

## CHAPTER 3

### 3. RESEARCH METHODOLOGY

#### 3.1. Introduction

The chapter is structured into five main sections including the introduction (section 3.1). Section 3.2 discusses the rationale for choosing a mixed method and section 3.3 explains the research context including the population of the study and research instruments used. Section 3.4 focuses on data collection procedure which involves both quantitative and qualitative data. Finally, section 3.5 discusses the procedures for data analysis which also covers the content analysis method employed to complement the questionnaire and interview methods adopted in the study.

This chapter discusses the methodology used for data collection and analysis to respond to the research questions of this study as presented in chapter one. It is therefore pertinent to recap the research questions of this study and relate them to the corresponding methods employed to achieve them. This study has formulated the following four research questions in the attempt to explore the extent of adopting mainstream curriculum in teaching English as a second language to deaf children in Oman:

1. What are the challenges faced in adopting mainstream English as a second language (L2) curriculum to deaf children in terms of :
  - a) challenges faced by teachers
  - b) challenges faced by deaf students

2. To what extent is the existing mainstream curriculum structure relevant to the teaching of English language to deaf children in Oman?
3. To what extent is the pedagogy used in teaching English language to Deaf children in Oman effective?
4. To what extent are the following factors influenced by the mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman?
  - i. Attitude of the school children,
  - ii. Subjective Norm of the school children,
  - iii. Perceived Behavioural Control of the school children, and
  - iv. Intention of the school children

This chapter employs appropriate research design and methods for data collection and analysis to achieve the objectives formulated in the study. Specifically, the study uses a mixed research method: qualitative method used to gather data in the form of interview protocols/recordings of the teachers and diary entries by the teachers involved. The qualitative method is employed to investigate the challenges facing teachers and students in schools adopting mainstream curriculum to teach English as a second language to deaf children in Oman. Furthermore, the method examines the relevance of the existing mainstream curriculum structure and the effectiveness of the pedagogy used in teaching English language to deaf children in Oman (research objectives 1, 2 & 3). On the other hand, the quantitative method was used in the form of questionnaire survey to solicit data. The method is used to examine the extent to which attitude, subjective norm, perceived behavioural control and intention of the deaf children are influenced by the mainstream curriculum being adopted by schools in

teaching English as a second language to deaf children in Oman (research objective 4).

### **3.2. Rational for Choosing a Mixed Method**

It is the aim of this study to examine the extent of the adoption of mainstream curriculum for teaching deaf children in Oman. Hence to achieve this primary objective, the study has employed a mixed research method (quantitative and qualitative) where different but complementary data are collected on the same topic. Both quantitative and qualitative data are collected in order to bring together the strengths of both forms of research methods. The mixed-method techniques are increasingly being used in most research studies to expand the scope of and enrich the data (Sandelowski, 2000). Proponents of mixed method research, for example Creswell and Plano Clark (2007); Sandelowski (1995) and Tashakorri & Tedlie (1998) argued that the complexity of human phenomena encourages the use of mixed research design. In discussing the robustness of mixed methods technique, Greene et al (1989); and Caracelli and Greene (1993) identified five general purposes of mixed-methods studies: a) triangulation by converging and corroborating findings from different methods used to study the same phenomenon; b) complementarity through elaboration, illustration, enhancement and clarification of results from one method with results from another method; c) initiation in discovering paradoxes and contradictions leading to re-framing research question(s); e) development through using the results from one method to help inform the other method; and finally, expanding the breadth and range of the investigation by using different methods for different inquiry components.

This study has adopted the Concurrent Triangulation Strategy of mixed method. In this instance, the quantitative and qualitative data are collected concurrently after which

the results from the two methods are compared. It is crucial that the results of the two methods obtained from this study complement each other. The respondents of the quantitative data are basically deaf children who are the end users of the mainstream curriculum in learning English. Hence their attitude, subjective norm, perceived behavioural control and intention are directly influenced by the way schools adopt the curriculum. However, as these students do not have expertise and views on the nature of the curriculum, its application, the challenges, the pedagogy and suggestions for improvements, it was imperative to obtain data from teachers as informants since the teachers are also involved in executing the curriculum stated. The views of these teachers were obtained through interviews and diary entries. In this way, as suggested by Creswell (2013), the weaknesses in one method are offset with the strengths of another method, and equal weight is given between quantitative and qualitative research methods.

The subsequent section explains further the procedures taken for data collection purposes of the study. The study has adopted the following steps and procedures in its quantitative research method as suggested by Ary et al.(2006). The researcher first defined the population and sample size from the deaf children in Oman; adopted a cluster sampling technique, developed a research instrument in the form of questionnaire, and came up with a data collection procedure. After the data were collected, the researcher coded the field from the questionnaire into Excel spread sheet and then keyed in the data into the coded Excel spread sheet. The data were thereafter imported into SmartPLS and saved in the “CSV (Comma Delimited)” file format, ready for data analysis using the SmartPLS technique.

### 3.3. Research Context

The region of Dhofar in the Sultanate of Oman was chosen for the study because it is the origin of the researcher and hence deemed manageable for him to communicate with, meet and visit the individuals related to the study, namely students, teachers, headmasters and supervisors. The other regions are geographically located to the north of Oman and this would require the researcher to travel for more than 1000 kilometres in case those areas are involved in the study. The Ministry of Education in Oman comprises three vertical levels: the central level, the local level represented by the regional educational directorates, and the school level. The Directorates General of Education across all governorates of Oman oversee the implementation of the ministry's plan (Education Council, 2016). The study was conducted in the schools under the supervision of The Directorate General of Education in Dhofar.

The study was conducted in 6 different schools which are located in the metropolitan area of Salalah, the centre of Dhofar region. The selection of the schools is based on their direct involvement in the inclusive programs for deaf. The total number of deaf children in the six schools were 46 distributed in different grades during the academic year 2018-2019 (Ministry of Education, 2019). The number of students in each deaf classroom ranges from 3 to 8 students. Arabic is the native language for both teachers and students in all the public schools and school subjects are all taught in Arabic except the English Language subject. Children learning and practice of English in school ranges between 5-7 periods (12.5-20%) only out of the total time (40 periods) they spend in school per week. This is because all other subjects in school, e.g., Religion, Math, Science, Social Studies are taught in Arabic language. Deaf children are taught the main subjects in separate classrooms; however, they are grouped together with their mainstream peers during sports, arts, and social activities in school (Al-Ghafri, 2009).

