CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This research is a Needs Analysis study aiming to identify Bahasa Malaysia needs of international students of the University of Malaya. To explore answers to the research questions, a mixed methods research design was chosen including both qualitative methods, through exploratory interviews, and quantitative methods, through implementation of a questionnaire. The data collected were analyzed and used as a guideline to identify and recommend specific areas of BM to be incorporated into the syllabus of the BM course offered in the University of Malaya, which addresses all its international students.

This chapter will report the details of the procedures used to collect, manage, and analyze the data. The chapter will present information on how, who, and under what conditions data were collected and analyzed. The rationale for the decisions made will also be discussed and substantiated in relation to the related literature and the conceptual framework. In other words, the readers will be provided with enough detail on what was done to collect data and why it was done. According to Bartlett, Kotrlik, and Higgins (2001), "the procedures used … should always be reported, allowing the reader to make his or her own judgments as to whether they accept the researcher's assumptions and procedures" (p. 49).

3.2 RESEARCH DESIGN

To find answers to research questions, the researcher should prepare for the challenge of selecting an appropriate research design. “The theoretical orientation of the particular method, as found in the inquiry literature provides the criteria for determining the appropriateness of the research design to the research questions and to the study’s conceptual framework”. This theoretical orientation can also determine appropriate data collection and interpretation methods (Rocco et al., 2003, p. 26).

This study aims to explore answer to the following questions:

1) What language skills of Bahasa Malaysia do international students need more frequently?

2) What specific notions and functions of Bahasa Malaysia do international students need more frequently?

3) What are the learning style preferences of international students?

The following sections will present detailed accounts of the research design, the procedure, the participants, the instruments, and the data analysis procedure.

Description of the research design of a study has to be clear and thorough. According to Rocco, Bliss, Gallagher, and Perez-Prado (2003), “Many methods sections and abstracts describe a study simply as ‘a qualitative study’ or a ‘quantitative study’ citing only textbooks to support this position” (p. 26). They further argue that ‘*qualitative*’ and ‘*quantitative*’ are not types of studies, and that each is a general term that describes “an approach to research”. Qualitative and quantitative approaches consist of different designs such as, case study, experimental design, and ethnography.

Furthermore, each variation of these two approaches evolves diverse methods of data collection and analysis procedures. Besides, they have origins in various philosophical traditions. The researchers' awareness of these diversities can guide them to choose a particular method or mix of methods (Rocco et al., 2003, p. 26).

3.3 MIXED METHODS RESEARCH DESIGN

As mentioned before, a mixed methods research design was used in this study, including both qualitative and quantitative methods of data collection. In recent years, using mixed-methods designs has become popular among researchers, especially in the fields of social sciences and humanities.

Mixed methods is defined as "the collection or analysis of both quantitative and qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research" (Creswell, Clark, Gutmann, and Honson, 2003, p. 212). Researchers have come to the conclusion that by mixing quantitative and qualitative methods of data collection, they can benefit from the strengths of both methods. For example, when a researcher collects both forms of data, he or she will be able to generalize using results from a sample to a population in the quantitative stage, and at the same time, gain a deeper understanding of the problem through case studies, observations or semi-structured interviews (Hanson, Clark, Petska, Creswell, and Creswell, 2005, p. 224). Besides, as research problems become more complex, neither quantitative nor qualitative methods, by themselves, can produce the data needed to thoroughly analyze different angels of the problems (Green, Caracelli, and Graham 1989; Miles and Huberman 1994; Green and Caracelli 1997; Tashakkori and Teddlie 1998).

3.3.1 Reasons to Use Mixed Methods

After reviewing 57 mixed methods studies, Greene, Caracelli, and Graham (1989), identified five main reasons researchers adopt a mixed methods research design. They demonstrated those purposes by giving examples of evaluation projects. The five reasons they identified are *triangulation*, *complementarity*, *development*, *initiation*, and *expansion*.

Triangulation, *which* is the most common reason, is used to increase the validity of a research. It involves using more than one method while studying the same research question in order to "examine the same dimension of a research problem" (Jick, 1979, p. 602) The researcher aims for a convergence of the data collected from different instruments used in a study to increase the credibility of the research findings. Triangulation helps the researcher to reach stronger and richer conclusions, so that they appeal to advocates of both qualitative and quantitative methods (Hesse-Biber, 2010, p. 3). An example of triangulation is when the researcher uses a qualitative interview and a quantitative questionnaire to assess programme participants' perceptions. ***Complementarity***, which is the second reason to mix methods, increases the validity and interpretability of a research, enables a deeper and more complete understanding of the research problem, and helps to clarify the results. It allows measuring "overlapping, but also different facets of a phenomenon" (Greene, et al., 1989, p. 258). For example, a researcher may use a qualitative interview to "measure the nature and level of program participants' perceptions", "as well as *influences* on these [perceptions], combined with a quantitative questionnaire to measure the nature, level, and *perceived ranking within peer group* of participants' [perceptions]" (p. 258).

Development also helps to increase a study's validity, and refers to using the "results from one method to help develop or inform the other method" (p. 259). For example, a researcher can use statistical data collected from a quantitative method to prepare questions for the qualitative phase of his or her research, which can be more in-depth interviews.

A fourth purpose of using mixed methods is ***initiation***, which emerges when findings of a study is inconsistent, and possible contradictions in the results raises questions and requires initiating a new study for clarifications. The desired effect of the new study would be to add new insights to existing theories on the phenomenon under examination (Greene et al., 1989). This search for "fresh insights" usually emerge and are not usually planned in the research design (p. 260).

Findings from a study might unfold a new research topic and raise a new set of research questions that would call for a new investigation. This leads the researcher to a fifth reason for doing mixed methods research: ***expansion***. Expansion aims to "extend the breadth and range of the inquiry" (Greene et al., 1989, p. 259).

Researchers can use Greene and her colleagues' (1989) framework to organize and characterize the ways researchers have used mixed methods. Using the positive power and synergy of both methods is the best way to complement one's research findings. Working with both methods enables a cross-check on research results. Quantitative data and the statistical findings can be explained and clarified by the narrative understanding made possible by qualitative data. Furthermore, researchers can use qualitative methods to test the validity of the quantitative instruments like questionnaires. For instance, the data collected from an initial qualitative study, such as interviews or observations, can help develop a questionnaire, which can later be used in

a large-scale quantitative study. Similarly, quantitative data can provide a vast context for a researcher to set the qualitative data, and to identify candidates or representatives through survey samples, for an in-depth research. This is how quantitative data can assist to establish generalizability of qualitative results (Hesse-Biber, 2010, p. 6).

