CHAPTER FIVE

METHODOLOGY OF RESEARCH

This Study was carried out in the University of Khartoum (Sudan) with the main objectives of evaluating the English Program currently taught as a "University Requirement". The research questions focused on assessing participants' perceptions toward the different components of the Program, which included objectives, syllabus, materials, students level of language proficiency, orientations of students, perceptions about the role of Arabic and English in the University, administrative aspects of the program and the frequency of students reference to Arabic and English sources of information. The answers for these questions would help see whether the Program meets the type of needs that has emerged after the introduction of Arabic as a medium of instruction in the University. As such the research methodology would rely heavily on methods followed in the evaluation research.

This chapter explains the methodology followed to conduct this research. The information needed was elicited through three types of instruments: questionnaires, an interview and analysis of three documents. The subtopics are as follows: the theoretical framework, sample of the study, sampling procedure, instruments of data elicitation, measurement of variables, data collection procedure and data analysis techniques.

5.1 THEORETICAL FRAMEWORK

Following the steps suggested in Lynch's (1990) Context-Adaptive Model for Course Evaluation (Figure 5.1), the primary audience of this evaluation is the Administration of University Requirements, the Instructors involved in teaching English under that
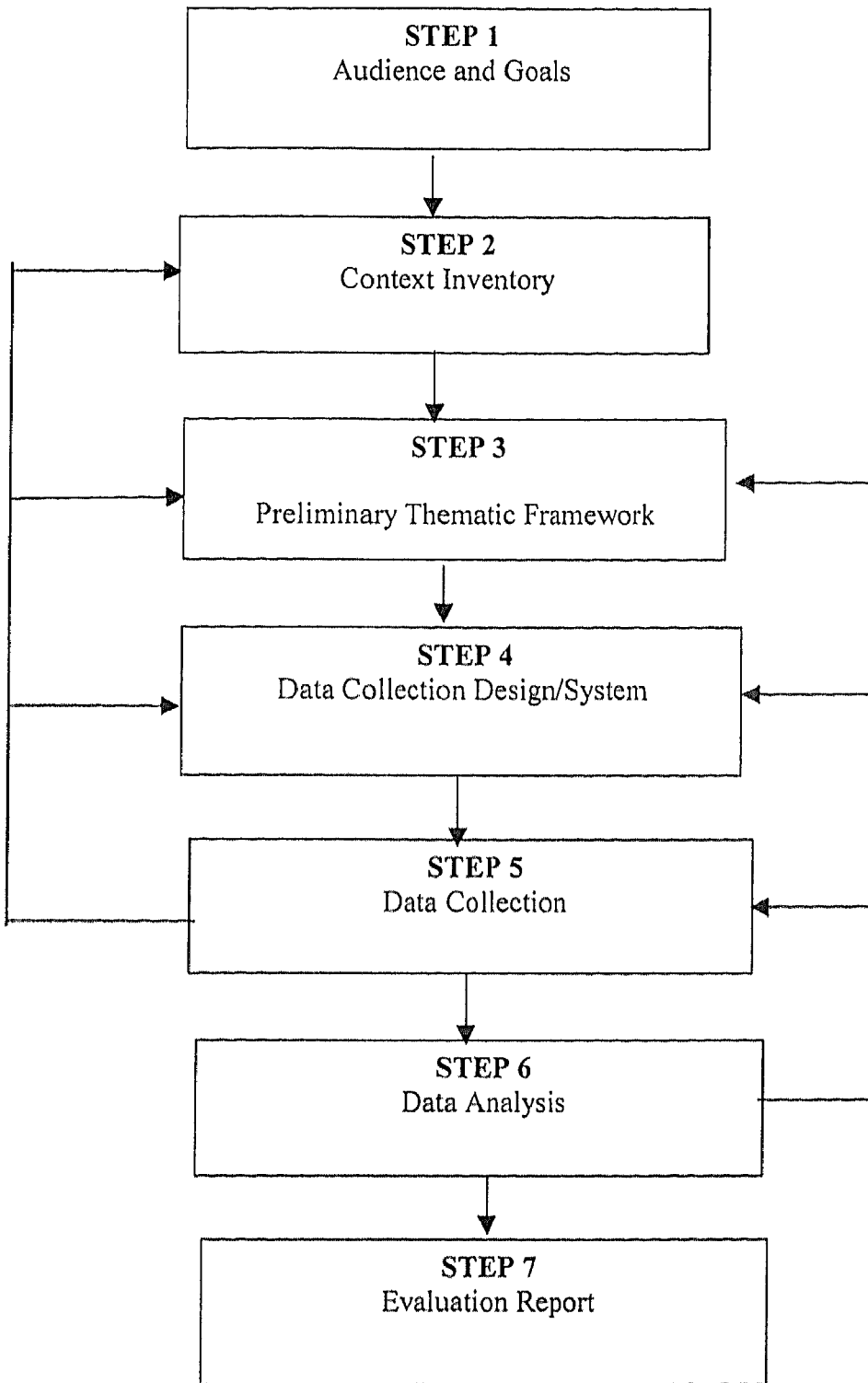
```
        ┌─────────────────────────┐
        │         STEP 1          │
        │    Audience and Goals   │
        └─────────────────────────┘
                    │
                    ▼
        ┌─────────────────────────┐
        │         STEP 2          │
        │    Context Inventory    │
        └─────────────────────────┘
                    │
                    ▼
        ┌───────────────────────────────┐
        │            STEP 3             │
        │                               │
        │ Preliminary Thematic Framework│
        └───────────────────────────────┘
                    │
                    ▼
        ┌───────────────────────────────┐
        │            STEP 4             │
        │ Data Collection Design/System │
        └───────────────────────────────┘
                    │
                    ▼
        ┌───────────────────────────────┐
        │            STEP 5             │
        │        Data Collection        │
        └───────────────────────────────┘
                    │
                    ▼
        ┌───────────────────────────────┐
        │            STEP 6             │
        │         Data Analysis         │
        └───────────────────────────────┘
                    │
                    ▼
        ┌───────────────────────────────┐
        │            STEP 7             │
        │       Evaluation Report       │
        └───────────────────────────────┘
```

