

3.0 Introduction

This chapter outlines the overall research methodology and theoretical framework used for the present study. Highlighting the significance of the theoretical framework, Grant & Osanloo (2014) suggest that “the theoretical framework is one of the most important aspects in the research process” (p. 12). The research framework includes research design, sampling technique, instrument, operational definition, and statistical analysis. The objectives and the research questions have been framed in accordance with the research gap identified. The secondary sources used for the study, include books, print and electronic journals, online databases, conferences/seminar proceedings, online content available in the public domain, and newspapers. The primary data sources for the study include questionnaire responses from teachers and interview responses from both teachers and students of secondary schools.

Based on the identified research gap (presented in chapter 2), the study has proposed the following conceptual framework (figure 3.1) and operational definition to correspond to the objectives and research question.

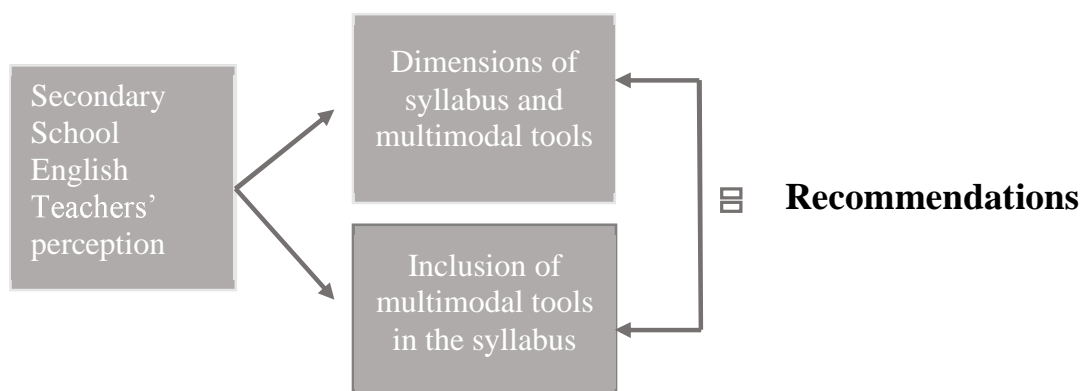


Figure 3.1. Conceptual Framework of the study

In correspondence to the conceptual framework, the study has proposed the operational definition of the concept/variables used in the study and the following objectives and research questions.

3.1. Operational Definitions of Key Terms

- **Syllabus:** The present study subscribes to the definition of the term, ‘syllabus’ as given by Dubin & Olshtain (1992). According to them ‘syllabus’ incorporates five parameters of syllabus design i.e. objectives, content, time/course calendar, methodology, and evaluation. The ensuing part delineates with the focus of these five parameters as used in the core concept of syllabus in the study:
 1. **Objectives:** What the learners are expected to know at the end of the course.
 2. **Content:** What is to be taught or learned during the course, in the form of an inventory of items.
 3. **Course Calendar:** When is it to be taught, and at what rate of progress, relating the inventory of items to the different levels and stages as well as to the time constraints of the course.
 4. **Methodology:** Use of Multimodal tools such as pictures, videos, multimedia, and ICT in the syllabus.
 5. **Evaluation:** How is learning to be evaluated, suggesting testing and evaluating mechanisms.
- **Multimodality** refers to the interplay among different modes and sign forms which combined together create the desired meaning.
- **Multimodal tools in education** refer to the different modes of such as image, writing, speech, gesture, posture, audio, video, screen, ITC tools, etc.

- **Multimodal texts** refer to the texts that have more than one ‘mode’ so that meaning is communicated through a synchronisation of modes. That is, they may incorporate spoken or written language, still or moving images, they may be produced on paper or electronic screen and may incorporate sound (Walsh, 2005).