The present study used a mixed methods research design to enable collecting data using both methods of data collection, and reaching valid and credible conclusions by corroborating the findings. Similar to the examples provided above, a qualitative interview and a quantitative questionnaire were used as data collection instruments, to assess students' perceptions of their needs, lacks, and wants. Based on Greene, et al.'s (1989) identified reasons, it can be summarized that this study used both qualitative and quantitative methods of data collection, to complement and explain findings, and develop instruments. The details of the research process and data collection procedure, and the way each method assisted to develop and complement the other, will be discussed in the following sections.

3.3.2 Types of Mixed Methods Research

About forty mixed-methods research designs have been reported in the literature (Tashakkori & Teddlie, 2003). However, Creswell and Plano Clark (2007) believe that "although authors have emphasized different features and used different names, there are actually more similarities than differences among these classifications" (p. 59). Thus, to create a practical and functional classification, they suggest "four major mixed methods designs, with variants within each type". These four major types of mixed methods designs are the *Triangulation Design*, the *Embedded Design*, the *Explanatory Design*, and the *Exploratory Design*. They further provide an overview of each design including their use, procedures, common variants, and challenges.

The Triangulation Design

Creswell, Plano Clark, Gutmann, and Hanson (2003) state that one of the most frequently used mixed methods designs is triangulation (QUAN + QUAL), which allows a researcher to validate quantitative statistical findings with qualitative data results.

The term *triangulation* is "borrowed from military naval science to signify the use of multiple reference points to locate an object's exact position" (Hanson et al., 2005, p. 225). This term was later used to suggest that quantitative and qualitative data could be complementary. Each could, for example, "uncover some unique variance which otherwise may have been neglected by a single method" (Jick, 1979, p. 603, as cited in Hanson et al., 2005, p. 225).

As Creswell & Plano Clark (2007, p. 62) put it, "the Triangulation Design is a one-phase design in which researchers implement the quantitative and qualitative methods during the same timeframe and with equal weight" (see Figure **3.1**). Since this design is carried out in a single phase, it is referred to as the "concurrent triangulation design" (Creswell, Plano Clark, et al., 2003). The two sets of data are collected simultaneously, and the results are put together and analyzed in the interpretation phase of the procedure.

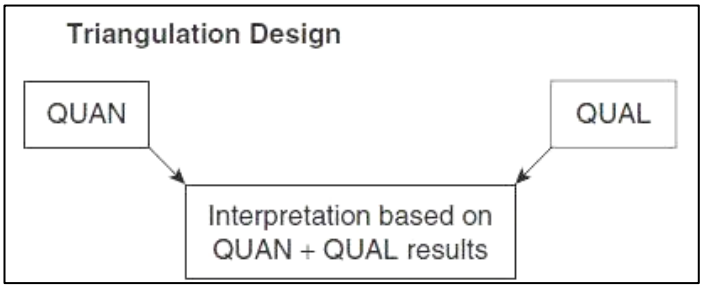

Figure 3.1 Triangulation Design (Creswell & Plano Clark, 2007, p. 63)

The Embedded Design

The Embedded Design (see Figure 3.2) is a mixed methods design that can use either a one-phase or a two-phase approach, and refers to a design in which "one data set provides a supportive, secondary role in a study based primarily on the other data type" (Creswell, Plano Clark, et al., 2003, as cited in Creswell & Plano Clark, p. 67). The rationale for embedding a second type of data set is that a single data set is not sufficient to answer different questions that require different types of data.

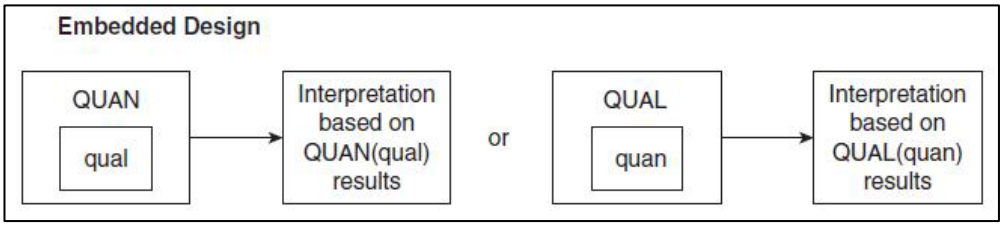

Figure 3.2 The Embedded Design (Creswell & Plano Clark, 2007, p. 68)

The Explanatory Design

Among the four types of mixed methods research designs identified by Creswell & Plano Clark (2007), the Explanatory Design, is the method used to collect, and analyze the data in the present research. Therefore, this model of research design will be discussed in further detail and in relation to this study.

The Explanatory Design, which is also known as the "Explanatory Sequential Design, is a two-phase mixed methods design" (see Figure 3.3a). In general, the qualitative data are collected with an aim to help explain or build upon initial quantitative results (Creswell, Plano Clark, et al., 2003). For instance, when a researcher faces significant, insignificant, or surprising results, he or she might use qualitative data to explain those results. (Morse, 1991, as cited in Creswell & Plano Clark, 2007).

In this design, first the quantitative data is collected and analyzed. The second phase includes collecting and analysing the qualitative data in a way that it follows from (or connects to) the results from the initial quantitative phase. In this design more weight and emphasis is put on the quantitative data collection methods (Creswell & Plano Clark, 2007).

The Explanatory Design has two variants: the "follow-up explanations model" and the "participant selection model" (p. 72). Both models start with a quantitative phase that is followed by a qualitative phase. However, they are different in the ways the two phases are connected. The follow-up explanations model, focuses on more detailed examination of results, whereas, the participant selection model, as the name suggests, puts more emphasis on selecting the appropriate participants (see centre boxes of Figures 3.3b and 3.3c). Another difference between the two is the relative amount of emphasis that is put on either of the two phases.