Figure 5.1: The Context-Adaptive Model for Program Evaluation (Adopted from Lynch 1990:25)

Administration, subject lecturers and the students at University of Khartoum. The goal of this process evaluation is to make recommendation for improving the English Program currently taught at the University.

As for the second step of context inventory, six of the eleven dimensions suggested by Lynch were found relevant for the purpose of this study. They are,

1. The timing of the evaluation

2. The Program students

3. The program staff

4. The size and intensity of the program

5. The Instructional Materials and Resources available to the program

6. The purpose and objectives of the Program

For the purpose of this study, the following dimensions were added to the above inventory.

7. The Program Syllabus

8. Students language Proficiency

9. Students and teachers' perceptions about the use of English and Arabic as mediums of instruction

10. Planning and Needs Analysis

11. Funding

12. Language skills most needed by students and skills most focused in the program.

13. Students' orientations for studying English

14. Use of English and Arabic for academic purposes in the University.

5.2 CONCEPTUALIZATION OF THE PROGRAM

As suggested in Lynch (1990), a preliminary thematic framework should be created to provide a conceptualization of the program in term of the salient issues and themes that

have emerged from the determination of audience and goals and the elaboration of the context inventory. Following is a thematic framework developed for the English Language program at the University of Khartoum.

1. The effect of lack of planning and needs analysis before conducting the program

2. The effect of focusing instruction on the four language skills

3. The feasibility of focusing instruction on reading skills only

4. Feasibility of using English versus Arabic for instruction

5. Effect of using authentic materials

6. Effect of class size on instruction

7. Feasibility of using Content-Based Approach

8. Level of students' proficiency in English

The questions that emerged from the identification of evaluation audience and goals, context inventory and preliminary thematic framework suggested that both qualitative and quantitative methods of data collection are needed. Questionnaires, interviews and documents analyses were found most suitable for the purpose of this study.

