carried out with the help of Evaluative Survey Method. The target is to evaluate the problem of the study and also to point out in which direction the object of the study can be improved. The method has also
been used to collect detailed description of the existing phenomenon with the intent of employing data to justify the current conditions and practices or to make more intelligent plans for improving them. It involved a clearly defined problem and definite objectives. It required expert and imaginative planning, careful analysis and interpretation of the data gathered and the logical and skillful reporting of the findings.

**QUALITATIVE RESEARCH:**

Qualitative research, a method of inquiry employed in social sciences, aims to gather an in-depth understanding of ‘why’ and ‘how’ of decision making not just ‘what’, when’ and ‘where’. Qualitative methods can be used to seek empirical support for the research hypotheses. Qualitative researchers typically rely on the following methods for gathering information: participant observation, non-participant observation, field notes, reflexive journals, structured interviews, semi-structured interviews and analysis of documents and materials.

**QUANTITATIVE RESEARCH:**

In social research Quantitative research refers to the systematic empirical investigation of social phenomenon via statistical, mathematical or computational techniques. The objective of quantitative research is to develop and to employ mathematical models, theories/ or hypotheses pertaining to phenomenon. This process of measurement is central to qualitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships. Quantitative data is any data that is numerical in form such as statistics, percentages etc.

**MIXED METHOD:**

Mixed method research is defined as the type of research in which the investigator collects and analyses the data, integrates the findings and draws inferences using both qualitative and quantitative approaches and methods in a single study or the programme of enquiry. Thus qualitative and quantitative approaches are mixed within and across the stages of evaluation. In the present study, mixed method has been used to find out the convergent and the divergent findings of the collected data.
4.2 CONCEPTUAL AND OPERATIONAL TERMS USED IN THE STUDY:

**Teaching Competence:** The term teaching competence includes teacher effectiveness and pupil outcomes as it is the right way of conveying units of knowledge, application and skills to students.

**Language Skill:** The four basic language skills are Listening, Speaking, Reading and Writing. Though, it has been recognized that we generally use only one skill at a time, leading to a more integrated exercise, speaking as a skill has often been under-represented in the traditional classroom.

**Teaching Method:** Method is the overall plan of an orderly presentation of language material. It is based upon a selected approach. It can also be seen as a link between the students and the curriculum components, the educational process that take place in the classroom and organized by the teacher and how it is made effective and productive in time. Here the various methods of teaching English are the Translation Method, Bilingual Method, Direct Method, Communicative Language Teaching, Phonetic Method, Natural Method, Audio-Lingual Method, Total Physical Response Approach and Immersion Programs.

**Achievement Test:** Achievement tests have generally been categorized as single-subject tests, survey batteries or diagnostic tests and further dichotomized as group or individually administered tests. Typically, one administers achievement tests in order to obtain an indication of general academic skill competencies or a greater understanding of an individual’s performance in a particular area of academic performance.

4.3 OBJECTIVES OF THE STUDY:

The objectives of the study read as follows:

1) To examine the academic and the professional qualification of the English teachers at Secondary level.

2) To study the methods and skills used by the English teachers in classroom situation.

3) To examine the competencies required of a teacher teaching English and how the competencies identified varied with the demographic variables
of teachers i.e. (age, sex and educational qualifications) and with the contextual variables (urban and rural) of teachers.

4) To study the methods of teaching English Method at the Teacher Education Institutes.

5) To examine the perception of Secondary School students in learning English.

6) To investigate into the performance of the students in English at the Secondary School level.

4.4 RESEARCH QUESTIONS OF THE STUDY:

The following research questions as per the objectives (Objective 1-Objective-5) have been formulated for the study:

1) What are the Academic and Professional qualifications of the English teachers teaching at the Secondary level?

2) Do the English teachers use appropriate methods and skills to teach English to the Secondary School students?

3) Whether the competencies of the Secondary School teachers vary-
   a) Between male and female teachers?
   b) Between urban and rural teachers?
   c) Among teachers of different age levels (5 levels)?
   d) Among teachers of different educational qualifications (4 levels)?

4) Do the teachers of the Teacher Education Institutes use the right method to teach English Method to the student teachers?

