

CHAPTER 1

INTRODUCTION

1.0 THE NEED FOR ENGLISH LANGUAGE IN MALAYSIA

English is an important second language in this country. Although it is no longer an official language as it used to be, it still has a special status in Malaysia and it continues to be taught in schools and institutions of higher learning. While English has been superseded in public administration and the education system by Bahasa Malaysia, it continues to be used in other domains in the public sector. Furthermore, it remains easily accessible to all Malaysians through the popular forms of the printed and electronic media, films and television, all of which are widely available in Malaysia as part of the persuasive effects of the universal culture of globalization (Asmah, 1996:572).

Owing to the fact that English is the second most important language in Malaysia and widely used in daily communication, the education system also focuses on the importance of this language among students in Malaysian schools and institutions of higher learning. The teaching of English in Malaysian schools and institutions of higher learning is aimed at empowering the students to use the language in everyday situations, for knowledge acquisition and for future needs in the workplace. With the rapid growth in information and communication technology, policies regarding education and the need for English have gone through a series of changes in Malaysia. A marked realization, for one, has come forth for the need to reintroduce English as a medium of instruction. It is this awareness that led to the introduction of English for Science and Technology (Foo and Richards, 2004).

With the government's vision to achieve developed nation status by the year 2020, the Higher Educational Institutions Act 1996 (Laws of Malaysia, Act 546) stated clearly that higher education plays an important role in training the people necessary for the academic as well as the manpower needs of the nation.

The institutions of higher learning play a significant role in realizing the government's aspirations and English as an international language will certainly serve as an excellent vehicle for acquiring the necessary knowledge. A good command of the English language makes easily accessible scientific and technological information, facilitates economic trade and creates opportunities for networking with international organizations and the pursuit of higher education. In a book entitled, "The Alchemy of English" Kachru contends that "knowing English is like possessing the fabled Aladdin's Lamp, which permits one to open to international business, technology, science and travel (McKay, 2003).

In addition, the rapid increase of private colleges which have twinning programmes with many foreign universities and colleges have led to the inevitable use of English as the medium of instruction. English is used in science, engineering and medical courses in most of the universities and colleges. Thus, English has become an indispensable medium for acquiring knowledge in the institutes of higher learning and for communication in the business world both locally and internationally. This is to ensure that:

Malaysia is not left out in the global competition amongst higher institutions to become exporters of higher education; the government started planning for the nation to become a regional center of education. To provide the private field with a competitive edge that was attractive to international students, Malaysia opened its doors to a model of transnational education with collaborative links with foreign institutions of higher learning (Gill, 2002: 11-19).

As the international connections with other institutes of higher learning overseas increase, there is also a growing demand for English among foreign students who come to Malaysia to further their studies. Students from South-East Asia, China, parts of Africa and even Mongolia come to Malaysia to study and the common language used is English. There is definitely a great need at present for the use of English in the private institutes of higher learning as it is undeniably a language for global communication (Ridge, 2003).

1.1 ENGLISH LANGUAGE POLICY CHANGE IN MALAYSIA

The English Language Policy in Malaysia has changed over the past few decades to meet the demands of globalization. By the year 2000, new syllabuses for the primary and secondary schools were implemented. The Cabinet Report on the Review of the Implementation of the Education Policy 1979 (Curriculum Development Center) states that English is taught in the schools to empower students to use English in everyday situations and also to prepare them for higher education.

Proficiency in English will help students function appropriately in the business and commercial sectors. It is hoped that the English curriculum for primary schools would provide a strong foundation in the English language for the students. If the foundation is strong, students would be able to build on the language as they proceed to higher grades in school and be ready for tertiary education. This would equip them to deal with the English language skills that are necessary to follow the courses taught in the different institutes of higher learning. The basic skills and knowledge of the English language would enable them to communicate both orally and in writing, in and out of school.

The new curriculum was organized to fulfill the English language needs in the everyday life of the Malaysian society. The learning outcomes are based on the four language skills of listening, speaking, reading and writing. The skills are taught incorporating the use of grammar, the English sound system, and the use of appropriate vocabulary. In addition, thinking skills, values and citizenship education are also incorporated in the curriculum. As English is the main language used in Information and Communication Technology, an ICT component is also included in the curriculum. It is imperative for the students to be exposed to the English used in the ICT world so that they can communicate more effectively in the language both locally and globally (Foo and Richards, 2004).

The English curriculum incorporates knowledge not only from subject disciplines such as science and geography to provide the content for learning but also from current issues. Wherever possible, learners are required to carry out project work so that they will apply inquiry skills to solve problems and issues in their surroundings, i.e. the school, town, and country and later to issues and concerns outside the country. These activities will assist them to discuss and analyze issues and at the same time instill in them the habit of acquiring knowledge throughout their lives (Curriculum Development Center, KBSM 2001).

As for the Secondary English Syllabus (KBSM) a small literature component has been included to the curriculum to enable the students to engage in wider reading of literary works for enjoyment and self-development. In the process of dealing with the stories and poetry verses in literature, it is hoped students will develop an understanding of other cultures, values and traditions that will enhance their spiritual and emotional growth.

The Secondary School English language curriculum (KBSM) is geared towards equipping the students to function appropriately in everyday life, to access information and to manage future needs in the workplace. The teaching of English to acquire knowledge, to communicate with people effectively and to enjoy reading literary works all seek to fulfill the aims and objectives of the National Philosophy of Education and the Educational Act of 1996 (Curriculum Development Center, 2001).

With the advent of globalization and the rapid growth in Information and Communication Technology (ICT), the world is ‘wired’ and there is a great increase in international exchanges in every sphere of life. The Malaysian government is very much aware of the importance of the English language in commerce, science and technology. As a result of globalization, there was a realization for a need to reintroduce English as a medium of instruction. Dr. Mahathir Mohamad (our ex-Prime Minister) clearly stated:

To compete on equal terms with the world’s most advanced countries, Malaysians – as well as most other Asian nationalities – still have some way to go. There are skills that must be learned and values that may yet have to change. We do not become European simply because we wear a coat and a tie, speak English and practice democracy instead of feudalism. We have to learn the language of telecommunications, of computers, of the Internet (Mahathir, 1999:40).

It is with this kind of awareness that the English for Science and Technology syllabus was introduced (2003). It is offered as an elective at the upper secondary level and students who choose to do it have to study English as outlined in the general English syllabus. The focus of the English for Science and Technology syllabus is the informational component taken from the General syllabus. The syllabus is organized in terms of acquiring

information from various sources including the electronic media, processing that information and presenting it for different purposes. The English for Science and Technology syllabus seeks to:

... lay the foundation for the use of English in the fields of science and technology not only for the present but also for further studies at the tertiary level. This programme does not aim to teach the subject matter of science, rather, it is designed to help students develop an ability to grasp basic concepts and ideas in science and to understand methods of scientific thoughts and enquiry in English common to all kinds of scientific and technical discourse. The knowledge gained will not only enhance personal learning but also enable learners to think critically of issues in science and technology (*Bahasa Inggeris untuk Sains Dan Teknologi*, 2001:1-2).

1.2 AIMS AND RATIONALE OF THIS STUDY

The increasing importance of English as a global language of information and communication technology in general justifies the overall need for this study. The fact that very little needs analysis research has been done on ESP courses in the medical sciences and especially in Malaysia provides a specific reason for the necessity of this study.

The aim of this study is therefore to investigate the English language needs of biomedical science students enrolled in the Biomedical Science Programme in the Department of Molecular Medicine, Faculty of Medicine, University of Malaya. This research aim is related to the rationale for carrying out this needs analysis study which is to establish the importance of the ESP course that the biomedical students are required to take in their second year. To what extent the ESP course fulfills the students' needs to use English has to be explored in order to improve on the weaknesses of the course, if any.

1.3 LOCATION OF THIS STUDY

Biomedical science is an integral component of modern healthcare services. Biomedical scientists work with doctors, nurses and other healthcare professionals in the diagnosis and treatment of diseases and ailments inflicting their patients. The main objective of a biomedical course is to produce laboratory-orientated and technically-competent graduates with a sound foundation in the basic medical sciences and an in-depth knowledge of the major branches of biomedical science. Career opportunities in this field include employment in clinical service departments as well as health research centers in the public and private sectors.

For this study, the Biomedical Science Programme in the Department of Molecular Medicine in the Faculty of Medicine, University of Malaya was chosen as the research site as it offered a suitable context for the investigation of the English language needs among biomedical students. An approximate total number of 200 students follow this 3-year undergraduate course for each intake. These students are required to have a minimum of band 4 in their MUET Examination to be accepted into this course in this university. The English language proficiency of the bio-medical students can therefore be said to be relatively above average.

The English course is only taught to the biomedical students in the second year (for four hours per week) as the primary courses in the Biomedical Science Programme are only introduced to students in the second year. The courses offered in the second year are: Basic Laboratory Techniques and Procedures 1, Medical Laboratory Techniques 2: Analytic Biochemistry, Introductory Biochemistry 2, Cell Biology and Introductory Genetics,

Introductory Course in Biostatistics, Basic Parasitology, Information Skills and English for Specific Purposes 1. These subjects involve the writing of laboratory reports as well as seminar presentations in English. The English Language lecturers therefore focus on guiding and exposing the students to new medical terms and information in order to prepare them to better understand the lectures on the biomedical courses. The language lecturers have to work hand-in-hand with the subject lecturers to solve the learning/language problems these students face in their biomedical classes.

Most medical books are written in English and the biomedical students need to do extensive academic reading during their course to enable them to understand and use medical terms in their research. The knowledge of English that these students acquire in their secondary schools is grammar, writing skills and literary components. This knowledge is insufficient to support their learning process in the biomedical undergraduate programme. In the biomedical courses there is an urgent need to teach students English with more content words and terms related to their field of study. In addition, they also need to be taught the proper format to write lab reports, test results and to keep and present records.

Although the biomedical students in University of Malaya on the whole, have a fairly good command of English, they still need much improvement in their ability to use the correct biomedical language when presenting the final results of their research. This is where English language needs arise. The English language lecturers engage the biomedical students in a range of activities where they are made to learn content words related to their

field of study. This helps the students to identify and use the appropriate specialized terms in their assignments or coursework.

Since biomedical staff members are integral in all health sectors, there is indeed a great need to equip biomedical students with the necessary English language skills that will help them carry out their tasks effectively in their future workplaces.

1.4 STATEMENT OF THE PROBLEM

The Biomedical Science Programme in University Malaya started in 1993. The objective of this program was to produce laboratory-oriented, technically-competent graduates with a sound foundation in the basic medical sciences and an in-depth knowledge of the major branches of biomedical science. The students selected for this field of study are students from the science stream and they have good grades in their English language at the SPM (Sijil Pelajaran Malaysia/ Malaysian Certificate of examination) level. In their second year in the biomedical programme, these students are required to take an ESP course.

A thorough library search revealed that there were not many needs analysis studies done on ESP courses for students or professionals in the medical field both locally and internationally. The only study done and published in Malaysia is, “Needs Analysis on the Importance of English Communication Skills for Medical Assistants” by Arumugam and Naginder Kaur from MARA University of Technology in May, 2011. The researcher was only able to find another four needs analysis studies on ESP in the medical sciences which were conducted outside Malaysia. They are: (i) “English for College Students in Taiwan: A Study of Perceptions of English Needs in a Medical Context ” by Hiu-Uen Chia,

Johnson, Hui-Lung Chia and Olive (1993) from Chung Shan Medical College in Taiwan ,
(ii) “From Needs Analysis to Curriculum Development Designing a Course in Health-Care
Communication for Immigrant students in the USA” by Boshier and Smalkoski (1998), (iii)
‘ESP’ Target Situation Needs Analysis: The English Language Communicative Needs as
Perceived by Health Professionals in the Riyadh Area by Majid Alharby (2005), and (iv)
ESP in Medical Schools and the Balance between EFL and ELF from Students’
Perspective: A Study at Jazan University by Elham Abdullah Ghobain (2010).

To date, no needs analysis studies have been done in relation to an ESP course offered to
biomedical science students. The present research hopes to fill this gap in order to establish
the English language needs of biomedical students in the field of their study/work and the
type of language difficulties that they might find as a challenge. Identifying their language
needs and difficulties will of course aid in the efforts to enhance the existing ESP module.

1.5 OBJECTIVES AND RESEARCH QUESTIONS OF THIS STUDY

The objectives of this study are:

- (1) to identify the English language needs of biomedical science students in
academic and non-academic activities, and
- (2) to investigate the difficulties biomedical science students face in using the English
language in academic and non-academic activities.

In line with the objectives of the study mentioned above, the following research questions have been drawn up. They are:

- 1) What are the academic and non-academic activities which require biomedical students to use the English language?
- 2) What difficulties do they have, if any, in the use of the English language in academic and non-academic situations?

1.6 SIGNIFICANCE OF THE STUDY

This research which focuses on identifying the English language needs and difficulties of biomedical students in their academic and non-academic activities will provide useful feedback for language lecturers, subject lecturers, course planners and administrators to plan and strategize ways to overcome the students' language difficulties and to tailor the current ESP course to fit better the students' language needs. All of these will ultimately lead to effective learning and performance of the learners.

The findings of this study will be meaningful specifically to a group of people related to the biomedical sciences and as a whole to the study of needs analysis on ESP.

1.7 LIMITATIONS OF THE STUDY

The researcher had some constraints during the on-going process of this research. Time was the biggest challenge. The researcher had to make appointments prior to meeting the lecturers or students but the appointments could not always be kept. The appointments were always fixed for the afternoon as it was the most convenient time for the researcher. At times, the researcher was unable to make it for the appointments due to demands at her

workplace. And there were times when the lecturers had to deal with some urgent task or were engaged in discussions or meetings and the researcher had to re-schedule the appointment.

Apart from time constraints, the number of respondents for the study could not be larger as only the second year students were offered the ESP course and the number of respondents available was only forty-two. The researcher could only meet with the students when their lectures were scheduled for the afternoon. The findings from this relatively small sample from one university in Malaysia might therefore not be reflective of the English language needs of biomedical students elsewhere. However, this study is still significant as a first exploration which is hoped will lead to other similar studies on a more extensive scale.

1.8 CONCLUDING REMARKS

This chapter highlights the increasing importance of the English language both globally and in Malaysia in all sectors. The need for English in the fields of science and technology is particularly discussed here as being important in aiding students to master basic concepts and ideas in science and understand methods of scientific thoughts and enquiry in English in addition to enhancing critical thinking of issues in science and technology. This therefore provides the rationale for the present study which focuses on the needs analysis for the use of English amongst bio-medical science students.

In the second chapter, the researcher will be reviewing the literature related to this study.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter outlines the theories and research that have guided the process of this study. The literature review discusses the background of English for Specific Purposes (ESP) and English for Academic Purposes (EAP), the definitions and developments of ESP and EAP and the related studies that have been carried out in this area.

2.1 BACKGROUND AND DEFINITIONS OF ESP

ESP emerged owing to the rapid growth in scientific, technical and economic activity on an international scale dominated by technology and commerce. The emergence of ESP was the awareness that certain learners had specific or specialized needs which were not adequately met by General English language courses. ESP is designed to prepare students or working adults for the English used in specific disciplines, vocations or professions to accomplish specific purposes. ESP is a move towards specialization and the enhancement of professionalism.

ESP was first known as English for Science and Technology. According to Hutchinson and Waters (1987:19), ESP is “an approach to language teaching in which all decisions as to content and method are based on the learner’s reason for learning.” They indicate that learners employ different learning strategies, use different skills, different learning schemata and are motivated by different needs and interests (19). Dudley-Evans (1998:4) called ESP “an attitude of mind” and he provides the following extended definition of ESP in terms of Absolute and Variable characteristics.

- I. Absolute Characteristics:
 1. ESP is defined to meet specific needs of the learners.
 2. ESP makes use of underlying methodology and activities of the discipline it serves.
 3. ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills and discourse genre.