3.2. Objectives and Research Questions

1. To understand teachers’ perception towards the existing CBSE Secondary Grade English syllabus.

Research questions

- a. What is teachers’ understanding towards the existing CBSE syllabus of English?
 - b. Is there any relationship among the constructs/variables of syllabus and multimodal tools as per teachers’ understanding?
 - c. Is there any difference among the constructs/variables of syllabus and multimodal tools as per teachers’ understanding?
 - d. What is the teachers’ understanding towards the different multimodal tools used in the existing syllabus?
2. To understand teachers’ perception towards the inclusion of multimodal tools in the syllabus.

Research Questions

- a. Do teachers think that the Multimodal tools will be helpful in improving the students’ learning of English?
- b. What is teachers’ perception about the inclusion of multimodal tools in the syllabus?

3.3. Research Framework

This section comprises all the details regarding the mechanism of the present study. Figure 3.2 presents the schematic presentation of research framework used in the study.

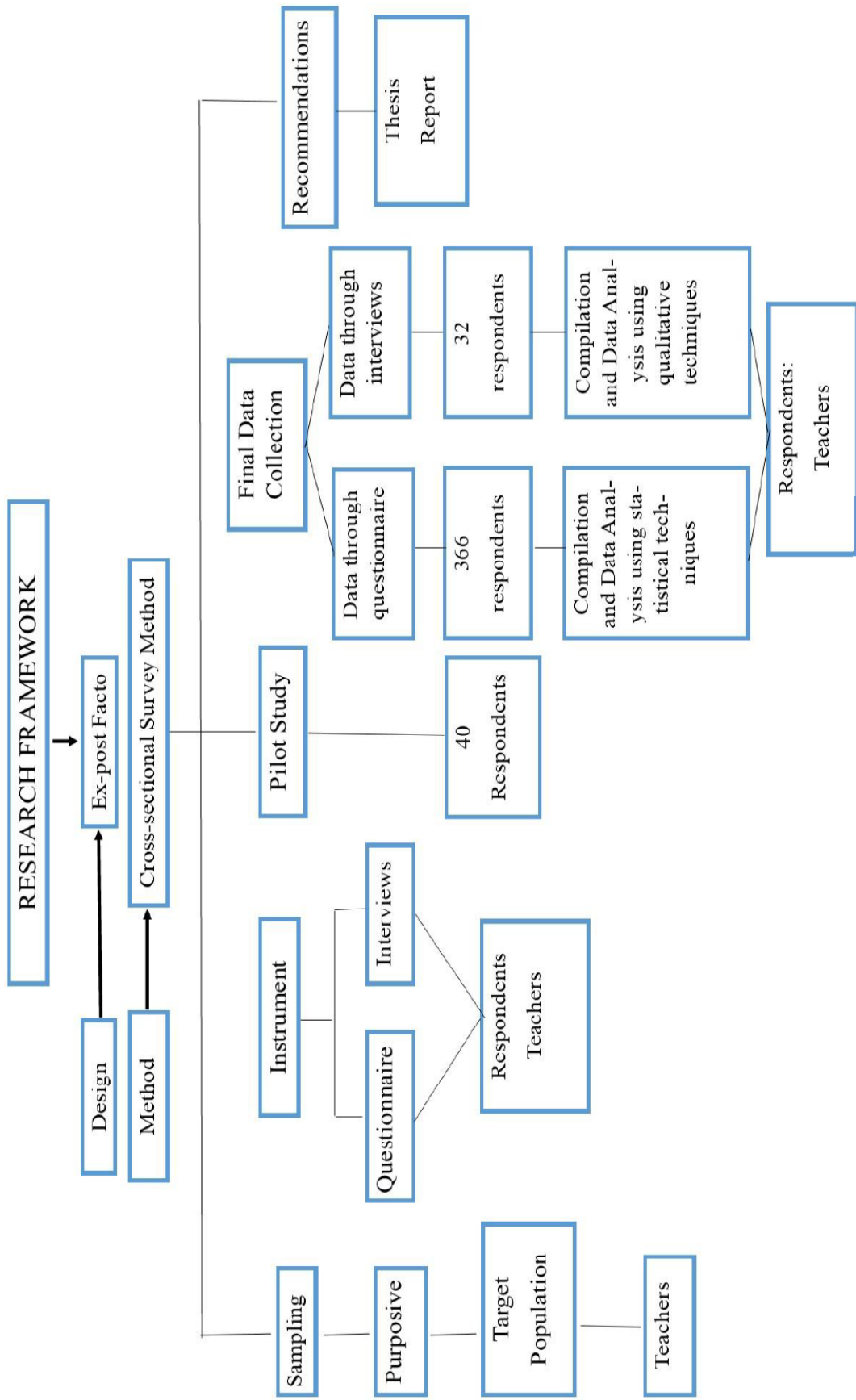


Figure 3.2 Research Framework

3.3.1 Research Design

The research design used in the study is Ex post facto research. Ex post facto research is also known as descriptive research. Such research includes surveys and fact-finding inquiries of different kinds. According to Kothari (2004), “the main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening” (p. 3). The study adopts cross sectional research method (Brown, 1988) using survey. According to Brown (1988), “cross-sectional studies consider a group of people as a cross section of possible behaviours at a particular point or at several distinct points in time” (p. 3). In this type of research study, “either the entire population or a subset thereof is selected, and from these individuals, data are collected to help answer research questions of interest” (Olsen & St. George, 2004, p. 7). Brown (1988) states that statistical analyses are used in this approach to estimate the probability, or likelihood, that the results did not occur by chance alone. For survey, the study has used mixed method approach such as quantitative and qualitative method.

3.3.2 Rationale behind Using Mixed-Method Research

The study has used a mix of quantitative and qualitative approach using instruments such as questionnaire based on five point likert scale and semi-structured interview schedule to accomplish the survey. Creswell (1999) states that “a mixed-method study is one in which the researcher incorporates both qualitative and quantitative methods of data collection and analysis in a single study. This type of study enables a policy researcher to understand complex phenomena qualitatively as well as to explain the phenomena through numbers, charts and basis statistical analysis” (p. 455). According to Gani, Rathakrishnan and Krishnasamy (2020), qualitative method is used to investigate participants’ experiences, opinions and beliefs to get more explanations along with quantitative method. The present study uses the qualitative data