The researcher was informed that all the instructions in the classes, including that of the English language lessons are based on Total Communication (TC) approach. Basically, TC approach provides a gestural presentation for every spoken utterance so that whoever had residual hearing could hear the instruction of content and those who could not hear would be able to see the content (Berger, 2009). Use of TC approach by parents and teachers without disabilities usually involves combining speaking and signing. Other benefits of the TC approach include its ability to open all avenues and modes of communication for the deaf child, its demonstrated effectiveness in fostering the child's psychosocial, linguistic, and academic development (Hawkins & Brawner, 1997).

### **3.3.1. Sample of the Study**

This research study aims at exploring the extent of adopting mainstream curriculum in teaching English as a second language to deaf children in Oman. To gain insights into the problems of implementing the mainstream curriculum, investigation was done on the practice of teaching English to the deaf students. As the main aim of the quantitative part of this study is to solicit the opinion of deaf children on the mainstream curriculum being adopted by the schools for teaching English, the population for the quantitative survey is the deaf children studying English as a second language in schools located in Dhofar region / governorate in the south of Oman. The data from the quantitative survey used for responding to (RQ 4) is supplemented by data from the interviews and diary entries, which are used to respond to (RQ 1,2&3) whose population and sample are teachers teaching English to the deaf children. Therefore, the population and sample of the qualitative survey is discussed first followed by the same for the quantitative survey.

### 3.3.1.1. Population of the Qualitative Methods

The selection of the participants for the interviews and diaries documentations are based on purposive sampling. The participants in this study are treated as experts and assumed to have an accurate and unique perspective on the subject matter. Six teachers of deaf children were contacted through email and personal contact explaining to them the purpose of the interview. According to Sosoulski and Lawrence (2008) this method allows the researcher to select relevant respondents based on his prior knowledge of the population in order to meet specific study objectives. The sample size is not a concern, as Robson (2002) noted that there is no set number of interviews needed for a flexible design study. Miles & Huberman (1994) states that in a qualitative study, researchers work with a small sample size that they study in depth. Therefore, the sample size is six participants, and it is assumed to be sufficient for this study to achieve its objectives.

The participants in the qualitative part of this study are six teachers teaching English language to deaf students in six government schools the inclusive education programme for deaf in the researcher's region (Dhofar). Out of the six, there were three female teachers and male teachers respectively. The three male teachers were assigned to teach male students in grades (5-10) while the female teachers were involved in teaching the female students in the selected all-girls school in the region. Specifically, one of the three female teacher was also involved in teaching the language course of mixed gender children in grades (1- 4) while the other two were involved in teaching the girls in upper grades (5- 10). The details of the participants are mentioned in chapter 4 of this study (see Section 4.2.1 Profiles of the participants).

### 3.3.1.2. Population of the Quantitative Survey Method

By the academic year of 2018/2019, the number of schools implementing the inclusive education programme for the deaf in Oman expanded to reach 59 schools, involving a total of 412 students distributed in the 11 regions of the Sultanate of Oman (Ministry of Education, 2019). In Dhofar region particularly, there were a total of 155 government schools and among this number there were only six schools that implement the inclusive education for the deaf.

For the purpose of the quantitative data collected, the participants involved consisted of 127 children without disabilities and deaf children that were undergoing their basic education school years (Grade 1 to Grade 12) from the six schools found in the Dhofar region that implemented inclusive education.

All the participants share the same learning environment, facilities, and teaching materials in their respective schools. They also underwent the same curriculum in regular classes. However, in the attempt to gain insights into the attitude, subjective norm, perceived behavioural control, and intention towards the adoption of the main curriculum in teaching English, the participants were categorized into two groups – the students without disabilities and the hearing-impaired students. Further information regarding the profiles of the participants is illustrated in Table 5.1. Profiles of the Participants (Section 5.2.1).

The first group consisted of students without disabilities (81) while the second group of participants consisted of the deaf students (46) studying in the academic year 2019-2020. From the total, 111 questionnaires [41 from deaf children and 70 from the normal children] were returned as valid and complete. The deaf students involved in this study comprised of 9 female and 32 male students who are in Grades 4 to 10 at the 6 schools. They have been undergoing the inclusive education system for different

number of years in the respective schools. This particular group of learners were asked to complete a questionnaire prepared to seek answers to the fourth research objective regarding the extent to which attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by mainstream curriculum being adopted by schools in teaching English as a second language to them as it is important for the study to gain insights of their views.

The second group of participants involved in this study consisted of children without disabilities who have close contact to their deaf peers in their daily school routine. They are randomly chosen from the same grade levels of the deaf children. They comprised 36 male and 34 female students. This particular group of learners were also asked to complete a questionnaire as it is also important for the study to gain insights of the perception of normal school children on their attitude, subjective norm, perceived behavioural control and intention towards the mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman. Their views are also used to respond to RQ4.

The reason for choosing the normal children sample is to enrich the findings from the quantitative data by investigating the extent to which the normal children are aware about the situation of their peer from the deaf children learning English using the same mainstream curriculum. It is worth to highlight that most of the quantitative methods in the form of survey adopt samples that are selected from a single sampling frame covering almost all the units of analysis in the target population. On the other hand, there are studies that have used multiple-frame sampling developed by Hartley (1962). In this multiple-frame sampling, two or more frames are used, and independent samples are selected from each of those frames. Inferences about the target population are based on the combined sample data. This study has loosely adopted a dual-frame

sampling using two frames, namely sample from deaf children and sample from normal children.

Multiple-frame sampling designs are often dictated, among others, by cost of collecting data, parameters of interest, the method of data collection, research tools, and software for analysing data. All these factors applied across the two samples of participants [deaf and normal children]. The researcher considered the cost involved in collecting data from the two samples, who also shared the parameters of interest: how their attitude, subjective norm, perceived behavioural control and intention are influenced by the mainstream curriculum adopted by schools in teaching English to deaf children. Quantitative method in the form of questionnaire survey were used for both samples, and the items of the research tools or instruments [See Appendixes II and III] are similar though designed to suit the context of each sample. SmartPLS software was used to analyse the data obtained from both samples. The results were expected to shade light on the extent to which the normal children are cognizant of the challenges deaf children face in adopting to the mainstream curriculum setting. Documenting such perception from the normal children is in line with (Al-Rayes, 2012) who found that parents of deaf children in Oman would like to see interaction among their kids and normal children, and that such interaction has positive influence to the attitude of deaf children towards learning. Hence, such findings would also enrich the fourth research question of the study, which is “To what extent are attitude, subjective norm, perceived behavioural control and intention of deaf children influenced by mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman?”

The sample size defined for the quantitative part of this study is 127 students, derived from the population of six regular schools located in Dhofar region in the south

of Oman implementing the inclusive programme for deaf. The sample comprises the total population of 46 deaf children and, 81 from the normal children randomly chosen from the same grade levels and six schools in which the deaf children are enrolled. Table 5.1 in chapter five (see Section 5.1.1. Profiles of the Respondents) provides the background of the respondents.

