

## **CHAPTER III**

### **DESIGN AND METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter focuses on the research methodology used in this study. It begins with the design of the study, which is followed by an explanation of the conceptual framework. Then the site of the research is described as well as the participants of this investigation. Next, there is a discussion on the different ways of collecting data for the present research. After that, there is a description on the process of data analysis used in this study. Finally, the overall discussion of this chapter is presented in the summary.

#### **3.2 RESEARCH DESIGN**

The selection of an appropriate research design is an important aspect of any research and is influenced by the research problem. Generally, “the research problem, the personal experiences of the researcher and the audience” (Creswell, 2003, p. 21) are the factors that affect the choice of the research design.

In this regard, Blaxter, Hughes & Tight (2006) suggest that the following questions might help to decide on the appropriate design for the study:

- What are the main purposes of the research?
- What is the researcher’s role in the research?
- What are the values that would affect research?

- Can several methodologies be accepted in the research?
- Who are the audience for the research? (p. 62)

Generally, the main factors that might affect the choice of one approach over another include the objectives, researcher's experiences, nature of the problem(s), audience, availability of the resources and facilities, availability of the budget and so on.

Mainly, the use of a mixed method approach (i.e. both quantitative and qualitative approaches) is expanding among the social and human sciences (Creswell, 2003). This is possibly because of the advantages that such an alliance might offer, and the flexibility that easily allows the researcher to collect both numerical data and text data. Creswell (ibid., p. 22) also believes that "A mixed methods design is useful to capture the best of both quantitative and qualitative approaches." He asserts that in order to gain a better understanding of the problem "both closed-ended quantitative data and open-ended qualitative data prove advantages" (ibid.).

To this end, the mixed method design is employed for the present study. Therefore, the teachers' and the ex-students' perceptions towards the coursebook is obtained by using both qualitative and quantitative data. Creswell (2003) introduces six different strategies for mixed methods, i.e. how the qualitative and quantitative method can be mixed. They are: *sequential explanatory strategy*, *sequential exploratory strategy*, *sequential transformative strategy*, *concurrent triangulation strategy*, *concurrent nested strategy* and *concurrent transformative strategy*. The strategy that is used for the present research is *sequential explanatory strategy*. In this strategy, first the quantitative data is collected and analyzed and then it is followed by collecting and analyzing the qualitative data. The research is conducted in two phases and the results are integrated in the interpretation phase of the study. In other words, the qualitative data assists in explaining and interpreting the findings

of the quantitative data (Creswell, 2003). Figure 3.1 illustrates the research design of the present study.