5) How do the Secondary School students perceive the learning of English?
4.5 HYPOTHESIS OF THE STUDY:

For Objective 6 the following hypothesis has been formulated:

**H₀**: There is no significant difference between the performance of the students in English in the Secondary schools in rural as well as in urban areas.

4.6 THE PROCEDURE OF THE STUDY:

With the setting of the objectives and the hypothesis for the study, the investigator has adopted the following procedures for the selection of the sample of the study and the research tools for the collection of data. They are-

- Variables considered for the study.
- Selection of samples.
- Construction of tools for the study.

4.7.1 Variables Considered for the Study:

**Teacher related variables:**

The teacher related variables are the methods of teaching English, the skills used by the teachers and the teaching competencies of teachers that varied with the demographic (age, sex and educational qualifications) and the contextual variables (urban and rural).

4.7.2 Selection of Sample:

The selection of sample consisted of the following steps-

4.7.2.1 Population:

The population of the present study consists of all the teachers teaching English in the selected Secondary (Assamese medium) Government/Provincialised Schools of Kamrup district. In Kamrup District, the total number of Arts teacher is 5056, out of which 3590 are male teachers and 1547 are female teachers. There are 320 High Schools and 49 Higher Secondary Schools in Kamrup District. The population also consisted of the students studying in Classes VIII, IX and X of 10 rural Secondary (Assamese medium) Schools and 10
urban Secondary (Assamese medium) Schools. Again, population also consisted of all the teachers teaching English Method in the TEI of Assam.

**4.7.2.2 Sample of the study:**

A sample can be defined as a process of selection of sampling units from the population to estimate population parameters in such a way that the sample truly represents the population.

**Stratified Random Sampling:**

Stratified Random Sampling is also known as quota random sampling, it also involves dividing the population into mutually exclusive and mutually exhaustive subgroups/strata and then taking a single random sample in each subgroup/strata. Subgroups may be based on different indicators like age, sex, religion or geographical regions.

For the present study, the investigator had selected 28 teachers from 10 rural Secondary (Assamese medium) schools and 26 teachers from 10 urban Secondary (Assamese medium) schools teaching the English subject using stratified random sampling technique. The sample also consisted of students from 20 Secondary (Assamese medium) schools of Kamrup District. 10 Secondary (Assamese medium) schools from the rural area and 10 Secondary (Assamese medium) schools from the urban areas were selected for collecting the required data. The sample of the students and teachers would give a clear picture of the proficiency of the students in English and also the methods and skills used by the teachers for teaching English in the whole of Assam. Again, 8 teachers teaching English in four Government and four Non- government Teacher Education Institutes of Assam were selected for study.

The sample of the study comprised of the following:

1) 10 students of Class VIII, 10 students of Class IX and 10 students of Class X from 10 rural Secondary (Assamese medium) Schools and 10 urban Secondary (Assamese medium) Schools.

2) 54 teachers teaching English in 20 Secondary (Assamese medium) Schools (both rural and urban).

3) 8 teachers teaching English Method in four Government and four Non-government Teacher Education Institutes (TEI).
LIST OF HIGH SCHOOL AND HIGHER SECONDARY SCHOOLS (ASSAMESE MEDIUM) SELECTED FOR THE STUDY (Rural):

<table>
<thead>
<tr>
<th>Names of High School</th>
<th>Names of Higher Secondary School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boko High School</td>
<td>Amranga Borihat HSS</td>
</tr>
<tr>
<td>Sanpara Haropara HS</td>
<td>Kamalpur HSS</td>
</tr>
<tr>
<td>Janata Girls HS</td>
<td>Hajo SBSKR HSS</td>
</tr>
<tr>
<td>Puthimari HS</td>
<td>Barombai HSS</td>
</tr>
<tr>
<td></td>
<td>Sonapur HSS</td>
</tr>
<tr>
<td></td>
<td>Chaygaon HSS</td>
</tr>
</tbody>
</table>

LIST OF HIGHER SECONDARY SCHOOLS (ASSAMESE MEDIUM) SELECTED FOR THE STUDY (Urban):