This sample size is adopted in line with a sample size of larger than 30 and less than 500 proposed by Roscoe (1975), and a sample size of 100 to 200 recommended by Hoyle (1995). Some researchers argue that statistical analysis can also be conducted with a minimum sample size of 100 to 200 (Hoyle, 1995). This sample size of 127 is also appropriate for the use of PLS-SEM, a proposed data analysis technique for this study.

Cluster sampling technique has been adopted for this study. This is because the population of the school students in Oman is very large, estimated at 603, 797 spread all over Oman. Robert and John (2004) suggest that cluster sampling is suitable for very large and spread out over wide geographical areas. The population of school children in Dhofar (area of the study) is 47, 639 representing 8% of the total population of students (Ministry of Education, 2019). Having the sampling frame (deaf children) readily available, and well-defined in the area of study (Dhofar region) makes cluster sampling most suitable. This sampling technique is also easy to implement and is cost effective given the vast population area.

### **3.3.2. Research Instruments**

This study was designed to investigate the adoption of mainstream curriculum in teaching English as a second language to deaf children in Oman. To this end, the research instruments for the qualitative survey (interview and diary) were used to solicit

data from teachers teaching deaf children English using the mainstream curriculum. This is intended to achieve the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> research objectives of the study- i.e., to examine the challenges facing teachers and students in schools adopting mainstream curriculum in teaching English as a second language to deaf children in Oman; to examine the extent to which the existing mainstream curriculum structure is relevant to the teaching of English language to Deaf children in Oman; and to investigate the extent of the effectiveness of the pedagogy used in teaching English language to Deaf children in Oman, respectively. Meanwhile, a survey (questionnaire) to collect quantitative data was also administered to measure the extent to which the attitude, subjective norm, perceived behavioural control and intention of deaf children in Oman were influenced by the mainstream curriculum adopted by schools in teaching English to them as reflected in research objective 4 (see section 1.8 Objectives of study) Table 3.1 illustrates the overview of the research tools, their respective objectives and participants involved. However, a summary of instruments for data collection and their corresponding research questions can be found in the subsequent Tables 3.2 to 3.4.

**Table 3.1:** Overview of the Research Tools, Objectives and Participants

<b>Research Tools</b>	<b>Objectives of Research Tools</b>	<b>Participant Involved</b>
<b>Questionnaire Set A</b> This tool has been used to achieve the 4 <sup>th</sup> Objective of the study. (Appendixes II)	To measure the perception of deaf school children on the extent to which their attitude, subjective norm, perceived behavioural control and intention are influenced by the mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman.	46 deaf students
<b>Questionnaire Set A2.</b> This tool has also been used to achieve the 4 <sup>th</sup> Objective of the study. (Appendixes III)	To measure the perception of normal school children on their attitude, subjective norm, perceived behavioural control and intention towards the mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman.	81 normal students
<b>Teacher's Diary</b> This tool has been used to achieve the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> objectives of the study. (Appendixes VI)	To document the class experiences of teachers in the process of teaching English to deaf children within a predetermined period of time.	6 teachers

<p><b>Interview question</b></p> <p>This tool has also been used to achieve the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> objectives of the study.</p> <p>(Appendix VIII)</p>	<p>To solicit data from teachers teaching deaf children English using the mainstream curriculum.</p>	<p>6 teachers</p>
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### 3.3.2.1. Qualitative Instruments (Interviews and Teachers' Diaries)

The study employed semi-structured interviews in addition to teachers' diaries to collect qualitative data that are not covered in the questionnaire survey used to collect the quantitative data. The researcher designed open –ended questions, arranged them in a reasonable logical order to cover the required area that are necessary for soliciting information related to achieving the first 3 objectives of the study which are 1) to examine the challenges facing teachers and students in schools adopting mainstream curriculum in teaching English as a second language to deaf children in Oman, 2) to examine the extent to which the existing mainstream curriculum structure is relevant to the teaching of English language to Deaf children in Oman, and 3) to investigate the extent of the effectiveness of the pedagogy used in teaching English language to Deaf children in Oman (See Appendix IV for sample of interview questions used in this study). Using the Open-ended questions format give more freedom to the participants to express their thoughts and views freely (Stein and Mankowski, 2004). To ensure validity and reliability of the answers, identical questions were asked to all the teacher participants. However, depending on the responses received during the interview, the order of the questions may vary which were also at time supplemented with either planned or unplanned probes (Morse and Richard, 2002).

### 3.3.2.1.1. Interview instrument

According to Patton (1987), good questions in qualitative interviews are those that are open-ended, neutral, sensitive, and clear to the interviewee. Questions that elicit the best responses involve those based on behaviour or experience, on opinion or value, on feeling, on knowledge, on sensory experience, as well as those asking about demographic or background details (Patton, 1987).

The researcher matched the 10 main interview questions with the following 9 corresponding themes derived from the data analyses: Deaf Students and the Curriculum, Relevant Topics and Course Syllabus, Teaching Approaches, Classroom Activities, Quality Course Materials, Deaf Students' performance, Conducive school learning environment, Interaction among Deaf students and students without disabilities, and Family Support. The interview questions also comprise Suggestions for Improving English Language Curriculum. These themes with their corresponding questions are presented in the following Table 3.2.

**Table 3.2:** Themes and Interview Questions

<b>Themes</b>	<b>Interview Questions</b>
Deaf Students and the Curriculum	Do you think the curriculum being used to teach English language to deaf children in Oman is relevant? If yes, why and if no, why not? [provide examples to support your answers]
Relevant Topics and Course Syllabus	Do you think the coverage of the English course syllabus is adequate? If yes, why and if no, why not? [provide examples to support your answers]
Relevant Topics and Course Syllabus	Which topics of the course syllabus do your students enjoy most, and which ones they enjoy least, and why? [provide examples to support your answers]
Relevant Topics and Course Syllabus	Would you recommend that certain topics in the current course syllabus be restructured to improve their scope, coverage and time of delivery? [provide examples of such topics to support your answers]
Teaching Philosophy	What teaching philosophy [approach and belief] do you adopt in teaching the deaf students, and why?