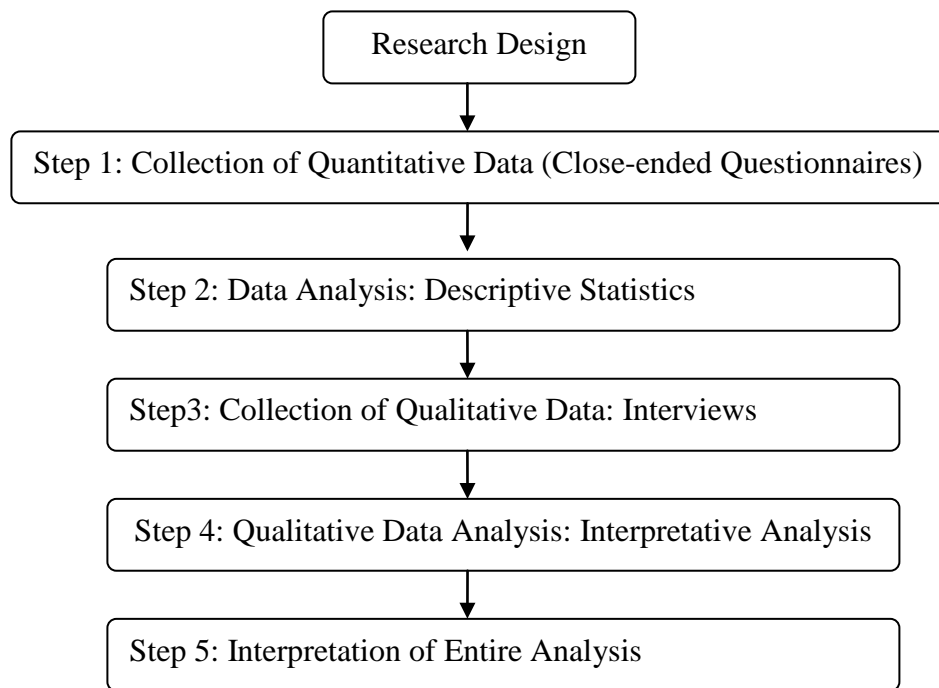


Figure 3.1: Research Design

### 3.3 Conceptual Framework

Determining the conceptual framework of the study is another important feature in conducting a research. It is important because it determines the whole process of what should be done. Creswell (1994, p. 97) emphasizes the significance of an early framework and states that “the researcher advances a tentative conceptual framework in a qualitative study early in the discussion.” Generally, the frameworks can appear in different forms and sizes. To this end, Miles and Huberman (1984, p. 28) maintain that “A conceptual framework explains, either graphically or in narrative form, the main dimensions to be studied  $\hat{=}$  the key factors, or variables  $\hat{=}$  and the presumed relationships among them.” On the whole, a framework creates a working outline in order to focus the research process.

Figure 3.2 illustrates the conceptual framework of the present study. This conceptual framework shows the beginning and ending process of the present research. In the main, this framework consists of different steps which altogether present a whole picture.

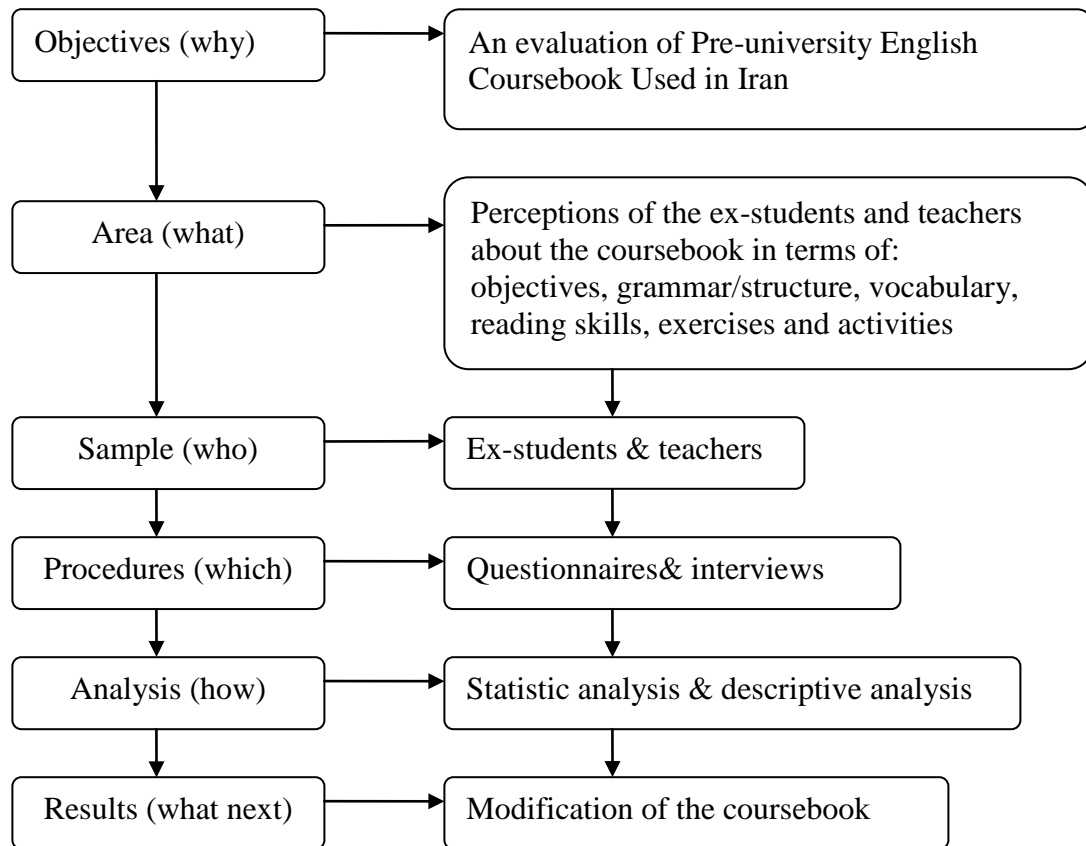


Figure 3.2: Conceptual Framework of the Present Study

### 3.4 SITE OF THE STUDY

There are two sites for the present study: University of Tabriz, Iran and the pre-university centers located in the city of Tabriz. Tabriz is one of the largest cities of Iran situated in the Northeast part of the country. The reason for choosing this university and the pre-university centers in Tabriz city as the site of the present study is the familiarity of the researcher with its setting.

