ADDIS ABABA UNIVERSITY
INSTITUTE OF LANGUAGE STUDIES
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AN ASSESSMENT OF THE ENGLISH LANGUAGE NEEDS OF COMPUTER SCIENCE STUDENTS: GONDAR UNIVERSITY IN FOCUS

ABEBE ASRES

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An Assessment of the English Language Needs of Computer Science Students: Gondar University in Focus

By

Abebe Asres

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Abebe Asres

Approved by Examining Board:

TAYE REGASSA	
Adviser	Signature
Examiner	Signature
Kedir Assefa	
Examiner	Signature

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List of Abbreviations

EAP= English for Academic Purposes

EBE= English for Business and Economics

EEP= English for Educational Purposes

EFL= English as a Foreign Language

EGP= English for General Purposes

EOP= English for Occupational Purposes

ESL= English as a Second Language

ESP= English for Specific Purposes

ESS= English for the Social Sciences

EST= English for Science and Technology

GE= General English

MOFED=Ministry of Finance and Economic Development

PSA= Present Situation Analysis

TSA= Target Situation Analysis

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Abstract

The main objective of this study was to assess the English language needs of computer science students.

Five groups of respondents were identified as subjects of this study: computer science students, computer science instructors and English instructors who were taken from Gondar University and on-the-job graduates and their employers from Abyssinia computer center, North Gondar Finance Office and Gondar University (from non-teaching staff) places where computer system application was available. From each group, respondents were selected using purposeful and random sampling techniques. As a result, 75 students, 13 computer science instructors, 11 English instructors, 12 on- the-job graduates and 2 employers were taken as sources of information.

The instruments used to gather data were mainly questionnaire and an interview. Questionnaires were distributed to the four groups of samples other than employers. Interview questions also were presented to employers. Questionnaires for students, computer science instructors and English instructors were intended to elicit information about the academic situation where as, the questionnaire for on-job graduates and employers' interview were designed to dig out information concerning the occupational situations.

English language skills and variety of activities which were thought to be widely used in the academic and professional situations were selected and presented to respondents to rate their importance level and students' respective abilities in performing them. Students' attitudes and language learning preferences were also presented and later rated. The findings indicated a considerable gap between the type and the extent English language students are expected to use in both academic and occupational careers and the English language being offered. Therefore, taking this gap in to account, recommendations have been made.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

For many years, foreign language teaching and learning has been a complex issue. It has been a difficult practice for scholars in the field to come up with the best way to language teaching and language syllabus design. They, however, suggest different techniques and approaches (Stern, 1983).

Thus, English for specific purpose (ESP) is one of these approaches which emerged during the 1960's and 1970's. It takes a particular group of learners' needs in to consideration (Munby, 1978).

To Robinson (1991), ESP is normally "goal directed" and its courses are developed from needs analysis which is based on what students certainly need to do through the medium of English. The assessment of learners' language needs in the preparation of language teaching material is worth while. This is because, the kinds of language learners are taught should be restricted to their needs (Richards 2001:32). According to this scholar, ESP courses are directed towards carrying out learners' specific set of tasks, unlike, general English whose goal is usually the over all mastery of the language.

Moriko (2002), on his part, also argues that students of computer science need specific purpose English to carry out different tasks in their study and other practical activities (on line). He lists some of the tasks carried out by computer science students regarding various computer science related materials like: text books, internet English, English websites, news papers articles, letter exchange through Email, how to use English search engines etc. Learners to participate in

such types of activities need to be given a kind of language with particular purpose in accordance with their specific reasons for learning.

1.2 Statement of the Problem

Haile (1989) conducted a research study to explore teachers' and students' attitudes towards the use of ESP teaching materials in technical schools in Addis Ababa. He reported that, both teachers and students reacted positively. This fact also asserts the necessity of assessing college students' language needs.

Other local researchers who conducted studies on English language needs analysis also supported the idea mentioned above. Hailemariam (1993), Abraham (1993) and Anteneh (2005) are a few who reported that there were mismatches between learners' English language needs and the language that is actually practiced.

As long as my teaching experience is concerned, the researcher is one of the people who faced the challenges of teaching general English in ESP classes at Gondar University.