Teaching Approaches	What is the common teaching method you use in your language classroom and how do you evaluate its effectiveness?
Classroom Activities	What type of activities do you use in conducting your language classroom and how do you rate its effectiveness?
Quality Course Materials	What type of support do language teachers for deaf students receive to ensure effective learning has taken place? Have these supports been sufficient? If yes, why and if no, why not? [provide examples to support your answers]
-Deaf Students and the Curriculum  -Relevant Topics and Course Syllabus  -Teaching Approaches  -Classroom Activities  -Quality Course Materials  -Deaf Students' performance  -Conducive school learning environment.  -Interaction among Deaf students and students without disabilities  -Family Support	What are the major challenges that arise in teaching English to deaf students in Oman? Your answers should cover the following: <ul style="list-style-type: none"> <li>● Relevance of topics in course syllabus</li> <li>● Quality of course materials</li> <li>● Nature of class activities</li> <li>● Teaching approaches and attitudes of teachers</li> <li>● How the deaf students are adapting to the curriculum.</li> <li>● The interaction among deaf students and students without disabilities</li> <li>● Performance of deaf students</li> <li>● The extent to which the school learning environment is conducive.</li> <li>● The extent of family support</li> </ul>
Suggestions for Improving the English Language Curriculum	Suggest how the existing English language curriculum can be improved to enhance the learning needs of deaf students. Your suggestions should cover the following areas of the curriculum: <ul style="list-style-type: none"> <li>● Topics covered in course syllabus.</li> <li>● Time used to cover the syllabus.</li> <li>● Course materials</li> <li>● Class activities</li> <li>● Teaching approaches and styles</li> <li>● Quality of teachers</li> <li>● Facilities and support for learning</li> <li>● School learning environment</li> <li>● Family support</li> </ul>

In order to ensure transparency, easy communication and coherence of the themes generated from the open-ended and semi-structured interviews questions (Auerbach and Silverstein, 2003), the researcher approached two knowledgeable scholars in qualitative research to act as inter-raters. Both lecturers are from the department of education at the International Islamic University Malaysia. They are specialized in child education. The two inter-raters who are identified as (IR1- first inter-rater) and (IR2- the second inter-rater) were asked to provide feedback on the themes generated by the researcher in the coding process. The inter-raters feedback, were then coded and measured to identify the measure of agreement pertaining to the credibility, consistency, communicability and coherence of formulating the themes. The researcher has used “percentage of absolute agreement” type of inter-rater reliability agreement, which is derived by simply calculating the number of times raters agree on a rating divide by the total number of ratings (Graham & Miller, 2012). Although the Inter-Rater Reliability can also be estimated using Cohen’s Kappa in SPSS, the researcher chose to do it manually because of the ease in generating the results. Hence, the inter-rating formula for manual calculation is demonstrated below:

$$PA = AD / TNR \times 100$$

Where, PA= Percentage of Absolute Agreement, AD=Agreed Description (total) and TNR = Total Number of Responses

The researcher provided the inter-raters the templates in which he developed themes from the interview questions. The two inter-raters compared the tentative themes generated against the interview questions and indicated their agreement to the themes corresponding to the questions. The researcher then used the responses to

calculate the Percentage of Absolute Agreement (PA) of each inter-rater in order to compute the aggregate score in form of percentages.

Bases on the formula  $PA = AD / TNR \times 100$ , the PA for the two inter-raters is calculated below:

The (PA) for IR1 =  $7 / 8 \times 100 = 87.5\%$

The (PA) for IR2 =  $8 / 10 \times 100 = 80.0\%$

Then the average for the two inter-raters is:  $\frac{87.5\% + 80.0\%}{2} = 83.75\%$

From the calculation above, the percentage of absolute agreement is 83.75%, which in this case, is acceptable as based on the method of percentage of absolute agreement, values from 75% to 90% show an acceptable level of agreement (Stemler, 2004). Hence the results of the inter-rater show that the themes are reliable and reflect the actual opinion of the participants and hence the validity of the findings of the qualitative data used in the study.

#### **3.3.2.1.2. Teachers' diary monthly entries**

Other qualitative data were obtained from the teachers' diaries, which were used to collect the information regarding the teachers' experiences in their English language classes with the deaf children. Since the curriculum course book teachers teach is divided into 4-5 units, the teacher participants were asked to write a diary after teaching each unit (approximately once a month), reflecting what they had achieved during the period of teaching the unit. In order to facilitate the teacher participants' task, the researcher provided them with a sheet/ form to fill in. The sheet was divided into three sections. In the first section, the participants were asked to write an overview of the unit explaining the topics they taught and the materials they used. In the second section, they

were requested to highlight the challenges they faced while teaching the different lessons in the unit. In the last section, participants were asked to record in writing any ideas or techniques they used, or they could suggest for reducing or overcoming the challenges faced (see Appendix V). The data solicited were analysed using thematic analysis (see section 4.1.2.2 in chapter four).

### **3.3.2.2. Quantitative Instrument (Questionnaire)**

It is crucial to reiterate that, while the qualitative data provide the depth of the issue investigated, quantitative data would provide the breadth and range of the collected data. Subsequently, while qualitative instruments related to the interview and diary entry for teachers were administered to examine the challenges teachers and students face, relevance of the curriculum and effectiveness of the pedagogy, the instruments for collecting quantitative data was used to determine the extent to which the attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman.

In the case of quantitative data, the research instrument administered was two set of questionnaire that were constructed for two different groups of participants: Set 1 for the deaf children and Set 2 for normal children. Both sets are similar in their objectives of examining the extent to which the attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by mainstream curriculum but defer in their perspectives; the perspective of deaf children and the perspective of normal children. The questionnaire is fairly comprehensive, covering a wide range of information and issues aimed at gauging the perception of school children on their attitude, subjective norm, perceived behavioural control and intention towards

the mainstream curriculum adopted by schools in teaching English as a second language to deaf children in Oman.

The questionnaire was designed to seek answers to the 4<sup>th</sup> research questions pertaining to the extent of attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by the mainstream curriculum being adopted by schools in teaching English as a second language to these deaf children in Oman. Both sets of questionnaire – Set 1 for deaf children (Appendix II) and Set 2 for normal children (Appendix III) are divided into 4 sections. The first section (A) covers the profile of the respondents with three items: gender, age, and grade. This section determines the eligibility of the respondents and the quality of the expected data. The second section (B) solicits the general knowledge of the respondents about the ability of deaf students to learn English, their love, and prospects for the language. It has 6 items. The third section (C) which consists of 26 items, is dedicated to TPB related questions. The section solicits the perception of the respondents on their attitude, subjective norm, perceived behavioural control and intention towards the mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman. The fourth section (D) is open ended. It invites comments from the respondents on any additional information. Table 3.3 below provides overview of the questionnaire sections and items.