<table>
<thead>
<tr>
<th>Names of Higher Secondary School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panbazar Girls HSS</td>
</tr>
<tr>
<td>Ulubari HSS</td>
</tr>
<tr>
<td>GopalBoroGovt.HSS</td>
</tr>
<tr>
<td>Sonaram HSS</td>
</tr>
<tr>
<td>TC Girls HSS</td>
</tr>
<tr>
<td>Cotton Collegiate HSS</td>
</tr>
<tr>
<td>Arya Vidyapeeth HSS</td>
</tr>
<tr>
<td>Kamrup Academy HSS</td>
</tr>
<tr>
<td>Banikanta Memorial Girls HSS</td>
</tr>
<tr>
<td>Lalsingh Academy HSS</td>
</tr>
</tbody>
</table>

The District of Kamrup exhibits a diverse mixture of educationally advanced and backward areas. The district of Kamrup has implemented Sarva Siksha Abhiyan Mission activities in all its 11 educational blocks keeping in mind the local specific factors. Neither the educational scenario nor the socio-economic
conditions are identical in the blocks. The 11 blocks of Kamrup District are Boko, Chamaria, Chaygaon, Dimoria, Hajo, Karara. Kamalpur, Rangia, Rani, Rampur and Guwahati.

LIST OF THE TEACHER EDUCATION INSTITUTES (TEI):

<table>
<thead>
<tr>
<th>Government</th>
<th>Non-government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nagaon Sikshak Mahavidyalaya, Nagaon</td>
<td>Rangia Teachers’ Training College, Rangia</td>
</tr>
<tr>
<td>Banikanta College of Teacher Education, Guwahati.</td>
<td>College of Education, Nagaon</td>
</tr>
<tr>
<td>Mangaldai Government B.Ed College, Mangaldai</td>
<td>K.B.M College of Teacher Education, Jorhat</td>
</tr>
</tbody>
</table>

4.7.3 Construction of Tools for the Study:

The investigator had made use of the following tools to gather the data for this study. They are as follows:

1) Observation schedule and questionnaire for teachers teaching English.

2) Interview schedule for the teachers teaching English in the Teacher Education Institutes.

3) Interview schedule for the students of Class VIII, IX and X.

4) Achievement test for the students of Class VIII, IX and X.

4.7.3.1 Questionnaire:

According to Goode and Hatt (1952), the word ‘questionnaire refers to a device for securing answers to a series of questions by using a form which the respondent fills for himself.
Classification of questionnaire:

Questionnaire can be classified according to the nature in which questions are asked. They may be open-ended or closed ended.

Open-ended questionnaire:

In open-ended questionnaire or unrestricted form of questionnaire, there is free response from the respondents’ side. This form of question is unstructured and no clues are provided to the respondent. The open form of the questions provides a greater depth of response and the greatest advantage of this type of questions is freedom that is given to the respondent to reveal his/her opinion and to clarify his responses.

Closed-ended questionnaire:

Questionnaires that call for short or restricted type are called closed-ended questionnaire. Here the set of questions can be replied as ‘yes’ or ‘no’ or the respondent is requested to select an answer from a list of possible answers. He/she is asked to make the answer with a tick (✓) mark in the space provided on the answer sheet.

The investigator has used open-ended and closed-ended questionnaire to elicit response from the Secondary School teachers.

Questionnaire for the teachers:

The teachers of Secondary Schools of the sampled schools were given a questionnaire consisting of open-ended and closed-ended questions. The items were as follows-

- Academic and Professional Qualification of the teachers.
- In-service training of the teachers.
- Purpose of using mother tongue in the class.
- Skills enjoyed by the students most.
- Method of teaching English in the class.
- Use of Audio-visual aids in the class.
- Use of teaching learning materials.
- Common error of the pupils in English language.
- Ways of providing feedback to the students.
- Books and materials provided by the school.
- Activities provided to the students.
- Activities related to listening, speaking, reading, writing, vocabulary and grammar.
- Planning lessons in advance.
- Use of school library.

4.7.3.2 Interview:

The interview is a process of communication and interaction in which the subject or interviewee gives the needed information verbally in a face-to-face situation. It is a technique that is primarily used to gain an underlying reasons and motivations for people’s attitude, preferences or behavior. In any research, interview can be used as a tool to test the hypothesis. Interviews vary in design and structure such as the structured, semi-structured and the unstructured interview schedule.