- II Variable Characteristics:
 1. ESP may be related to or designed for specific disciplines.
 2. ESP may use in specific teaching situations, a different methodology from that of General English.
 3. ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level.
 4. ESP is generally designed for intermediate or advanced students.
 5. Most ESP courses assume some basic knowledge of the language systems.

Carter (1983:134) states that self-direction is the main characteristic of ESP courses where learners are turned into users. Mohan (1986:15) adds that ESP courses focus on preparing learners “for chosen communicative environments.” Likewise, Graham & Beardsley (1986) point out that learner purpose is central to ESP and Hutchinson & Waters (1987) say that learning centeredness is an integral part of ESP.

Flowerdew (1990) attributes ESP’s dynamism to market forces and theoretical renewal. Robinson (1991) emphasizes the primacy of needs analysis in ESP. He stresses that ESP is goal-directed and courses are developed from needs analyses that aim to specify as closely as possible what exactly it is that students have to do through the medium of English. He also argues that ESP courses are generally constrained by a limited time and are taught to adults.

Belcher (2004) notes trends in the teaching of ESP in three distinct directions: the sociodiscoursal, sociocultural and sociopolitical realms. Lorenzo (2005:1) reminds us that ESP “concentrates more on language in context than on teaching grammar and language structures.” He also points out that as ESP is usually delivered to adult students, frequently in a work-related setting (English for Occupational Purposes), that motivation to learn is higher than in usual ESL (English as a Second Language) contexts. Belcher (2006:134) adds that ESP now encompasses an “ever-diversifying and expanding range of purposes.” Belcher (2006:135) also states that “ESP assumes that the problems are unique to specific learners in specific contexts and thus must be carefully delineated and addressed with tailored to fit instruction.” Kavaliauskiene (2007:8) discusses a new individualized approach to learners in the ESP classroom “to gain each learner’s trust and think of the ways of fostering their linguistic development.”

2.1.1 DEVELOPMENT OF ESP

ESP has undergone five main phases of development. They are:

(a) Register Analysis

Register Analysis operated on the basic principle that the English needed in one scientific field constituted specific register different from those of other fields of science or General English. Register Analysis sought to identify the grammatical and lexical features of different scientific registers. At this phase, ESP focused at the sentence level. This analysis is associated with the work carried out by Halliday, McIntosh and Strevens (1964), Ewer and Latorre (1969) and Swales (1971).

(b) Rhetorical Discourse Analysis

The basic hypotheses of this stage was expressed by Allen and Widdowson (1974) who took the view that difficulties which the students encountered arose from an unfamiliarity with English use rather than from a defective knowledge of the system of English. They argued that the needs of ESP students could best be met by an ESP course which developed knowledge of how sentences were used in the performance of different communicative acts. The assumption of Rhetorical Discourse Analysis is that the rhetorical patterns of text organization differ significantly between specific areas of use.

(c) Target Situation Analysis

This third phase of ESP began with the upsurge of interest in communicative language teaching as well as the development in communicative syllabi. Target Situation Analysis is aimed at establishing procedures for relating language analysis more closely to learners' reasons for learning. ESP courses designed in this phase proceeded first by an identification of the target situation and then by a rigorous analysis of that situation. The identified features known as Needs Analysis formed the syllabus of this ESP course. Munby (1978) gives a thorough explanation of this analysis in the "Communicative Syllabus Design."

(d) Skills-Centered Approach

The principal idea behind the Skills-Centered Approach was that common reasoning and interpretation processes underlay all language use which enabled the students to extract meaning from discourse regardless of the surface linguistic forms. The assumption in this approach was that students did not need to focus closely on the surface forms of the

language but, rather focus on the underlying interpretive strategies that enabled them to cope with the surface forms. This fourth phase of ESP development was an attempt to look below the surface and to consider not the language itself but the thinking processes that underlie language use (Chittravolu, 1980, Grellet, 1981, Nuttall, 1982 and Alderson and Urquhart, 1984).

(e) Learning-Centered Approach

This fifth phase of ESP emerged out of the shortcomings of its preceding phases. Proponents of the Learning-Centered Approach argued that the four preceding phases had flaws in that they were all based on descriptions of language use whereas a truly valid approach to ESP must be based on an understanding of the processes of language learning. This phase of ESP is concerned with the question of what it really means to know a language. Hutchinson and Waters (1987) comment on the learning-centered approach to ESP as follows:

Learning can, and should, be seen in the context in which it takes place. Learning is not just a mental process; it is a process of negotiation between individuals and society. Society sets the target (in the case of ESP, performance in the target situation) and the individuals must do their best to get as close to that target as possible (p.72).

2.2 BACKGROUND AND DEFINITIONS OF EAP

EAP is identified as a sub-category of ESP. The content of EAP courses relates to a particular field or discipline. In this field, general academic language and study skills which include strategies for listening, speaking, reading and writing effectively for all academic subjects are taught.

The intentions that lie behind learning a new language vary from simply wanting to use the language as a means for social ends like conversational purposes and communicative situations to developing professional skills geared towards a specific purpose. EAP is described by Coffey (1984:4) as a student's need for "quick and economical use of the English language to pursue a course of academic study." Jordan (1997) concludes that there is general agreement that EAP can be further divided into two additional groups:

1. "Common core" or "English for General Academic Purposes" (EGAP)
2. "Subject-specific" or "English for Specific Academic Purposes" (ESAP)

In the first instance, general academic language and study skills like listening, speaking, reading and writing are taught. In the second case, vocabulary and skills specific to a subject of study are emphasized. Jordan (1997:5) argues that in both the cases, study skills are the "key component" of EAP.

2.2.1 DEVELOPMENT OF EAP

Hutchinson & Waters (1987) state that from its beginning EAP has undergone several phases of development and that EAP has developed at a different pace in different countries. According to Robinson (1991), EAP approaches have changed considerably over the last thirty years as they have incorporated findings from research into both academic English usage and methods of teaching English as a foreign language. EAP courses were originally developed for students from the developing countries who had to study in English and most of these students were studying technical and professional subjects. Therefore, the course content and the teaching methods often focused on the acquisition of scientific and technical discourse.

According to Karimkhanlui (2005, para.3) “English has become increasingly dominant as a world language in higher education” in recent years. She adds that as a result of this, “EAP is shaped by the functional requirements and social conventions of academic communities of discourse. Familiarity with the conventions and the rules that apply to the genres of academic English gives a better understanding of the language.”

2.3 NEEDS ANALYSIS

The common word “need” describes an item or an ability which is important to a person but which he does not have or is not very good at. In this respect, Hutchinson and Waters (1987) have classified needs into necessities, wants and lacks.

(a) Necessities

Necessities are needs determined by the demands of the target situation, that is, what the learner has to know in order to function effectively in the target situation. Learners need to know the linguistic features commonly used in the situation identified. This information is easily gathered. This can be done by observing what situations the learner will need to function in and then analyze the constituent parts of them.

(b) Lacks

Lacks refer to the learner’s existing language proficiency which helps to determine the starting point of the teaching and learning process. Prior to identifying the lacks of learners, we need to know what the learner already knows, so that one can decide which of the necessities the learner lacks. One target situation might be to

read texts in a particular subject area. The target proficiency needs to be matched against the existing proficiency of the learners. The gap between the two can be referred to as the learner's lacks.

(c) Wants

Wants relate to what the learner would like to gain from the language course. It is an awareness of need that characterizes the ESP situation. Learners may well have a clear idea of the "necessities" of the target situation: they will certainly have an understanding of their "lacks". But when it comes to wants, each learner has his/her own individual wants based on the situation.

Munby's (1978) approach to needs analysis consists of two stages: Communication Needs Processor (CNP) and the interpretation of the profile of needs derived from the CNP in terms of micro-skills and micro-functions. The CNP is set out under eight variables that "affect communication needs by organizing them as parameters in a dynamic relationship to each other" (Munby, 1978:32). The CNP operates by looking at its "inputs" - the foreign language participant - and information concerning the participant's identity and language. Then it requires information on the eight variables: purposive domain, setting, interaction, instrumentality, dialect, target level, communicative event, and communicative key. In the second stage of the model, the user takes the activities with their communicative keys and decides which of three alternative ways of processing them is appropriate. The alternatives are:

- a). specification of syllabus content by focusing on micro-skills
- b). specification by focusing on micro-functions
- c). specification by focusing on linguistic forms

Munby explores in detail every aspect relating to learner's needs. His work is probably the most thorough and complex as well as informative. Munby's approach focuses on the aspects of communication he emphasizes on (i.e. purpose of communication, medium/mode/channel of communication, sociolinguistic aspects, linguistics and pragmatics) and the assumptions regarding the roles of language, the learner, the syllabus and the teacher, all of which, lie behind his design.

Brindley (1984a) proposes a model of a learner-centred system, including negotiation, information exchange, awareness activities, evaluation and feedback, learning activities, and objective-setting in consultation, all of which help the learner to become aware of and reflect on learning needs, and to set future goals based on those needs. He points out that negotiation "is a complex and subtle process" (1984a:76), and that flexibility, understanding, co-operation and collaboration are important aspects. Brindley's model can be seen as a continuous needs analysis, initiating a process of learning.

While Brindley indicates that information exchange is the traditional place at which needs analysis begins, West (1997:71) reminds us that needs analysis evolved in the 1970's to include "deficiency analysis" or assessment of the "learning gap" between target language use and current learner proficiency.

What is an undisputed fact is that any ESP course should be needs driven, and should have an "emphasis on practical outcomes" (Dudley-Evan & St. John, 1998:1). It is "the corner stone of ESP and leads to a much focused course" (Dudley-Evan & St. John, 1998:122).

Dudley-Evans and St John (1998:125) present a comprehensive description of needs analysis that covers the following areas:

- (a) target situation analysis and objective needs
- (b) wants, means, subjective needs
- (c) present situation analysis
- (d) learners' lacks
- (e) learning needs
- (f) linguistic and discourse analysis
- (g) what is wanted from the course
- (h) means analysis

According to Iwai et al. (1999), the term 'needs analysis' generally refers to the activities that are involved in collecting information that will serve as the basis for developing a curriculum that will meet the needs of a particular group of students. Richards (2001) says, "[t]he emergence of ESP with its emphasis on needs analysis as a starting point in language program design was an important factor in the development of current approaches to language curriculum development." Therefore, needs analysis is and always will be an important and fundamental part of ESP (Gatehouse, 2005; Graves, 2000). Nowadays there is increasing focus on looking at learners' subjective needs, "their self-knowledge and awareness of target situations, life goals, and instructional expectations" (Belcher, 2006:136). There is also an increasing focus on "appropriate perspectives on language learning and language skills" (Far, 2008:2).

2.4 STUDIES RELATED TO NEEDS ANALYSIS

Needs Analysis is an ongoing study carried out in various fields like Medicine, Law, Business and Education. It is a complex process which is usually followed by syllabus design, selection of course materials, teaching or learning a course and evaluation. Many established scholars like Hutchinson and Waters, Dudley-Evans and St. John, Munby and

Brindley (who have been referred to in the earlier sections) have done extensive studies on needs analysis. Their studies have greatly contributed towards the improvement of course design, materials preparation, assessment and evaluation thereby benefiting the students in diverse fields of study.

A number of studies that are relevant to the present research will be discussed in the following sections. The first part, which includes sub-sections 2.4.1 till 2.4.5, will provide a summary of studies on English language needs conducted within the field of medical and health-care. A total of five such studies are presented here; as the present study, that is, English language needs in a biomedical undergraduate programme falls within the health-care domain, the findings of these five studies will be pertinent for a critical comparison.

The second part, which covers sub-sections 2.4.6 till 2.4.17 will further provide brief reports on English language needs analysis studies that have been carried out in the field of science and technology and other areas of specialization. A total of twelve studies are presented in this second part.

2.4.1 English for College Students in Taiwan: A Study of Perceptions of English Needs in a Medical Context.

This study was conducted at Chung Shan Medical College in Taichung, Taiwan in 1993 by Hiu-Uen Chia, Ruth Johnson, Hui-Lung Chia and Floyd Olive. The respondents were 349 medical students and 20 faculty officials. The aims of the study were: (1) to describe the perceptions of medical college students and faculty officials towards the English Language needs of the students and, (2) to suggest requisites for English Language curricula based on

the survey results. The English language needs of medical college students needed to be assessed in order to increase teaching and learning effectiveness. This study was carried out when the Ministry of Education in Taiwan removed the English requirement for all college students.

This focus of study was chosen because the amount of English language used by medical professionals in Taiwan was increasing. Moreover, medical journals and magazines published worldwide were printed in English and international conferences specified English as the official language. In addition to that, the use of English in medical students' textbooks was increasing and students had to acquire a lot of medical terminology in English. Furthermore, medical students needed practice in using English to present papers at medical meetings, to write letters to colleagues abroad, to read medical research and to consult with patients in Chinese using medical terms in English. There was also an awareness that medical terminology in English could be used as an instrument in the power relationship between doctor and patient usually to the doctor's advantage in an environment where English is a foreign language.

By examining medical students' needs in order to specify language learning objectives, this study sought to develop an English program that would facilitate language learning in general and satisfy the specific needs of the medical profession.

The findings showed that students needed English to understand textbooks and journal articles written in English, lectures in which medical terms were given in English, and to write reports and research papers. It was also found that students had difficulties in medical

studies namely, limited vocabulary and slow reading speed. The findings also showed that reading was the most important skill needed for students' medical studies followed by listening, writing and speaking. This study is related to the research conducted by Hutchinson & Waters (1987) where learners, the language required and the learning context lead to the primacy of need in ESP.

2.4.2 From Needs Analysis to Curriculum Development Designing a Course in Health-Care Communication for Immigrant Students in the USA

A need analysis was carried out at the Minneapolis campus of the College of St. Catherine during the academic year 1997/1998 by Susan Boshier and Kari Smalkoski. The objective of the study was to determine why many of the ESL students enrolled in the Associate of Science (A.S.) degree nursing programme were not succeeding academically. A total of 28 nursing students were chosen for this study: 17 were from West Africa, six from East Africa, three from Southeast Asia, one from the Caribbean Islands, and one from the former Soviet Union.

The 2-year A.S. nursing degree programme on the Minneapolis campus has nine courses and each course consists of lectures, labs, and clinicals, all of which, are taught by faculty members from the nursing program. From the lecture component, students are assessed for their mastery of course content mainly through multiple-choice exams. In addition to lectures, each course is accompanied by a lab, where an instructor demonstrates certain procedures, such as giving a client an injection or cleaning a client's tracheotomy. Students meet in the lab twice a week for an hour of class time to learn new procedures and practice them. Once students have learned a procedure, they perform the procedure for the

instructor in what is called a performance test. Once students pass a performance test, they are ready to attend clinicals, where the same procedures are done on actual clients in health-care settings, such as nursing homes and large urban hospitals. While students are attending clinicals, they are still actively attending lectures and labs, learning new material as well as procedures and techniques.

Interviews, observations and questionnaires were used to gather information about the objective needs of the students, all of whom were immigrants. Data on the challenges ESL students were facing in first-year courses was gathered through interviews with the nursing program director, five nursing faculty members and five ESL students in first-year courses. A questionnaire was administered to all 28 ESL students at the beginning of the Fall semester, requesting information about difficulties they perceived they were having in the nursing program in first-year courses. Observations were carried out on four performance tests in labs that accompany first-year courses and on four clinicals, two from first-year courses and two from second-year courses.

The findings revealed that the nursing students had the most difficulty in being assertive with clients, colleagues, and nursing instructors in a clinical setting; communicating clearly and effectively, using appropriate paralinguistic features of communication, such as stress and intonation, and volume and rate of speech, particularly in clinical settings with elderly clients; and understanding clients, particularly those who spoke non-standard dialects of English. The findings also showed that students had difficulty making “small talk” with clients and understanding clients who engaged them in small talk. The respondents also

found it difficult to make eye contact, and lacked self-confidence or felt uncomfortable when asking other nursing students and nursing supervisors for assistance.