To briefly state what I experienced in my stay in the university, I was assigned to give Sophomore English course to different departments. In the process of teaching and learning, I found the students with less interest to learn the course. I informally tried to see the problem and continued to teach field specific English courses, materials prepared for civil service distance learners like English for Business etc. Students then reacted positively to the ESP course. So, this could be a witness which later motivated the researcher to select language needs assessment as a problem area.

Therefore, this thesis is intended to assess the language needs of computer science students at Gondar University which has not been explored as far as the researchers' assessment is concerned.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of this study was primarily to determine the English language needs of computer science students who were attending Gondar University.

1.3.2 Specific Objectives

The study was intended to:

- See if the existing English course adequately addresses the English language needs of computer science students.
- Explore the students' perceptions of their own language needs.
- Investigate the different groups of respondents (English instructors, computer science instructors, computer science on-the-job graduates and employers) opinions on the learners' language needs.
- Identify the target and learning needs of computer science students.
- Identify the gap between what computer science students are able to-do and what they need to be able to do.

1.4 Significance of the Study

As far as my experience is concerned, there is no ESP course material in Gondar University. In the assumption of the successful completion of this study, different group of people will be benefited from the findings of this research work. Students of computer science are the first group who might be benefited, because they are the main targets of this study. They may have a course which is born from their own needs. English teachers and teachers of computer science

may also be benefited from the findings in that they can meet their teaching objectives relatively faster than ever before. The findings also may provide an access to course book writers and researchers as a reference material for further research works.

1.5 Scope of the Study

The study is restricted to English language needs analysis of computer science major degree program students of Gondar University. The rationale is that it wouldn't be manageable if other universities were included in the study in terms of time and finance the study requires.

1.6 Limitations of the Study

The study could have been more comprehensive if:

- Other universities had been taken as sample institutions.
- Various approaches to needs analysis had been employed in addition to TSA and PSA.
- Various instruments like (observation, focus group discussion etc) had been included.

However, this has been one step forward for researchers and course designers who work in the area.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual Discussion on ESP

2.1.1 What is ESP?

Scholars agree that ESP has been designed to meet the specific needs of the learners focusing on needs analysis and the use of appropriate language for the purpose it serves (Robinson, 1991; Munby, 1978).To Robinson (1991), ESP is normally "goal directed" and the ESP courses are developed from needs analysis based on what students certainly need to do through the medium of English. On top of this, Robinson states that needs analysis is a primary task in designing ESP courses. Munby (1978) defines ESP by contrasting it with EGP. He pointsout that while ESP is usually defined or specified by the prior analysis of learners' communicative needs, EGP is defined usually on the basis of predetermined goals set by an institution or other experts.

Extending his argument, Munby (1978:2) explains:

> *A language program which its syllabus and materials are pre-determined by the communicative needs of the learners rather than pre-determined preferences of teachers and institutions as a general English which is treating English as part of general English*

ESP, according to Dudley-Evans and St. John (1998:10) is an approach which is centered on the language appropriate to the activities of the discipline it serves in terms of discourse, register, grammar, lexis, genre and study skills.

We can understand from the definitions given above that ESP emphasizes on the learners' communicative needs which are pre-requisite to the appropriate

specification of what is to be taught. It also begins with the learner rather than the text. However, some scholars like Kennedy and Bolitho (1984) argue that the term 'specific' is relevant and will not be equally understood everywhere. Hence, what is appropriate in one part of the globe may not be so else where. Thus, it is very difficult to produce a universally applicable definition of ESP. They illustrate this by describing EST (English for Science and Technology).

> *A scientist may need to operate English in a number of different situations... each of these situations will demand a different language skills and a different range of communicative abilities. Adding to this, the fact that the scientist's specialism any one of a numerous range of disciplines, such as agriculture, civil engineering or biochemistry, and it is clear that the notion of EST is too general if the needs of the learners are to be taken fully in the accounts Kennedy and Bolitho (1984:6).*

As we can infer form the argument made by these scholars, even though the meaning of the term 'specific' varies from one place, field of study etc. to another, they all agree in the point that ESP is a goal oriented course that gives priority to learners needs and which is specified in a limited time frame unlike general English which its aim is the over all mastery of the language. Therefore, the relevance of ESP becomes sooner than general English.