The follow-up explanations model (Figure 3.3b), which is the variant used in the present research, is "when a researcher needs qualitative data to explain or expand on quantitative results" (Creswell, Plano Clark, et al., 2003). In this model, the researcher "identifies specific quantitative findings that need additional explanation, such as statistical differences among groups, individuals who scored at extreme levels, or unexpected results". The next step is to collect the qualitative data "from participants who can best help explain these findings". In this model, the quantitative data is given the primary emphasis is (Creswell & Plano Clark, 2007, p. 72).

The participant selection model (Figure 3.3c) is conducted when a researcher "needs quantitative information to identify and purposefully select participants for a follow-up, in-depth, qualitative study". In this model, although the qualitative phase of

the study follows the quantitative phase, the qualitative phase of the study is more emphasised. Figure 3.3 shows the process and variants of the Explanatory Design.

Creswell and Plano Clark (2007) state that the Explanatory Design "is considered the most straightforward of the mixed methods designs", and list a few advantages of this design. Its first advantage is that because the data is collected in two separate phases, conducting this design is easier as the researcher collects only one type of data at a time, which means there is no need for a team of researchers to collect the data, and a single researcher can carry out all the phases of data collection. Second, the researcher reports the results in two phases, which makes it simpler for the researcher to write and easier for the readers to understand the data analysis (Creswell & Plano Clark, 2007, p. 74).

Creswell and Plano Clark (2007) further argue, "Although the Explanatory Design is straightforward, researchers choosing this approach still face challenges specific to this design". The first disadvantage of this design is that it is time consuming. They insist that although the qualitative phase involves only a few participants, it will take more time to implement than the quantitative phase. The second challenge in front of the researcher is selecting the participants of the study. Decisions must be made as to "whether to use the same individuals for both phases, to use individuals from the same sample for both phases, or to draw participants from the same population for the two phases".

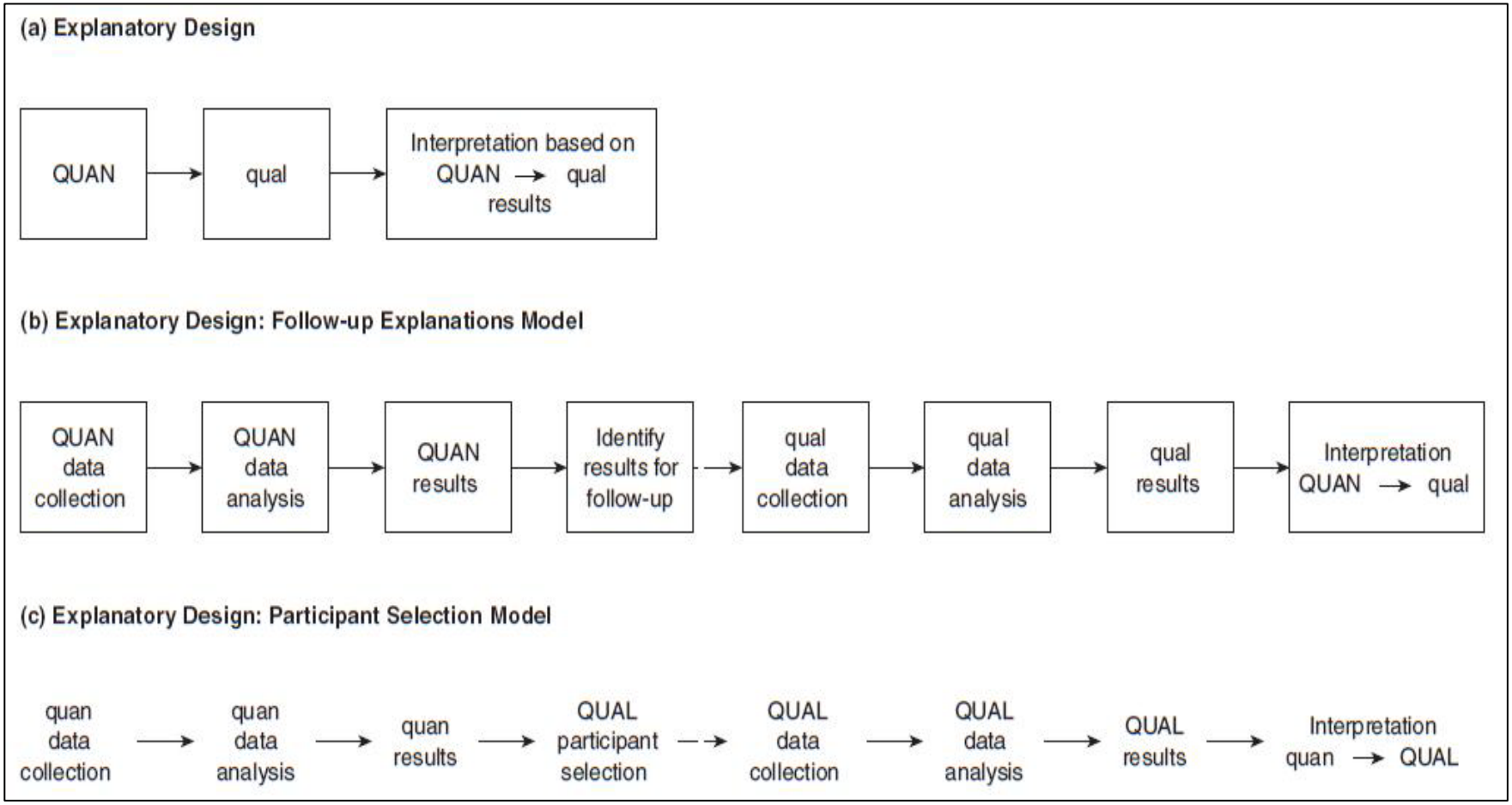

Figure 3.3 The Explanatory Design (Creswell & Plano Clark, 2007, p. 73)

The Exploratory Design

The Explanatory Design or the Exploratory Sequential Design, is used when "Measures or instruments are not available, the variables are unknown, or there is no guiding framework or theory" (see Figure 3.4). It is a two-phased design in which the qualitative method is followed by the quantitative method; therefore, it is well suited for exploring a phenomenon. The purpose of the initial qualitative phase is to help develop and test an instrument or identify important variables for the quantitative phase. In this design "a greater emphasis is often placed on the qualitative data" (Creswell & Plano Clark 2007, pp. 75-77).