The results further indicated that students had difficulty in understanding how cultural values influence their interaction with clients from cultural backgrounds different from their own; understanding the instructor's directions and following through with step-by-step procedures in performance tests and clinicals; listening carefully to client protocols and understanding information that is being stated about clients, asking for clarification when necessary; and charting or documenting appropriately clients' records. Based on the findings of this needs analysis, a course, "Speaking and Listening in a Health-Care Setting" was developed to respond to the students' area of greatest difficulty, that is, communicating with clients and colleagues in a clinical setting.

The above study was guided by Munby's (1978) approach to Communication Needs Processor and the interpretation of needs. A need analysis combined with target situation analysis was created to arrest the situational or functional demands with a curriculum designed around "learner's lacks" or the gaps between the current skills used and target skills.

2.4.3 'ESP' Target Situation Needs Analysis: The English Language Communicative Needs as Perceived by Health Professionals in the Riyadh Area

This study was conducted by Majid Alharby in 2005. The purpose of this study was to investigate the English language communicative needs of health professionals in the

Riyadh area in order to provide empirical data serving the ESP context of Saudi education. The respondents were 225 Saudi health professionals from three hospitals and five medical sites.

English is the only foreign language taught in public schools in Saudi Arabia. Most Saudi students consider English as a course to pass rather than an asset to use in their future careers. The lack of English language ability prevents many young Saudi graduates from executing their jobs effectively. Owing to this, many companies and work facilities avoid hiring these graduates in different fields of work. As a result, an increasing number of ESP courses are provided by institutions of higher learning to enable these graduates to join the workforce. The medical field in Saudi Arabia relies on these programmes to qualify Saudis in terms of their language proficiency. The language situation in the three hospitals in this study reflects the need for Saudi professionals to have a high level of proficiency in the English language since they deal with a large number of English speaking employees in the workplace. More than 80% of the employees are non Saudis who use English as their medium of communication.

The questionnaire was determined to be the best means of investigation for this study because of the large number of participants involved, minimal time required for answering the questions and it was flexible and convenient for the participants. The findings indicated that health professionals in all branches of medicine use the English language extensively and therefore they need a high command of the English language to perform their jobs. It also showed that the majority of the respondents use the English language as the medium of communication during their medical training. The majority of the respondents also

communicate almost always in English with their co-workers. The results were consistent in highlighting the very high frequency of English language use in Saudi medical professions. This implies that effective English language instruction is greatly needed to perform the job effectively and therefore plays an important role in the careers of health professionals.

2.4.4 ESP in Medical Schools and the Balance between EFL and ELF from Students' Perspective: A Study at Jazan University

This is yet another study which was conducted in Saudi Arabia. The medical system in Saudi Arabia is fast expanding and English is spoken as a lingua franca by doctors, nurses and other hospital staff. Also, communication in English in Saudi Arabia is increasingly happening in non-native settings.

This research was undertaken by Elham Abdullah Ghobain in 2010. The participants of this study were male and female freshmen from the school of medicine, Jazan University in Saudi Arabia. The participants selected were studying English as a Foreign Language for Specific Purposes during the 2009/2010 academic session and had recent exposure to some “World English” courses available at the college.

Medical students at Jazan University prefer native speaker models of English despite the fact they are most likely to deal with non-native speakers at their future professional setting. In an attempt to consider the possibility of shifting the teaching/learning paradigm towards a more outer-circle oriented approach, this study investigates the attitudes and beliefs of medical students at Jazan University towards the native models, and selected

non-native models of "World English" that they are likely to come across. There is a need for medical students who heavily subscribe to native speaker models of English learned from the 'inner circle' to take into consideration the situation where a shift to *EIL*, *ELF* or *World English* is occurring.

This was a qualitative study; a total of eight female medical freshmen were interviewed while a total of 96 male and female medical freshmen responded to questionnaires. The findings showed that although the participants preferred the native models, they were also open to other varieties of 'World English' and expressed willingness to know more about the characteristics of these varieties, particularly pronunciation. Students' preference for the native models was explained in two points - their belief that English-speaking countries are the providers of 'perfect' English, and their familiarity with these models. The results also showed that despite the students' preference for native models in general, they were still in favour of non-native English teachers who were well-equipped with the language knowledge and experience.

2.4.5 Needs Analysis on the Importance of English Communication Skills for Medical Assistants

An overview of the health sector in Malaysia revealed that English is the primary lingua franca in the public or private hospitals. A large percentage of the correspondence in the medical sector is done in English. This aims of this study was therefore to identify the communication needs of medical assistants in the general hospital with the aim to make recommendations for course design. The study was carried out in May 2011 by Nalini Arumugam and Naginder Kaur from MARA University of Technology, Malaysia. A

sample of 50 Medical Assistants (MAs) from the General Hospital, Seremban, Negeri Sembilan were involved in this study.

The study is based on the investigations carried out by Hutchinson and Waters (1987) and Dudley-Evans and St John's (1998) who define needs as "target needs and learning needs". The focus of this study is an analysis of the target needs of MAs at the workplace. A survey methodology that is a questionnaire was adopted for this study. The questionnaire is divided into three sections: (i) demographic profile and academic qualification, (ii) knowledge of languages pertaining to their occupation and, (iii) their perceptions towards a need for an English course and their preferred teaching style was administered. To obtain in-depth information, the administrator of the Human Resource Department and the Deputy Director of the general hospital were interviewed. English language proficiency and effective communication are critical in the service sector. This is undeniably so in everyday interactions which take place between healthcare staff and patients. If effective communication is absent, the quality of service rendered to patients as well as staff is compromised. Medical jargons in the English language are used by MAs to record and explain specific information on treatment procedures to patients. In order to render this professional service appropriately, the MAs need to be competent in their listening and speaking skills to interact with patients and to respond to their enquiries.

The findings of this study revealed that MAs need English language for career needs and to function in society. Grammar, speaking, listening, writing and reading were all marked as being vital to their job. It was also revealed that even though the MAs can cope with their daily tasks, they are unable to carry out their duties efficiently and with confidence in

English. The results also showed that MAs only use English when there is a necessity at the workplace although English is undeniably the main medium of communication at the hospital.

Thus far five investigations of ESP needs within the area of medical and health-care studies and services have been discussed. The following three studies present ESP needs analyses that have been carried out in the field of science and technology.

2.4.6 Developing an ESP Speaking Course Framework for the Foreign Postgraduates in Science and Technology at National University of Malaysia

This research was carried out in the academic year 2006/2007 by Md. Momtazur Rahman with the assistance of Thang Siew Ming, Mohd Sallehuddin Abd Aziz and Norizan Abdul Razak. The study aimed to develop a framework for an ESP speaking course for the foreign postgraduates in three science and technology-based faculties, that is, Faculty of Science and Technology, Faculty of Engineering and Faculty of Information, Science and Technology at the National University of Malaysia. Speaking is one of the four main skills used in the presentation of assignments by the foreign postgraduates.

This study adheres to the theoretical aspects of the needs analysis model by Dudley-Evans and St John (1998). The instruments used for data collection were questionnaires and semi-structured interviews. The respondents for the questionnaires included 252 foreign postgraduate students from the three faculties mentioned earlier. The interviews were done with 10 foreign postgraduate students and 5 academics from the three faculties.

This study reviews literature on some fundamental features of ESP, EAP, language needs analysis, components of needs analysis and ESP speaking skills. The findings of the needs analysis helped determine some important speaking tasks and skills for the proposed ESP speaking course.

2.4.7 ESP Project Work: Preparing Learners for the Workplace

Language acquisition is believed to be most effectively facilitated if it is embedded within the learners' field of study or work. This study done in 2006 by A. H. Abdul Raof and Masdinah Alauyah Md. Yusof, describes a learner-centered activity which aims to help learners develop qualities of confidence, initiative and responsibility through interacting with practitioners at the workplace. Thus, this paper goes beyond the classroom and into the real world of the target profession and explores what opportunities can be tapped in developing learners' L2 proficiency through interaction with professionals in the workplace.

A total of 170 second-year undergraduates from the Civil Engineering Faculty, Universiti Teknologi Malaysia who had followed the ECE program participated in the study. The aim of the study was to specifically find out the perception of the students on the Project Work assignment. The study also examined the viewpoints of the students regarding the ECE (English for Civil Engineering) program as a whole.

The responses from the survey reveal that the ECE program is unique in the sense that it provides 'real world' learning experiences to the learners. It was found that students showed satisfaction in having the opportunity to meet up with professionals and gaining

knowledge in the Civil Engineering field and developing specific soft skills and self esteem. The approach adopted by the ECE programme where the learners scheduled appointments and conducted interview sessions with the engineers made it possible for learners to experience rare opportunities. It is clear that having the learners do what is related to their study and future vocation makes learning more relevant. Furthermore, the project work trained the learners to develop their communication skill and contributed to the training of the 'whole person'. The findings also showed that the ECE program had made the learners improve their English and had built their confidence in using the language.

2.4.8 Collaborative Teaching in an ESP Program

A great number of university students in Taiwan have good background knowledge of their content courses but perform poorly in their English classes. This problem often occurs with science and engineering students particularly in private or technology-oriented universities. To enhance the learners' motivation towards English learning, an ESP approach which combines language practice with a learner's subject knowledge was proposed.

This study investigates collaborative teaching in an ESP class in Taiwan and reports the findings of the ESP course via a comparative study. The study was carried out by Ching-ning Chien, Wei Lee and Li-hua Kao from Chung Yuan Christian University in 2008. Forty undergraduate science students were assigned to an experimental class taught by both a language teacher and Physics professor and another forty to a control class taught by the language teacher alone.

The language teacher and Physics professor chose the teaching materials together and collaboratively taught the experimental group (ESP class). The language teacher instructed the control group (EGP class) alone. The results from the findings revealed that the experiment with the teaching collaboration had a positive influence on learners' motivation towards learning English. The findings also revealed that both groups had made some progress in listening, grammar and reading but they had not significantly gained in the area of vocabulary building. This could be due to the failure of the language teacher's teaching strategy. The researchers of this study suggested that English instructors should design other kinds of vocabulary learning activities to help students to work towards the goal autonomously and enjoyably. They also added that this study could have been more interesting if a standardized assessment instrument to examine science concepts in English and linguistic competency skills were found or designed.

The next nine studies present ESP needs analyses in domains outside the hardcore branches of science and technology like the medical and engineering sciences. English language needs in the following contexts: an economics course, military training, textile and clothing industry, tourism and, human resource staff in multinational companies is amongst the ESP needs analysis research that will be discussed in the following sections.

2.4.9 Aspects of Learning ESP at University

This paper discusses the findings of the research into the aspects of learning ESP at Universitas Studiorum Polana Vilnensis, Poland. The investigations were carried out between 1998 and 2001 by Galina Kavaliauskiene, Universitas Studiorum Polana

Vilnensis. Students spend eight years studying English as a school subject in Poland but it is not sufficient for them to achieve an intermediate level of proficiency in language. The knowledge and usage of English that school leavers possess is minimal. Students have difficulties learning ESP because of lack of the General English language skills. The ESP course researched at Universitas Studiorum Polana Vilnensis introduces students to English for economics. Learners have to master terms to understand formal professional texts, authentic recordings of lectures and produce formal writing. The learners also have to present their work and participate in discussions on contemporary economic issues. The researcher gathered data via a questionnaire and talking to students informally outside classroom hours. The questionnaire referred to learners' perceptions about studying English as a school subject, their attitudes to learning it and the experience they had had with English before entering university.

The findings indicated that the major reason for the students' minimal English language skills was examination-orientated teaching. Students limited their English usage to tasks that are included in their tests and examinations instead of long-term English learning for life-long needs. The issue of translation, both from and into English, was appreciated by all the learners and it remains the main tool of comprehension. Oral fluency was the most difficult area for a majority of learners and students also lacked writing skills.

2.4.10 A Needs Analysis of English in the Workplace: the Communication Needs of Textile and Clothing Merchandisers

This paper reports on an investigation into the English language needs of textile and clothing merchandisers who communicate in the international marketplace. The study was

carried out in 2000 by Florence Li So-mui and Kate Mead. The investigations focused on 360 graduates from two institutions, Hong Kong Polytechnic University and Kwun Tong Technical Institute who work as merchandisers and supervisors in the textile and clothing industry. The rationale for the study was to obtain a deeper understanding of the day-to-day activities of textile and clothing merchandisers, to update the sending and receiving of messages and to provide quality products at competitive prices through efficient, rapid, responsible and effective communication.

A merchandiser requires considerable business communication skills in addition to technical knowledge as he/she is responsible in marketing and financial side of the buying or selection operation, quantities, size breakdown, distribution and contracts. The position of the merchandiser normally involves communication with the buyer who places the order for a consignment of garments, the supplier of fabric, yarn and accessories and the manufacturer or factory involved in producing the garments. The buyers, suppliers and manufacturers are normally based in different countries and it is frequently necessary for the merchandiser to communicate with different parties in the international language of business, English.

The result of the survey showed that English was the principle language for written communication in the workplace. But, the graduates also expressed their concern about a need to acquire a better command in English to help cope with the more demanding communication tasks upon promotion like in negotiating and making a claim. The supervisors, however, indicated that correctness of content and use of appropriate tone as more important for effective communication compared to the need for grammatical

accuracy. The supervisors were also concerned about the legal implications of communication like inaccuracies when giving quotations and placing orders that could result in serious consequences for the company. Their other concern was related to the use of a negative, unfriendly or unsympathetic tone that could spoil the relationship with the recipient and result in possible loss of a customer. The detailed investigation into the use of English in the workplace of textile and clothing merchandisers has enabled the course designers and the developers of teaching and learning materials to provide more focused English courses.

2.4.11 ESP at ATMA: A Preliminary Study

This paper reports and discusses the pre-teaching modules selected and compiled for ATMA (Akademi Tentera Malaysia/Military Academy of Malaysia) students. ATMA is an academy that awards a professional degree as well as military recognition. To ensure a balanced growth amongst students, ATMA requires a different set of learning materials for English because students here not only major in a professional field but also military skills. This study was conducted by Jowati binti Juhary from ATMA, Universiti Teknologi Malaysia.

The pre-teaching module adopts a communicative cum interactive approach. The study was done between the months of November 2002 to March 2003 (Semester II). Ninety-seven first-year Engineering and Science students participated as subjects for the study. Apart from questionnaires that were administered, the students were observed for their participation and responses towards the module. The researcher also recorded the students' feelings and attitudes towards the module in a journal.

The findings showed that the students on the whole responded positively to the pre-teaching modules. The results showed that the students understood non-linear texts better than linear texts and responded better to military-based texts rather than other texts. Some possible reasons as to why the students found non-linear texts easier to comprehend are because non-linear texts are visual/tangible and generally easier to understand. As students from the Engineering and Science courses, they tend to look at details in parts rather than as a whole. They also respond better to military-based texts because they are familiar with the military concepts as they attend military classes for a greater part of their learning time (60%) compared to the time spent on academic classes (40%).

2.4.12 Ongoing Needs Analysis as a Factor to Successful Language Learning

This study was carried out by Galina Kavaliauskiene and Kaiva Uzpaliene at the Law University of Lithuania in 2003. The respondents were 89 law students. This paper discusses the on-going analysis of learners' needs, wants and lacks at a tertiary level and prospective implications for successful language learning.

In this study a learner-centered approach is considered to be the cornerstone for successful learning. The current trend in teaching is to take into account learners wants, that is, what they might want or need to carry out with regard to the communicative tasks in the target language. Thus, information on the ways in which learners prefer to learn is gathered. Initial data allows setting course objectives and determining a scientific approach to teaching. On-going needs analysis allows revision of objectives and modification of teaching techniques and materials. A close analysis of ongoing learner's needs, wants and lacks allow teachers to adjust ESP course syllabus to students' changing demands by

providing meaningful experience with language and enable them to focus on tasks and activities that will benefit learning.