The University of Tabriz is a state run institution established around 1950. It is one of the oldest and highly prestigious institutions in the region. The University of Tabriz has 11 faculties. Every semester, different subjects of study are offered at undergraduate and postgraduate levels in this university. Every year around two thousand five hundred new undergraduate students enter this university after passing the university entrance examination from all over the country. The present research is concerned with the undergraduate freshmen from different faculties.

The second site of the study is the pre-university centers in Tabriz city. As mentioned earlier, pre-university level is offered after the three years of secondary school. However, only those students who want to sit for the university entrance exam have to take and pass the pre-university level. Others receive diplomas. There are both state and private schools for all levels in Iran and there are around 25 state and private pre-university centers in Tabriz city. All the 25 schools are part of the site of this study. Figure 3.3 illustrates the site of the present study.

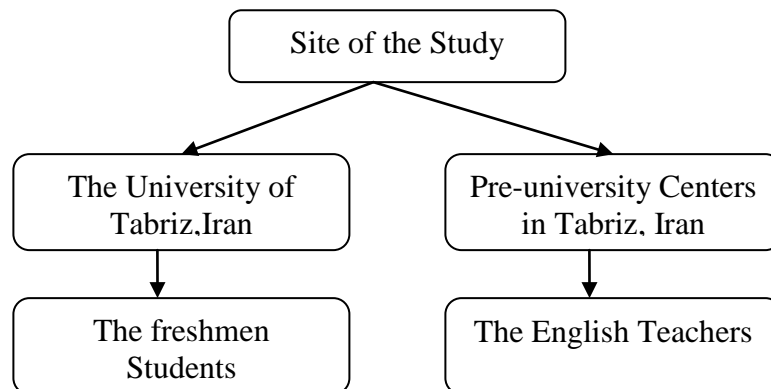


Figure 3.3: The Site of the Study

### 3.5 THE COURSEBOOK

The coursebook under study is the pre-university English coursebook used in Iran. The book is titled *Learning to Read English for Pre-university Students* which is written by a group of Iranian writers. This book is offered alone without any workbook, teacher's book or audio/visual CDs. It is printed on 97 pages consisting of 8 units. It is taught during one schooling year which is officially around 9 months.

### 3.6 PARTICIPANTS OF THE STUDY

Certainly, sampling has a great importance in almost every research. A sample is a finite part of a population whose characteristics are studied in order to gain information about the whole population. A population can be a group of people, objects or items. Whenever human beings are concerned we can refer to the sample as participants.

Studying the whole population is difficult and sometimes even impossible. However, by "using a sample, data can be practically, efficiently, and effectively collected" (Brown, 2001, p. 72). Obviously, choosing a sample saves a great deal of the researcher's time, energy and budget and at the same time speeds up the research processes. Meanwhile, two important factors should be considered in sampling: strategy for sampling and sample size.

There are different strategies of sampling. Generally, they can be categorized into two main groups: *probability* and *non-probability* sampling. Probability sampling can refer to random sampling where each individual in the population has a chance to be selected. Different types of sampling such as *random*, *systematic*, *stratified*, *cluster* sampling are included in probability strategy. On the other hand, non-probability sampling is used when the probability sampling is not possible or is not needed. *Convenience*, *purposive* and

*snowball* sampling are some types of non-probability sampling (Blaxter et al., 2006). In this regard, Cohen, Manion & Morrison (2000, p. 104) assert that the type of strategy that is used in selecting a sample should consider the research purpose, the research time frame and restrictions, data gathering methods, and the research methodology. They conclude that the chosen sampling strategy should be suitable “for all these factors if validity is to be served” (ibid.).

The second crucial point in sampling is the size of the sample. However, there is hardly any agreement among the practitioners about the exact number of participants in a research. Elley (1989, p. 275) acknowledges that “There is, of course, no magic number in making decisions about sample size.” Nevertheless, it is clear that the more subjects included in a study, the more valid and reliable the results will be. To this end, Brown (2001, p. 73) argues that “a large sample is generally more representative of the population than a smaller one.” However, decisions regarding sample size are more or less related to the situation of the study, the size of the population, the type of the research, the purpose of the research, the significance of the results and the types of strategies being used (ibid). Certainly, the sources of the research also have an important role in determining the size of the sample.