to have a detailed and exhaustive understanding of the views of the teachers teaching English to the secondary grade in the CBSE affiliated schools.

Both quantitative and qualitative methods have been used in the study for an in-depth insight and analysis of the teachers' perception about the syllabus of English, and use and integration of multimodal tools. The quantitative data and its analysis provides the numbers to clearly interpret the views of the teachers. On the other hand, the qualitative data received through the semi-structured interview provides valuable inputs by the teachers for answering the research questions and suggestions for further improvements in the curriculum of English at secondary level.

3.3.3 Target Population & Sampling

Since the objective of the present study is to understand the views of teachers regarding the of the curriculum being taught at the secondary level in Central Board of Secondary Education (CBSE) affiliated schools, the target population is the teachers teaching English subject in the CBSE affiliated schools at Jhunjhunu, Jaipur and Ajmer, Rewari, Delhi & National Capital Region (NCR). The data for the study has been collected using purposive sampling technique under non-probability sampling mehod. As Etikan, Musa & Alkassim (2015) state, “the purposive sampling technique, also called judgment sampling, is the deliberate choice of a participant due to the qualities the participant possesses. It is a non-random technique that does not need underlying theories or a set number of participants” (p. 2) “This sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe” (Kothari, 2004, p. 15). Thus, this sampling technique has been chosen for collecting the relevant data for this study. The respondents have been chosen on the basis of the fact that they were teaching English to the students of secondary grade in CBSE affiliated schools in the above-mentioned districts. In this way, the respondents

were approached and selected on purpose as they fulfilled the requirement of the study. Since the study does not focus on the views of the teachers on the basis of their demographic and personal details, the focus was not on such details, though the details such as name, age, post, experience, name of the school, type of school, etc. were collected.

3.3.4 Instrument

Since the present study uses mixed-method research, questionnaire and semi-structured interview schedule have been used as instruments for data collection.