2.1.2 Origin and Development of ESP

Hutchinson and Waters (1987) state three major factors that contributed to the emergence of ESP.

The first factor is the rapid expansion of science and technology at the end of World War-II (1945). This resulted in great economic advancement of many countries in the world. This also created a sense of globalization which later led people to demand one common language. English, the native language of USA, the dominant country in the economic activities became the language of science and technology and the language of business.

According to these scholars, the second factor which contributed to the emergence of ESP was the shift of linguists from the analysis of grammatical forms to the communication aspect of the language. Following the advancement of science and technology, there was a great demand of English language which influenced linguists' view of the language to shift to determining the features of specific situations and makes these features the basis of the learners' course.

The new development of psychology is the third factor that contributed to the emergence of ESP. Considering a learner as prime focus in the teaching learning process and addressing his/her needs had a great importance in motivating him/her. This, in turn, had considerable impact on making the teaching learning process effective (Rogers, 1969, cited in Hutchinson and Waters, 1987:8).

2.1.3 Stages in ESP Development

After its clear realization, ESP has passed through different developmental phases. The first phase according to Hutchinson and Waters (1987) is register analysis. They indicate that this stage took place mainly in the 1960's and early 1970's. The concept of register analysis is based on the belief that English of one field of study constitutes a special register which is different from other fields of study. Hence, syllabus is designed based on language registers identified as peculiar to certain field of study. A good example of such a syllabus is 'A course in Basic Scientific English' as Ewer and Latorre (1969) are cited in Hutchinson and Waters (1987). In this syllabus, they found register analysis showed very little distinction between the sentence grammars of scientific English against the grammar of general English.

The second phase of ESP, discourse analysis came to the stage with a shift from word or sentence level to discourse level analysis. The basic assumption underlying in this phase was that the students' needs can not be met by a course which simply provides further practice in the composition of sentences but only

by one which develops knowledge of how sentences are used in the performance of different communicative acts (as Allen and Widdowson, 1974 are cited in Hutchinson and Waters, 1987:10-11).

Thus, the discourse patterns of different subject areas were regarded as central points and the teaching materials were developed on the basis of these patterns. Students, therefore, were expected to realize textual patterns and theoretical markers in a text which is set with respect to their field of study.

Target situation analysis, the third phase of ESP aims at analyzing the linguistic feature that the learners could use to communicate in various purposes and situations. This phase is different from the earlier phases in that the analysis is closely related to learners' reasons for learning. Thus, syllabus design was based on the prior identification of the target situation followed by detailed analysis of the linguistic features of that situation (Ibid).

The fourth phase, namely skills centered approach, unlike the earlier three phases focuses on the underlying interpretative strategies which enable learners to cope with the surface forms (Hutchinson and Waters, 1987:13). They state "skills centered approach is underlying all language use there are common reasoning and interpreting process which regardless of the surface forms enable us to extract meaning from discourse." Thus, emphasis is given to language use than language form.

The fifth phase of ESP, learner centered approach, focuses on learning unlike the other four which focus on language description. The assumption was that "as ESP is concerned with language learning, a mere description of language use doesn't enable learners learn" (Hutchinson and Waters, 1987). Thus, what makes ESP successful is when it is based on understanding of how to teach a language already described.

2.1.4 Classification of ESP

ESP (English for Specific Purpose) is classified into two major categories: EAP (English for academic Purpose) and EOP (English for Occupational Purpose), in which the former is concerned with academic study needs and the latter with work and training needs (Robinson, 1991; Dudley Evans and St John, 1998).

Robinson (1991) divided ESP into further sub categories. He classified ESP based on "experience" which shows how specific a course should be, how relevant a course could be regarding time and degree of training and whether a course should be given integratively or not. Robinson's classification of ESP is illustrated in diagram as follows.