There are a few ways of calculating the sample size. For instance, there are different sample size tables offered by different writers that one can use. Also, there are some formulas suggested by different authors. Even some sites in the internet offer sample size calculation. In these cases, by entering the population size the sample size can be obtained. For the use of the present study, the following formula (Yamane, 1967) was used to calculate the sample size of the students to fill out the questionnaire:

$$n = \frac{N}{1 + N (e)^2}$$

Where:      n = sample size  
                 N = population  
                 e = the level of precision

Mathematically speaking, a 95% confidence level and  $\pm 5\%$  precision is the desired amount in estimating the sample size. Therefore, these amounts were also used for calculating the present sample size.

The next two sections describe the two groups of the participants for this study: ex-students and teachers.

### **3.6.1 Ex-students**

As the present study is focused on post-use evaluation, the first group of the participants selected was ex-students who had received their diplomas and entered university after passing the university entrance examination. They were university freshmen at the time of gathering data. They were male and female students around 18 to 20 years old. These students were chosen because they had studied the coursebook under study and could be a good source of information. They were one of the important stakeholders whose perceptions toward the coursebook could assist the present researcher to collect necessary data.

According to the Head Registrar Office of Tabriz University, there were around 2500 freshmen students at the time of the gathering data for the present study. Using Yamane's (1967) formula a sample of 345 students was calculated to fill in the student questionnaire. However, there were 11 faculties in Tabriz University and it was intended to select equal participants from each faculty. Therefore, 32 participants were selected from each faculty which increased the number of the participants from 345 to 352.



Samples were selected by stratified purposive sampling. That is, each faculty offers an EGP (English for General Purposes) course for the whole faculty. The students should take this course during their first or second semester. The students attending the EGP classes were selected to fill in the questionnaires. However, for some students there was a few years delay between finishing their pre-university level and entering the university. In order to make sure that the students have fresh memory about the pre-university English coursebook, it was decided only those students who had finished their high school studies within the previous academic year (at the time of gathering data) to be selected.

As ideally 10 percent of those who fill out the questionnaire should be interviewed, 3 students from each faculty were selected randomly for interview. As a result, 33 ex-students were selected. The two remaining students were selected from the two faculties which had the large number of students. Therefore, 35 students from among those who had filled out the questionnaire were selected.

### **3.6.2 Teachers**

The second group of participants for the present study was the English language teachers who taught at the pre-university level in Tabriz city. It is obvious that teachers are one of the best sources of information about the coursebook. They teach it and have close contact with different types of students. Therefore, they were better informed about the strengths and weaknesses of the coursebook. It was believed that their insights and opinions were of considerable benefit to the present study.

The number of the pre-university centers in Tabriz city was limited and a limited number of English language teachers were teaching there. Therefore, there was no sampling for the teachers in filling out the questionnaire. To this end, a total of 52 questionnaires

were handed over to all the English teachers at pre-university centers. However, only 32 questionnaires were completed and returned. These participants were both male and female, who had either BA or MA in English Language.

In order to be interviewed, four teachers were selected from among those who had filled out the questionnaires. They were selected based on their experience and qualifications, i.e. those who had more than 15 years teaching experience and had M.A. degree.

Table 3.1: Participants answering the questionnaires

Participants	No. of participants	Type of sampling
Teachers	32	No Sampling
Ex-students	352	Stratified Purposive

Table 3.2: Participants interviewed

Participants	No. of interviewees	Type of sampling
Teachers	4	Purposive
Ex-students	35	Stratified Random

### 3.7 RESEARCH INSTRUMENTS

Another important issue in conducting a research is selecting the appropriate research instruments. Basically, there are various procedures of collecting data. The selection of the instruments depends on the type of the research, the research questions, the availability of facilities, the data one is looking for and the information one is expecting to find out. The instruments used in this research consist of closed-ended questionnaires and interviews. These different ways of gathering information can complement each other and provide more in depth understanding of the data. In the main, the quantitative data were

obtained through closed-ended questionnaires and the qualitative data through interviews. The next two sections discuss them in detail.

### **3.7.1 Questionnaires**

Questionnaires are one of the primary sources of obtaining data from a large number of people in a limited period of time. Questionnaires that are effectively designed have many advantages. The following are some of advantages of the questionnaires (Seliger & Shohamy, 1989; Nunan, 1999c; Gillham, 2000; Brown, 2001):

- A great deal of information can be collected simultaneously from many participants.
- They can be distributed to a large number of people.
- Participants can provide a great deal of information when they do not have to write their names.
- Closed-ended questionnaires can easily be analyzed in a straightforward way.
- The cost of administering them is rather low.