3.3.4.1 Questionnaire

The questionnaire was framed containing 30 statements on a ‘five-point likert scale’. Five parameters to syllabus design were identified through the literature review and the questionnaire focused on those five major parameters of syllabus design and multimodality tools (refer Appendix 1 for the questionnaire).

The questionnaire was divided into three parts:

- **Part One:** Part one consisted of demographic information of the respondents including their names, schools, post, classes which they taught, experience of teaching secondary grade, age, type of school, etc.

Part two: This part had statements to analyse the teachers’ perception regarding the existing CBSE secondary grade English syllabus (Secondary Curriculum 2016-17, p. 71) on the five parameters of the syllabus design. The statements were ranked on a five-point-likert scale where 1 meant ‘strongly disagree’, 2 meant ‘disagree’, 3 meant ‘neutral’, 4 meant ‘agree’, and 5 meant ‘strongly agree’. There were 21 items/statements framed around these parameters such as: Parameter of

- course objectives & content included 9 statements

- course calendar included 2 statements
- methodology included 4 statements
- evaluation included 6 statements

Part three: This part consisted of 9 statements to know the teachers' views about the inclusion of multimodality in the curriculum. 7 out of 9 statements were adapted from Antonietti & Giorgetti (2006).

3.3.4.2 Interviews

Interviewing becomes important to gain an in-depth information or opinion on a particular topic. Harvey (2020) calls in-depth interviews as “a technique that engages with the research subject in a way that encourages a detailed exchange of information” (para 1). In-depth interviews facilitate the researcher with the option of digging deeper into the information to be sought in a particular area. Semi-structured interview schedule has been used in the present study to conduct the interviews because structured interviews use the same questions using a tightly structured schedule and are very much like a questionnaire. Thirty-two or 32 respondents comprised the interview data.

3.3.5 Pilot Study

The term ‘pilot studies’ refers to mini versions of a full-scale study (also called ‘feasibility’ studies), as well as the specific pre-testing of a particular research instrument such as a questionnaire or interview schedule (Teijlingen & Hundley, 2002). Gorard (2003) states that good piloting involves several steps such as selecting a sample, negotiating access, delivering the instrument, calculating response rates and analysing the results in the same way as aimed at the final study. For pre-testing of the instruments of questionnaire and interviews, pilot studies were conducted. For the pilot study, the researcher used the teachers who were not the part of the final study. The same questionnaire with several modifications was used for

collecting the final data. For the interviews, several changes were made in the checklist after the pilot study. Some changes were made in the planning of the follow-up questions as well. The pilot study helped the researcher in the formulation of the final statements for the questionnaire and the checklist for the interview.

3.3.6 Reliability and Validity of the Instrument

Dikko (2016) argues that an instrument would be considered as a good measure if the data collected passes the tests of validity and reliability. Since the study is a mixed-method study, Pilot study for both quantitative and qualitative method was conducted and accordingly modifications were made in the instruments. The reliability of the questionnaire was found to α i.e. 0.7 (Taber, 2018; Tavakol, 2011).

To ascertain the face and content validity of the questionnaire, it was presented to five professionals including the researcher's supervisor and co-supervisor whose suggestions have been incorporated into the questionnaire. Singh (2016) refers to Amin (2005) to state that "content and construct validity is determined by expert judgement" (p. 63). For strengthening the validity of the questionnaire, the adequacy of sample size and strength of the relationship among variables through Kaiser Meyer Olkin (KMO) (Kaiser, 1974) and Bartlett's test of sphericity (Bartlett, 1954) respectively have been assessed using EFA (presented in findings chapter in detail).

For semi-structured schedule, inter-rater reliability has also been performed by checking the consistency among the raters for establishing the reliability of the interview data. Two raters have independently carried out the task of accepting and rejecting the codes and assigned values to them. The codes of the interview data have been analysed and finalised by the raters. Cohen's Kappa values have been calculated which have been found $\geq .60$ for assuming good reliability of the interview data.