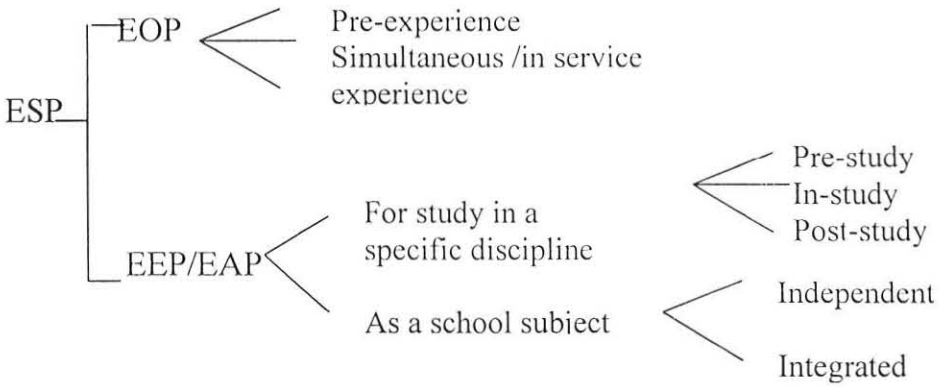
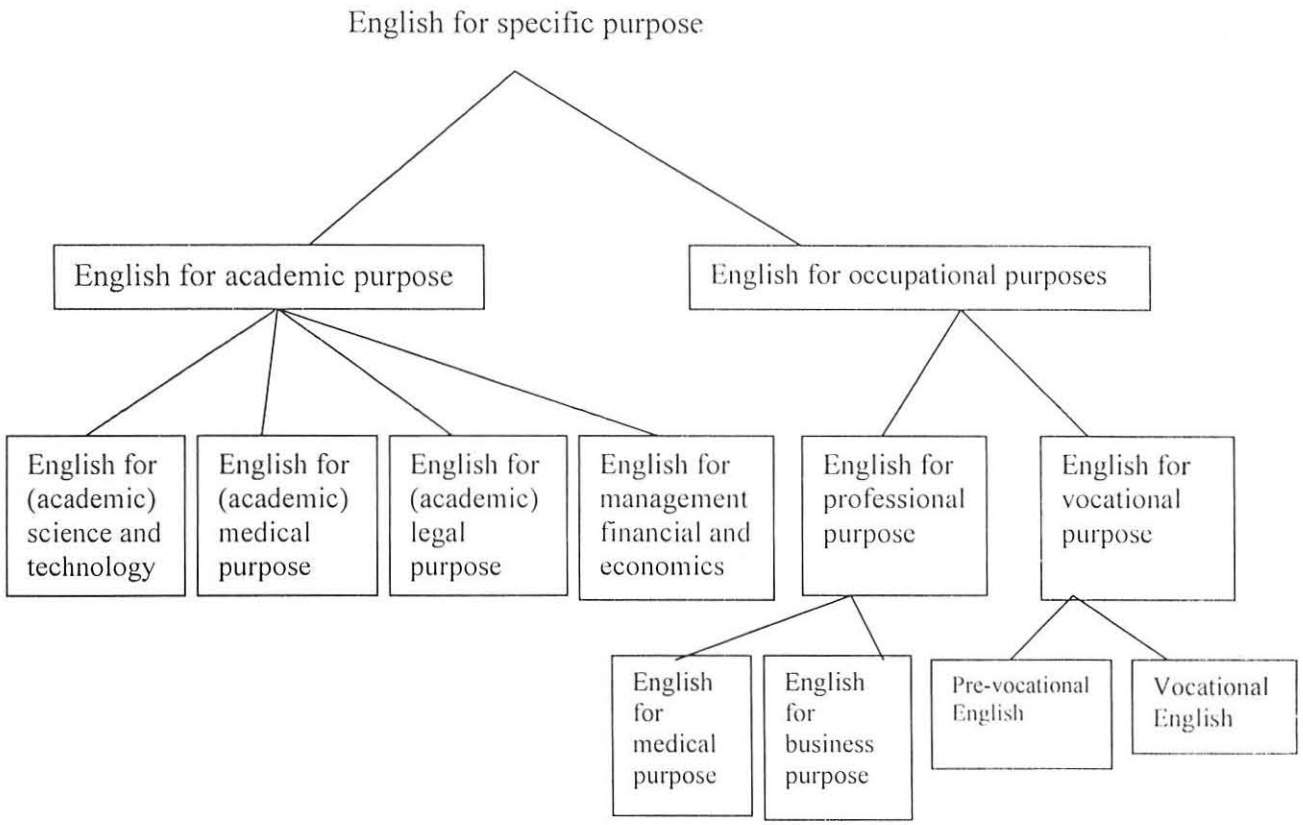


Fig 1: Classification of ESP based on experience

Source: Robinson (1991:3-4)

Dudley-Evans and St John (1998) classify ESP based on professional areas. They also categorize ESP in to two major areas: EAP and EOP each with further divisions as presented in the next page.