On the other hand, questionnaires have some disadvantages which should be kept in mind whenever and wherever they are used (Gillham, 2000; Brown, 2001):

- Sometimes the answers are inaccurate and questionable.
- There is usually a low return rate when sent by post or email.
- Ambiguity and unclearness of some questions might lead to inaccurate and unrelated responses.
- Some questions may cause misunderstanding.
- Wording of the questions might affect the respondents' responses.

However, by using some strategies, taking care and detailed planning these disadvantages can be minimized. Some of these strategies which were used in the present study are discussed in sections 3.8.1.1 and 3.8.1.2.

The present study made use of closed-ended questions in its questionnaires. The items of the questionnaires were developed based on the research objectives and research questions. The criteria for evaluation, selected from theory and practice in the field of material evaluation, were also considered in developing the present questionnaires. Moreover, the researcher tried to investigate some other relevant research studies in the field and obtain some relevant ideas in order to develop the present questionnaire (e.g. Litz, 2005; Tekir & Arikan, 2007). Furthermore, the questionnaire items were developed based on discussion with the researcher's supervisor and another researcher in the field. After that, the student questionnaire was administered to 5 ex-students for piloting. There were some useful opinions that helped the researcher to improve the questionnaire. It was suggested that the lay out of the questionnaire was not appropriate and made answering the questions difficult. Therefore, the physical appearance of the questionnaire was changed. Furthermore, the answers for most of the questions were circled on a Likert scale. It was suggested that for some questions, the scale was not very suitable. Therefore, the answers for some of the questions were changed. Moreover, it was suggested that two of the questions were not clear enough. Thus, they were replaced by another two other questions. After making the necessary changes based on the pilot study, it was presented to the supervisor of the present study to be approved.

Meanwhile, the teacher questionnaire was developed based on the student questionnaire. After piloting the student questionnaire and making necessary changes, one experienced teacher who had more than 20 years experience in teaching the English

language in high schools was asked to fill out the teacher questionnaire and give his viewpoints on it. After minor changes to the teacher questionnaire, it was finalized and administered to the whole sample.

The following table depicts the sections, questions, question numbers, number of items and contents of the questionnaires for students and teachers. For complete information on questionnaires please refer to Appendices **C** and **D**.

Table 3.3: Contents of Questionnaires for Ex-students and Teachers

Section	Question No.	No. Of Items	Contents
A	-	Teachers8/ Students 6	Background Information
B	1-5	5	Objectives
C	6-13	8	Grammar/Structure
D	14-24	11	Vocabulary
E	25-31	7	Reading Skills
F	32-36	5	Subject Matter/Topics
G	37-48	12	Exercises and Activities
Total		48	

### 3.7.2 Interviews

The second instrument used for collecting data in the present study was the interview. Burns (1999, p. 118) contends that “Interviews are a popular and widely used means of collecting qualitative data.” Interviewing is a key to understand what and how people perceive and “interpret the world around them” (Merriam, 1998, p. 72). At this juncture, Flick (2006, p. 160) adds that the purpose of interview “is to reveal existing

knowledge in a way that can be expressed in the form of answers and so become accessible to interpretation.”

Like questionnaires, interviews enjoy some advantages and disadvantages. On the whole, Johnson and Turner (2003) list the strengths and weaknesses of interviews as follows:

Strengths:

- Good for measuring attitudes.
- Allow probing by the interviewer.
- Can provide in-depth information.
- Allow good interpretative validity.
- Moderately high measurement validity for well-constructed and well-tested interview protocols.
- Relatively high response rates often attainable.
- Useful for exploration and confirmation.

Weaknesses:

- In-person interviews expensive and time-consuming.
- Perceived anonymity by respondents possibly low.
- Data analysis sometimes time-consuming for open-ended items. (p. 308)

The important issue in any interview encounter is the type of the questions that are asked. The interviewer can prepare questions according to the focus of the study. In order to obtain more relevant data from the interviewee, the researcher ought to ask good and relevant questions.

By and large, after obtaining data through questionnaires, the present researcher attempted to gain more information through interviews. The interviews in this study were conducted according to a semi-structured format. The interview questions were constructed based on the research objectives and research questions. The questions tried to gain more

relevant information to triangulate the data. However, the questions were general ones and there was sufficient room for the interviewees to express their viewpoints in detail and to provide any other related information. The interviewees consisted of ex-students and teachers. Please refer to Appendices **E** and **F** for sample interview questions of the present study.