2.4.13 ESP Course Design: Matching Learner Needs to Aims

This paper examines the English Language needs of 15 Malay administrative staff in two departments in Universiti Sains Malaysia in an ESP course. This research was undertaken by Sarjit Kaur from the English Department, School of Humanities, Universiti Sains Malaysia in early June 2006. The course design of this study took into account needs analysis concepts put forth by Hutchinson & Waters (1987) and Dudley-Evans & St John (1998).

The students who attended the ESP course comprised 8 staff (4 males and 4 females) from the International Office and 7 staff from the Academic Affairs department. During the interview session, two of the staff informed that they had difficulty in the following aspects: understanding accents of foreign postgraduate students from the Middle East, using polite expressions when conversing with foreign and Malaysian students, using firm but polite expressions when dealing with difficult students and using grammatically correct expressions when writing emails, announcements and letters.

The findings from the interview session revealed that the staff from the Academic Affairs office use minimal English at their workplace as they often speak in Bahasa Melayu (Malay) when they speak to university staff face-to-face or over the phone. The only occasion they would speak in English would be when they had to handle enquiries (phone or face-to-face) from expatriate university staff who are working on a contract basis in USM. The administrative staff stated that they have to learn how to deal with different student personalities and they sometimes lack the English language proficiency and the

confidence to communicate effectively using appropriate language expressions with these international students.

In this survey the students expressed their preference for an extensive ESP course. They also stressed that a non-assessed ESP course would help them to relax more during the classes as they could participate fully in the lessons without having the anxiety that a test environment evokes. It was found that learner-based activities evoked active participation of students using power point to present their work, internet to source useful strategies and language expressions to articulate their suggestions. By making ESP teaching learner-centered, the students in this study were able to have positive learning experiences even though they exhibited passive learning behaviours in the first few classes.

It was clearly evident from this study that when ESP learners take some responsibility for their own learning and are invited to negotiate some aspects of the course design, the subject matter and course content that has relevance to them, the learners feel motivated to become more involved in their learning and often seem to participate more actively in class.

2.4.14 Analyzing the English Language Needs of Human Resource Staff in Multinational Companies

In today's globalised workplaces, human resource staff is often confronted with specific language demands and find themselves in situations where the ability to communicate well is essential in order to function effectively. The HR staff performs the administrative function of an organization like recruiting, interviewing and hiring new staff in accordance with policies and requirements that has been established jointly with top management. HR

staff also work in an advisory capacity; they often have to convince top and middle-level managers of the value of their ideas. Dealing with people is therefore a very important part of their job. Hence, the requirement for good communication skills and the ability to speak and write effectively in English is given prominence in the sector.

This study was conducted in 2006 by Sarjit Kaur and Candice Marie Clarke from Universiti Sains Malaysia, Penang. Their respondents comprised 25 staff and 3 managers from the HR departments of two American multinational companies in Penang. The primary objective of the study was to identify the English language skills at the workplace. It also aimed to explore any possible differences between the expected English language skills and the actual performance of the HR staff at the workplace. This study on the English language needs of HR staff was primarily based on aspects drawn up by Dudley-Evans and St John (1998) and Hutchinson and Waters (1992).

The findings from both companies showed some similarities and some differences. The HR staff in company X rated listening and speaking skills as important. The HR staff in company Y did not experience problems with listening but admitted facing difficulty with speaking skills. The manager in company Y said that the staff lacked writing skills and the English language skills they had acquired did not match the requirement needed to function well at the workplace. On the whole, the abilities of staff members' from company X and Y did not match what was actually required of them by their respective companies. However, the staff members were willing to attend English language classes at their workplace.

2.4.15 Connecting Language Needs in the Workplace to the Learning of English at the Tertiary Level

This paper investigates the relevance of the tertiary English language proficiency curriculum to the workplace. The researchers, Rosli Talif and Rohimmi Noor of the Department of English, Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang, Selangor, wanted to find out if the respondents in the final year of their studies are adequately prepared to use English at the workplace. This study involved four public tertiary institutions of higher learning in Malaysia and was conducted in 2009. A total of 86 final-year students who were involved in industry-linkage programmes that lasted between four and six months were involved in this study.

There seems to be a growing mismatch between the requirements of the industry and the quality of graduates produced in Malaysia. While universities are more knowledge-based, the job market is more productivity-based. As the mismatch grows, employers are expected to continuously provide knowledge and skills to new employees through in-service training or retraining programmes. This study serves as a response to the current focus on employability of graduates from public universities. Fresh graduates are said to lack confidence and have poor communication and English proficiency skills.

This paper aims to identify the levels of English language and the communicative competencies required by both employers and employees in the workplace. The study hopes to provide a strategy to match tertiary level language and communication training with specific employment sector needs in order to improve the quality and opportunity of graduates for gainful employment.

The data collection for this study involved formal interview sessions carried out with all the respondents after they had completed their attachment at their workplace. The respondents were audio-taped during the interviews. The respondents were also asked to write brief responses to the interview questions. The audio recordings were later transcribed. Field notes were also taken by the researchers and these were used for a detailed description of the interview sessions.

The findings revealed that no pre-packaged language course can sufficiently prepare tertiary level students for diverse communicative competence in the workplace. The findings of this study also emphasized the development of a context-sensitive model of communicative competence that relates to the real world of work. The data also indicates that speaking skills are much needed to enable graduates to perform effectively while good writing skills are important for writing reports at the workplace.

2.4.16 A needs analysis survey: The case of tourism letter writing in Iran

The aim of ESP courses is to equip the learners with a certain English proficiency level for a situation where the language is expected to fulfill specific target needs (Sujana, 2005). One of the skills required in the field of travel and tourism is writing. The need to develop the skill rises from the rapid change and development of the job market that requires graduates to acquire a certain level of writing skills. In the field of tourism, English is used widely for inbound and outbound travel as well as client contact.

This survey was done in 2009 by Katayoon Afzali and Mehrnoosh Fakharzadeh from Sheikhabaee University, Iran. This study aims to determine the letter writing needs of

tourism students in Iran. The respondents were 74 tourism students who took a complete list of 103 topics on sample business letters to 14 travel agencies and 4 hotels in Isfahan and 6 travel agencies in Tehran. The agents and hotel staff in Isfahan and Tehran were asked to tick the titles they mostly deal with in their foreign correspondence.

The findings of this research contributed significantly in two ways towards English for tourism. Firstly, it provided English for tourism teachers with a list of letter writing genres they need to concentrate on in their classes. Secondly, the findings served as a useful reference for syllabus design in general and specifically for designing an appropriate writing syllabus.

2.4.17 English Needs of Adult Learner in Distance Education in Malaysia

This research paper discusses the present English curriculum (in relation to MUET or the Malaysian University English Test syllabus) for non-native adult learners at the School of Distance Education, Universiti Sains Malaysia, Penang. Shahrier Pawanchik and Anton Abdulbasah Kamil conducted this study in 2010 on final-year students at the School of Distance Education.

Although students in Malaysia are exposed to English for an average of eleven years in school, the majority of Malaysian students leave the school system with a poor grasp of English. Students entering the public universities also mostly obtained the lower bands in MUET. The objective of this research was to therefore identify the English needs of Malaysian adult learners.

The data for this qualitative cum quantitative study was gathered via exploratory interviews, class observations, examination of students' materials and structured questionnaires. The findings showed that students need English because most of the reference books and handouts are in English. However, the students are more prone to using their mother tongue while socializing. Thus, they have little practice of spoken English and need to master speaking skills in English to communicate at the work place. Writing skills are also important for the students because they need to do their assignments and answer examination questions. The students realize the importance of English in the university and they prefer a course in English for Specific Purposes that focuses on English at the work place.

2.5 Concluding Remarks

The chapter's review on the importance of ESP and the pertinent findings from research done on ESP needs analysis in various fields of study and work, clearly support the significance of the present study. The fourteen needs analysis studies that have been reported here highlight the key role English plays in fulfilling specific tasks in both academic fields and the workplace. The findings on the English needs of the biomedical students of this study, it is hoped, will like the earlier studies, shed light on the areas and aspects that need to be honed in the preparation and teaching of the ESP course at the Department of Biomedical Sciences, University of Malaya. The next chapter will be discussing the research design and methodology.

CHAPTER 3

RESEARCH DESIGN / METHODOLOGY

3.0 INTRODUCTION

This chapter focuses on the research methodology used in this study. It begins with the design of the study which is followed with an explanation of the conceptual framework. Then, the site of the research and the participants of this investigation are described. This is followed by a discussion on the methods of data collection and a description on the process of data analysis used in this study.

3.1 RESEARCH DESIGN

Figure 3.1 below illustrates the research design of the present study. Each of these steps will be discussed in detail in the subsequent sections.

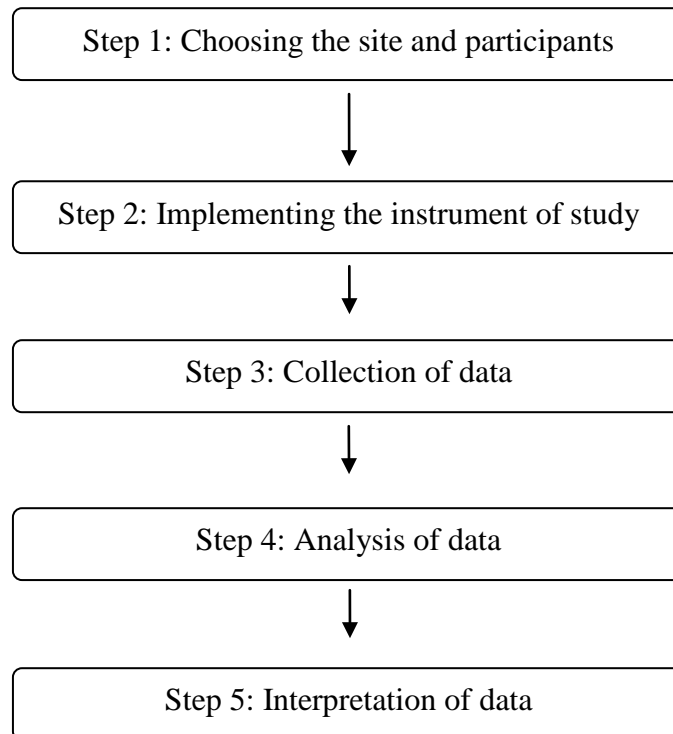


Figure 3.1: Research Design of the Present Study

3.2 CONCEPTUAL FRAMEWORK OF THE STUDY

A conceptual framework is used in research to outline possible courses of action or to present a preferred approach to an idea or thought. Conceptual frameworks can act like maps that give coherence to empirical inquiry and they take different forms depending upon the research question or problem (Botha, 1989).

Figure 3.2 illustrates the conceptual framework and process of the present study.

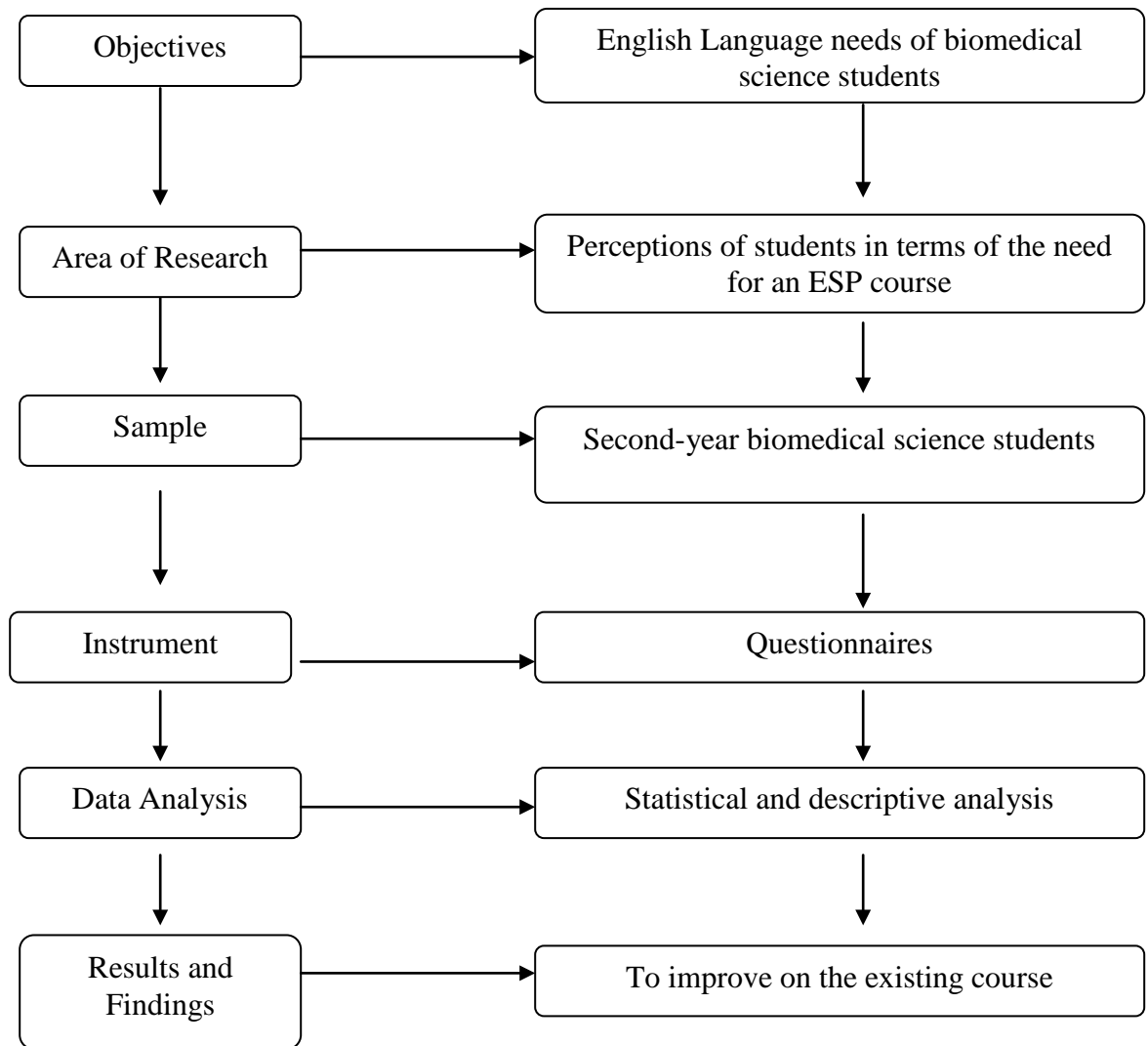


Figure 3.2: Conceptual Framework of the Present Study

3.3 SITE OF THE STUDY

This study was done at the Department of Biomedical Sciences which comes under the Department of Molecular Medicine at the Medical Faculty in University of Malaya. The main reason for choosing the Department of Biomedical Sciences as the site of this study was because an ESP course relevant to this study was being taught there. The fact that the Department of Biomedical Sciences in University of Malaya is well established and the ESP course has been running since 1993, the researcher was also convinced that this would be a very appropriate site to base her study on.

3.4 SUBJECTS OF THE STUDY

The subjects of this study were forty-two second-year biomedical science students from the Department of Biomedical Sciences at the Medical Faculty, University of Malaya. These subjects were chosen because they take “English for Specific Purposes 1” as a core subject in their second year. All these students had an average of eleven years of English language learning in school prior to coming to the university. The entrance qualification for the Biomedical Science course is STPM which is the Higher School Certificate and with regard to language proficiency prerequisite the students need a MUET (Malaysian University English Test) score falling between Band Three and Band Five which is from average to good. Band Six stands for excellent English language proficiency. Therefore, the subjects of this study were students whose proficiency of English was from average to good.