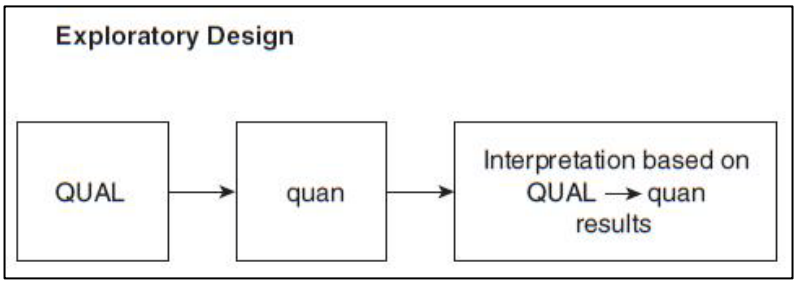

Figure 3.4 The Exploratory Design (Creswell & Plano Clark, 2007, p. 76)

3.4 THE PRESENT STUDY

After having reviewed the literature related to the research methodology in the previous sections, the following sections, will describe in detail the methodology and procedures followed in the present study.

This study followed a mixed methods Sequential Explanatory Design. It consists of two distinct phases: quantitative followed by qualitative (Creswell, Plano Clark, et al., 2003). In this design, first, the quantitative (numeric) data were collected and analyzed. The qualitative data were collected and analyzed second in the sequence and helped explain, and elaborate on, the quantitative results obtained

in the first phase. “The second, qualitative, phase builds on the first, quantitative, phase, and the two phases are connected in the intermediate stage in the study” (Creswell & Plano Clark, 2007. P. 87). The “rationale for this approach was that the quantitative data and their subsequent analysis provide a general understanding of the research problem”. The qualitative data and their analysis refined and explained those statistical results by exploring participants’ views in more depth (Rossman & Wilson, 1985; Tashakkori & Teddlie, 1998; Creswell, 2003, as cited in Creswell & Plano Clark, 2007).

The main instrument used in the quantitative phase of this study, was a questionnaire, which was administered to the international students, who were the only group of subjects in this research. In the qualitative phase of the study, which followed the quantitative phase, four students, who were selected from the questionnaire respondents, were interviewed in separate sessions.

The questionnaire and the interview questions were pilot tested in order to be validated by eliminating possible ambiguities and irrelevances in the items and questions.

3.5 THE QUANTITATIVE PHASE

Through a quantitative method, the researcher obtains the data systematically usually from a large number of subjects, and presents the data in numerical forms. The instruments used for data collection in this method include, surveys, questionnaires, structured interviews, laboratory experiments, and non-participant observation (Creswell, 2003). In this study, a questionnaire was the data collection instrument.

To report the quantitative phase of the study, first, the sampling and data collection procedure will be presented and then the participants will be described.

3.6 SAMPLING AND DATA COLLECTION

In mixed methods research design, sampling depends on the type of method, whether it is concurrent or sequential. In concurrent data collection the qualitative and quantitative data are independent of each other, while in sequential data collection the two forms of data are related or connected to each other. The type of mixed methods design used in this study is a Sequential Explanatory Design, in which the data collected in the initial quantitative method are explained through the data collected in the final qualitative method.

In this study, data collection of the quantitative phase involved distributing the questionnaire (see Appendix B). The questionnaire was administered towards the end of the second academic session of 2009-2010, during which the last three groups of postgraduate and one group of undergraduate candidates were attending the classes.

Oral instructions were given to participants by the researcher before distributing the questionnaires. A brief introduction was also provided on the questionnaire that included the objective of the data collection (see Appendix B).

3.6.1 Postgraduate Group

For the postgraduate group, the questionnaire was distributed in three different sessions to the three different classes that were held at the time. Two of these classes were held in the IPS building and one was held in the faculty of Medicine for the students from that faculty. A total number of 23 questionnaires

were distributed, out of which 19 were filled out completely and could be used for data analysis. In these three classes, a total of six postgraduate students did not fill out the questionnaire.

The target population of this study was all the international students who had passed or were attending the BM course in the second session of the academic year 2009-2010. Since the beginning of the semester, five groups of postgraduate students had attended and passed the course. Therefore, the only way to reach them was through e-mail. Consequently, an electronic version of the questionnaire was prepared and e-mailed to the postgraduate candidates who had attended the course earlier in the semester. The list of these students and their e-mail addresses were obtained from the teacher. A total number of 50 questionnaires were sent via e-mail and only nine questionnaires were filled and emailed back to the researcher. Thus, the total number of postgraduate respondents added up to 28.

Unfortunately out of the 50 online questionnaires that were emailed to students, only nine were filled out and returned. This very low return rate is one of the main disadvantages of using online surveys and questionnaires. However, due to time restrictions the researcher had not choice but to send the questionnaire to the remaining students via email. Since at time of data collection, the academic semester was near its end, only the last few groups of international students were attending the BM course. All other groups had already finished their BM course and had passed their BM final exam. If the researcher were to collect data by using only paper questionnaires to ensure a high return rate, the data collection period would have taken more than four months, since the beginning of the semester to its end., which would have been so time consuming.

3.6.2 Undergraduate Group

At the time of data collection, one group of undergraduate candidates were attending the BM course. This group consisted of 60 students who had been attending the classes once a week since the beginning of the semester. Their classes were held in the faculty of Languages and Linguistics. The questionnaire was conducted during their last session of the course, which was one session before their final exam. Therefore, unfortunately only 12 students were present to fill out the questionnaire.

To distribute the questionnaire to the whole group, the electronic version was e-mailed to the rest of the group. Only 13 questionnaires were filled out and emailed back to the researcher, which brought the total number of undergraduate respondents to 25.

The data collection of the quantitative stage of the study was completed over a period of one month.

3.7 THE PARTICIPANTS

Criteria for selecting the participants for the quantitative phase included (1) being an international student of UM, (2) attending the Bahasa Malaysia course at the time or having had passed it earlier in the second session of academic year 2009-1010, (3) for those who were attending the course, having been in the last weeks of the course.

The following paragraphs provide detailed information about the participants based on the results from Part A of the questionnaire (see Appendix B).

3.7.1 Type of Tertiary Programmes

The participants in the quantitative phase, 25 females and 27 males, were pursuing their undergraduate, Master's or PhD studies. Out of the 52 participants who responded to the questionnaire, 25 were undergraduate students, 16 were Master's students and 11 were PhD students.