### **3.8 DATA COLLECTION**

Data collection is a phase in the research cycle in which different types of information are gathered through different sources. Richards and Schmidt (2002, p. 142) believe that data are a collection of “information, evidence or facts” that are gathered in order to gain a “better understanding of a phenomenon.” According to Creswell (2003) the researchers need to be clear and specific about the type of data that they collect, i.e. qualitative or quantitative or both. It goes without saying that this decision mainly depends on the purpose of the study and the research design.

For the present study, both qualitative and quantitative data were collected through interviews and questionnaires. Figure 3.4 shows how data were collected in this study.

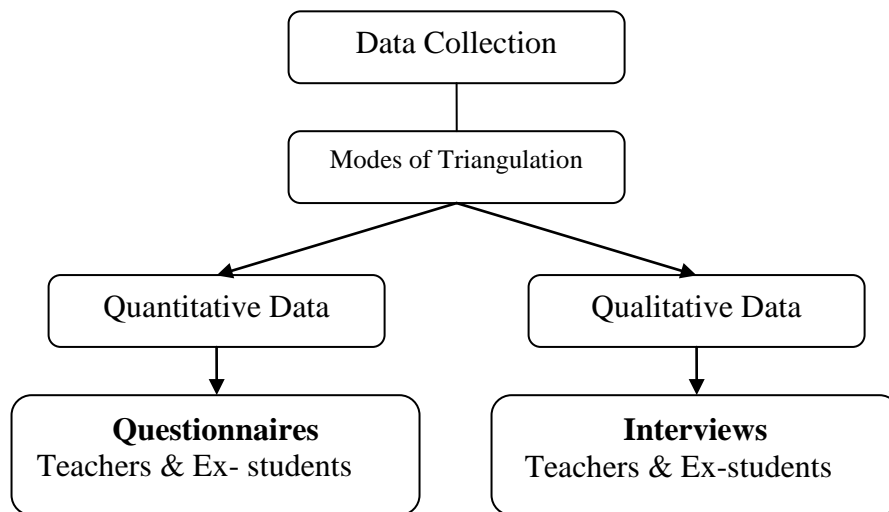


Figure 3.4: Data Collection

The following two sections explore the data collection procedures in detail.

### 3.8.1 Administering the questionnaires

The first type of data was collected through questionnaires. As mentioned earlier, two types of questionnaires were prepared: one for teachers and one for ex-students. As discussed in section 3.7.1, both questionnaires were piloted first. After making the necessary changes the final copies were administered to the samples.

#### 3.8.1.1 Administering Ex-student Questionnaire

The first type of questionnaire was administered to ex-students. As mentioned earlier they were university freshmen at the time of gathering data. When the students enter the university, they should take the EGP (English for General Purposes) course during the first or second semester. Thus, each faculty offers an EGP class for the whole faculty. In order to eliminate low return rate, it was decided to administer the ex-student questionnaire in person during the EGP classes.



This phase of data collection was done over a period of ten days (morning to evening). The researcher attended the EGP classes in all the 11 faculties at the University of Tabriz in person. In order not to interrupt the entire class time the questionnaires were administered either at the beginning of the class or at the end of it. Before administering the questionnaires, a complete explanation was given about the aim of the research, the questionnaire and how they should be answered. Furthermore, in order to eliminate possible ambiguity in some questions and probable misunderstanding of some items, the researcher read the questions one by one and translated them into Persian and explained them to the students. This also decreased the number of possible unanswered items. The researcher was also accompanied by the EGP instructors who attended the classes to answer the possible questions that the students had. It took about one hour to fill out the questionnaires, and then all the questionnaires were collected.

### **3.8.1.2 Administering Teacher Questionnaire**

The questionnaire for the teachers was handed over directly by the researcher at the schools they were teaching. They were given complete information about the aim of the study and were assured that the results would be used for this research and their views would be kept completely confidential. A contact number and e-mail address were given to them and they were asked to contact the researcher if they had any questions regarding the questionnaire. After one week, the questionnaires were collected at the schools in which they were teaching.

### **3.8.2 Conducting the Interviews**

The second type of data was collected through interviews. Like questionnaires, two types of participants were selected for interviews, the ex-students and the teachers.