5.3 POPULATION AND SAMPLES

The Sample of this study is taken from the population of University of Khartoum. It consists of three groups: the first group consists of students, the second group of English Language instructors and the third group includes faculty members (staff) who teach subjects other than English at the University.

5.4 SAMPLING FRAME AND STUDY POPULATION

5.4.1 The students' group

This group comprises 250 undergraduate students enrolled in the Faculties of Arts and Science, University of Khartoum (Sudan). They were in their second, third, fourth or

fifth year of study (as of Second Semester, 2000/2001). The freshmen in the first year were excluded because it was considered too early for them to respond to the questions posed by this research. In the Faculty of Arts, the following departments were also excluded from the sample group, because the Arabicization Policy did not affect the language of instruction in these departments. These are, Arabic language, English Language, French Language, Russian Language, Chinese Language, German Language and Islamic Studies.

Only students majoring in the following departments were included: Geography, History, Linguistics, Archeology, Communication, Information and Library Sciences, Psychology and Philosophy.

As for the Faculty of Science all the departments were represented, including the Departments of Botany, Zoology, Chemistry, Physics, Biology and Mathematics.

5.4.2 The English Language Instructors group

As the number of staff falling on the category of instructors is small, it was possible to question the entire group available at the time the study was carried out. Based on that, the instructors' group included all the available population of lecturers, teaching assistants and instructors who were involved in teaching English as a University Requirement in all Faculties of the University at the time the research was conducted. This group would be referred to as English teachers or simply instructors. All Instructors are under a body called the Administration of University Requirement. which is the body responsible for running the English Program. Each instructor teaches in more than one Faculty, so they are not necessarily teaching in the Faculties of Arts and Science only. For the purpose of this research, this could be considered as an advantage since their responses will give a comprehensive idea about the situation of

English all over the University. In 2001 there were fifteen English Language Instructors in service, 9 of them participated in this study.

5.4.3 The Faculty Members group

This group consists of lecturers and professors who teach subjects other than English in the faculties of Arts and Science. The sample of this group was selected from among the lecturers who were teaching the students groups mentioned above. Therefore, all the lecturers from the excluded departments were also excluded from this selection; together with those who were not teaching the students sample group.

5.5 SAMPLING PROCEDURE

As Babbie (1989) defines it, sampling is the process of selecting observations. Probability techniques, which include random sampling, allow researchers to make relatively fewer observations to a wider population. Random selection means that each member of the study population has an equal chance to be selected. By sampling, researchers are able to collect information from a population that is large or so widely scattered as to make it impractical to observe all the individuals in the population.

Through the process of stratified sampling we managed to select units from the students' population so that every unit has exactly the same chance or probability of being included in the sample. We tried to ensure that the aggregate characteristics of the sample closely approximate those same aggregate characteristics in the population of students in the University so that we achieve a representative sample of the population.

5.5.1 Procedures for selecting the students' sample

The sample of the first group (the students) comprised 250 students out of a population of 1,500 students enrolled in the undergraduate programs in the Faculties of Arts and Science, University of Khartoum, Sudan, during the last semester of the academic year 2000/2001. 130 students were selected from the Faculty of Arts and 120 students from the Faculty of Science. All measures were taken to ensure that the sample is a representative one, and carries all the important characteristics of the population.

The process of exclusion includes all postgraduate students, diploma students, part-time students, all freshmen, all students majoring in departments not affected by Arabicization Policy and undergraduate students who were not registering for that semester or temporary dismissed from the University (external students).

The sample selected represents around 17% of the population. For the purpose of this study this percentage of sample size was considered adequate.

The students' sample was selected using a combination of stratified sampling and simple random procedures whereby the names of Departments were randomly selected from a list of departments under the Faculties of Arts and Science. The primary sampling units were selected at this first stage. Then the students' sample was selected from members in these units. In this second stage the secondary sampling units were selected.