3.3.7 Data collection procedure

The interviews were conducted during April to September, 2020, the time when the worldwide lockdowns had been imposed in the wake of Covid-19 virus. This phenomenon restricted the researcher from commuting to the different places for face-to-face interviews. So, it was decided that telephonic interviews will be conducted. Traditionally, it is believed that face-to-face interviews and face-to-face encounters are necessary for the interviewer to build rapport with the interviewees (Gillham, 2005). Scholars have felt that in a face-to-face interview, there is a friendly and relaxed environment as compared to the other modes of interviewing. However, Carr & Worth (2001) feel that a telephonic interview allows interpersonal communication without a face-to-face meeting and is a cost-effective alternative although there is a limitation of visual contact. There are several qualitative researchers who feel that the telephonic interviews do not hamper the meaning quotient and should be used as they save one's time, money and energy (Shuy, 2003; Stephens, 2007; Vogl, 2013). Tucker & Parker (2014) assert that there was "no real difference whatsoever" between the data collected through face-to-face interviews and the data collected through telephonic interviews. They also affirm that "the data collected through telephone would have been largely the same" (p. 26). The teachers who had responded to the questionnaire were contacted telephonically for the interviews. Interview information sheets were sent to them to intimate them regarding the requirements of the interview and to take their consent for the interviews. A telephonic consent thereof had already been taken beforehand and rapport was built up with the respondents through initial telephonic calls to them. Thus, 32 telephonic interviews were conducted through telephonic medium. A mobile handset with call recording facility was used for making calls to the respondents and the calls were recorded with the permission of the respondents who had already been intimated about the interviews well in advance. Since the concept of saturation was in mind, all the respondents of the questionnaire were not contacted together and they were

contacted after deciding that saturation had not occurred either in the whole interview or a part of interview. Finally, when 30 interviews had already been conducted, it was felt that saturation was reached in most of the aspects of the interview, two more interviews were conducted to ascertain the same and finally, further interviewing was stopped therein.

3.3.8 Data Analysis

The data analysis has two sections based on the mixed method study in order to answer the research objectives.

- **Quantitative analysis:** The questionnaire data has been analysed through quantitative analysis including statistic techniques such as reliability, exploratory factor analysis (EFA), correlation, and paired sample t-test.
- **Qualitative analysis:** The interview data has been analysed using thematic analysis based on the underlying patterns of data which were observed to identify themes and sub-themes from the data. Themes have been generated to understand teachers' views further regarding the issues in the existing syllabus and the inclusion of multimodal tools in the syllabus.

3.4 Details of Participants Interviewed

Data collected through the interviews has been presented and analysed in chapter no. 4. The table below (3.1) shows the details of the participants interviewed. To maintain anonymity and to keep the research ethics, the identity of the interviewees has not been revealed. The participants' names have been dummy coded. It is so because researchers have often suggested anonymity of the participants' details to be the guiding principle of research ethics. According to Creswell (2014), "investigators disassociate names from responses during the coding and recording process. In qualitative research, inquirers use aliases or pseudonyms for individuals and places, to protect the identities of participants" (p. 145).

Table 3.1: Details of the Interviewees

ID	Type of school (Government /Private)	Male/Female
R1	Private	Male
R2	Private	Male
R3	Government	Male
R4	Private	Male
R5	Private	Male
R6	Government	Male
R7	Government	Male
R8	Government	Female
R9	Private	Male
R10	Private	Male
R11	Private	Male
R12	Government	Male
R13	Government	Female
R14	Private	Female
R15	Private	Male
R16	Private	Female
R17	Private	Male
R18	Private	Male
R19	Government	Male
R20	Government	Male
R21	Private	Female

R22	Government	Male
R23	Private	Female
R24	Private	Female
R25	Private	Male
R26	Private	Female
R27	Government	Male
R28	Private	Male
R29	Private	Male
R30	Government	Male
R31	Private	Male
R32	Private	Male

The chapter has presented a detailed overview of the methodology adopted for conducting the present study. The next chapter presents the detailed data analysis and discussion.