As we can see from the above classifications, these scholars agree that ESP has two broad categories: EAP and EOP that are treated below.

Jordan (1997) argues that students learning EAP courses are expected to acquire receptive and productive academic skills parallel to learning strategies and study skills.

According to Munby (1978) and Kennedy and Bolitho (1984), EAP is implemented in educational situations where students need English to pursue part or all of their studies while EOP refers to English that is not for academic purposes in which learners learn the English they will need to perform their further jobs.

Regarding this, Hutchinson and Waters (1987:16) suggest that ESP can be categorized into three groups namely EST, EBE and ESS. These categories also have further divisions. According to these scholars EAP and EOP are included

under EST.

Jordan (1997) also gives a clear description of the relation EST has with both EAP and EOP in that a student of engineering (EAP) and an engineering technician (EOP) share EST knowledge except in theory and practice. However, the classification of ESP into three types is still very broad and the learning situation needs to be defined more precisely to the common and feasible categories that are EAP and EOP.

Therefore, the present study is intended to explore students' language needs using a comprehensive approach based on the discussion we have seen so far.

2.1.5 Distinctions between ESP and GE

According to Dudley-Evans (1997), ESP material designers and practitioners argue that all students are enrolled in EFL/ESL classes for particular reasons and that the students' target language situations have identifiable elements that could be discovered and used to deliver courses that are suitable for students. Regarding GE, Hutchinson and Waters (1987) and Strevens (1988) argue that a general English course book can not take the place of a syllabus which is designed to meet the specific needs of specific learners in a specific situation.

Strevens (1988,1-2) extending his argument claims that, ESP unlike general English is relevant to the learner, it wastes no time, it is successful in imparting learning and is more cost-effective than general English.

In addition to these, Dudley-Evans and St John (1998) regarding learners of ESP state that in the case of ESP, learners are usually adults who learn English in order to communicate variety of professional skills which help to perform a particular job related tasks. Where as, in EGP learners are beginners who aspire to be certified for general competency (Ibid).

Widdowson (1983) in White (1988) also claims that ESP and EGP have clear distinctions in terms of the purpose they have to do with. He states that ESP is for training that is the teaching of pre-determined skills while the focus of EGP is education which leads students to an understanding of underlying principles (Ibid).

Hutchinson and Waters (1987) strengthen Widdowson's argument stating that the purpose for learning language in ESP refers to the situational practical importance to which the language will be put in accomplishing academic and occupational goals.

On top of the distinctions mentioned above between ESP and EGP, Widdowson (1983) identifies ESP from EGP in that the former gives emphasis to language skills based on needs analysis while the latter to all language skills.

Thus, we can understand that ESP is an approach that gives special attention to the kind of skill to be emphasized, the type of content the ESP course needs to include, and learners' purpose for language learning based on needs analysis which EGP fails to consider them.

To sum up, according to these scholars, language needs analysts in the preparation of ESP courses should take all these differences into account in order to successfully meet learners' learning and target situation needs.

2.1.5 Benefits of ESP

In the previous sections much has been said about the origin, development, types etc of ESP approach. Scholars recommend an ESP approach in language learning for various reasons. Regarding the advantages of ESP courses compared with other approaches, Wright (1992) points out the following.

- ESP results in faster acquisition of required linguistic items. This is because Students learn what they need and when they need it in

authentic content based contexts in an accelerated and intensive ways.

- ESP is efficient on making trainees to use maximal use of their language resources all of which are brought to bear on acquiring specific pre-determined linguistic items and skills.

Similarly, Strevens (1988) in Dudley-Evans and St John (1998) point out the following as benefits of ESP:

- ESP doesn't waste much time since it is not dealing with many different topics and skills usually attempting to give equal treatment to each.
- ESP is more relevant to the learner compared with GE.
- ESP is cost effective unlike GE which demands much resource which may or may not relevant to the learner.

Thus, it is convincing that, the preparation of ESP courses has a number of advantages to meet students learning and target needs in the teaching of language courses in general and foreign (second) language courses in particular.