3.4.1 BACKGROUND INFORMATION ON THE STUDENT RESPONDENTS

Forty-two students participated in this study. In terms of gender, more than half or 28 students (66.7 %) were female. With respect to age, 39 students were below 25 years of age (92.9%). Only 3 students were between 25 and 30 years of age (7.1%). With regard to qualification, 24 participants (57.2%) had a Malaysian High School Certificate (STPM), 15 of them (35.7%) had gone through a Matriculation programme and 3 (7.1%) of them were Diploma holders.

3.5 DATA COLLECTION METHODS

Data collection options and strategies for any particular applied research inquiry depend on the type of research, the research questions, the availability of facilities, the data one is looking for and the findings one will use (Patton, 1990). In this study, the only instrument that was deemed necessary and therefore fully employed was a questionnaire to obtain quantitative data. This method of gathering information provided a detailed understanding of the data collected. The descriptions in the following sub-sections on the nature of the instrument used, its efficacy and how it is constructed provides at once the justification for the use of this tool in the present study.

3.6 QUESTIONNAIRES

Questionnaires are an inexpensive way to gather data from a potentially large number of respondents. A good questionnaire forms an integrated whole. The researcher weaves questions together so they flow smoothly. It includes introductory remarks and instructions for clarification and measures each variable with one or more survey questions. There are two key principles for good survey questions: avoid confusion and keep the respondent's

perspective in mind. Good survey questions give the researcher valid and reliable measures. They also help respondents feel that they understand the question and that their answers are meaningful (Neuman, 1997).

The first step in designing a questionnaire is to clearly define the topic of the study. A clear, concise definition of the study will yield results that can be interpreted unambiguously. Having a clearly defined topic has another important advantage: it keeps the questionnaire focused on the behavior or attitude chosen for study. The questionnaire should include a broad enough range of questions so that it can assess behavior. The questionnaire should elicit the responses without much extraneous information. The type of information gathered in a questionnaire depends on its purpose. Most questionnaires include questions designed to assess the characteristics of the participants. These characteristics are called demographics. Demographics are often used as predictor variables during analysis of the data to determine whether participant characteristics correlate with or predict responses to other questions in the survey (Bordens & Abbot, 2002).

In general, there are two types of questions asked in a questionnaire: open-ended or closed-ended. An open-ended (unstructured, free response) question asks a question to which respondents can give any answer. A closed-ended (structured, fixed response) question both asks a question and gives the respondent fixed responses from which to choose. Both forms have advantages and disadvantages. The crucial issue is not which form is best. Rather, it is under what conditions a form is most appropriate. A researcher's choice to use an open- or closed-ended question depends on the purpose and the practical limitations of a research project (Neuman, 1997).

Large-scale surveys have closed-ended questions because they are quicker and easier for both respondents and the researcher. Yet something important may be lost when an individual's beliefs and feelings are forced into a few fixed categories that a researcher created. To learn how a respondent thinks, to discover what is really important to him or her, or to get an answer to a question with many possible answers, open questions may be best. In addition, sensitive topics may be more accurately measured with closed questions. The disadvantages of a question form can be reduced by mixing open-ended and closed-ended questions in a questionnaire. Mixing them also offers a change of pace and helps interviewers establish rapport (Neuman, 1997).

The researcher would therefore like to reiterate here that the clear benefits of questionnaires as a research instrument is the reason this study chose to use a carefully designed questionnaires (with open and closed ended questions) as its sole research tool.

3.7 PILOT STUDY

After the tentative research plan is approved, it may be helpful to try out the proposed procedures on a few participants. This trial run, or pilot study, will help the researcher to decide whether the study is feasible and whether it is worthwhile to continue. At this point, one can ask a colleague to check one's procedures for any obvious flaws. The pilot study provides the opportunity to assess the appropriateness of the data-collection methods and other procedures and to make changes if necessary. It also permits a preliminary testing of the hypotheses, which may give some indication of its tenability and suggest whether further refinement is needed. Unanticipated problems that appear can be solved at this stage, thereby saving time and effort later. A pilot study is well worth the time required

and is especially recommended for the beginning researcher (Ary, Jacobs, Sorensen & Razavieh, 2010).

3.8 THE DATA COLLECTION PROCESS IN THE PRESENT STUDY

The present study utilized only one method of data collection that was the quantitative method via questionnaires. As the focus of this study was on the biomedical science students' needs in using the English language in the academic and non-academic environments, it was decided by the researcher and her supervisor after much careful consideration that a questionnaire that is well organized and detailed and which is administered with clear instructions would be the most appropriate tool. Besides, the data collected from the pilot study proved that the questionnaire was more than sufficient and adequate to gather the data needed to answer the research questions.

This method of data collection enabled the researcher tabulate the data and carry out the data analysis in a very organized and effective way. The researcher also decided to use a questionnaire for the reasons below:

- i). It is an inexpensive and feasible way to reach a big number of participants (Neuman, 1997).
- ii). It is a suitable and flexible method (Alharby, 2005).
- iii). Participants need only a short time to answer the questions (Alharby, 2005).
- iv). Participants are free to give their responses to the questions (Alharby, 2005).
- v). Good survey questions give the researcher valid and reliable measures (Neuman, 1997).

Therefore, steps were taken to define the objectives of the research and determine the sample group. A lot of time was spent by the researcher preparing, editing and rephrasing the questions and statements in the questionnaire. This was to ensure that the responses from the questionnaires answer the research questions. The questionnaire consisted of three sections: Section A, Section B and Section C. Section A provides the personal data of the respondents; Section B was on activities related to the academic domain and Section C was on activities used in the non-academic domain.

The activities for the academic and non-academic domains were decided upon after much brainstorming with the researcher's supervisor. To construct the list of academic activities the researcher referred to various articles and studies related to this study to determine what type of activities would fall in this category. Amongst the studies referred to were by Detaramani and Shuk (1999), Ponampalam (2003) and Liu, Ahn, Baek and Han, (2004). The list for non-academic activities was purely built through many discussions. The questionnaire, the main instrument in this study, consisted more of closed format questions but an open format was provided under each section for the respondents to provide other relevant responses.

Data collection began in the middle of February, 2005 and the researcher completed the process in May 2005. The researcher contacted the Coordinator of the Biomedical Science Programme at the Medical Faculty, University of Malaya to ask for permission to distribute the questionnaires and to carry out a pilot test. The researcher also wrote an official letter expressing the nature and purpose of the study. The questionnaires for the pilot test were distributed to five respondents who were picked at random. This was done

after permission was granted by the authorities concerned. This trial run of the questionnaires was assisted by the subject lecturer on the day it was administered. The pilot test proved to be fruitful as some weaknesses in the presentation of the items were found. This allowed for improvement on the precision and clarity of the items; the researcher edited the questionnaire used for the pilot test (Appendix B: Questionnaire on pilot study) to avoid any ambiguity in order to obtain valid and reliable data.

The new set of questionnaires (Appendix A: Questionnaire) for the actual study was administered to the respondents after prior appointment with the subject lecturer. The respondents were given a short briefing about the researcher and her aims for conducting the research. Then, the researcher requested the respondents to be honest when providing the answers and also to feel free to give other comments if they wished to. The researcher informed the respondents that the comments, responses and reasons they provide would add further details for the research. The questionnaires were then collected and analyzed.

At the end of the data collection in May 2005, the researcher had in her possession 5 sets of the pilot study questionnaires, 42 sets of the final questionnaires and some notes taken during informal conversations with the lecturers, short notes taken as the research progressed and some personal memos to keep track of the research.

3.9 DATA ANALYSIS

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. According to Shamoo and

Resnik (2003) various analytic procedures “provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data”.

While data analysis in qualitative research can include statistical procedures, many times analysis becomes an ongoing interactive process where data is continuously collected and analyzed almost simultaneously. Indeed, researchers generally analyze for patterns in observations through the entire data collection phase (Savenye, Robinson, 2004). The form of the analysis is determined by the specific qualitative approach taken (field study, ethnography content analysis, oral history, biography, unobtrusive research) and the form of the data (field notes, documents, audiotape and video tape).

Quantitative data analysis deals with numbers and uses mathematical operations to investigate the properties of data. The levels of measurement used in the collection of the data (i.e. nominal, ordinal, interval and ratio) are an important factor in choosing the type of analysis that applicable, as is the number of cases involves statistics is the name given to this type of analysis (Walliman, 2006), and is defined in this sense as:

The science of collecting and analyzing numerical data, especially in, or for, large quantities, and usually inferring proportions in a whole from proportions in a representative sample (Oxford Encyclopedic Dictionary).

An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings. Improper statistical analyses distort scientific findings, mislead casual readers (Shepard, 2003) and may negatively influence the public perception of research. The researcher has kept this in mind throughout the data analysis in her study.

The data analysis process for this study started as soon as the data collection started. This proves true the exemplifications provided by Erlandson, Harris, Skipper and Allen (1993) on the interaction between data analysis and data collection:

Data analysis as a naturalistic inquiry involves a two-fold approach. The first aspect involves data analysis at the research site during data collection. The second aspect involves data analysis away from the site following a period of data collection p.133).

Miles and Huberman (1994) recommend that data analysis follow the following order: (i) reduce the collected data (ii) display the collected data and, (iii) draw conclusions from the collected data. The data collected for this study was analyzed according to the sequence suggested by Miles and Huberman (1994). However, there was no reduction on the data collected through the research instrument used. The data collected through questionnaires were displayed using tables with frequency counts. The data was then interpreted according to distinct patterns and conclusions were drawn based on the emerging patterns.

4.0 CONCLUDING REMARKS

The process of designing an appropriate research instrument and the administering of this instrument for this study has been a valuable research experience. The method used in the collection of data for this research has helped to identify the needs, lacks and wants of the respondents of this study with regard to the use of the English language in the academic and non-academic environments.

The next chapter will discuss the findings and results from the data analyzed.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.0 INTRODUCTION

This chapter presents the analysis of data gathered mainly through a questionnaire and further validated with interviews in order to answer two research questions which are:

- 1) What are the academic and non-academic activities which require biomedical students to use the English language?
- 2) What difficulties do they have, if any, in the use of the English language in academic and non-academic situations?

To evaluate the perceptions of the participants, two main sections of the questionnaire, Section B and Section C, will be analyzed in detail in this chapter. Section A of the questionnaire which provides the background on the respondents has already been described in Chapter 3: Research Methodology. Below is a tabulation of the information provided by the respondents for Section A.

		Number of respondents (Total: 42)	Percentage
Gender	Male	14	33.3
	Female	28	66.7
Age	Below 25	39	92.9
	25-30	3	7.1
Qualification	STPM	24	57.2
	Matriculation	15	35.7
	Diploma	3	7.1

Table 4.1: Background information on the student respondents

The responses to Section B and C of the questionnaires were analyzed using frequency counts and percentages to describe the findings. Throughout this analysis chapter, the total scores of the two main ends of the responses (i.e. the higher end being the higher frequency of use or the greater extent of difficulty or importance while the lower end being the lower frequency of use or the lesser extent of difficulty or importance) will be provided after displaying the individual scores for each response for each item listed. The total scores will be useful in establishing the correlation between the overall results and the individual scores for the activities listed. This would be one way of validating the students' responses.

4.1 THE EXTENT OF ENGLISH LANGUAGE USED IN THE ACADEMIC ENVIRONMENT

In Question 1 in Section B of the questionnaire, the participants were asked to indicate the extent of the English language used in the seventeen academic activities listed. Table 4.2 below presents the percentages for four types of responses (Never, Seldom, Quite Often, Always) to the extent of English used in the academic-related activities listed in the table.

	Items	Never	Seldom	Quite Often	Always
a	Asking lecturers questions	2.6	55.3	13.2	28.9
b	Discussing (class/group) during tutorials	2.6	26.3	50	21.1
c	Oral presentations	0	15.8	28.9	55.3
d	Listening to lectures	0	0	18.4	81.6
e	Making telephone calls and inquiries	15.8	50	26.3	7.9
f	Conducting interviews	31.6	26.3	23.7	18.4
g	Making appointments	15.8	42.1	23.7	18.4
h	Understanding academic textbooks	0	2.6	39.5	57.9
i	Understanding project handouts	0	2.6	42.1	55.3
j	Reading research and reference materials	13.2	28.9	57.9	0
k	Surfing the net	0	2.6	23.7	73.7
l	Reading journals	0	26.3	21.1	52.6
m	Reading lecture notes	0	0	7.9	92.1

n	Doing assignments/coursework	0	0	13.2	86.8
o	Writing reports	0	2.6	7.9	89.5
p	Taking notes	0	2.6	23.7	73.7
q	Journal writing	21.1	31.6	15.8	31.5

Table 4.2: Extent of English language used in the academic environment

The seventeen activities listed above can be grouped into the four skills involved in language use that is, listening, speaking, reading and writing. The table below shows this division by skills and the highest percentage for each type of response is highlighted:

	Items	Never	Seldom	Quite Often	Always
1	<u>Listening Skills:</u>				
	Listening to lectures	0	0	18.4	81.6
	Taking notes	0	2.6	23.7	73.7
2	<u>Speaking Skills:</u>				
	Asking lecturers questions	2.6	55.3	13.2	28.9
	Discussing (class/group) during tutorials	2.6	26.3	50.0	21.1
	Oral presentations	0	15.8	28.	55.3
	Making telephone calls and inquiries	15.8	50.0	26.3	7.9
	Conducting interviews	31.6	26.3	23.7	18.4
	Making appointments	15.8	42.1	23.7	18.4
3	<u>Reading Skills:</u>				
	Understanding academic textbooks	0	2.6	39.5	57.9
	Understanding project handouts	0	2.6	42.1	55.3
	Reading research and reference materials	13.2	28.9	57.9	0
	Surfing the net	0	2.6	23.7	73.7
	Reading journals	0	26.3	21.1	52.6
	Reading lectures notes	0	0	7.9	92.1
4	<u>Writing Skills:</u>				
	Doing assignments/coursework	0	0	13.2	86.8
	Writing reports	0	2.6	7.9	89.5
	Journal writing	21.1	31.6	15.8	31.5

Table 4.3: Extent of English language used in the academic environment based on the four main language skills

On the whole, the high percentages for the 'always' response to using English can be seen in the activities which involve firstly reading and writing activities (92.1% for reading lecture notes, 89.5% for writing reports, 86.8% for doing assignments/coursework). This is followed by listening skills (81.6% for listening to lectures and 73.7% for taking notes) and speaking skills with the comparatively lowest percentages fall in the final position; speaking clearly tips in the opposite direction with the relatively higher percentages being recorded in the 'never' or 'seldom' column (55.3% for asking lecturers questions and 31.6% for conducting interviews).

In a multilingual country like Malaysia, communication is often carried out in more than one language. It can therefore be safely assumed that in situations especially outside the classroom, the oral communication that is required for example to conduct interviews or make appointments can be done in Bahasa Malaysia, the national language or in the speaker's native tongue like Mandarin or Tamil. In the classroom context however students do not have this option especially if the medium of instruction for the course is English. This therefore explains why oral presentations have the highest score (55.3%) under speaking skills; this speaking activity is in the class context where English functions as the main language of instruction and communication. Oral presentations can also form part of the course assessment and therefore the total response of 'quite often' and 'always' is relatively high at 84.2% (i.e. 28.9% + 55.3% respectively).

An analysis of the total scores at the higher frequency end (i.e. 'quite often' and 'always') presented in the Table 4.4 below, in a descending order of percentages, confirm the earlier conclusion that English is mostly used where it is required or expected of the student as in a formal classroom setting. Outside this setting, the student clearly has the choice to use

any other language he or she is proficient in although the activities carried out are related to his or her academic work like making appointments or conducting interviews. Also, the use of English is obviously higher when students are faced with texts, materials and information sources that are English-based.