Semi-structured Interviews:

Semi-structured interviews are most often used in qualitative studies. The style is most useful when one is investigating a topic that is very personal to participants. Benefits include the ability to gain rapport and participants' trust, as well as a deeper understanding of responses. Data sets obtained using this style will be larger than those with structured interviews. The investigator had employed the semi-structured interview schedule for the school students. Semi-structured interviews are a bit more relaxed than structured interviews. While researchers using this type are still expected to cover every question in the protocol, they have some wiggle room to explore participant responses by asking for clarification or additional information. Interviewers also have the freedom to be more friendly and sociable. In this study, the researcher has employed the semi-structured interview schedule to know about the opinions of the students of the Secondary Schools as well as the teachers of the Teacher Education Institutes.
Items selected for the Semi-structured interview schedule for the students of Secondary School are as follows:

- Home background of the students.
- Encouragement received from the family members to use the English language.
- Aim of learning the language at school.
- Changes suggested by the students in the teaching method of English by the teachers.
- Opportunities to use English in the classroom.
- Activities liked by the students in an English class.
- Library facilities provided by the school to the students.
- Necessity of using mother tongue in the English class.
- Use of audio-visual aids in the class.

Semi-structured interview schedule for the teachers teaching English in Teacher Education Institutes:

- Method used for teaching English to the student teachers.
- Method used for teaching different topics in the TEI.
- Use of Micro-teaching in the class.
- Skills given emphasis in the class.
- Necessity of using mother tongue in the class.
- Activities followed in an English class.
- Evaluation of the student teacher.
- Use of library by students and teachers
- Practical methods used by the teachers
- Use of audio-visual aids in the class.
- Method of teaching English to be followed by the student teachers in their respective schools.

4.7.3.3Observation:

Observation involves recording the behavioural patterns of the people, objects and events in a systematic manner. Observational methods used in the collection of the data for the study was a structured observational schedule. In structured observation, the investigator has specified in detail what was to be
observed and how the ratings are to be recorded. It is appropriate when the problem is clearly defined and the information needed is specified.

**Participant Observation:**

In participant observation, the investigator becomes or is part of the group that is being investigated. Participant observation has its roots in ethnographic studies where researchers would live in tribal villages, attempting to understand the customs and practices of that culture.

In the present study, the investigator was in an explicit role. The investigator was present everyday over a period of time in the English classes conducted by the English teacher of the selected school. The entry was negotiated with the school authorities and also with the teachers. The investigator was clearly in the role of a researcher who moved around, observed the classroom processes and participated in the work which was appropriate.

**Items selected for the observation schedule are as follows:**

**Competency based on Knowledge:**

- The teacher uses TLM in the class.
- The teacher is competent in grammar and usage.
- The teacher uses understandable vocabulary in the class.
- The teacher’s pronunciation and fluency in English is good.
- The teacher engages the students in dialogue for spoken language.
- The teacher manages group/pair work activities for improving communication skills.
- The teacher guides the students to write summary on their own.
- The teacher relates the subject knowledge with other subjects.
- The teacher relates the chapter to students’ previous knowledge.
- The teacher explains the theme of the chapter before starting the chapter.

**Competency based on Profession:**

- The teacher takes interest in his/her profession.
- The teacher has command over the content of the subject.
- The teacher presents the lesson through interesting activities.
The teacher comes well prepared to the class.
The teacher motivates the students.
The teacher corrects homework daily.
The teacher arranges the sitting arrangement of the class.
The teacher gives individual attention to the students.
Proper use of blackboard/ use of coloured chalks.
Movements and gestures used by the teacher.
The teacher evaluates the students well.
The teacher plans the lessons beforehand.
The teacher is aware of the Secondary School Curriculum.
The teacher has cordial relation with the colleagues and authority.