Table 3.1 Respondents' Type of Tertiary Programmes

	N	%
Undergraduate	25	48.1
Master's	16	30.8
PhD	11	21.2
Total	52	100.0

3.7.2 Academic Faculty

Among the participants, 44 students came from eleven different faculties of the University of Malaya, and eight students came from other institutes in the university. Table 3.2 shows the numbers and percentages of the students from the different faculties.

Table 3.2 Respondents' Academic Faculties

Faculty	N	%
Computer Science & IT	8	15.4
Arts and Social Sciences	7	13.5
Engineering	6	11.5
Medicine	5	9.6
Science	5	9.6
Business and Accounting	4	7.7
Education	3	5.8
Law	2	3.8
Dentistry	2	3.8
Economics & Administration	1	1.9
Built Environment	1	1.9
Other	8	15.4
Total	52	100.0

3.7.3 Nationality

Table 3.3 presents the nationalities of the participants. The participants of this study came from 13 different countries. The biggest group of participants was Iranians (32.7%), followed by students from Korea (11.5%). The next two countries were Iraq with 9.6% and Bangladesh, China and Nigeria each with 7.7% of the participants. The numbers of participants from different countries are shown in the table below.

Table 3.3 Nationality of Respondents

Nationality	N	%
Iranian	17	32.7
Korean	6	11.5
Iraqi	5	9.6
Bangladeshi	4	7.7
Chinese	4	7.7
Nigerian	4	7.7
Pakistani	3	5.8
Saudi	2	3.8
Libyan	2	3.8
Vietnamese	2	3.8
Somalia	1	1.9
Cameron	1	1.9
Maldivian	1	1.9
Total	52	100.0

By looking at Figure 1.1, in Chapter 1, Introduction, we can see almost the same pattern in the number of postgraduate international students. Based on the data obtained from the Institute of Postgraduate Studies (IPS) in UM, in the years 2007-2009, 28% of the international students who started their postgraduate studies in UM were Iranians. After Indonesians, who were the second largest nationality, Iraqi students stood as the third largest group of postgraduate international students. The next largest groups were from China, African countries, and Middle Eastern countries, such as Saudi Arabia and Yemen. The table below shows almost the same proportions existing in the total number of postgraduate international students (see

Figure 1.1). This similarity is important, since it shows that the participants of this study, although being a small group, can represent the international students currently studying in UM in terms of nationality.

3.7.4 Length of Stay in Malaysia

One of the factors that can influence learning and motivation of the students is the time they take a language course. Since the BM course seems to aim to prepare students for more meaningful and easier daily interactions with Malaysians, it is assumed that the course will be most useful if the international students attend it during their first months of stay in Malaysia. To see whether the international students choose to take the BM course when it can benefit them the most, they were asked to put in the number of months they had stayed in Malaysia. The results are illustrated in Table 3.4.

Table 3.4 Length of Respondents' Stay in Malaysia

Months of Stay in Malaysia		
N	Valid	50
	Missing	2
Mean		23.94
Minimum		1
Maximum		50

As the mean shows, the average number of months the participants' had stayed in Malaysia at the time they filled out the questionnaire was 23.94 months. This average indicates that the students prefer to attend the BM course towards the end of their studies. According to one of the interviewees, the students should take the BM course towards the end of their studies. She argued that the reason that the majority of the students take the course just before they graduate is that "They are so overwhelmed with their courses, so they find it difficult to fit in time for the BM course".

3.7.5 Employment in Malaysia

Only 11.5 percent of the participants (N= 6) were working in Malaysia at the time, all of whom were postgraduate participants. Among the six employed participants, three were university lecturers, one was a medical doctor, one was an engine designer and one was an editor. Table 3.5 and Table 3.6 illustrate the number of employed participants and their jobs respectively.

Table 3.5 Respondents' Employment

Work in Malaysia	N	%
Yes	6	11.5
No	46	88.5
Total	52	100.0

Table 3.6 Respondents' Jobs

Job	N	%
Lecturer	3	11.1
Medical Doctor	1	3.7
Engine Designer	1	3.7
Editor	1	3.7
Total	6	22.2

The last items of Part A of the questionnaire asked the participants about their language background. The findings from these items will be reported and discussed in Chapter 4, Findings and Discussion.

3.8 THE QUESTIONNAIRE

The most common data collection tool in a Needs Analysis is a questionnaire for being less costly and time consuming compared to face-to-face interviews. By administering a questionnaire to a large group of subjects in one or a few sessions, a huge amount of data can be collected. Besides, the researcher can obtain different types of information by asking various types of questions. However, interpreting and

analyzing the data collected from a questionnaire can be challenging and time consuming because the researcher cannot ask further questions from the respondents to clarify possible vague responses.

Nevertheless, the researcher can avoid inaccurate and unclear responses by taking a few measures. One effective method is pilot testing the questionnaire, i.e. administering it to a small number of subjects before handing it out to the main group of respondents. This can help the researcher to identify and revise difficult, unclear, or irrelevant items. Furthermore, other helpful ways to obtain accurate data include providing the respondents with clear instructions before administering the questionnaire, and giving the subjects a sufficient time to complete the questions,. Another recommended strategy to avoid obtaining invalid and inaccurate data is to triangulate the findings with the data collected from interviews.

Designing a new questionnaire should be avoided for two main reasons. First, the process is very time-consuming, and second, the results of a study using a newly designed questionnaire would not be comparable with any other study. Thus, using an existing questionnaire and adapting it to the specific research questions of a study is a much better strategy.

The questionnaire used for this study (see Appendix B) was adapted from Brindley (1984) cited in Nunan (1988). The questionnaire that Brindley (1984) has designed (see Appendix G) was the most suitable questionnaire to be used in this study, because it contains questions that can elicit the students' needs and wants, as well as their learning style preferences. Brindley's (1984) questionnaire has been widely used in several studies to assess language learners' learning style preferences, and their wants and necessities (for example, see Riazi & Riasati, 2007; Stapa, 2003;

Rezaei, 2005; Ahmed, Nazmul Huda, & Karim, 2006; Bada & Okan, 2000). The questions on Brindley's (1984) questionnaire, with a few modifications that will be explained in the next section, could comprehensively answer the questions proposed by Hutchinson and Waters' (1987) frameworks for analysing leaner and learning needs. Table 3.7 and Table 3.8 illustrate the relationship, between the items on Brindley's (1984) questionnaire and Hutchinson and Waters' (1987) frameworks for analysing leaner and learning needs.