Items	Quite Often (QO)	Always (A)	Total of QA & A
Reading lecture notes	7.9	92.1	100%
Doing assignments/coursework	13.2	86.8	100%
Listening to lectures	18.4	81.6	100%
Writing reports	7.9	89.5	97.4%
Taking notes	23.7	73.7	97.4%
Surfing the net	23.7	73.7	97.4%
Understanding academic textbooks	39.5	57.9	97.4%
Understanding project handouts	42.1	55.3	97.4%
Oral presentations	28.9	55.3	84.2%
Reading journals	21.1	52.6	73.7%
Discussing (class/group) during tutorials	50.0	21.1	71.1%
Reading research and reference materials	57.9	0	57.9%
Journal writing	15.8	31.5	47.3%
Asking lecturers questions	13.2	28.9	42.1%
Conducting interviews	23.7	18.4	42.1%
Making appointments	23.7	18.4	42.1%
Making telephone calls and inquiries	26.3	7.9	34.2%

Table 4.4: Total scores at the higher frequency end for the extent of English used in the academic environment

The higher total scores (the highlighted 70% and above or two-thirds or more of the respondents) are on the whole clearly related to (i) the students direct involvement with classroom activities like listening to lectures (100%), taking notes (97.4%), oral presentations in class (84.2%) and discussions during tutorials (71.1%) and, (ii) activities related to doing assignments which would involve understanding project handouts (97.4%), reading lecture notes (100%), understanding academic textbooks (97.4%), writing

reports (97.4%), surfing the net (97.4%), and reading journals (73.7%) to gather relevant information to do the assignments.

With regard to activities related to doing assignments, the score for reading research and reference materials is expected to be in the higher range like reading journals (73.7%) and surfing the net (97.4%) but surprisingly it is not, with a score of 57.9%. This disparity implies that reading materials in English which the students used for their assignments which ranged from journal articles to other research or reference materials were composed in different levels of English use. A more formal and scholarly register compared to a more readable style of writing in English would certainly affect the student's frequency of assessing such reading materials. This therefore means that these students need to be progressively exposed to reading materials written in different levels of English.

Journal articles cater for a scholarly audience unlike academic textbooks which employ a more readable and easily comprehensible register. Also teachers/lecturers often carefully select textbooks that would help students to comprehend basic concepts as easily as possible. A possible explanation therefore for the scores as stated above are very likely that the research and reference materials prescribed by the course lecturer were of a more difficult level as compared with academic textbooks used in class. If the student can select his own reading as with sources on the net, there would be the choice to read the more manageable articles.

Next, an analysis of the total scores of the lower frequency end ('never' and 'seldom') presented in the following Table 4.5, in a descending order of percentages, shows that

more than half the respondents use very little English or no English at all for five of the activities related to academic work. These are: making telephone calls and inquiries (65.8%), asking lecturers questions (57.9%), conducting interviews (57.9%), making appointments (57.9%) and journal writing (52.7%). The percentages for these five activities are highlighted in Table 4.5.

Items	Never (N)	Seldom (S)	Total of N & S
Making telephone calls and inquiries	15.8	50.0	65.8%
Asking lecturers' questions	2.6	55.3	57.9%
Conducting interviews	31.6	26.3	57.9%
Making appointments	15.8	42.1	57.9%
Journal writing	21.1	31.6	52.7%
Reading research and reference materials	13.2	28.9	42.1%
Discussing (class/group) during tutorials	2.6	26.3	28.9%
Reading journals	0	26.3	26.3%
Oral presentations	0	15.8	15.8%
Understanding academic textbooks	0	2.6	2.6%
Understanding project handouts	0	2.6	2.6%
Surfing the net	0	2.6	2.6%
Writing reports	0	2.6	2.6%
Taking notes	0	2.6	2.6%
Listening to lectures	0	0	0%
Reading lecture notes	0	0	0%
Doing assignments/coursework	0	0	0%

Table 4.5: Total scores at the lower frequency end for the extent of English use in the academic environment

Of the five activities, four are speaking skills and as pointed out earlier, speaking skills (especially those outside the classroom) fall last in the frequency of English use after reading, writing and listening skills. The score of 52.7% for journal writing could mean that the jottings of lab observations in the student's chronological log are made almost equally in English and in the one other language known to students in Malaysia, that is, Bahasa Malaysia.

4.2 EXTENT OF DIFFICULTIES ENCOUNTERED WHEN USING ENGLISH IN THE ACADEMIC ENVIRONMENT

In Question 2 of Section B of the questionnaire, the respondents were asked to express the extent of difficulties encountered when using English in the seventeen academic-related activities listed in the table. The activities, as in Table 4.3, are presented here according to the four language skills. Table 4.6 below presents the percentages for four types of responses (A lot of difficulty, Some difficulty, Very little Difficulty and No difficulty). The highest percentage for each of these responses is highlighted.

Items	A lot of difficulty	Some difficulty	Very little difficulty	No Difficulty
<u>Listening Skills:</u>				
Listening to lectures	2.6	5.3	42.1	50.0
Taking notes	0	15.8	42.1	42.1
<u>Speaking Skills:</u>				
Asking lecturers questions	0	42.1	34.2	23.7
Discussing (class/group) during tutorials	5.3	26.3	52.6	15.8
Oral presentations	7.9	34.2	42.1	15.8
Making telephone calls and inquiries	2.6	23.7	34.2	39.5
Conducting interviews	5.3	36.8	44.7	13.2
Making appointments	2.6	29.0	42.1	26.3
<u>Reading Skills:</u>				
Understanding academic textbooks	2.6	15.8	55.3	26.3
Understanding project handouts	2.6	10.5	58.0	28.9
Reading research and reference materials	5.3	18.4	44.7	31.6
Surfing the net	0	5.3	55.3	39.4
Reading journals	2.6	39.5	36.8	21.1
Reading lectures notes	0	2.6	55.3	42.1
<u>Writing Skills:</u>				
Doing assignments/coursework	2.6	10.5	58.0	28.9
Writing reports	0	18.4	44.7	36.8
Journal writing	18.4	36.8	28.9	15.8

Table 4.6: Extent of difficulties encountered in the academic environment based on the four main language skills

The highest response for 'a lot of difficulty' in using the English language is recorded for journal writing (18.4%) followed by the highest score for 'some difficulty' specifically expressed in relation to asking lecturers questions (42.1%). The students find 'very little difficulty' when understanding project handouts in English and doing their assignments/coursework in English. Both of these share the highest score at 58%. The highest percentage for 'no difficulty' at all is 50% which is half of the respondents who find listening to lectures delivered in English most manageable.

The higher percentage of 42.1% for 'some difficulty' (when asking lecturers questions) compared to 18.4% for 'a lot of difficulty' (when doing journal writing) clearly correlates with the second lowest score (42.1% in Table 4.2) that showed up for the frequency of English use. Also, the second highest percentage (57.9% in Table 4.5) for the total of 'seldom' and 'never' that was recorded in Table 4.3 for extent of English used was for the item 'asking lecturers questions'. This clearly points to the greatest difficulty being the speaking skill and particularly in communicating with the lecturer in English.

The next two tables will once again provide totals of the two main ends of the response spectrum in order to allow for a ranking of the percentages in a descending order. The totals provided for 'lot of difficulty' and 'some difficulty' in Table 4.7 followed by the totals for 'little difficulty' or 'no difficulty' in Table 4.8 will help to present at a glance the academic activities involving the use of English which the respondents find to be more difficult and less difficult.

Items	A lot of difficulty	Some difficulty	Total
Journal writing	18.4	36.8	55.2
Asking lecturers questions	0	42.1	42.1
Oral presentations	7.9	34.2	42.1
Conducting interviews	5.3	36.8	42.1
Reading journals	2.6	39.5	42.1
Discussing (class/group) during tutorials	5.3	26.3	31.6
Making appointments	2.6	29.0	31.6
Making telephone calls and inquiries	2.6	23.7	26.3
Reading research and reference materials	5.3	18.4	23.7
Understanding academic textbooks	2.6	15.8	18.4
Writing reports	0	18.4	18.4
Taking notes	0	15.8	15.8
Understanding project handouts	2.6	10.5	13.1
Doing assignments/coursework	2.6	10.5	13.1
Listening to lectures	2.6	5.3	7.9
Surfing the net	0	5.3	5.3
Reading lecture notes	0	2.6	2.6

Table 4.7: Higher end total scores for extent of difficulty when using English in the academic environment

The three highest total scores which represent one third and more of the respondents are highlighted in the above table. The two highest total scores validate the earlier findings recorded in Tables 4.2 till 4.5. Journal writing (placed under writing skills) and asking lecturers questions (placed under the category of speaking skills) remain high on the list for the greatest challenge faced in using English. However here, the second highest total score shares the same percentage (42.1%) with three other activities, that is, oral presentations, conducting interviews and reading journals. As for the third highest total score (31.6%) two activities share the same score, that is, discussing during tutorials and making appointments. What is importantly highlighted here is, of the seven activities which make up the three highest total scores, five activities (i.e. asking lecturers questions, oral presentations, conducting interviews, discussing during tutorials and making

appointments) fall under the category of speaking skills. The results consistently show that overall, the respondents find speaking in English relatively more difficult than reading, writing and listening in English.

Table 4.8 below presents the lower end of the extent of difficulty when using English in the academic environment.

Items	Very little difficulty	No difficulty	Total
Reading lecture notes	55.3	42.1	97.4
Surfing the net	55.3	39.4	94.7
Listening to lectures	42.1	50.0	92.1
Understanding project handouts	58.0	28.9	86.9
Doing assignments/coursework	58.0	28.9	86.9
Taking notes	42.1	42.1	84.2
Understanding academic textbooks	55.3	26.3	81.6
Writing reports	44.7	36.8	81.5
Reading research and reference materials	44.7	31.6	76.3
Making telephone calls and inquiries	34.2	39.5	73.7
Making appointments	42.1	26.3	68.4
Discussing (class/group) during tutorials	52.6	15.8	68.4
Asking lecturers questions	34.2	23.7	57.9
Oral presentations	42.1	15.8	57.9
Conducting interviews	44.7	13.2	57.9
Reading journals	36.8	21.1	57.9
Journal writing	28.9	15.8	44.7

Table 4.8: Lower end total scores for the extent of difficulty when using English in the academic environment

An analysis of the total scores at the lower end for the extent of difficulty when using English in the academic environment shows that reading lecture notes (97.4%), surfing the net (94.7%), listening to lectures (92.1%) followed by the other academic activities listed are relatively more manageable compared to journal writing (44.7%) which ranks last in the list. Again, on the whole, it can be seen that a large number of academic activities

involving speaking (as highlighted in the table) fall lower in this list showing that speaking in English is relatively the greater challenge compared to the other language skills.

4.3 TYPES OF DIFFICULTIES ENCOUNTERED WHEN USING ENGLISH IN THE ACADEMIC ENVIRONMENT

Question 3 in Section B of the questionnaire asks the respondents to state the extent of difficulty faced in the academic environment with respect to eight types of language difficulties listed by the researcher. Table 4.9 below presents the percentages; the highest score for each of the response is highlighted.

	Items	A lot of difficulty	Some difficulty	Very little difficulty	No difficulty
A	Problems with finding suitable words during group discussions	5.3	47.4	44.7	2.6
b	Detailed explanation during oral presentations	18.4	47.4	31.6	2.6
c	Understanding accent and pronunciation during lectures	2.6	34.2	47.4	15.8
d	Expressing counter arguments when communicating with peer	0	44.7	52.6	2.6
e	Understanding difficult words and meanings in texts	5.3	55.3	36.8	2.6
f	Reading to obtain main ideas and information from texts	0	21.0	65.8	13.2
g	Constructing sentences with correct grammar and structures	7.9	42.1	42.1	7.9
h	Using suitable words to express or convey a message in writing	2.6	36.8	47.4	13.2

Table 4.9: Extent of the type of difficulties encountered when using English in the academic environment

The highest response for ‘a lot of difficulty’ in using English is recorded for the ability to provide detailed explanation during oral presentations (18.4%) followed by the highest

score for ‘some difficulty’ in understanding difficult words and meanings in texts (55.3%). The highest response for ‘very little difficulty’ is when reading to obtain main ideas and information from texts (65.8%) while the highest score for ‘no difficulty’ is in understanding accent and pronunciation during lectures (15.8%).

An analysis of the total scores at the higher end (i.e. ‘a lot of difficulty’ and ‘some difficulty’) presented in Table 4.10 below indicate that more half of the respondents have difficulties in giving detailed explanation during oral presentations (65.8%), in understanding difficult words and meanings in texts (60.6%) and in finding suitable words to use during group discussions (52.7%). Also, half the respondents (50%) have difficulties in constructing sentences with correct grammar and structures.

Items	A lot of difficulty	Some difficulty	Total
Detailed explanation during oral presentations	18.4	47.4	65.8
Understanding difficult words and meanings in texts	5.3	55.3	60.6
Problems with finding suitable words during group discussions	5.3	47.4	52.7
Constructing sentences with correct grammar and structures	7.9	42.1	50.0
Expressing counter arguments when communicating with peer	0	44.7	44.7
Using suitable words to express or convey a message in writing	2.6	36.8	39.4
Understanding accent and pronunciation during lectures	2.6	34.2	36.8
Reading to obtain main ideas and information from texts	0	21.0	21.0

Table 4.10: Higher end total scores for types of difficulties faced when using English in the academic environment

Next, Table 4.11 below provides the total scores at the lower end (for ‘very little difficulty’ and ‘no difficulty’) for types of difficulties faced when using English in the academic environment.

Items	Very little difficulty	No difficulty	Total
Reading to obtain main ideas and information from texts	65.8	13.2	79.0
Understanding accent and pronunciation during lectures	47.4	15.8	63.2
Using suitable words to express or convey a message in writing	47.4	13.2	60.6
Expressing counter arguments when communicating with peer	52.6	2.6	55.2
Constructing sentences with correct grammar and structures	42.1	7.9	50.0
Problems with finding suitable words during group discussions	44.7	2.6	47.3
Understanding difficult words and meanings in texts	36.8	2.6	39.4
Detailed explanation during oral presentations	31.6	2.6	34.2

Table 4.11: Lower end total scores for types of difficulty faced when using English in the academic environment

The highest score, that is, 79% of the respondents have ‘very little difficulty’ or ‘no difficulty’ when reading to obtain main ideas and information from texts. Three other activities where more than half of the respondents find little or no difficulty are: understanding accent and pronunciation during lectures (63.2%), using suitable words to express or convey a message in writing (60.6%) and expressing counter arguments when communicating with peers (55.2%).

The results revealed at the lower end of difficulty (Table 4.10) clearly correlate with the results obtained at the higher end for types of difficulties faced (Table 4.11) when using

English in the academic environment. It is evident that the students find themselves lacking most in word power or vocabulary skills which explains why the greatest type of difficulty that show up at both ends are giving detailed explanation during oral presentations, understanding difficult words and meanings in texts and problems with finding suitable words during group discussions.

4.4 REASONS FOR WANTING TO USE ENGLISH IN THE ACADEMIC ENVIRONMENT

Question 4 in Section B of the questionnaire required the respondents to indicate the extent of importance (Not Important, Quite Important, Important, Very Important) of the five reasons listed by the researcher with regard to wanting to use English in the academic environment. Table 4.12 below records the percentages for the four types of responses. The highest percentage for each of the items (a-d) is highlighted; the highest percentages all fall in the ‘Very Important’ response which, on the whole, show that all the reasons listed are very important.

	Items	Not important	Quite important	Important	Very important
a	Most reference materials are in English	0	0	18.4	81.6
b	Most lectures are carried out in English	0	0	15.8	84.2
c	Some lectures are carried out in English	10.5	5.3	26.3	57.9
d	Tutorials are carried out in English	0	2.6	15.8	81.6
e	English can help me to further my studies	0	0	7.9	92.1

Table 4.12: Reasons for wanting to use English in the academic environment

The highest score (92.1%) for wanting to use English in the academic environment is clearly for the reason to further their studies. English can help me to further my studies was included here as a reason because it is related to the academic environment in the future. This highest score related to this reason expresses the students' intentions of improving their English as they are aware that it would be an asset for them in their future academic advancement. This is followed by the second reason which is, most lectures are carried out in English (84.2%), and the third reason (as both of the following carry equal scores) which are most reference materials used are in English (81.6%) and tutorials are carried out mostly in English (81.6%). The second and third reasons which also show relatively high scores as the first reason indicate the learning-related activities where the English language is often used in the academic environment. The relatively low score of 57.9% compared to the rest of the high scores clearly validates that not some but most lectures are carried out in English.