4.7.3.4 Achievement Test:

Achievement tests have generally been categorized as single-subject tests, survey batteries or diagnostic tests and further dichotomized as group or individually administered tests. They have been categorized as a) group administered b) individually administered c) modality-specific tests of achievements which are either being group or individually administered. Typically, one administers achievement tests in order to obtain an indication of general academic skill competencies or a greater understanding of an individual’s performance in a particular area of academic performance. In this regard, achievement tests are designed to measure the “degree of learning” in specific content areas. Within the context of educational programmes, there is a continual process of evaluation that also includes teacher made tests and letter-grade performance standards. The continuous monitoring of students’ performance within a particular academic content area provides means not only to assess students’ progress but also to link instructional strategies and learning objectives with identified student-learning needs and skill deficits.

Construction of Achievement Test for the students:

In the present study, an achievement test was constructed with the help of experts in the particular field on English language skills. The experts consisted of
retired and resource teachers of English in the High (Assamese medium) Schools and Higher Secondary (Assamese medium) Schools.

The test was conducted for Class- VIII, Class- IX and Class-X students to find out their level of competence on listening, speaking, reading and writing skills personally by the investigator.

**Conducting of the test:**

The test was conducted in 10 Secondary (Assamese medium) Schools situated in the rural areas and 10 Secondary (Assamese medium) Schools situated in the urban areas of Kamrup District. Again, from each school, 10 students from Class VIII, 10 students from Class IX and 10 students from Class X were selected randomly for taking the test. The total marks for the test was 50 out of which 5 marks was allotted to the students for listening comprehension, 10 marks was allotted to the students for speaking and 10 marks was allotted in the reading activities. 25 marks were allotted to the students for a writing test.

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>LISTENING</th>
<th>SPEAKING</th>
<th>READING</th>
<th>WRITING</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKS</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>25</td>
</tr>
</tbody>
</table>

**Total: 50 marks.**

Table 1: Distribution of marks for the Achievement Test

**Reliability of the test-**

Joppe (2000) defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar method, then the research instrument is considered to be reliable. Hence, in this study, the investigator had administered the Spearman Brown’s Split- half Method to find out the reliability of the achievement test conducted to the students of Class VIII, IX and X.

With the help of Spearman Brown’s formula of Split- half method it was observed as follows:

The scores accredited to the students of Class VIII gives $r_{tt}= 0.57$

The scores accredited to the students of Class IX gives $r_{tt}= 0.53$
The scores accredited to the students of Class X gives $r_{tt}=0.51$

Hence, the scores accredited to Class VIII students were 57% reliable, the scores accredited to Class IX students were 53% reliable and that of Class X were 51% reliable.

**Usability of the test:**

The usability of the test depends on the ease with which a test is administered and conclusions drawn from the analysis of the data. A tool should yield information and result which are not coloured by the personal judgement of the investigator. Since the tools would yield objective information, it can be concluded that the tools which are employed have proper usability. This test can be conducted from time to time by the Secondary School teachers to find the level of achievement of the students of Classes VIII, IX and X. This test also reflects the teaching method and the teaching procedure in English language of the teachers of Secondary Schools of Kamrup district. Hence, this test was therefore a good feedback test to upgrade and improve the teaching skills of all the teachers teaching English in Assam and thus work upon their teaching competence.

**4.8 PILOT STUDY:**

**The need for Pilot study:**

It is difficult to plan a major study or project without adequate knowledge of its subject matter, the population it is to cover, their level of knowledge and understanding and the like. In order to gain such pre- knowledge of the subject matter of an extensive study, a preliminary investigation was conducted.

For conducting the present pilot study, 3 Secondary (Assamese medium) schools situated in the rural areas of Kamrup district and 3 Secondary (Assamese medium) Schools situated in the urban area of Kamrup district were selected for study. In the entire schools a questionnaire having open-ended and closed –ended questions was distributed to the teachers teaching English. For the study, 10 students from Class VIII, 10 students of Class IX and 10 students from Class X were selected randomly to take an achievement test in English which tested the listening, speaking, reading and writing skills of the students. They were also
interviewed with a semi-structured interview schedule by the investigator. The classroom processes of the English teachers of the selected schools were observed with an observation schedule by the investigator with their permission. The teachers teaching English Method in 2 Government and 2 Non-government Teacher Education Institutes were interviewed with a semi-structured interview schedule.