The advantage of this type of probability sampling is that the sampling frame need be composed only of all the large units. Other advantage of using stratified sampling is its efficiency in data collection, its reduction for travel cost and time necessary to collect the data.

To select the sample, first of all, the names of all Departments in the two Faculties were obtained. The process of exclusion was done during this stage. Students' year of study

156

was used to stratify students in each Department. Since the freshmen were excluded the study dealt only with students in the second, third, fourth and fifth year (fifth year is for honors students only). There were 45 classes in total. Each of these classes was considered a primary unit of selection in our sampling. The names of all class were listed down then 11 classes were randomly selected. The random selection was adopted so that the sample should be representative and the error bound can be measured.

The sample of primary units selected represents almost 25% of the total number of classes, which gives a reasonable sample size.

The Academic Offices in the Faculties of Arts and Sciences were contacted to provide the full lists of names of the students in the classes selected and names of their lecturers. Every student in the list was assigned a unique number and the Table of Random Numbers in Babbie (1995) was used to select a sample of 250 students. Further breakdown of the secondary sample units showed that 16.4% came from the second year, 47.8% from the third year, and 19.6% from the fourth year and 11.3 from the fifth year.

5.5.2 Selecting the English Instructors' Sample

The sample for the English Language instructors was drawn from a population of fifteen lecturers and teaching assistants teaching English as a University Requirement for the entire university. All the fifteen were not available when the study was conducted. Only 9 of them received and returned the questionnaires. This number represents 60% of the total population of instructors.

5.5.3 Selecting the Subject Lecturers' sample

The subject lecturers' sample was selected from among the lecturers who were teaching the same students' groups that were selected earlier. Hence, all faculty members whose

Departments were excluded were also excluded. With each group of students a subject lecturer was selected. The total number in this sample group was 15 lecturers and professors.

	Sample group	Number of Questionnaire Distributed	Number of Questionnaire Returned
1	Students: Faculty of Arts	130	110
2	Students: Faculty of Sciences	120	94
3	English Instructors	9	9
4	Subject Lecturers	15	15

Table 5.1: Number of questionnaires distributed and the percentage of return rate

5.6 DESCRIPTION OF DATA GATHERING TECHNIQUES

5.6.1 SURVEY QUESTIONNAIRE

The main instrument used in the present study was a survey questionnaire, which was structured and could be self-administered. The structured questionnaire was chosen because it enabled the researcher to collect data from a relatively large number of respondents given the time and economic constraints. Structured Questionnaires are also flexible since many questions may be asked on a given topic, allowing flexibility in the analysis (Babbie 1989). A questionnaire was also selected because it is widely recognized as a standard method of collecting information in social research and because it would help to generate information in a systematic fashion by presenting all informants with questions in similar manner, and recording their responses in a methodological way. Another justification for using questionnaires is the assumption that, if all respondents are asked the same questions in the same manner and if they express a difference in opinion in reply to those questions, then these variations are a

result of true differences of opinion, rather than a result of how the question was asked or the context of the interview.

For the purpose of this study, three different sets of questionnaires were designed to elicit information from the three groups of subjects. The first questionnaire was for the students; it was originally prepared in English, but then translated into Arabic to ensure that the subjects fully understand the contents of the questionnaire. The translation was done by the researcher and revised by a colleague who specialized in translation to ensure the authenticity of the translation. The Arabic version was then piloted to a group of 30 students. The other two questionnaires were designed for English Instructors and Subject lecturers. Both were prepared and distributed in the original English version.

5.6.1.1. The Students' Questionnaire

In constructing the students' questionnaire (see Appendix A for the English version), we referred to questionnaires used in previous research. In parts of the questionnaire we made use of Zaghoul (1985) and Al Busairi (1991). Some questions were directly taken from the questionnaire they used. The other part was constructed by the researcher to cover all areas need to be investigated in this study.