The frameworks and the corresponding parts in the questionnaire have been put side by side to clearly show the relationship between the two. The order of the questions in the two might not correspond one to one in most cases. However, the main questions in the framework have one or several corresponding items in the questionnaire. In Table 3.7, Part B of the questionnaire has been quoted completely and without change.

Table 3.7 The Learners' Needs Framework and the Questionnaire

Hutchinson and Waters' (1987) learners' needs Framework	**Part B of the questionnaire, adapted from Brindley (1984)**
Why is the language needed? - For study; - For work; - For training; - For a combination of these; - For some other purpose, e,g, status, examination, promotion. **How** will the language be used? - Medium: speaking, writing, reading, etc. ; - Channel: e.g. telephone, face to face; - Types of text or discourse: e.g. academic texts, lectures, informal conversations, technical manuals, catalogues. **What** will be the content areas be? - Subjects: e.g. medicine, biology, architecture, shipping, commerce, engineering; - Level: e.g. technician, craftsman, postgraduate, secondary school; **Where** will the language be used? - Physical setting: e.g. office, lecture theatre, hotel, workshop, library; - Human context: e.g. alone, meetings, demonstrations, on telephone; - Linguistic context: e.g. in own country, abroad. **When** will the language be used? - Concurrently with ESP course or subsequently; Frequently, seldom, in small amounts, in large chunks.	Do you need Bahasa Malaysia so that you can: 1. Tell people about yourself. 2. Tell people about your family. 3. Tell people about your job. 4. Tell people about your education. 5. Tell people about your interests. 6. Talk to doctors/hospital staff. 7. Talk to your professors. 8. Talk to officials/office workers. 9. Ask for/give directions/addresses. 10. Communicate with your neighbours. 11. Speak to your house owner or your real estate agent. 12. Speak to shopkeepers. 13. Talk to Malaysian friends. 14. Receive/make telephone calls. 15. Order food in restaurants. 16. Speak to taxi drivers. 18. Watch TV. 19. Listen to the radio. 20. Write letters/e-mails. 21. Fill out forms. 22. Read Billboards and signposts. 23. Read electricity/water/internet bills. 24. Read traffic signs and notices. 25. Read newspapers/ books/ magazines. 26. Read academic texts. 27. Read catalogues/manuals. 28. Read advertisements. 29. Read food labels. 30. Apply for a job. 31. Make travel arrangements. 32. Use buses/trains. 33. Complain about or return goods. 34. Give/ accept/ refuse invitations.

In Table 3.8, some options under the items in Part C of the questionnaire have been deleted due to lack of space in the table (see Appendix B for the complete questionnaire).

Table 3.8 The Learning Needs Framework and the Questionnaire

Hutchinson and Waters' (1987) Learning Needs Framework	Part C of the Questionnaire, Adapted from Brindley (1984)
Why are the learners taking the course? - compulsory or optional; - apparent need or not; - Are status, money, promotion involved? - What do learners think they will achieve? - What is their attitude towards the ESP course? Do they want to improve their English or do they resent the time they have to spend on it? **How** do the learners learn? - What is their learning background? - What is their concept of teaching and learning? - What methodology will appeal to them? - What sort of techniques bore/alienate them? **What** sources are available? - number and professional competence of teachers; - attitude of teachers to ESP; - teachers' knowledge of and attitude to subject content; - materials; - aids; - opportunities for out-of-class activities. **Who** are the learners? - age/sex/nationality; - What do they know already about English? - What subject knowledge do they have? - What are their interests? - What is their socio-cultural background? - What teaching styles are they used to? - What is their attitude to English or to the cultures of the English speaking world? **Where** will the ESP course take place? - Are the surroundings pleasant, dull, noisy, cold etc? **When** will the ESP course take place? - Time of day; - Everyday/ once a week; - Full-time/ part-time; - Concurrent with need or pre-need.	**1) Are you satisfied with your achievement in Bahasa Malaysia?** **2) In class do you like learning** a) individually? b) in pairs? [...] **3) Do you want to do homework?** **4) How would you like to spend this time?** **5) Do you want to** a) spend all your learning time in the classroom? b) spend some time in the classroom and some time practicing your Bahasa Malaysia with people outside? **6) Do you like learning** a) by memory? b) by listening? [...] **7)When learning new vocabulary, do you like learning** a) by using new words in a sentence? b) by thinking of relationships between known and new? [...] **8) When you speak do you want to be corrected** a) immediately, in front of everyone? b) later, at the end of the activity, in front of everyone? c) later, in private? **9) Do you mind if other students sometimes correct your written work?** Do you mind if the teacher sometimes asks you to correct your own work? **10) Do you like learning from** a) television/video/films? b) radio? c) CDs/audio material? [...] **11) Do you find these activities useful?** a) Role play b) Language games c) Songs d) Talking with and listening to other students [...] **12) How do you like to find out how much your Bahasa Malaysia is improving?** a) By written tasks (quizzes) set by the teacher? b) By seeing if you can use the language you have learnt in real-life situations? **13) Do you get a sense of satisfaction from** a) having your work graded? b) being told that you have made progress? c) feeling more confident in situations that you found difficult before? **14) Were you satisfied with the location of the class?** **15) Were you satisfied with the time of the classes?** **16) If Bahasa Malaysia course were optional, I would choose:** a) to take it ☐ b) not to take it ☐

To adapt the questionnaire to the particular type of learners and the specific syllabus and teaching methods involved in the BM course, some items and questions were eliminated or changed. Besides, some items were added to allow collecting specific data needed to answer this study's research questions. Questions about the participants' personal particulars and language background, and an item that could determine the students' lacks were some of the items added to the original questionnaire designed by Brindley (1984). Further detail about the items that were altered and eliminated is presented in the following section.

3.8.1 Pilot Testing

The first version of the questionnaire, or the pilot questionnaire (see Appendix A), was administered to a group of seven postgraduate international students who were attending the BM course at the time. The purpose of the pilot stage was to eliminate any possible ambiguous, misleading, or irrelevant items.