**Table 3.3:** Overview of Questionnaire Sections and Items (Set 1 and Set 2)

Sections	Items	Constructs	Sources
<b>Section A (Open-ended)</b> Respondent's Background	3 items	1. Gender 2. Grade 3. Age	
<b>Section B (Yes/No type of questions)</b> General information	8 items	1. Ability of deaf for learning English 2. Love of deaf for English 3. Prospects of deaf for English	-
<b>Section C (Likert scale based on TPB)</b>	20 items	1. Attitude 2. Subjective Norms 3. Perceived Self-Control Intention	Adapted from previous TPB studies, for example: (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Mohd T. Thaker et al., 2016; Mohammed and Umar, 2017; Zaidi and Mustafa, 2018; Dahiru et. al], 2016).
<b>Section D</b> Structured question	Additional comments by the respondents.	1. Ability, love, and prospects of deaf for English 2. Attitude, Subjective Norms, Perceived Self-Control, and 3. Intention of deaf children 4. Other themes	-

The quantitative instrument designed for this study has adopted mainly close-ended questionnaire, structured in a mix format of nominal and ordinal measurements. The nominal scale is used in the demographic section of the questionnaire and, the general information section where the respondents were given two choices of 'YES' and 'NO' answers (See Appendixes II and III). The ordinal scale used are based on the 5-point Likert scale, namely: Strongly Disagree, Disagree, Slightly Agree, Agree and Strongly Agree. The ordinal scale was used for the main section of the questionnaire to provide answers to the fourth research question of the study mentioned in chapter one.

As this study aspires to examine the extent to which the attitude, subjective norm, perceived behavioural control and intention of deaf children in Oman are influenced by the mainstream curriculum being adopted by schools in teaching English, the questionnaire is found to be a suitable tool to be constructed as well as administered.

Due to the difficulty for the researcher to cover the vast area of the sampling frame, the questionnaire would provide a convenient instrument for data collection for this study. Moreover, respondents' demographic data could be collected much faster as the questionnaire could be administered simultaneously to all the respondents within a short period of time.

Measurement items in the questionnaire were designed for each of the four constructs (Attitude, Subjective Norm, Perceived Behavioural Control and Intention). In the attempt to find answers for the fourth research question, and based on the review of the literature, the following are the three types of measurement items that were added to the questionnaire, (see subsections 3.3.2.3 and 5.1.3.1 and 5.1.3.2, regarding validation of the subsections in the questionnaire).

Most of the items in the TPB section are similar to questions found in previous TPB studies (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Alhamami, M. (2019 and 2018); Andrea et. al 2018; Davide & Vijay, 2016). Apart from Fishbein & Ajzen (1975) and Ajzen & Fishbein (1980) that designed the original TPB questionnaires, the other studies used TPB in relation to ability and motivation to learn language, attend language classes, and gauging the experience and success of language learning environment. The wordings of these questions were slightly modified to suit the context of psychometric and perceptual measures of adopting mainstream curriculum in teaching English as a second language to deaf children in Oman. The modifications were checked by two senior teachers in Oman for the validity of the language in relation to the objectives of the study. The researcher gathered and reviewed several questionnaires that were used in these TPB related studies. Understanding the relationship between their research objectives and the information they solicited was vital for designing items for the questionnaire.

### 3.3.2.3. Validity and Reliability of the Quantitative Research Instrument

The validity and reliability of the questionnaire developed were tested at the pilot stage [Also see subsections 5.1.3.1 and 5.1.3.2. of chapter five before the real survey was conducted. This was to ensure that the items in the questionnaire were valid and reliable as effective measures to achieve the research objectives. In other words, the validity aspect of the questionnaire would measure the items that is supposed to be measured (Pallant 2007). Validity test is generally categorized into three: content validity, construct validity (convergent and discriminant validity) and criterion-related validity (Anderson & Gerbing, 1984; Fornell & Larcker, 1981; Sekaran & Bougie, 2013). For the purpose of this investigation, the validity test considered content validity and construct validity (convergent and discriminant validity). Content validity was done based on the judgement of the researcher and supervisor as suggested by (Kothari, 2004). Meanwhile SPSS software was used to assess convergent validity, part of construct validity, through composite reliability (CR) and average variance extracted (AVE) (Hair et al., 2010). The other measure of the second part of construct validity, discriminant validity, was examined through correlation (Sekaran & Bougie, 2013; Hair et al., 2010). This study also used both Cronbach's Alpha and Composite Reliability in assessing the latent constructs in the study as suggested by (Robinson, Shaver & Wrightsman). The results of the construct validity, composite reliability (CR), and average variance extracted (AVE) are provided in chapter five of this study.

As most of the items in the questionnaires were prepared using some form of Likert-type scale, it is important to test for the reliability of the instrument (Moser and Kalton, 1986). Cronbach's alpha ( $\alpha$ ) is the most widely used method to assess reliability (Nunnally, 1978; Sekaran & Bougie, 2013). Given the fact that a level of judgment was involved in scoring the tests, reliability measures were put in place. Firstly, the

researcher and the supervisor (raters) worked on the scoring of one sample test and discussed the procedure to ensure mutual understanding of the application of the scoring scheme. Secondly, 30% (40 out of 127) randomly selected tests were independently scored by both raters and an inter-rater reliability test was performed. Inter-rater reliability test refers to 'a measure used to examine the agreement between two people (raters) on the assignment of categories of a categorical variable (Elliott & Woodward, 2007, p.140). The reliability check (Cohen Kappa) was then carried out. The Kappa statistics is a statistical measure of inter-rater reliability that ranges from the value of -1.0 to 1.0. Generally, large numbers entail better reliability, values near zero suggest that the agreement is attributable to chance, while values less than zero signify that agreement is even less than that which could be attributed to chance. Thus, a Kappa value of 1 implies perfect agreement, although generally Kappa values accepted are at least 0.6 and most often 0.7 before claiming a good level of agreement (Elliot & Woodward, 2007, p.140).

The result of Cronbach's Alpha coefficient for the 26 items used in the questionnaire, and the results for other validity and reliability tests are presented in subsections 5.1.3.1 and 5.1.3.2 of chapter five of this study.

Table 3.4 summarizes the instruments employed for the data collection along with their corresponding Research Questions.

**Table 3.4:** Summary of instruments for data collection and their corresponding research questions

<b>Instrument</b>	<b>No. of Participants</b>	<b>Main goals &amp; RQs</b>	<b>Description</b>
Interview	6 teachers	1) What are the challenges facing teachers and students in schools adopting mainstream curriculum to teach English as a second language to deaf children in Oman? 2) To what extent is the existing mainstream curriculum structure relevant to the teaching of English language to Deaf children in Oman? 3) To what extent is the pedagogy being used in teaching English language to Deaf children in Oman effective?	10 questions, from which the researcher will later derive 10 corresponding themes.
Teacher's diary	6 teachers	1) What are the challenges of adopting mainstream curriculum in teaching English as a second language to deaf children in Oman?	Participants are requested to highlight the challenges they faced while teaching the different lessons in the unit and to record in writing any ideas or techniques they used, or they could suggest for reducing or overcoming the challenges faced.
Questionnaire	127 students (46 deaf & 81 normal)	4) To what extent are attitude, subjective norm, perceived behavioural control and intention of deaf children influenced by the mainstream curriculum adopted by schools in teaching English as a second language to deaf children in Oman?	See Table 3.1

### 3.4. Data Collection Procedure

This section details the data collection procedure administered in seeking answers for the objectives of the study.