The questionnaire was originally written in English language, then translated into the Arabic language by the researcher. There are reasons for the translation of questionnaire into Arabic. First, it has been widely circulated that the standard of English language proficiency has dropped very sharply in the University of Khartoum during the past 10 years due to the change in medium of instruction. Second, Arabic is the mother tongue of the students, so it was assumed that the students would understand the questions better in that language, this step is expected to produce a more valid and reliable response. Another person proficient in translation checked the translated version to

ensure that what appears in the Arabic version is what is meant in the original questionnaire written in English. (See Appendix **B** for the Arabic version).

The students' questionnaire was designed to elicit information on the following areas,

1. Demographic information

2. Self-assessment to the student's abilities in English language

3. Purposes for which students need the English Language (orientation)

4. Preference of English versus Arabic language as a medium of instruction

5. Evaluation for the current English Language program offered by the University in term of planning, objectives, materials, syllabus, funding, administration, effect of program on students, class size, students attendance and language skills most focused upon in the program.

6. Uses of the English Language in the Academic life after Arabicization.

Based on the areas in need of investigation, the students' questionnaire was divided into six sections. Following is a description of each of these sections.

Section A of the students' questionnaire was designed to elicit demographic information about the students using the following four variables.

1. The faculty in which the student is enrolled

2. The department to which he/she is affiliated

3. The specialization of the student

4. The academic year of the student

Section B was designed to give information on how the students project their standards with regard to the level of proficiency in English Language.

Section C of the questionnaire was dedicated to eliciting information on the purposes for which the students need the English Language, or their orientation for studying the language. It was also intended to elicit data on the type of motivations that push the students to study the English Language, and see whether they were motivated instrumentally or integratively.

Section D consists of items prepared to extract information regarding the current English Language Program offered by the University. It was hoped that this section would give an idea about how the students would evaluate the Program.

As such statements presented covered areas such as, the number of weekly instructional hours dedicated for English, the skills emphasized on the Program, the students commitment to attending the English classes, and the extent of their benefit from the Program.

Section E contains three questions on the perception of the Students towards the Arabicisation Policy and the use of English as a medium of instruction. It is meant to provide an overview of students' preference of medium of instruction. A support for English as a medium would mean a source of motivation for learning the language.

This last section was devoted to investigate the uses of English and Arabic Languages for Academic purposes, as students prepare for exams and tests, or when they write term papers. The students were asked about the type of resources they refer to when preparing for these academic activities. They were asked to choose among sources such as, lecture notes, handouts, Textbooks in Arabic/English, reference books in Arabic/English, and periodical journals in Arabic/English.

5.6.1.2 The English Language Instructors' Questionnaire

The Instructors' questionnaire was written in English, and as the subjects were English teachers the researcher felt there was no necessity to translate it (see appendix C). This questionnaire consists of five sections.

Section A was meant to elicit demographic information about the background of the instructors. This included their experience, qualifications, training etc.

Section B runs parallel to section B in the students' questionnaire. It deals with assessing students' abilities in the English Language. The objective of this section is to look at the instructors' assessment and compare it to the students' judgment for their abilities in the same language skills.

Section C also follows the same set of statements presented to the students in section C of their questionnaire. The objective was to assess and analyze the need for the English language from the viewpoint of the instructors, and later on check whether the teachers are teaching the language according to what students want.

Section D is also an evaluation of the current English program. Some statements presented here were shared with the students' questionnaire while others appeared only in the instructors' version. The extra statements here were added to investigate areas of relevance to the teachers only. They cover issues such as objectives, planning, textbooks, funding and administration.

The last section contains statements on the perception of the English instructors towards the English language and the Arabicisation program in the University.

5.6.1.3 Subject lecturers Questionnaire

This questionnaire was also written and distributed in English (See appendix **D**) . It has five sections that could be described as follows,

The first section was designed to elicit demographic information about the background of the specialized subject lecturers. The information required includes, faculty, department, number of courses the lecturer is teaching during that semester.

Section B was meant to investigate the students' level of proficiency in the English language. The statements presented here ran parallel to those in the students' and instructors' questionnaires.

Section C includes statements written to obtain information about the lecturers' preference and perception about the use of Arabic or English as mediums of instruction in the University.

