CHAPTER THREE
The Methodology

3.0 Overview

This chapter provides the methodology that followed in the process of data collection. It focuses on the study's population, sampling techniques and sizes. Also, the chapter reflects the data collection and its procedures then, it shows the statistical analysis of that data. Finally, the chapter provides the validity and the reliability of the test and the questionnaire of this study.

3.1 Study Methodology

This study has adopted the experimental and the descriptive methods. Accordingly, a pre-test and a post-test are designed for data collection. Also, questionnaire is chosen as another tool for data collection, and the software programme; Statistics Packages of Social Sciences (SPSS) are used for statistical data-treatment.

3.2 Study Population

The population of the study is divided into two groups; the first group is the third year students at Karary University, College of Languages. The second group includes the Sudanese universities teachers who are experts in the field of English language teaching and learning.

3.3 Sampling Techniques and Sizes

The stratified random sampling was used to draw a sample for the population of this study. The sample consists of EFL students, third year. Those students are majoring in English language at Karary University. It is regarded as acceptable sample because those students have been much exposed into spoken discourse, repeatedly, the lectures. The random sampling was selected from the population of (90) respondents at level three; they were (54) females and (36) males. Their ages range between (19 to 25) years old. The pre/post tests were performed to the same group of EFL students.

The following is a detailed description for the size sample of students according to their level and the test type:

Table (3.1): Sample of EFL Students at Karary University

Pre/posttest	Level	Number of Students	Sample Size	Percentage	Statistical Analysis Used
Experimental Group	Three	45	45	50 %	t. test
Control Group	Three	45	45	50 %	t-test
Total	Three	90	90	100 %	t. test

The above table (3.1): shows that all the study's participants of the test were EFL students of the third year. Their number was (90) with percentage (100%) which means the whole number of students in such level had participated in this study.

The second representative sample of this study includes 45 university teachers from about ten Sudanese universities. Some of them are males and others are females. This sample represents language experts who have been teaching EFL students at different levels, some of them have long experience in teaching English at tertiary level. The respondents are of different qualifications as assistance professors or senior lecturers. The following is a detailed description for the study sample individuals according to their academic status and the years of experience:

Table (3.2): The Frequency Academic Status

Academic Status	Frequency	Percentage
Lecturer	29	64.4%
Assistant professor	13	28.9%
Associate professor	2	4.4%
Professor	1	2.2%
Total	45	100.0%

(Resource; the researcher's application through SPSS Programme)

The above table (3.2): shows that the majority of study's respondents of the questionnaire were senior lectures. Their number was (29) with percentage (64.4%). And the respondents who were assistance professors were (13) with percentage (28.9%). Where, there were only (2) associate professors with percentage (4.4%) and (1) professor with percentage (2.2%).

Table (3.3): Frequency of Years of Experience

Years of Experience	Frequency	Percentage
1-5 Years	11	24.4%
6-10 Years	12	26.7%
11-15 Years	8	17.8%
16-20 Years	5	11.1%
21-25 Years	5	11.1%
Above 25 Years	4	8.9%
Total	45	100.0%

(Resource; the researcher's application through SPSS Programme)

The above table (3.3) shows that, the most sample's respondents have experiences over 25 years. Their number was (4) with percentage (8.9%). The number of the respondents who have experience between (21 - 25 years) was (5) with percentage (11.1%). The number of the respondents who have experience between (16 -20) was also (5) with percentage (11.1%). The number of the respondents who have experience between (11-15) was (8) with percentage (17.8%).The number of the respondents who have experience between (6-10) was (12) with percentage (26.7%). And the number of the respondents who have experience between (1-5) was (11) with percentage (24.4%).

3. 4 Data Collection

There are two types of data that were collected for this study.

3. 4. 1 Primary Data

This study has been conducted to test EFL students' awareness of discourse markers (DMs) in enhancing listening comprehension of lectures. However, the researcher decided to collect the primary data of this study through testing students' awareness of DMs in terms of the pre/post-test and a questionnaire to consider teachers' attitudes on discourse markers. The data were collected and programmed to analysis through T. test techniques and the Statistical Packages for Social Sciences (SPSS).

3.4.1.1 Students' Test (pre-test – treatment programme – post-test)

For testing the hypotheses, the researcher designed a pre-test and a post-test of the same copy based on the contents of an authentic academic lecture. where, the data of this study was collected firstly from a video recorded lecture by a native speaker of English language (Miss. Jiv, British) and the lecture was on "The history of English Language", that, by means of a pre-test – intervention – post-test design. The both tests (pre/post-test) are the same copy which administered with a number of test items checking for general and specific understanding of the lecture through discourse markers. The test is of two sections gap-filling section, and multiple-choice questions were administered by the researcher. The gap-filling question is composed of a listening passage with 10 gaps to be filled by the subjects. It aims at checking the listening skills of the oral lecture instructions by means of macro DMs. The multiple –choice questions section consists of 10 heading questions with 4 options for each one to be answered by subjects using a circle. It aims at testing the enhancement of listening comprehension through micro discourse categories.

After conducting the pre-test, the researcher analyzed the total marks that scored by the participants and compared the two scores in order to determine whether there existed a significant difference between the results of the experimental and control group. The same procedure was followed after the

post-tests to establish whether the results were significantly different. This would indicate whether treatment Programme showed significant improvement that could be associated with the awareness of discourse markers as they occur in the lecture text.