### **3.8.2.1 Conducting Ex-student Interviews**

Three students from each faculty were selected for the interview. They were selected from among those students who filled out the questionnaire. After contacting the students and making an appointment, the researcher met them at the University of Tabriz one by one. The interviews were conducted in classrooms or dormitories. The interviews started with a few general questions in order to create an informal and friendly atmosphere. During the interview process, it was realized that most of the interviewees could hardly answer the questions in English. Therefore, it was decided that the interviews to be conducted in Persian language. It was then noticed that the students felt completely relieved and could express themselves freely. Their answers were checked against their responses in the questionnaire. During the interviews each question was reformulated a few times in order to make sure the given answers were the ones that the interviewees really meant. Each interview took between 45-60 minutes because the researcher tried to keep it informal and friendly. The interviews were tape recorded in order to be interpreted and analyzed later.

### **3.8.2.2 Conducting Teacher Interviews**

The second group of interviewees was the teachers. After their selection, an appointment was made with them and they were met at their schools. The interviews were conducted in the Azari or Persian language in order to make it easier for the teachers to communicate. These interviews also took around 45 to 60 minutes. The interviews were tape recorded in order to be interpreted and analyzed later.

### 3.9 DATA ANALYSIS

Certainly data analysis is one of the demanding phases of any research process. If the researcher does not take adequate precautions, he/she may not be able to properly analyze the data and consequently interpret them. To this end, Lynch (1996) argues that the primary step in the data analysis process is to focus on the research. That is, the researcher needs to focus on key research questions that should be answered. The next sections discuss the analysis of the quantitative and qualitative data of the present study.

The present research used both quantitative and qualitative data in its study. The numerical data came from the closed-ended questionnaires and the qualitative data from interviews. Figure 3.5 illustrates the data analysis procedures:

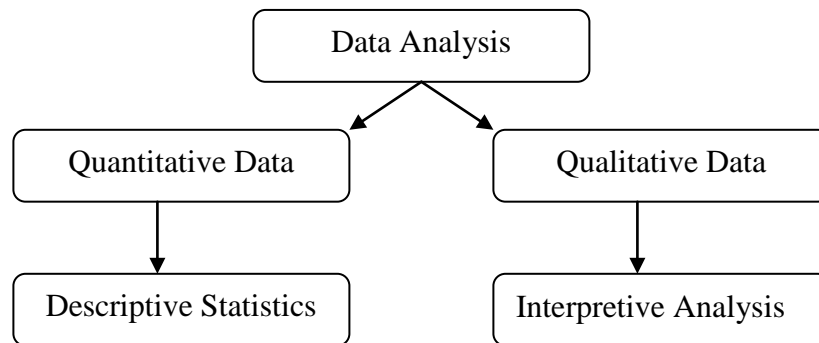


Figure 3.5: Data Analysis

#### 3.9.1 Analyzing Questionnaires

The quantitative data were analyzed through descriptive statistics. All the items in the questionnaires were analyzed using The Statistical Packages for Social Sciences (SPSS) version 11.5 except for the first item in the objective part where the respondents could choose more than one answer. This item was analyzed manually. Frequencies and

percentages for each question were computed. This information was displayed in appropriate tables in order to make their interpretations more understandable and easier.

### **3.9.2 Analyzing Interviews**

The qualitative data which came from interviews were analyzed descriptively through thematic analysis. That is, they were organized, categorized, coded, reduced, summarized, synthesized, interpreted and finally reported. Creswell (2003) suggests six steps in analyzing qualitative data. According to him the researcher should:

- 1- organize and arrange the data for analysis,
- 2- read all the data,
- 3- analyze and code the data,
- 4- create categories, themes and patterns for analysis,
- 5- think of ways of representing themes,
- 6- interpret and make sense of data.

The data from interviews in the present study were first transcribed. Then, the researcher tried to find some “patterns, categories, or themes” (Creswell, 1994, p.154). After that the data were reduced to relevant patterns according to the research questions and objectives. After reducing the data, they were coded. Next, the units of analysis were scored and counted. Then, the interpreted data were checked by another researcher. Finally, the data were displayed.

Figure 3.6 adapted from Che Ton Mahmud (2005) illustrates the steps in the interview analysis.