Section D in the lecturers' questionnaire poses the same statement put in section (F) of the students' questionnaire. It dealt with language use for academic purposes in the University. It was meant to judge the extent to which lecturers demanded and assigned reading in English for their students.

5.6.2 THE INTERVIEW

Other means of data collection used here included one structured interview and an analysis of three documents.

Two lecturers, were selected for the interview, the first is Dr. Ludu W. Pettai, who is one of the most senior staff in the English Program. He is veteran who served under ELSU, teaching scientific English in the Faculty of Science. He was the head ELSU until it was dissolved in 1994. Now he is teaching English as a University Requirement

at the Faculties of Law and Engineering in the University of Khartoum. A set of questions was prepared for a structured interview with him. He was informed ahead of time about the objectives of the study and was given a copy of the questions. An appointment was made with him and his answers were taken in writing. The other interview was conducted with Dr. Hamouda, the current Head of English Department at the Administration of University Requirement (2001).

5.6.3 THE DOCUMENTS

There are three documents that were analyzed for the purpose of this study, the Four-year Syllabus, the Two-year Syllabus and the Framework for Course-book Design (Appendix E). Ironically, we could not obtain any of these documents from the English Department, simply because they do not have them in their files or they might have mis-located them. We had to get one of the syllabuses from one of the instructors and the other two documents from the office of the Dean of Administration of University Requirements.

5.7 MEASUREMENT OF VARIABLES

All the three questionnaires attempted to measure the variable of the level of proficiency in English Language skills. A proficiency in a skill was operationalized as the ability to use that skill fluently and easily in communicating and/or understanding oral or written messages. Two items were designed to measure this variable. In one item subjects were asked to rate students on each of the four language skills (listening, reading, speaking and writing). They were provided with a five-point scale ranging from "very good" to "very week" to record their responses. On the other item, subjects were asked to respond to a statement that read, "My abilities in English Language is enough for me to study

my subject of specialization in that language". They were provided with a five-point Likert scale ranging from "strongly agree" to "strongly disagree".

Students' orientation was operationalized as reasons for studying the language. They could either be instrumentally oriented, if they prefer utilitarian use of the language, or integratively oriented if they choose to use the language for purposes of integration in the native language culture and community. Four items were prepared to measure the four language skills. This variable was measured through students and instructors' questionnaires only. On each item subjects were asked to rank the uses for each skill according to importance. They were presented with a Thurstone-like scale with indices of four to six points.

The evaluation of the English program involves the systematic investigation of program's efficiency and effectiveness and its ability to satisfy students and instructors. The English Program was evaluated through measuring subjects responses to program on areas such as planning, objectives, materials, syllabus, funding, administration, effect of program on students, class size, students attendance, language skills most focused in the program. Planning was defined as the steps such as needs analysis surveys, interviews, and research papers etc., taken by the University in preparation for new English program before implementation. Objectives refer to objectives clearly stated and hoped to be achieved by teaching English in the University, while materials refer to textbooks and compiled materials or tailored materials used by instructors in teaching their students. The syllabus is defined as the official document that lists down the objectives and items to be taught in a course, it also includes the assessment criteria. Funding of the program refers to budgets allocated to develop the program in terms of its materials, teaching facilities, evaluation etc. This does not include teachers' salaries and offices. Administration here refers to the administrative status of the English program. It measures instructors' preference for keeping English, alongside other

subjects such as computers kills and Sudanese Studies, under one administration. The effect of English Program was defined as its usefulness and benefit to students. Class size refers to the number of students taught by an individual instructor in a single session. Class attendance refers to the time students are present in the English class according to schedule. Skill most focused refers to the language skill (listening, reading, speaking and writing) on which instructors focus the most in their teaching in class.

Each of these variables was measured through a five-point Likert scale that ranges from "strongly agree" to "strongly disagree". Information obtained from respondents was consolidated by an interview with one of the senior lecturers in the English Program. The syllabus was measured through critical analysis for two documents, namely "the Four-year syllabus" and "the Two-year syllabus" prepared by the University (Appendix E). The measurement for the Materials variable was supported by information obtained from analyzing a document called "Framework for Course-book Design".