Moreover, in the treatment programme for the experimental group there were five lectures in discourse markers were delivered to that group. The materials of teaching discourse markers mostly were chosen from the books, the internet, and the literature review of this study. In which, the experimental group had exposed to; the definition, the use, the function, and the type of discourse markers focusing on the micro and macro markers categories. After the discussion of the role of discourse markers, students are introduced to video/recorded lectures, and then students were allowed fifteen minutes to complete the set task during the training sessions.

A second instrument that the researcher used to collect data was a single questionnaire for university teachers.

3.4.1.2 Teachers' Questionnaire

The questionnaire of this study is designed to cover two parts; the first part includes details indicating the respondents' qualifications and their years of experience in teaching English language. These were measured as quantifiable data. The second part of this questionnaire was examined the respondents' judgments on (15) statements that covered the hypotheses of this study. This quantitative information allowed the researcher to organize, interpret, and verify the attitudes and information of teachers and their possible influence on the findings of this study.

3. 4.2 Secondary Data

Secondary data were collected from the formal documents, scientific researches, published papers and thesis, forums, internet, books, and magazines.

3. 5. Validity and Reliability

3.5. 1. Test Validity

To assure the validity of the test design firstly, there were three copies of the test were distributed to three experts at Sudanese Universities particularly at Colleges of Education to judge on the construction of the test. Also, to investigate how listening comprehension can be tested through using discourse markers. Then, after the consultations, views, and suggestions of the experts, the researcher carried out the test to the participants of the study (EFL students). The following table shows the three experts who directed the test.

Table (3.4) The Test Referees

No	Name	Academic degree	Place of work
1	Abdulgadir Mohammed Ali	PhD	Gazira University
2	Hashim AlEmam	PhD	The Islamic University
3	Enass Mohammed	PhD	Sudan University (SUST)

The value of validity is (0.87)   which means that the phases in this study are more consistency relating to the hypotheses of the study indicating that a test is characterized by high validity to a achieve the purpose of the study and to make the statistical analysis fit and acceptable.

3.5. 2. Questionnaire Validity

The questionnaire was first piloted by a group of teachers before its distribution to establish any pitfalls or ambiguous questions. Then, items that needed rephrasing were identified and revised. And then, this questionnaire was judge by five teachers of a PhD degree in English Language as shown in the table (3.5) below. Furthermore, there were (10) copies of this questionnaire were chosen randomly to test the questionnaire validity. Finally after that, the questionnaire was administered and distributed to (45) university teachers in different Sudanese universities. The following table shows the four experts who judged the questionnaire items.

Table (3.5) The Questionnaire Referees

No	Name	Degree	Place of work
1	Naglaa Taha Aasher	PhD	Sudan University (SUST)
2	Henry Marino	PhD	Sudan University (SUST)
3	Areej Ahmed Mohammed	PhD	Sudan University (SUST)
4	Ahamed Gasim Al seed	PhD	Gazira University

The value of the questionnaire validity is (0.88) which means that the phases in this study are more consistency relating to the hypothesis of the study indicating that a questionnaire is characterized by high validity to a achieve the purpose of the study and to make the statistical analysis fit and acceptable.

Cranach's alpha Coefficient equation method is used to account the reliability of the study. The results of the analysis is (0.77) for the test and (0.77) for the questionnaire. Therefore, the reliability coefficient is high and it indicates the stability of the scale and the validity of the study.

3.6. Reliability

Reliability is the consistency of a measuring instrument, when administered more than once, under the same conditions, it gives comparable results. Reliability is estimated by one of four ways, internal consistency, Cranach's alpha, Split-half reliability, test-retest reliability, and inter-rater reliability. The researcher has chosen the Cranach's alpha equation shown below:

$$\text{Reliability coefficient} = \frac{n}{N-1} * \frac{1 - \text{Total variations questions}}{\text{variation college grades}}$$

Table (3.6): Cranach alpha coefficient

Tools	Validity	Reliability	Interpretation
Test	0.87	0.75	Very effective
Questionnaire	0.88	0.77	Very effective

3.7 Procedures

Since this study has been attempted to investigate the role of discourse markers in enhancing EFL students' listening comprehension of the lectures, the test and the questionnaire were considered as the main tools for data collection. Firstly, the test is performed and the feedback is collected. The process in which data is collected through the test as follows; students of the two groups (experimental and control) are firstly delivered a video lecture of "the History of English Language" and they were allowed to take notes during the lecture then, afterwards, students are given the test (pre-test).When the pre-test had been tested and marked the same groups of students come to the second test (post-test) after two months. The same procedure of the first test was applied in the second test. The experimental group had received the treatment program in the gap of the two tests (teaching and learning of discourse markers). Secondly, the teachers' questionnaire was another main tool for data collection. The results were statistically computed in terms of frequencies, percentages, means and standard of deviations.

3.8. Summary of the Chapter

This chapter has reflected the description of the study methodology. Firstly, the chapter has explained the description, techniques, and the analytic use of the experimental and descriptive data. Secondly, it also, has described population, sample techniques, and sample size, and the procedure of this study. Then, it shows the main tools that are used for data collection of this study. Finally, the chapter has provided the validity and reliability for confirmation.