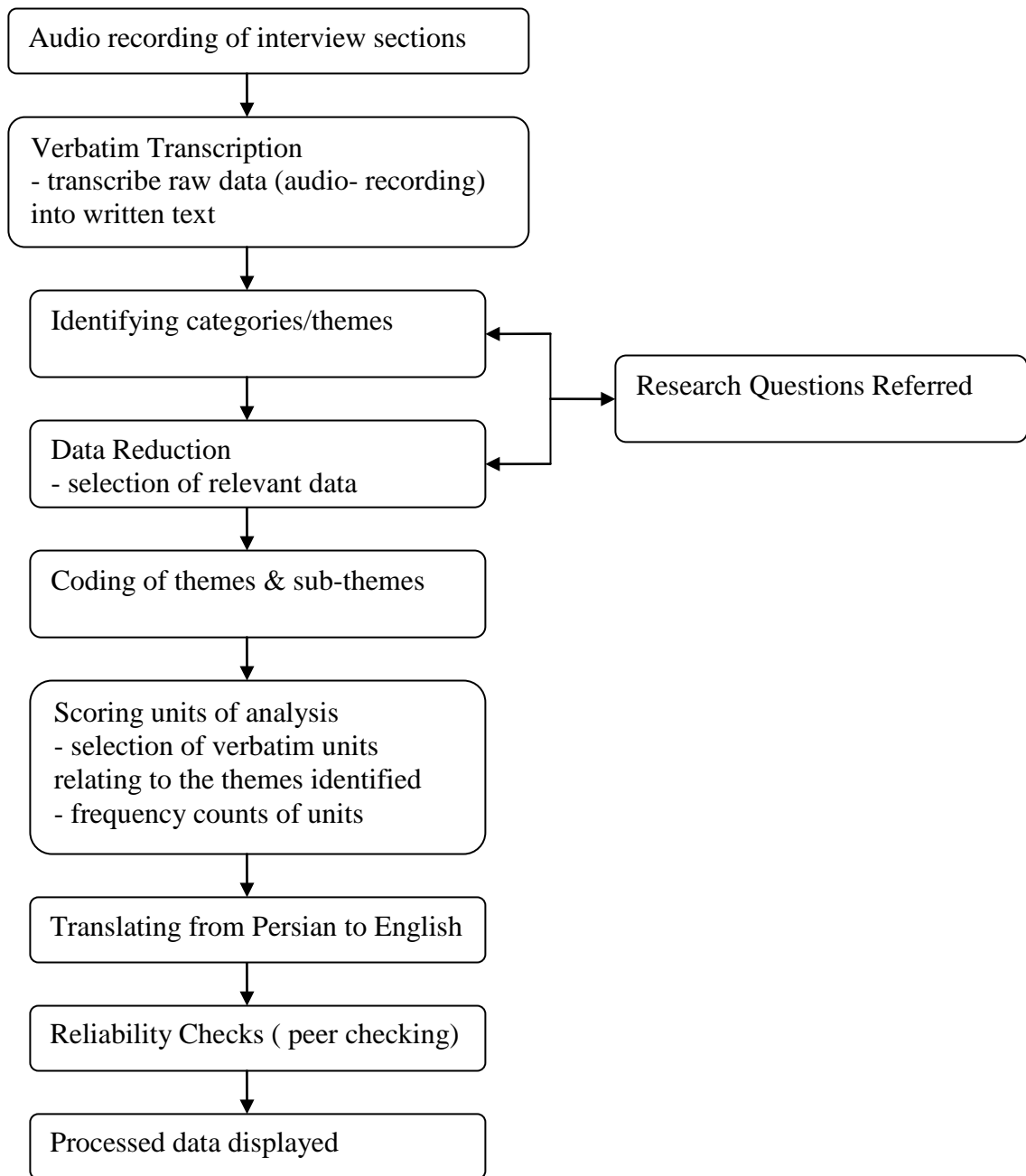


Figure 3.6: Analysis of Interview Data  
Adapted from: Che Ton Mahmud (2005)

### 3.10 SUMMARY

This chapter introduced the design and methodology of the present study. A mixed method design using both qualitative and quantitative method was used in order to obtain data that was more comprehensive and in-depth. Then, the conceptual framework of the

study was discussed. Next, there was a brief discussion on the site and context of this investigation, i.e. the University of Tabriz and Pre-university centers in Tabriz, Iran. Then, the participants of this exploration, namely teachers and ex-students, were introduced and described. There was also a discussion on the process of gathering data: this study used two key procedures to collect data: questionnaires and interviews. Finally, data analysis methods and procedures were described.

The next chapter discusses the results of the data analysis and findings in detail.