Preference of using English versus Arabic as a medium of instruction refers to the language of teaching most favored by subjects for teaching subjects in other disciplines. A preference of English over Arabic would be a strong instrumental motivation for learning English. Two items were presented in each of the three questionnaires to measure this variable. A five-point Likert scale ranging from "strongly agree" to "strongly disagree" was used to obtain measurement.

Use of English versus Arabic for academic purposes refers to the language of source materials to which students refer when they prepare for their exams and tests or when seeking more information for their assignments and term papers. This variable was measured in students and lecturers' questionnaires using a three-point scale "always", "sometimes", "rarely or never". The variable was intended to measure the extent to which students use English and Arabic for academic activities and extra readings. The

results of these items were supported with information obtained from the University's main library on the availability and supply of textbooks and reference books in the two languages under question since 1990. See table (5.2, page 167 and 168) for summary.

Variable	Category	Description	Statistics
Faculty	1	Arts	Frequencies/percentage
	2	Sciences	
Level of study	1	Second year	Frequencies/percentage
	2	Third year	
	3	Fourth year	
	4	Fifth year	
Perception of proficiency in listening skills	1	Very good	Mean (compare it with instructors mean)
	2	Good	
	3	Mediocre	
	4	Weak	
	5	Very weak	
Perception of proficiency in speaking skills	Same as above		Mean (compare it with instructors mean)
Perception of proficiency in reading skills	Same as above		Mean (compare it with instructors mean)
Perception of proficiency in writing skills	Same as above		Mean (compare it with instructors mean)
Perception about the most important language skill	Rank 1-4 no. 1 being the most important	Writing	Frequencies/percentage graphs
		Listening	
		Speaking	
		Reading	
Most important listening sub-skill	ranking		Frequencies/percentage tables
Most important speaking sub-skill			
Most important reading sub-skill			
Most important writing sub-skill			
Benefit of English Program	1	Very good	Mean (compare it with instructors mean)
	2	Good	
	3	Average	
	4	Little	
	5	Very little	
The most focused language skill in English Program	Rank 1-4 no. 1 being the most focused	Listening	Frequencies/percentage graphs
		Speaking	
		Reading	
		Writing	

Table 5.2: Categorization and cut-off points in Students' Questionnaire

Attendance in English Classes	1	Always attend	Frequencies/percentage graphs
	2	Sometimes attend	
	3	Rarely attend	
	4	Never attend	
Importance of English Language	1	Yes	Frequencies/percentage graphs
	2	No	
	3	Not Sure	
Use of Arabic as medium	1	Strongly agree	Mean (compare it with instructors mean)
	2	Agree	
	3	Not sure	
	4	Disagree	
	5	Strongly Disagree	
Return to English as medium	Same as above		Mean (compare it with instructors mean)
Ability to study specialized subject in English	Same as above		Mean (compare it with instructors mean)
Number of courses that use English textbooks	1	None	Frequencies/percentage graphs
	2	1-2	
	3	3-5	
	4	More that 5	
Frequency of reference to lecture notes in Arabic	1	Always	Mean (compare it with instructors mean)
	2	Sometimes	
	3	Rarely or never	
Frequency of reference to handouts in Arabic	Same as above		Mean (compare it with instructors mean)
Frequency of reference to textbooks in Arabic	Same as above		Mean (compare it with instructors mean)
Frequency of reference to reference books in Arabic	Same as above		Mean (compare it with instructors mean)
Frequency of reference to journal in Arabic	Same as above		Mean (compare it with instructors mean)
Frequency of reference to handouts in English	Same as above		Mean (compare it with instructors mean)
Frequency of reference to textbooks in English	Same as above		Mean (compare it with instructors mean)
Frequency of reference to reference books in English	Same as above		Mean (compare it with instructors mean)
Frequency of reference to journals in English	Same as above		Mean (compare it with instructors mean)

Table 5.2: Categorization and cut-off points in Students' Questionnaire (continued)

5.7.1 Piloting the Questionnaires

The first step after constructing the questionnaire is to try it in a sub-sample before it reaches the target sample. By piloting the questionnaires, we aim to see how the survey works and whether changes are necessary before the start of the full-scale study. The pretest provides us with a means of catching and solving unforeseen problems in the administration of the questionnaire such as phrasing and sequence of questions or its length. It may also indicate the need for additional questions or the elimination of others.