4.5 ENGLISH LANGUAGE USED IN THE NON-ACADEMIC ENVIRONMENT

Question 1 in Section C of the questionnaire asks the respondents to state the extent of English used in fourteen types of activities in the non-academic environment. Table 4.13 below presents the results to four types of responses (Never, Seldom, Quite often and Always).

Items	Never	Seldom	Quite often	Always
Conversing face-to-face (e.g. at social meeting)	2.6	50.0	36.8	10.5
Understanding English movies	0	15.8	50.0	34.2
Having group discussions	5.3	44.7	39.5	10.5
Making reservations and appointments	10.5	44.7	34.2	10.5
Surfing the net to get information	0	5.3	31.6	63.1
Reading newspapers	0	28.9	34.2	36.8
Reading magazines	0	21.1	42.1	36.8
Reading novels and story books	0	39.5	34.2	26.3
Reading brochures, posters and directions	2.6	5.3	52.6	39.5
Writing minutes	23.7	36.8	26.3	13.2
Writing notices	7.9	47.4	26.3	18.4
Writing resumes	31.6	21.1	21.1	26.3
Filling up application forms	0	21.1	42.1	36.8
Chatting/e-mail communication/ SMS communication	5.3	15.9	31.6	47.4

Table 4.13: Extent of English language used in the non-academic environment

Once again, the fourteen activities listed above can be grouped into the four skills involved in language use, that is, listening, speaking, reading and writing. Table 4.14 below shows this division and the highest percentage for each response is highlighted:

	Items	Never	Seldom	Quite Often	Always
1	<u>Listening Skills:</u>				
	Understanding English movies	0	15.8	50.0	34.2
2	<u>Speaking Skills:</u>				
	Conversing face-to-face (e.g. at social meeting)	2.6	50.0	36.8	10.5
	Having group discussions	5.3	44.7	39.5	10.5
	Making reservations and appointments	10.5	44.7	34.2	10.5
3	<u>Reading Skills:</u>				
	Surfing the net to get information	0	5.3	31.6	63.1
	Reading the newspapers	0	28.9	34.2	36.8
	Reading magazines	0	21.1	42.1	36.8
	Reading novels and story books	0	39.5	34.2	26.3
	Reading brochures, posters and directions	2.6	5.3	52.6	39.5
4	<u>Writing Skills:</u>				
	Writing minutes	23.7	36.8	26.3	13.2
	Writing notices	7.9	47.4	26.3	18.4
	Writing resumes	31.6	21.1	21.1	26.3
	Filling up application forms	0	21.1	42.1	36.8
	Chatting/e-mail communication/SMS communication	5.3	15.9	31.6	47.4

Table 4.14: Extent of English language used in the non-academic environment based on the four main language skills

The highest percentage for the ‘always’ response to using English can be seen under the reading skill. Surfing the net to get information rates the highest that is 63.1%. Apart from getting information for academic purposes, many students these days surf the net to get the latest news on games, movies, songs and other updates or information related to their areas of personal interest.

Reading brochures, posters and directions has the highest percentage in the ‘quite often’ response that is 52.6%. This means that students do a fair amount of reading in the English

language although many posters, brochures and directions are written in Bahasa Malaysia in this country.

As seen in the extent of English language used in the academic environment, the speaking skill in the non-academic environment, too, falls under the lower frequency end. Conversing face-to-face (e.g. at social meeting) has the highest percentage (50.0%) in the 'seldom' response. This score is half the number of the 42 respondents and it implies that a fair number of students need to improve on their speaking skills in the English language during social interactions. There could be a number of reasons for these students not wanting to use the English language more frequently in social interactions. Amongst these reasons could be that the students use other languages apart from English which they are more proficient in like their mother tongue or the national language.

The highest score in the 'never' response is for writing resumes (31.6%). Being students in the second year of the course, these students do not face an urgent need to use this skill at the moment. This then explains the 31.6% or about one third of the respondents who chose 'never' for writing resumes in English. However, this writing skill will be of great importance upon graduation.

Next, the total scores at the higher frequency end (i.e. 'quite often' and 'always') are presented in the Table 4.15 below in a descending order of percentages to provide the overall results on the activities in the non-academic environment for which the students frequently use English.

Items	Quite Often (QO)	Always (A)	Total of QA & A
Surfing the net to get information	31.6	63.1	94.7
Reading brochures, posters and directions	52.6	39.5	92.1
Understanding English movies	50.0	34.2	84.2
Chatting/e-mail communication/SMS communication	31.6	47.4	79.0
Filling up application forms	42.1	36.8	78.9
Reading magazines	42.1	36.8	78.9
Reading newspapers	34.2	36.8	71.0
Reading novels and story books	34.2	26.3	60.5
Having group discussions	39.5	10.5	50.0
Writing resumes	21.1	26.3	47.4
Conversing face-to-face (e.g. at social meeting)	36.8	10.5	47.3
Writing notices	26.3	18.4	44.7
Making reservations and appointments	34.2	10.5	44.7
Writing minutes	26.3	13.2	39.5

Table 4.15: Total scores at the higher frequency end for the extent of English language used in the non-academic environment

The higher total scores (the highlighted 60% and above or more than half of the 42 respondents) for activities like surfing the net to get information (94.7%), reading brochures, posters and directions (92.1%), understanding English movies (84.2%), chatting/e-mail communication/SMS communication (79%), reading newspapers (71%) and reading novels and story books (60.5%) are mainly related to activities which students are involved in during their leisure time.

The total scores at the lower frequency end (i.e. ‘never’ and ‘seldom’) can be seen in Table 4.16 below in a descending order of percentages.

Items	Never (N)	Seldom (S)	Total of N & S
Writing minutes	23.7	36.8	60.5
Writing notices	7.9	47.4	55.3
Making reservations and appointments	10.5	44.7	55.2
Writing resumes	31.6	21.1	52.7
Conversing face-to-face (e.g. at social meeting)	2.6	50.0	52.6
Having group discussions	5.3	44.7	50.0
Reading novels and story books	0	39.5	39.5
Reading newspapers	0	28.9	28.9
Chatting/e-mail communication/SMS communication	5.3	15.9	21.2
Filling up application forms	0	21.1	21.1
Reading magazines	0	21.1	21.1
Understanding English movies	0	15.8	15.8
Reading brochures, posters and directions	2.6	5.3	7.9
Surfing the net to get information	0	5.3	5.3

Table 4.16: Total scores at the lower frequency end for the extent of English language used in the non-academic environment

The total scores at the lower frequency ends which are above 50% are: writing minutes (60.5%), writing notices (55.3%), making reservations and appointments (55.2%), writing resumes (52.7%) and conversing face-to-face (e.g. at social meeting) (52.6%). There could be a few possible reasons as to why little or no English is used in these activities in the non-academic environment. These could be: the students have no necessity to perform these tasks, these activities are not a part of the skills required in their academic environment or another medium other than English can be used to fulfill these activities.

4.6 DIFFICULTIES ENCOUNTERED WHEN USING ENGLISH IN THE NON- ACADEMIC ENVIRONMENT

Question 2 in Section C of the questionnaire requires the respondents to indicate the level of difficulty faced in using English for the fourteen items listed below. As done in Table 4.14, the fourteen activities in the non-academic environment are grouped into the four main language skills. Table 4.17 below shows this division and the highest percentage for each response is highlighted.

	Items	A lot of difficulty	Some difficulty	Very little difficulty	No difficulty
1	<u>Listening Skills:</u>				
	Understanding English movies	0	21.1	57.8	21.1
2	<u>Speaking Skills:</u>				
	Conversing face-to-face (e.g. at social meeting)	2.6	52.6	36.8	7.9
	Having group discussions	2.6	28.9	57.9	10.5
	Making reservations and appointments	0	31.6	47.4	21.0
3	<u>Reading Skills:</u>				
	Surfing the net to get information	0	5.3	50.0	44.7
	Reading the newspapers	0	7.9	55.3	36.8
	Reading magazines	0	5.3	52.6	42.1
	Reading novels and story books	0	15.8	55.3	28.9
	Reading brochures, posters and directions	0	2.6	52.6	44.7
4	<u>Writing Skills:</u>				
	Writing minutes	2.6	29.0	57.9	10.5
	Writing notices	2.6	29.0	50.0	18.4
	Writing resumes	7.9	31.6	44.7	15.8
	Filling up application forms	2.6	13.1	29.0	55.3
	Chatting/e-mail communication/SMS communication	0	7.9	29.0	63.1

Table 4.17: Extent of English language used in the non-academic environment based on the four main skills

The highest response for ‘a lot of difficulty’ in using the English language in the non-academic environment is recorded for writing resumes (7.9%) followed by the highest score for ‘some difficulty’ for conversing face-to-face (e.g. at social meeting) (52.6%). The students find ‘very little difficulty’ in writing minutes (57.9%) and having group discussions (57.9%). Chatting/e-mail communication/SMS communication has the highest rate in the ‘no difficulty’ response with 63.1%.

The next two tables will again provide totals of the two main ends of the response in the descending order. Below is the first table, Table 4.18 which provides the total scores for the higher end of the difficulty face (‘a lot of difficulty’ and ‘some difficulty’) ranked in descending order.

Items	A lot of difficulty	Some difficulty	Total
Conversing face-to-face (e.g. at social meeting)	2.6	52.6	55.2
Writing resumes	7.9	31.6	39.5
Writing minutes	2.6	29.0	31.6
Writing notices	2.6	29.0	31.6
Making reservations and appointments	0	31.6	31.6
Having group discussions	2.6	28.9	31.5
Understanding English movies	0	21.1	21.1
Reading novels and story books	0	15.8	15.8
Filling up application forms	2.6	13.1	15.7
Reading newspapers	0	7.9	7.9
Chatting/e-mail communication/SMS communication	0	7.9	7.9
Surfing the net to get information	0	5.3	5.3
Reading magazines	0	5.3	5.3
Reading brochures, posters and directions	0	2.6	2.6

Table 4.18: Higher end total scores for the extent of difficulties encountered when using the English language in the non-academic environment

The highest total score for ‘a lot of difficulty’ and ‘some difficulty’ is 55.2% for conversing face-to-face (e.g. at social meeting). This correlates with the results in Table

4.14 where the highest score for ‘seldom’ use English was also for conversing face-to-face (e.g. at social meeting). The scores that take the second to the fourth place in the ranking (highlighted in the table) are all to do with writing skills: writing resumes (39.5%), writing minutes (31.6%), writing notices (31.6%). Again, as discussed earlier, there is probably not much need for the respondents to do these tasks. The next two most difficult activities with regard to using English (highlighted in the table) are making reservations and appointments (31.6%) and having group discussions. These are both to do with the speaking skill.

The following Table 4.19 presents the total scores of the higher end for the extent of difficulties encountered when using the English language in the non-academic environment.

Items	Very little difficulty	No difficulty	Total
Reading brochures, posters and directions	52.6	44.7	97.3
Surfing the net to get information	50.0	44.7	94.7
Reading magazines	52.6	42.1	94.7
Reading newspapers	55.3	36.8	92.1
Chatting/e-mail communication/SMS communication	29.0	63.1	92.1
Filling up application forms	29.0	55.3	84.3
Reading novels and story books	55.3	28.9	84.2
Understanding English movies	57.8	21.1	78.9
Having group discussions	57.9	10.5	68.4
Making reservations and appointments	47.4	21.0	68.4
Writing minutes	57.9	10.5	68.4
Writing notices	50.0	18.4	68.4
Writing resumes	44.7	15.8	60.5
Conversing face-to-face (e.g. at social meeting)	36.8	7.9	44.7

Table 4.19: Lower end total scores for difficulties encountered when using the English language in the non-academic environment

The total scores for the lower end for difficulties encountered when using the English language in the non-academic environment show that reading brochures, posters and directions in English is hardly problematic. It records the highest score at 97.3%. This is followed by surfing the net to get information and reading magazines, both of which, record 94.7% respectively. The activities, reading newspapers and chatting/e-mail communication/SMS communication also have high scores (92.1%). This reveals that the respondents hardly face any difficulty in using English for these activities. The rest of the activities have a total of 60% and above which is more than half the respondents who can quite comfortably manage to do these activities using English. The lowest score is yet again for conversing face-to-face. It only records 44.7% which is less than half the total number of respondents who are able to manage in English in this respect.

4.7 EXTENT OF TYPES OF DIFFICULTIES ENCOUNTERED WHEN USING ENGLISH IN THE NON- ACADEMIC ENVIRONMENT

Question 3 in Section C of the questionnaire asks the respondents to state the extent of difficulty they face with respect to the nine types of language difficulties listed by the researcher. Table 4.20 presents the findings for Question 3 of Section C. The highest score for each type of response is highlighted.

	Items	A lot of difficulty	Some difficulty	Very little Difficulty	No difficulty
a	Expressing yourself in English	0	42.1	44.7	13.2
b	Understanding different accents/slang	13.2	47.4	36.8	2.6
c	Conveying ideas correctly	5.3	34.2	57.9	2.6
d	Understanding underlying meanings	5.3	39.4	50.0	5.3
e	Understanding instructions	0	15.8	50.0	34.2

f	Understanding messages and memos	0	7.9	63.2	28.9
g	Getting the correct information	0	10.5	65.8	23.7
h	Using appropriate words, phrases and sentences	5.3	39.5	47.4	7.8
i	Comprehending written information	2.6	18.4	71.1	7.9

Table 4.20: Extent of type of difficulties encountered when using English in the non-academic environment

The highest response for ‘a lot of difficulty’ and ‘for some difficulty’ when using English is recorded for understanding different accents/slang (13.2% and 47.4% respectively). This indicates that the students are unable to understand well the speaker/conversation when English is spoken with a different accent or slang. This shows that the respondents are probably not sufficiently exposed to different varieties of English spoken in the world.

The highest score for ‘very little difficulty’ is recorded for comprehending written information (71.1%) followed by the highest score for ‘no difficulty’ for understanding instructions (34.2%). This data shows that the students are able to understand written information as well as instructions in the non-academic environment without much difficulty. This correlates somewhat with an earlier result (refer to Table 4.19) where students have hardly any problem with reading brochures, posters and directions in English. All of these also fall under the category of written information and instructions.

The total scores at the lower frequency end (i.e. ‘a lot of difficulty’ and ‘some difficulty’) for the nine activities listed in the previous table are presented in the Table 4.21 below with the percentages tabulated in a descending order.

Items	A lot of difficulty	Some difficulty	Total
Understanding different accents/slang	13.2	47.4	60.6
Using appropriate words, phrases and sentences	5.3	39.5	44.8
Understanding underlying meanings	5.3	39.4	44.7
Expressing yourself in English	0	42.1	42.1
Conveying ideas correctly	5.3	34.2	39.5
Comprehending written information	2.6	18.4	21.0
Understanding instructions	0	15.8	15.8
Getting the correct information	0	10.5	10.5
Understanding messages and memos	0	7.9	7.9

Table 4.21: Total scores at the lower frequency end for difficulty when using English in the non-academic environment

The highest total score for the higher end of the response spectrum is for understanding different accents/slang (60.6%). This result validates the individual scores obtained in Table 4.20. The scores which fall in the fifth to the ninth place are less than 50% which means that less than half of the respondents face much problem using English for these activities. Likewise the scores that take the second, third and fourth place are also less than 50% (44.8% for using appropriate words, phrases and sentences, 44.7% for understanding underlying meanings and 42.1% for expressing themselves in English) but can be still considered relatively high as nearly half the total number of respondents have some difficulty using English in these areas/aspects. Difficulty with using appropriate words, phrases and sentences and problems with understanding underlying meanings could be related to a lack of vocabulary. This was also a main problem with the respondents in the academic environment (refer to Table 4.10).