### 3.4.1. Qualitative Data Collection from the Interviews and Teachers' Diaries

#### a. Interview Procedure

In relation to data collection procedure, there are many methods of collecting data for qualitative research. These include interview, participant observation, focus group, document analysis, and field notes (Robson, 2002). For this study, data were collected through semi-structured face-to-face interview method and documenting diary entries. According to Morse and Richard (2002), the use of semi-structured interviews is appropriate when the researcher knows about the study topics to frame the needed discussion in advance. An interview guide (Appendix VII) is used so that information about the same questions can be obtained from all the participants but the researcher was able to further explore any issues which emerged from the participants' answers and which were particularly interesting and worthy of elaboration. Data were collected by the researcher at six different intervals over a period of three months from October 2018 to January 2019. The data collection sessions were conducted separately with each individual participant at one time. The interview took place in their respective premises. Each of the six selected participants was contacted via telephone to arrange the time and place for the interview. After an agreement was reached about the time and place for the interview, the interviewee was called again to confirm the appointment.

During the phone contact, the researcher explained to the participants the goals of the study and he expressed his readiness to answer any queries they had regarding the interview. The participants were also informed that they were free to terminate their participation at any time during the interview. The interview session conducted for the purpose of the main data collection was in-depth and lasted between 35 to 45 minutes on average. The researcher asked the same questions to all the informants or experts identified, although not necessarily in the same order, supplementing the main questions

with either planned or unplanned probes. The interviews were digitally recorded by hand phone in addition to notes taking. All recordings were then transcribed in verbatim.

b. Diary Entry Procedure

In order to collect qualitative data based on diary entries documented by the teachers, the researcher took some time to explain to the teachers the procedure for documenting their thoughts.

In essence, the six teacher participants were requested to do the following:

1. Write an overview of each unit explaining the topics taught and the materials used.
2. Highlight the challenges they faced while teaching the different lessons in the unit.
3. Record in writing any ideas or techniques teachers used or to provide suggestions for reducing/ overcoming the challenges faced during the class sessions.

The diary entries were individually completed by participants, whom also participated in the interview sessions earlier. Data of the diary entries were collected from the on-going classes that took place between September and December 2018. To expedite and facilitate the process of receiving the diary sheets duly filled in, the participants were urged to use email to send their responses to the researcher. They were reminded in January 2019 by the researcher to submit their completed diaries. In summary, the researcher managed to receive 11 responses in total. That is, 11 diary sheets duly filled in by the participants: 3 sheets related to the teaching of grade 12 classes, 4 sheets related to the teaching of grade 6 classes and other 4 sheets related to the teaching of grade 5 classes. Each diary had a total of the following seven entries: grade, unit, lesson, week, objective of the course, summary of the lesson, challenges and suggestions related to the deaf student's ability to comprehend, read, and write.

Hence a total of 77 diary entries that were collected from the 6 teachers during the assigned period.

### 3.4.2. Quantitative Data Collection from the Questionnaire

The quantitative data pertaining to the questionnaire, were collected by the researcher at three different stages over two months' period (November - December 2019), involving 127 students from six schools in the Dhofar region. As detailed in the following section 3.4.3, the data collection involved the researcher distributing the questionnaire to students with the support from the school supervisor, headmistress and senior English teachers from both the male and female school.

### 3.4.3. Stages of Data Collection – An Overview

As informed in the previous section (Section 3.4) the data collected are in the forms of qualitative data as well as quantitative data. Table 3.5 provides an overview of the stages involved in collecting both the qualitative and quantitative data. Further elaboration regarding these stages is described in detail in the following sections.

**Table 3.5:** An Overview of Data Collection Stages

Session	Instrument/Type	No of participants	RQs/ROs	Analytical procedure
Stage 1	Ice-breaking	Meeting the supervisor of Deaf Education and informing schools		
Stage 2	Interview & Teacher's diary	Meeting study participants ( 6 Teachers) for the briefing of the study & distributing of the Teacher's Diary sheets & Interview questions	RQ1 RQ2 RQ3	Thematic content analysis
Stage 3	Quantitative/ Questionnaire for students	127 deaf and normal students	RQ 4	Descriptive stats (average etc) Inferential stats (anova ...) Factor analysis

Further elaboration regarding these stages is described in detail in the following paragraph.

### **Stage 1- Preparation for Data collection**

Upon obtaining the ministry of Education official approval letter to carry out this study (Appendices Xa and Xb), introduction to the research pertaining to its purposes, scope, and protocols of collecting data was briefly explained prior to data collection to the deaf education supervisor at the Ministry of Education, who supervises the six schools implementing the inclusive programme for deaf in Dhofar region. The stated letter was then emailed officially to the headmasters / headmistress of the six schools and the senior English teacher in each of the six schools was informed accordingly. Furthermore, the researcher paid personal visits to these personalities, especially the supervisor in their respective offices, carrying with him printed copies of an outline of the study, the instruments of the study and other related documents, to explain to them face to face the objectives and protocols of collecting the data.

### **Stage 2- Distribution of the Teacher's Diary sheets and Interview questions**

Upon receiving approval from the supervisor of the deaf education at the Ministry of Education, a short meeting was arranged between the researcher and the participant teachers by the respective supervisors. The meeting was conducted at the beginning of the first semester for the academic year 2018/2019 in the Teachers' Training Centre where the researcher briefed his study and handed in the study instruments (diary sheets and interview questions) to the participants. The participants were informed that participation was voluntary, they would remain anonymous, and

data would be treated strictly confidential, and would be used for research purposes only.

Upon agreement to be involved in the study, the participants were given a form to fill in which contains basic information about them (gender, position, teaching experience, institution of the participants and whether they have been involved in designing English language curriculum for the deaf and if they need any types of training). Participants were also informed by the researcher to start writing their diaries for the period of semester one for the academic year 2018/2019. They were provided with a sheet divided into three sections to fill in (see section 3.3.2.1 (ii)). The participants were also informed that an interview will be conducted in gaining insights of the relevance of the curriculum, effectiveness of the pedagogy, and the challenges they and students face. Hence, arrangements for the interview dates were made, depending on the availability of the participants. Interviewing the participants took place during the period from October 2018 to January 2019 (see section 3.4.1).