Based on the feedback from the students and their answers to the questions, some items were modified and some were eliminated. Since almost all of the respondents believed that the questionnaire was too long, several items in Part A, and Part B were deleted or modified. No items were deleted in Part C, but a few items were modified or added to enhance comprehension and relevance and to elicit the information needed.

Deleted items from Part A

- Items 11, 12, and 13; these items asked students about any English language proficiency tests taken before, and if so, about their scores on the test and the time the test was taken. The reason for deleting these

questions was that some of the students had never taken any of such tests, or even if they had, they could not remember exactly their score or the time of the test. Therefore, to avoid missing responses, those items were eliminated. The purpose of those questions was to investigate if there is a relationship between the students' English language proficiency and the extent to which they need BM for their daily needs. To find if such relationship existed, the results from item number 10 of the questionnaire, which asks about the students' perception of their English language proficiency, were used.

Deleted items from Part B

- Items number 6, 23, 26, 27, 28, 29, 30;

  This part of the questionnaire asked students to rate the usefulness of the language notions and functions needed to communicate in a list of given situations. To reduce the number of the items and eliminate unnecessary and irrelevant items, the items that were marked "Not Useful" by all or most of the respondents in the pilot group were eliminated. The deleted target situations were as follows:

  6. Talk to your boss.

  23. Attend interviews.

  26. Get information about courses, schools, etc.

  27. Do further study.

  28. Join hobby or interest groups

  29. Join sporting or social clubs.

  30. Enrol in courses.

Furthermore, situations such as ‘talking to one’s boss’, ‘attending interviews’, ‘doing further study’, ‘getting information about courses and schools’, or ‘enrolling in courses’ are more likely to take place through the English language, rather than the Malay language, especially because the subjects of this study are international students.

Modified items in Part C

Only a few minor changes were made to Part C. For example, in question 10, one item (PowerPoint Slides) was added to list of useful learning tools. In the same question, the words “cassettes/tapes” were changed to “CDs/Audio Materials”.

Thus, the revised version of the questionnaire (see Appendix B) consists of three sections. Part A deals with respondents’ personal particulars and language backgrounds. Part B focuses on necessities and wants, and Part C, asks about students’ learning styles and preferences.

3.8.2 Part A: Personal Details

Part A of the questionnaire aimed at eliciting data related to the students’ personal details, such as their tertiary programme and faculty, their age, gender, and nationality. The data related to their programme, gender, nationality and faculty were useful when selecting participants for the interviews, to enable selecting students from different genders, nationalities and faculties to take part in the interviews. Item number 5 asked about the number of months the participant had been living in Malaysia at the time. This information was necessary to identify when the international students prefer to take the course during their stay in Malaysia, and how this might affect their learning. Question 6 in this part asked students if they work in

Malaysia, and if so, about their job and the language(s) they spoke in their workplace. The answer to these questions would yield information about the students language needs outside the university and in their workplace.

The last two items in Part A, asked the students to specify their mother tongue and any other languages that they spoke. Data collected from these items would help the teacher(s) to consider the students' mother tongue and other spoken languages when dealing with the students' errors in using the target language (BM) in class, since mother tongue interference is one of the main causes of errors made by learners of a second or foreign language.

3.8.3 Part B: Necessities and Wants

Part B of the questionnaire was designed to elicit data to answer the first two research questions; 1) what language skills of Bahasa Malaysia do international students need more frequently? And, 2) what specific notions and functions of BM do international students need more frequently?

This section provided a list of target situations, in which students might need to use BM, and asked the participants to rate each of them Very Useful, Useful, or Not Useful. The scale and most of the items used in this section were the same scale and items used by Brindley (1984). However, as elaborated in the previous sections of this chapter, some items were eliminated, some were modified, and some were added to match the specific requirements of this study.

3.8.4 Part C: Learning Needs

The last section of the questionnaire aimed to explore answers to the third research question: What are the learning style preferences of students?

The majority of the items used in this section were the same items used by Brindley (1984). Like Part B, a few of the items in this part were changed to adapt to the particular learning needs relevant to the BM course. The items in this Part asked the participants about their preferred learning style and teaching and learning materials.

The last two items, items 16 and 17, asked the students if they would have taken the course if it had not been compulsory, and if they were willing to participate in the interviews.

A final open-ended question was given in the end for the participants to put any other comments regarding the BM course that they wanted to share that had not been included in the questionnaire.

3.9 DATA ANALYSIS PROCEDURE

The quantitative data analysis was done through the frequency analysis and of the SPSS software. The data obtained from the questionnaires were inserted in the SPSS in two separate groups of postgraduate and undergraduate data sets, to enable specific case comparisons when significant difference in results were observed between two groups. For example, all of the postgraduate participants had checked English as the medium of instruction used in their classes, while 44% of the undergraduate participants claimed that they were exposed to both English and BM in their classes (for details see 4.2.4 MEDIUM OF INSTRUCTION IN UM, page 95) .

The two sets of data were later combined for the main data analysis and frequency counts of the quantitative phase. The numbers and the percentages of

answers to each item of the questionnaire were tabulated and the findings were analysed and discussed in Chapter 4.

3.10 THE QUALITATIVE PHASE

The mixed methods research design selected for this study was a Sequential Explanatory Design, in which the qualitative phase of this study followed the quantitative phase. Data collection in the qualitative phase involved semi-structured interviews with selected participants. The data collected in this phase aimed to help explain the unexpected or significant results obtained in the quantitative phase.

3.11 SAMPLING AND DATA COLLECTION

In this study, 10 postgraduate students and 6 undergraduate respondents agreed to take part in the interviews by providing their contact information in the space provided at the end of the questionnaire. The subjects for the interviews were one male and one female from the postgraduate group and one female and one male from the undergraduate group.