As mentioned above, three questionnaires were designed for the purpose of this study. For the students' questionnaire a group of 20 students were chosen. Half of them were from the Faculty of Arts and the other half from the Faculty of Science. The students were placed in a class, and a copy of the questionnaire was given to them. A period of one hour was given to them to finish answering and returning the questionnaire. Before they started they were briefed about the objectives of the research and were encouraged to ask about any thing that is not clear in wording or meaning of any statement. They were also encouraged to give their opinion on the order and type of questions. As for the Instructors and Subject Lecturers' questionnaires, copies were sent to three lecturers in each group and were given a period of two days to return the questionnaires with their comments and recommendations. Following this, it was possible to revise the layout, the questions wording and design to take account of all criticism or problems.

5.8 PROCEDURE FOR DATA COLLECTION

The data for this study were collected by means of structured questionnaires, an interview and documents analysis. The questionnaires were pre-tested before they were distributed to the respondents. Students were given a translated version of the original

questionnaire to be answered in Arabic. The questionnaires were given to the subject lecturers accompanied with a cover letter to students explaining the objective of the research and ensuring them that the answers would be used for the purpose of the scientific research only and the identity of the respondents would remain anonymous. No letter of permission was required, as the researcher is a teaching assistant in the same University. The lecturers were requested to give away one of their classes for filling in the questionnaire. All questionnaires were then collected back in the same session. As for English instructors and Subject lecturers' case, the questionnaires were hand delivered by the researcher with the help of colleague lecturers and instructors. They were given the original questionnaire in English, accompanied with a letter explaining the objectives of the research and seeking the cooperation of the staff. The researcher had emphasized that all data collected would be held in strict confidence, that no responses from any individual would be made known to a third party. Respondents were given three days to return the questionnaire; all questionnaires were collected from the respondents' offices within the same week. The actual collection of data was undertaken in June 2001.

5.9 DATA ANALYSIS

All questionnaires collected were pre-coded to allow the classification of responses into analyzable and meaningful categories. The first step in preparing data for computer analysis was done through the process of coding in which numeric codes were allocated to each category of variable. The data for this study consists of nominal, ordinal, interval and ratio measurement.

The gathered and coded data was then fed into The Statistical Package for Social Sciences (SPSS) Program (Version 10). Then the descriptive statistical tools of frequencies distribution was employed to summarize the data that has been gathered in

order to detect patterns and tendencies in the results by telling us the number of cases in each category. Additional information in the form of percentages was provided, showing the number of cases in each category. This gives information about relative frequency of occurrences of each category of variable. Kurtz (1989) described converting frequencies distribution to percentages as a "form of linear transformation in which the original frequencies are converted to a new number scale extending from 0.00 to 100" (pg. 28). Such transformation is useful because it is widely understood, easily interpreted and allows for comparisons of groups with different numbers of observations. One advantage of using percentages is that it is easy to understand by a variety of audience. Another advantage is that it can be applied to all levels of measurement, including intervals, ordinals, nominal and dichotomous scales because they are based on the number of observations related to the categories of some measurement device. It can also be cumulated to display the number of observations above or below any point in a distribution in intervals and ordinal measurements. Diagrammatic version of the data was provided in the form of bar graphs, pie graphs and tables. The main advantage for the bar graphs is the ease with which it can be interpreted. The results and findings generated by the Statistical Package for Social Sciences (SPSS) version 10.0 is presented, discussed and interpreted in the chapter that follows.