### **Stage 3- Distribution of the Questionnaire – Drop of Survey and Self-Administered Questionnaire**

A self-administered survey (Burns and Bush 2000) was employed in distributing the questionnaire. Self-administered surveys comprise two methods: mail survey and drop-off survey. The former requires the researcher to post the questionnaire to the prospective respondents and wait until it is completed and returned to the researcher. On the other hand, in the drop-off survey, a researcher approaches a prospective respondent, introduces the general purpose of the survey and leaves it with the respondents to complete. The aim is to gain the prospective respondent's cooperation. A researcher usually will return on the same day or the next day to collect the completed

questionnaires. In this way, a researcher can be able to cover a number of survey collections in a single day with an initial drop-off and later collection (Burns and Bush, 2003).

For the purpose of this study, the approach employed to distribute the questionnaire to the teachers and students was by using the drop-off survey method. This is due to three main reasons - firstly, it is suitable for collecting data where there is a need to pursue the respondents to respond. Secondly, the self-administered approach is appropriate for covering a large number of respondent groups and at diverse geographical locations as the case of this study where data were collected from large population across the Dhofar region, particularly in Salalah city. Finally, by using the self-administered approach, the researcher is able to overcome several major constraints of this study such as limited resources (in time and financially), unavailability and inaccessibility of information (Burns and Bush, 2000).

The quantitative data gathered was to seek answers to the fourth research objective regarding the extent to which attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by mainstream curriculum being adopted by schools in teaching English as a second language to deaf children in Oman. Accordingly, the questionnaires were distributed and collected from the identified six schools in Dhofar implementing the inclusive programs for the deaf. The researcher had two separate arrangements for the two gender-based schools. The data from the female school were collected with the support from the deaf education supervisor in Dhofar region, headmistress and senior English teachers (SETs) in the female schools. While for the male schools, the researcher himself participated with the help of the deaf education supervisor and the SETs. This arrangement was necessary to save time as the

data were collected simultaneously in both the male and female schools. Furthermore, the direct participation of SETs was very useful in guiding the deaf and normal children in the sample how to fill in the questionnaire. This was to ensure that the validity and reliability of the data were achieved as much as possible.

The following subsection details the procedures taken in administering the drop-off survey in distributing the questionnaires to the student participants.

**A. Support from School Supervisor, Headmistress, and Senior English teachers (SETs) (Female-gender schools)**

The researcher met the supervisor in the third week of the month of October 2019. He explained to her the objectives of the questionnaire survey and their protocols. He affirmed to her that the data collected would strictly be used for research purpose. Furthermore, he sought the help of the supervisor to take the questionnaires to the schools on his behalf and hand them over to the headmistress, who in turn will give it to the SETs to administer the questionnaires. The supervisor had no objection to bring along the questionnaires and seek headmistress's assistance since she pays regular supervisory visits to the schools to support and evaluate the teachers of deaf children. The supervisor advised the researcher to contact the headmistress and SETs and brief them about the objectives of the survey and its protocols. The researcher handed over to her 48 copies of questionnaires and thanked her for her support. The researcher later contacted the SETs from the female schools. He wrote to them through Whatsapp a covering letter explaining to them the purpose and protocols of the survey, and at the same time seeking their efforts and support for his research endeavours.

**B. Support from Deaf Education School Supervisor, Headmasters, and Senior English teachers (SETs) (Male-gender schools)**

Subsequently, in the fourth week of the same month – Oct 2019, the researcher contacted the SETs of the male schools. He also explained to them the objectives and

protocols of the data collection, and that the data would strictly be used for research purpose. The researcher sought the help of SETs to administer his questionnaires. Accordingly, similar to the previous female SETs, he also sent to these ones motivational covering letter. In addition, he asked them for specific date to come and meet them personally. After some time towards the first week of November 2019, the researcher met the SETs and discussed with them further about the questionnaire survey. He then handed over to them 79 questionnaires to administer the survey.

In both the male and female schools, the SETs were very cooperative. They agreed to distribute the designated questionnaires to the deaf students as well as to randomly chosen normal students in their schools. The questionnaires were in English language, so it was quite difficult for the students to fill in them without the help of the SETs. After the SETs collected the duly completed questionnaires, they notified the researcher and the supervisor to come and collect them from the respective schools. The process of data collection took two months (November - December 2019).

### **C. Student Respondents from Male and Female-gender schools**

A total of 127 questionnaires were distributed to normal and deaf children in the 6 identified schools in the Dhofar region. One hundred and eleven (111) questionnaires were returned as valid and completed, thereby yielding a response rate of 87%. The total of the 111 valid questionnaires received comprised 41 respondents from the deaf children and 70 respondents from the normal children. This total response of 111 was considered large enough and sufficient for statistical analysis using PLS-SEM. As stated previously, some researchers argue that statistical analysis can also be conducted with a minimum sample size of 100 to 200 (Hoyle, 1995). Many previous studies received a similar high response rate on various perceptions studies. For example, Gerrard and

Cunningham (1997) yielded 55%; Surechandar et al. (2003) and Abbas, et al (2003) yielded 54% response rate.

### **3.5. Procedure for Data Analysis**

In order to assess the challenges teachers and students face, the relevance of the curriculum, the effectiveness of the pedagogy, and the extent to which the attitude, subjective norm, perceived behavioural control and intention of deaf children are influenced by mainstream curriculum, qualitative and quantitative analyses were performed on the data.

In the following sub-sections (section 3.5.1. and 3.5.2), the researcher reports the procedure used first for the analysis of the qualitative data that were obtained from two research instruments, mainly the interviews and the teachers' diaries. In comparison, to further understand the perceptions of the deaf and the normal students, data were also investigated using the quantitative approach (section 3.5.3).

#### **3.5.1. Analytical Procedure for Qualitative Data (Interviews)**

The qualitative analysis from the data provided access to the views of teachers teaching deaf children on the adoption of such curriculum for teaching English to the same respondents. The procedure used for the analysis of the qualitative data from the interviews is based on the six steps thematic content analysis method. After collecting the data through written notes and digital recording, qualitative data were thematically analysed to code the common themes that represented the informants' point of views on issues asked. A six-step thematic content analysis method, as suggested by Braun and Clarke (2006), was used. Firstly, after each semi structured interview was conducted, the data were immediately transcribed verbatim by the interviewer for

proper coding and data storage, as well as for the interviewer to familiarize with the data. After completing all the full transcripts, the interviewer read the data three times and highlighted key words and phrases. For example, key words like curriculum, syllabus, teaching, English, challenges and deaf children. Secondly, initial codes were selected to represent any interesting features that occurred throughout the entire data set. [See Appendix IX on sample template for generating themes].