Table 3.9 Sampling for the Qualitative Phase

Participants	Male	Female
Postgraduate	1	1
Undergraduate	1	1
Total	2	2
Total	**4**	

To select interviewees that could most efficiently provide the researcher with rich and quality data, sampling for the qualitative phase was a “purposeful sampling”, in which the researcher intentionally selects from the participants who had expressed willingness to do an interview. The sampling strategy used was a “maximal variation sampling, in which individuals are chosen who hold different perspectives on the central phenomenon. The criteria for maximizing differences

depend on the study, but it might be race, gender, level of schooling, or any number of factors that would differentiate participants". The rationale behind this method of sampling is to choose individuals from different groups hoping that these differences would result in eliciting different opinions and views; hence, a good qualitative study (Creswell & Plano Clark, 2007, p. 112). For that purpose, the interviewees were males and females selected from different tertiary programmes, i.e. candidates of undergraduate and postgraduate programmes. Among the participants who fell under categories, the participants who had opposite views regarding some of the key concepts in the study were selected, to provide us with more in-depth and comprehensive opinions.

Regarding the number of participants in qualitative methods, it is preferable to select a small number of subjects because, in the qualitative data collection, the quality of the data depends very much on its depth and comprehensiveness. Such meticulous and precise data will not be collected if the researcher selects a big group of participants for the qualitative phase. According to Creswell and Plano Clark (2007), "Many qualitative researchers do not like to constrain research by giving definitive sizes of samples, but the numbers may range from one or two people, as in a narrative study, to 50 or 60 in a grounded theory project" (p. 112). Hoepfl (1997, p. 50) believes, "The particular design of a qualitative study depends on the purpose of the inquiry, what information will be most useful, and what information will have the most credibility". She insists, "There are no strict criteria for sample size". (Patton, 1990, as cited in Hoepfl, 1997, p. 50). According to Marshall (1996, p. 522), "The choice between quantitative and qualitative research methods should be determined by the research question, not by the preference of the researcher". He further explains,

> The aim of the quantitative approach is to test ore-determined hypotheses and produce generalizable results. Such studies are useful for answering more mechanistic 'what?' questions. Qualitative studies aim to provide illumination and understanding of complex psychosocial issues and are most useful for answering humanistic 'why?' and 'how?' questions.
>
> (Marshal, 1996, p. 522)

In this study, more weight was given to the quantitative data in analysing students' needs and learning preferences. This preference towards collecting quantitative data was because the research questions posed in this study needed statistical data in order to enable a generalization about international students' most frequently used language skills and language functions as well as their learning style preferences. The main instrument of data collection was, therefore, the questionnaire. On the other hand, the interviews were aimed to explain significant results gained in the quantitative phase. The interviews were conducted only to explain how and why some of the results have emerged in the quantitative phase. The four participants were selected carefully, based on the criteria explained earlier in this section. The research design used in this study was Mixed Methods Sequential Explanatory Design, in which the qualitative phase follows the quantitative phase. As the name reads, the purpose of the qualitative data collection was to explain the data collected in the quantitative phase. Although only four students were interviewed in the qualitative phase, the purpose of this phase was fulfilled, as sufficient data information was gathered to explain some of the significant numerical findings.

3.12 THE PARTICIPANTS

This section will provide some background information about the participants in the interviews.

3.11.1 Postgraduate Participants

The first postgraduate participant was from Iran. He was 27 years old and was pursuing his master's degree in English Language and Literature at the time. He had an advanced command of the English language (IELTS Academic score of 8.5 out of 9). On his questionnaire, he had expressed dissatisfaction with his achievements in the course and had suggested that the course should not be compulsory.

The second postgraduate participant was a 25-year-old female from Saudi Arabia. She was pursuing her masters' degree in the faculty of Education. She had stayed in Malaysia for 25 months at the time of the interview. Her mother tongue was English and she had an intermediate command of Arabic. She had stated in the questionnaire that she was not satisfied with her achievements in BM. However, she had said that she would have taken the course even if it had not been compulsory.

3.11.2 Undergraduate Participants

The first undergraduate participant was a 27-year-old male from Iran. He was from the faculty of Computing Science and IT at the time. He had lived in Malaysia for 60 months. He spoke Farsi (Persian) as his mother tongue and had an advanced command of the English language (with a score of 8 out of 9 in the IELTS Academic test). He was not satisfied with his achievements in BM, and he would not have taken the BM course if it were not compulsory.

The second undergraduate interviewee was a 19-year-old female from Iran. She was the only female undergraduate student who had expressed willingness to participate in an interview. She had stayed in Malaysia for 50 months at the time,

and was pursuing her studies in the faculty of Science. She spoke Farsi (Persian) as her first language and had an intermediate command of English (with and IELTS test score of 6 out of 9). She was not content with her learning of BM and would not have taken the course if it had not been compulsory.

3.13 THE INTERVIEWS

The semi-structured interviews were held in an informal and casual atmosphere such as cafes and restaurants to help the participants feel comfortable during the session. Because the interviews were held in noisy places such as cafes or restaurants, and in order to keep the interviews less formal and stressful for the participants, the interview sessions were not audio recorded. The respondents' answers to questions were written down below each question. However, in all the four sessions, a research assistant was called for help to make notes of the responses so that the interviewer could maintain eye contact with the respondents and lead the interviews more easily and naturally. A sample of the notes taken during the interviews is included as Appendix E.

3.12.1 The Interview Questions

The interview questions were prepared based on the results obtained from different sections of the questionnaire. As mentioned earlier in this chapter, the mixed methods research design used for this study is a Sequential Explanatory Design. In this study, the qualitative data collection follows the quantitative method and aims to help explain and clarify the unexpected or significant results obtained in the quantitative phase. The interview responses can also be used to triangulate the findings from the questionnaires. Therefore, the interview questions (see Appendix

C) reflect the findings from the questionnaires and ask the interviewees to suggest possible explanations for the significant findings.

The reason to select the interview participants from different programmes, genders and general views was to ensure that the explanations and the detailed opinions obtained through the interviews came from points of view as diverse as possible.

3.12.2 Pilot Testing

The interview questions were pilot tested by conducting a mock interview with a postgraduate female candidate from the faculty of Languages and Linguistics. The purpose was to eliminate ambiguous or unnecessary questions. Furthermore, pilot testing aimed to help generate questions that could best yield accurate and in-depth data. Except for a few minor changes, the interview questions remained the same after the pilot interview.

3.14 DATA ANALYSIS PROCEDURE

The two sets of notes taken during the interviews were crosschecked and combined. The data gathered were compared and summarized with relation to the different research questions. The findings of the interviews will be discussed along with the discussions and analysis of the findings from the questionnaire presented in Chapter 4.