4.9 LIBRARY WORK AND INTERNET SEARCHING:

In order to collect relevant secondary data for research work, the investigator visited several libraries in India and consulted various relevant books, journals, theses, dissertations, periodicals etc. The investigator visited the following libraries-

- Dr. Krishna Kanta Handique Library, Gauhati University, Guwahati, Assam.
- North Eastern Hill University Library, Shillong, Meghalaya.
- English and Foreign Languages University Library, Shillong, Meghalaya.
- English and Foreign Languages University Library, Hyderabad.
- Osmania University Library, Hyderabad.

The investigator also undertook thorough internet searching from related national and international sources on the topic undertaken for research work.

4.10 STATISTICAL PROCEDURE AND TECHNIQUES USED IN THE STUDY:

The statistical procedure and techniques used for the analysis of data has been provided according to the objectives mentioned below-

Objective 1:

In order to show the academic and professional qualification of teachers having only Graduation, Graduation with B.Ed, Post-Graduation and Professional Degree with B.Ed, the data gathered with the help of a questionnaire has been analyzed and supported by bar diagram.
Objective 2:

To study the methods and skills used by the English teacher to teach the students of Class VII, IX and X in the classroom situation, data was gathered with the help of questionnaires for the teachers. The data so gathered was analysed with the help of percentage which has been represented by bar diagram.

Objective 3:

In order to examine the different competencies like Knowledge Based Competency and Professional Based Competency required of the English teachers to teach English to the students of Class VIII, IX and X, and in order to assess the competencies which varied with the demographic variables like age, sex and educational qualifications with that of the contextual variables like urban and rural, the teachers were analysed as per their age, sex and educational qualification. The data was gathered with the help of an observation schedule. For the convenience of collecting the data, the competencies of the teachers were rated as 1- Poor, 2- Needs to improve, 3- Satisfactory, 4- Good, 5- Excellent and Not observable which are also mentioned in the observation schedule. The competencies were then analyzed with the help of percentage.

Objective 4:

In order to find out the teaching method used by the English teachers at the Teacher Education Institutes, the data was collected with the help of a semi-structured interview schedule. The data was then analyzed with the help of percentage supported by bar diagram.

Objective 5:

In order to find out the perception of the students in the learning of English, the data was gathered with the help of a semi-structured interview schedule and then analysed with the help of percentage which has been represented by bar diagram.
**Objective 6:**

In order to examine the proficiency in the listening, speaking, reading and writing skills, an achievement test was administered to the student of Class VIII, IX and X of urban and rural secondary school students. The data was analyzed by computing frequency distribution. The statistical procedure like mean, standard deviation and statistical technique like ‘t’ test and Karl Pearson’s Co-efficient of Variation had been applied which has been supported by bar diagram.

**Triangulation:**

In the present study, triangulation has been employed. This approach involves using more than one research method or data collection technique, because each addresses a different dimension of the topic. The use of triangulation allows the investigator to capture a more complete, holistic and contextual portrayal and reveal the varied dimensions of a given phenomenon, with each source contributing an additional piece to the puzzle. In using triangulation, bias can be minimized and validity enhanced. Neither quantitative nor qualitative method alone can yield the results of the two combined. The sum of the whole is greater than its parts.

There is a distinct tradition in the literature of social science research methods that advocates the use of multiple methods. This form of research strategy is usually described as one of convergent methodology, multi methods, multitrait (Campbell and Fiske, 1959), convergent validation or what has been called “triangulation” (Webb 1996). These various notions share the conception that qualitative and quantitative methods should be viewed as complementary rather than rival methods. “Thus the convergence or agreement between methods enhances our belief that the results are valid and not a mechanical artifact” (Bouchard, 1976). This kind of triangulation has been labeled by Denzin, (1978) as the “between (or across) methods” type and represents the most popular use of triangulation. It is a vehicle for cross validation when two or more distinct methods are found to be congruent and yield comparable data. For e.g. the competency of a secondary school teacher may be studied with the help of
questionnaires, observation schedule, interview schedule and evaluating the students’ performance level.

Triangulation provides the researcher with several important opportunities. First, it allows researchers to be more confident in their results. This is the overall strength of the multi method design. Triangulation can also play many other constructive roles as well like creation of inventive methods and to stimulate new ways of capturing a problem to balance with the conventional data collection methods.