Thirdly, the interviewer collated codes into potential themes. For example, collating syllabuses with courses, teaching devices with materials, etc. Fourthly, themes were reviewed to check that they were in conjunction with their coded extracts and with the entire data set. After an ongoing analysis of the specifics of each theme, the fifth step was to define and name each theme. The sixth and final step was to write out a description of each theme. In this last step, nine themes were identified, which include relevance of the curriculum and challenges of teaching English to deaf children, among others [See Appendix IX on sample template for generating themes].

To control the biasness of the interviewer in the interpretation of themes, a peer review process, as outlined in Creswell (2007), was conducted for validation. A qualified research colleague neutral to this study received full transcripts of all interviews and coded the data completely independently of the participation of the researcher. This peer reviewer also used thematic content analysis as outlined by Braun and Clarke (2006). Peer debriefing sessions then took place in which the interviewer and neutral colleague met to compare and contrast coded themes. This meeting served the purpose of controlling for any confounding interpretations the interviewer might have made due to his full engagement in delivering the intervention in this study.

In addition to the peer review, the researcher conducted Inter-Rater Reliability of the Coded Themes to ensure transparency, communicability and coherence of

the themes generated from the open-ended and semi-structured interviews questions (Auerbach and Silverstein, 2003). For example, the first question of the interview is, “Do you think the curriculum being used to teach English language to deaf children in Oman is relevant? If yes, why and if no, why not? [provide examples to support your answers]”, the researcher identified two super-ordinate keywords of the question, which are curriculum and suitability. The researcher then identified sub-ordinate main points from the responses of each participant. For example, for Participant 1, it was curriculum and relevance. The researcher then transferred the main ideas as keywords based on super-ordinate and sub-ordinate facts for the cases of all the participants.

The researcher approached two knowledgeable scholars in qualitative research to act as inter-raters. The researcher provided the inter-raters the templates that comprised the themes he derived from the interview questions. The two inter-raters compared the tentative themes generated against the interview questions. The researcher then used the responses from the two inter-raters to calculate the Percentage of Absolute Agreement (PA), which measures the extent to which they agree with the researcher’s matching of the themes to the research questions. The responses from the two inter-raters yielded an absolute agreement of 83.75%, which is acceptable, values from 75% to 90% show an acceptable level of agreement (Stemler, 2004). See section (3.3.2) for the detail of the Inter-Rater Reliability calculation and results.

### **3.5.2. Content Analysis - analytical procedure for the Teachers’ Diaries**

Morse, et al. (2002) suggest content analysis as a "method for describing and interpreting the artifacts of a society or social group". In addition to the interviews, the researcher employed content analysis method to describe and interpret the behaviour of the social group (deaf children) in a classroom setting from the teachers’ perspectives.

Teacher's Diaries were used as research instruments to solicit data on how teachers experience the adoption of mainstream curriculum in teaching English as second language to deaf children. The teacher's experiences were captured for three months experimental teaching periods in selected classes and selected units of lessons. Three teachers were assigned and given the diary each to record one entry per unit/month. The total overall diary entries received from the teachers are 11. The data obtained supplement the data obtained through the interview questions. The researcher makes use of diaries of teachers teaching English as a second language to deaf students to document classroom activities and record the challenges and achievements the participant's experience in teaching the class. (See Appendixes V and VI for a sample of Teachers' Diary Sheet and Teachers' Diary Sheet Duly Filled in [a, b, c] respectively. The details about Teachers' Diaries are further explained in Section 4.3.2.

### **3.5.3. Analytical Procedure for Quantitative Data (Questionnaire)**

The quantification of the main data allowed the researcher to assess the attitude, subject norm, perceived behavioural control and intention of the deaf children in Oman towards the mainstream curriculum being adopted by schools in teaching English to them. Data for quantitative analysis were obtained from the questionnaire survey results. Scores obtained from the relevant tests assisted the researcher to ascertain robustness of the data and the fitness of the two models (measurement and structural) generated by the SmartPLS software. Furthermore, descriptive statistics to measure frequency, central tendency (i.e., mode, median and mean), as well as the dispersion in relation to tests scores in this study were also generated using SPSS. The data were screened using SPSS to ensure they meet some of the common assumptions related to normality, absence of outliers, multicollinearity and skewness.

**Table 3.6:** Overview of Steps in the Data Analysis Procedures

Research Instrument	Participants	Data analysis
Interview questions (Appendix VI)	6 Teachers	A thematic content analysis method.
Diary entries (Appendix V11)	6 Teachers	content analysis
Questionnaire (Appendices II & III)	127 students (46 deaf & 81 normal)	<p><b>Section A (Demography) – Descriptive Stats (3 questions)</b></p> <p>Descriptive statistics via SPSS were used to measure frequency, central tendency (i.e., mode, median and mean), as well as the dispersion in relation to tests scores in this study.</p> <p><b>Section B: (Yes/No questions) Descriptive Stats. (8 questions for the deaf and 6 questions for normal children).</b></p> <p>Descriptive statistics via SPSS were used to measure frequency, central tendency (i.e., mode, median and mean), as well as the dispersion in relation to tests scores in this study.</p> <p><b>Section C: (Likert Scale) (20 questions for the deaf and 26 questions for normal children)</b></p> <p>Factor analysis via SmartPLS software to determine the most important factors related to attitude, subjective norm, perceived behavioural control and intention that determine the adoption of mainstream curriculum in teaching English as a second language to deaf children in schools in Oman.</p> <p>Testing via SmartPLS software for construct validity, composite reliability (CR), and average variance extracted (AVE)</p> <p>Using SmartPLS software to generate the measurement model and structural model.</p>

### 3.6. Research Ethics

One of the important principles of research ethics is objectivity, to be conscious of multiple roles and avoid conflict of interest. In this study, the researcher has no professional relationship with the participants as they are attached to the Special Education Department, and they are supervised by Deaf Education Supervisors. The

researcher is concerned with training English language teachers for students without disabilities [NOT deaf students) on methodology and curriculum. Selecting the topic of his thesis is a matter of personal interest with the hope of highlighting issues related to adopting mainstream curriculum in teaching deaf students in Oman.

### **3.7. Conclusion**

This chapter discussed the methodology used for data collection and analysis to achieve the objectives of this study. The chapter was structured into five main sections including the introduction (section 3.1). Section 3.2 discussed the rationale for choosing a mixed method and section 3.3 explained the research context including the population of the study and research instruments. Section 3.4 focused on data collection procedure which involved both qualitative and the quantitative data. Section 3.5 covered the procedure for data analysis, and the last section 3.6 explained the research ethics and disclaimer of the researcher from any biasness in collecting the data.

The subsequent chapter presents and discusses the overall findings and analysis of data collected from the qualitative survey in the form of interviews and teacher's diaries.