The analysis of the total scores at a higher frequency end ('very little difficulty' and 'no difficulty') for the nine activities are presented in the table below in a descending order of percentages.

Items	Very little difficulty	No difficulty	Total
Understanding messages and memos	63.2	28.9	92.1
Getting the correct information	65.8	23.7	89.5
Understanding instructions	50.0	34.2	84.2
Comprehending written information	71.1	7.9	79.0
Conveying ideas correctly	57.9	2.6	60.5
Expressing yourself in English	44.7	13.2	57.9
Understanding underlying meanings	50.0	5.3	55.3
Using appropriate words, phrases and sentences	47.4	7.8	55.2
Understanding different accents/slang	36.8	2.6	39.4

Table 4.22: Lower end total scores for types of difficulty faced when using English in the non-academic environment

The highest total score for 'very little difficulty' and 'no difficulty' is for understanding messages and memos (92.1%). Getting the correct information is 89.5% and understanding instructions is 84.2%. The other five activities have more than 50% except for understanding different accents/slang which records 39.4%; this score is consistent with the other scores recorded for this item. Understanding different accents/slang in English is clearly not the easiest thing for the respondents. The data on the whole, shows that more than 50% of the students have 'very little difficulty' or 'no difficulty' in performing the activities above.

4.8 REASONS FOR WANTING TO USE ENGLISH IN THE NON-ACADEMIC ENVIRONMENT

Question 4 in Section C of the questionnaire lists nine reasons for wanting to use the English language in the non-academic environment. This question requires the respondents to indicate the extent of importance of these reasons to them. Table 4.23 below presents the percentage for four types of responses. The highest scores are highlighted for each response.

	Items	Not important	Quite important	Important	Very important
a	English can help to broaden my experience and knowledge.	0	0	13.2	86.8
b	English can help me to make friends with people of different nationalities and cultures.	0	0	21.1	78.9
c	I want to appreciate novels, story books, magazines and other reading materials.	2.6	0	29.0	68.4
e	I want to improve my English as this will improve my chances of finding a good job.	0	0	5.3	94.7
f	Learning English gives me a deep sense of satisfaction.	0	10.5	21.1	68.4
g	English is a beautiful language.	2.6	7.9	39.5	50.0
h	To access the internet	0	0	26.3	73.7
i	To play computer games	18.4	18.4	26.3	36.8
j	Raise my status in society	0	13.1	26.3	60.5

Table 4.23: Reasons for wanting to use English in the non-academic environment

The highest scores for the responses ‘not important’ and ‘quite important’ is to play computer games. Both the responses have 18.4% for this activity. This activity could be

just for entertainment thus not an important reason for wanting to use English in the non-academic environment. English is a beautiful language has the highest score (39.5%) for the response 'important'. Most of the highest scores are in the 'Very Important' response column – this shows that on the whole students do appreciate the English language. The highest score for the response 'very important' tips positively towards 'I want to improve my English as this will improve my chances of finding a good job' (94.7%). All in all the reasons for wanting to use English in the non-academic environment represent a very positive outlook.

4.9 CONCLUDING REMARKS

The findings of the study have very clearly and significantly aided in answering the two research questions. The academic activities that require the biomedical students to use the English language are mostly those related to their learning/class activities which would eventually be evaluated as coursework or exam. These include listening to lectures, taking notes, reading lectures notes, doing assignments/coursework and writing reports. In the non-academic environment, English is used most frequently for surfing the net to get information, reading brochures, posters and direction and understanding English movies and rather frequently for activities like chatting/e-mail communication/SMS communication, filling up application forms, reading magazines and reading newspapers. This answers the first research question.

With respect to difficulties encountered in using English in the academic environment two aspects turned up consistently in the findings and these are problems with journal writing in English (although the 18.4% was not a very high percentage) and asking lecturers

questions in English (which was 42.1% or nearly half of the 42 respondents). In the non-academic domain, the highest score was 13.2% (again not a very high percentage) for difficulties with understanding different accents/slang. In both domains, it was also evident that the type of language difficulty that was the relatively greater challenge for the respondents was a lack of word power or vocabulary skills to express themselves as fluently as they would like to. This answers the second research question.

CHAPTER FIVE

CONCLUSION

5.0 INTRODUCTION

The analysis of data in the previous chapter has revealed some useful information about the English language needs of biomedical students. This chapter presents the summary of the study and its findings based on the participants' responses to the questionnaire. There are also some suggestions made here to improve on the existing ESP course syllabus for the biomedical students.

5.1 SUMMARY OF THE STUDY

This objective of the study was to identify and investigate the English language needs of the biomedical science students in the Department of Molecular Medicine in the Faculty of Medicine, University of Malaya. To achieve this task, the study attempted to answer two research questions:

1. What are the academic and non-academic activities which require biomedical students to use the English language?
- 2) What difficulties do they have, if any, in the use of the English language in academic and non-academic situations?

The first research question focused on the students' frequency of English use in academic and non-academic environments. This was to help identify their English language needs in both the domains. The study gave emphasis to the types of activities where English language is used. The second research question attempted to look into the difficulties the

students face in using the English language in academic and non-academic situations. This focus was incorporated to particularly help in making improvements to the existing ESP course.

The study used a quantitative research method to answer the related research questions. The quantitative data was gathered through questionnaires which was the main instrument in this study. This method provided substantial information to answer the research questions.

5.2 FINDINGS FROM RELATED STUDIES

The related past studies discussed in Chapter Two (Literature Review) include activities related to the four main communicative skills (listening, speaking, reading and writing) in the context of English language use. These are similar to the communicative activities investigated in the present study. The past studies have also highlighted the difficulties faced by respondents in using English either in an academic or non-academic context like the workplace. The findings of the present study with reference to the research questions and the related past studies are discussed below.

Research Question 1

What are the academic and non-academic activities which require biomedical students to use the English language?

On the whole, English is found to be mostly used in a formal classroom or academic setting. The activities in the academic and non-academic environments in this study are divided into listening, speaking, reading and writing skills. Among the activities in the academic environment, listening to lectures, reading lecture notes and doing assignments

or coursework have the highest score (100%). This is followed by writing reports, taking notes, surfing the net, understanding academic textbooks and understanding project handouts. Each of these activities has a total score of 97.4%.

Reading journals and carrying out discussions as a class or in groups during tutorials and reading research and reference materials have scores between 50% and 74%. The scores for the other items in the speaking skill category like asking lecturers questions, conducting interviews, making appointments and making telephone calls and inquiries reveal a lower percentage (34.2% to 47.3%) in using the English language. Here, it is evident that activities that need students to communicate with others in the English language falls under the lowest percentage range. This means either the students are not proficient enough in the language or these activities are not important or relevant to their needs at this stage. Among the activities in the writing skill category, journal writing has the lowest percentage (52.7%). The respondents were in the second year of their biomedical course and journal writing is very likely not a much emphasized activity at this stage.

In the non-academic domain, the reading skill has the highest percentages for using the English language. Surfing the net to get information and reading brochures, posters and directions have the highest scores (94.7% and 92.1% respectively). Next, items like understanding English movies and chatting/e-mail communication/SMS communication (related to leisure activities) and a needful activity like filling up application forms have scores more than 70% and above. This is followed by activities like reading magazines, reading newspapers and reading novels and story books which all reveal percentages that are more than 50%. Finally, items like writing resumes, having group discussions,

conversing face-to-face (e.g. at social meeting), writing notices, writing minutes and making reservations and appointments fall under the lower percentage range (50% and below) in using the English language. These findings clearly show two things: (i) the type of activities in the non-academic environment that the respondents view as being important to them to use English (for e.g. surfing the net to get information, reading brochures, posters and directions, understanding English movies and chatting/e-mail communication/SMS communication, filling up application forms) and, (ii) the type of activities in the non-academic environment where students use of the English language skills to be further improved and enhanced for e.g. writing resumes and carrying out face to face conversations in social interactions.

In relation to the findings mentioned above, some similar findings with regard to the academic domain have been revealed by a number of related previous studies mentioned in Chapter Two; these share the same context that is the medical field and the respondents were also students. For instance, in the study, “English for College Students in Taiwan: A Study of Perceptions of English Needs in a Medical Context” (1999), the respondents were required to be familiar with the medical jargon used in their textbooks as is the case with the biomedical students in the present study. Also, the previous study states that the students need to read journals and magazines available in the medical field which are mostly written in the English language. Like the present study, the respondents in the past study in Taiwan had to present papers in English, to read research papers and listen to lectures where the content words and vocabulary relevant to their subject of study are all in English.

In another study, “From Needs Analysis to Curriculum Development Designing a Course in Health-Care Communication for Immigrant Students in the USA” (2002), a similar situation exists. In this study, like the biomedical students, these students attend lectures and lab activities where they learn procedures and practice them. They also need to listen to instructions and follow the correct methods while carrying out tests. Needless to say, the students also have to listen to and understand information carefully besides asking for explanation from their instructors or lecturers when they are in doubt. Finally, they need to record the findings of the tests carried out. The activities and the procedures are very much alike what the biomedical students do in their course, i.e. the academic environment.

Hence, these previous studies provide relevant information in terms of the types of academic activities that the students are involved in and the type of activities the students in the medical sciences are required to use English frequently. All of these previous findings are further confirmed by similar findings in the present study.

Research Question 2

What difficulties do they have, if any, in the use of the English language in academic and non-academic situations?

The results of the study in the academic environment clearly showed that the greatest difficulty faced by the students was the speaking skill followed by the writing skill. The highest total score for five of the activities in this domain was related to speaking skills. The activities included asking lecturers questions, oral presentations, conducting interviews, discussing during tutorials and making appointments. For the writing skill, the students expressed that journal writing in English was the most difficult for them to do.

Besides the activities mentioned above, students also had difficulties in providing detailed explanations in English during oral presentations, understanding difficult words and meanings in texts, problems with finding suitable words during group discussions and constructing sentences with correct grammar and structures. This showed that the students lacked a good range of vocabulary which obviously affected their confidence in speaking. In the non-academic environment, the most difficult activities with regard to using the English language were conversing face-to-face (e.g. at social meeting) that has the highest total percentage of 55.2% followed by writing resumes that has 39.5%. The other items are writing minutes, writing notices, making reservations and appointments and having group discussions. Apart from these activities, the students also encountered difficulties in understanding different accents/slang, using appropriate words, phrases and sentences, understanding underlying meanings and expressing themselves in English.

In the non-academic domain, the findings showed that the students not only lacked vocabulary but they were also not exposed to different varieties of English spoken in the world, thus, the difficulty in understanding different accents/slang. All in all, the difficulties encountered in both the academic and non-academic domains were first and foremost related to speaking skills and this was followed by writing skills.

The findings in the related studies mentioned in Chapter Two also revealed some common difficulties similar to those in the present study. In the study, “English for College Students in Taiwan: A Study of Perceptions of English Needs in a Medical Context” (1999) the students had difficulty in reading (slow reading speed) and they had limited vocabulary. In the study “From Needs Analysis to Curriculum Development Designing a Course in Health-Care Communication for Immigrant Students in the USA” (2002) it was revealed

that the students lacked confidence in communicating with their instructors, patients and friends. They also had difficulty in understanding dialects or local varieties of English. In another study “ESP in Medical Schools and the Balance between EFL and ELF from Students’ Perspective: A Study at Jazan University” (2010), medical students were more inclined towards their local English rather than the standard English model although they would attend to English speaking foreigners in their future workplaces. However, these students were willing to know the characteristics of the different ‘World English’ but they were more concerned about the pronunciation. This problem, as mentioned earlier, also exists in the present study where the student respondents face difficulty in understanding different accents or slangs. The study on, “Needs Analysis on the Importance of English Communication Skills for Medical Assistants” (2011) also showed that on the whole, the medical assistants had difficulty communicating orally in English. The difficulties found in these medical contexts are identical to the difficulties in the present study.

Generally, it can be concluded that the communicative skills that were found to be most difficult for the respondents in both the past studies and the present study are speaking and writing skills. It is also clearly evident that the lack of vocabulary was one of the main reasons that limited their ability to converse and communicate effectively.

5.3 SUMMARY OF FINDINGS

On the whole, the data collected from the questionnaire has been able to answer the two research questions of this study. First, the analysis of the total scores at the higher frequency end (i.e. ‘quite often’ and ‘always’) for the extent of English used in the academic environment affirms that English is mostly used where it is required or expected

of the students as in a formal classroom setting. Next, the use of English is higher when students are faced with texts, materials and information sources that are English-based. The high percentages for using English in the academic context are seen in the activities that involve reading and writing activities like reading lecture notes, reading journals, writing reports and doing assignments/coursework. The only writing activity in the academic context with a very low frequency of English use is journal writing (52.7%). Listening skills which include listening to lectures and taking notes show scores of 81.6% and 73.7% respectively. Meanwhile, the highest score under the speaking skill category is oral presentation (55.3%). The oral presentations take place in the class context where English functions as the main language of instruction and communication and which is also a part of the course assessment. It must be noted here that 55.3% is a relatively low score for the frequency of English use compared to the other high scores for the reading, writing and listening skills. On the whole, students use English 'always' and 'quite often' in activities related to improving their academic achievement.

In the non-academic environment too like the academic environment, the highest response is firstly related to reading activities like surfing the net to get information, reading brochures, posters and directions, reading newspapers and reading novels and story books. Finally, while activities related to the listening skill is rarely a problem (except when different accents/slangs in English are used), the speaking skill seems to pose a clear challenge for the respondents. Students find it difficult to use English when communicating with the lecturer, during oral presentations, when conducting interviews, discussing during tutorials and making appointments.

The frequency of English language used in both the academic and non-academic domain on the whole, is distinctly positive. The students have to use the English language for listening, speaking, reading and writing in the academic activities. In the non-academic domain, the respondents also clearly use the English language quite frequently for most of their activities. The students' responses to the reasons for wanting to use English too make evident that they are very aware of English as a language most necessary for academic pursuit (e.g. 92.1% of the students said that they use English because they want to further their studies) as well as for leisure (e.g. to watch movies, surf the net etc) and personal advancement (e.g. to get a good job). In the study "ESP" Target Situation Needs Analysis: The English language Communicative Needs as Perceived by Health Professionals in the Riyadh Area" (2005) conducted in Saudi Arabia, many graduates were unable to perform their jobs efficiently due to the poor command of English language. Similarly, about 94.7% of the biomedical students have agreed that the chances of finding a good job would depend on their English proficiency. It is encouraging to know that students want to improve themselves in English in order to broaden their experience and knowledge in their future undertakings and to face future challenges.

5.4 RECOMMENDATIONS

The findings have clearly emphasized the need for the biomedical science students to take the ESP course. Based on the findings, the researcher is able to put forward some suggestions to enhance the ESP course under study. Course planners should look into the ESP syllabus so that the students get more familiarized with content and scientific words. This would enable the students to understand lectures well and ultimately, enable the students to take notes without any difficulty. The ESP course planners should also run

more speaking modules to improve the students' speaking skills as this is the skill that showed up as relatively most lacking in the findings especially in the academic domain. The subject lecturers, on the other hand, should provide some additional classes to enable the students to master writing skills like for journal writing.

5.5 CONCLUDING REMARKS

It is clear that all the student respondents of this study use the English language in all the basic communicative skills although with varying degrees that is, more frequently for reading and least frequently for speaking in the academic domain. The academic domain is task-based and the students have no alternative but to use the English language which is the medium of instruction. On the other hand, the students use the English language more for personal interest and self-progress in the non-academic domain.

The findings of this study on the whole have undoubtedly confirmed the importance of the English language to the biomedical students in both the academic and non-academic environment. These findings confer with the other five studies in the medical field discussed in the literature review. All of these earlier studies together with the present study have highlighted the importance of the English language in all aspects of medical work and healthcare.