The following section deals with the studies conducted on ESP in local situations.

2.1.7 Local Studies on ESP in Higher Education

An endeavor has been made to look through the local studies on ESP. Therefore, over viewing of some of the studies related to the purpose of this paper is worth while. To begin with, Morris (1982) conducted a study on general EAP exploring the English language needs of university students of AAU in four departments. She claimed there had been only one study before she tried to explore the nature of English language needs at AAU in 1981. She concludes that the results can not be taken as valid due to insufficiency in its methodology

(Morris, 1982:16).

Marew (1990) on his part evaluated an existing EAP course in business English at the Junior College of Commerce and reported that the course objectives lack clarity and specificity and do not address communicative skills properly.

Abraham (1993) also, on his part, looked at the existing situation of air craft technicians of the Ethiopian air force. He reported that a syllabus for such purpose should be topic-based including: notions-functions, vocabulary, skills and structures. As a result, they reported that the syllabuses of the respective institutions failed to meet the needs of the learners.

There are also some other considerable number of local studies conducted on ESP. Abiy's (1990) "The Communicative Needs of High Schools in Addis Ababa", Hailemariam's (1993) "Establishing Criteria for Designing An Appropriate English Course for the Yared Music School" and Mekasha's (1994) "A Study of the Syllabus of Unity Private Language School in Relation to the Need of the Learners" are some of the earlier works on ESP which still are used as references for other currently made research works.

Coming to recent research works in the area, Ephrem (2004) conducted a needs assessment on Menelik-II and Asella Government Nursing Schools and Hospitals. He concluded that "students showed positive attitude towards learning English; however, wide gap was observed between student's target situation needs and present competence".

Among the researchers, Anteneh (2005) was also the one who assessed Adama Technical and Vocational College students' English language needs. His conclusion was "students lack the necessary language competence or skills good enough to enable them fulfilled their academic and later professional responsibilities with the necessary standard and efficiency."

Tilahun's (2003) is also the other research study which was conducted at Meserete Kirstos Evangelical Theological College on students' English language needs. He found out that, "The students, in general, had average performance in English and lesser exposure to the language and the culture it represents."

Thus, this study is intended to see whether the English language course being offered in Gondar University meet the needs of computer science students and if not to develop criteria for the designing of the English course which is assumed to be appropriate to these students.

2.2 Language Needs and Needs Analysis

2.2.1 Language Needs

2.2.1.1 The Concept of Language Needs

It is not easy to give a comprehensive definition for language needs. However, many scholars tried to give definitions in different ways. Concerning this, Porcher (1977) in Brindley (1984) as cited in Richards (2001:54) asserts that the term 'need' is not a thing that exists and might be encountered ready-made on the street.

Robinson (1991) also defines needs from three perspectives-what learners' have to do to acquire the language, what a certain institution considers essentials for students to learn and what the learners need to perform with the language after learning it.

Brindley (1989) defines needs "the gap between what is and what should be."

Brindley (1984) as cited in Richards (2001:54) also says that needs is "the term used to refer to wants, desires, demands, expectations, activations, lacks, constraints and requirements.

From the above definitions, it would be possible to understand that language

needs are the rationale behind the desires of students to learn language.

2.2.1.2 Types of Language Needs

Robinson (1991:7) says that many scholars have discussed the different types of needs, though the distinctions are not clear as might be supposed. Hutchinson and waters (1987) classified language needs as necessities, lacks and wants.

Necessities according to these scholars are what the learners have to know to function effectively in the target situations. By observing the target situation and analyzing the constituent parts of them, one can gather information about necessities. The term lacks, according to these scholars refers to the gap between the knowledge that the learner will need and the knowledge that the learner presently has. Wants, on the other hand, refers to the learners' desire to learn which may or may not conflict with the way in which the course has been designed.

Similarly Richterich as cited in Brindley (1984:31) states objective needs are those which can be diagnosed by teachers on the basis of the analysis of personal data about learners. Regarding subjective needs, Tudor (1996) states, subjective needs are learners' beliefs and expressions of complex series of factors that affect the way in which learners perceive and approach their language study.

Hutchinson and Waters (1987) and Berwick (1989) view perceived needs as those knowledge and skills that institutes suppose their students need to acquire upon completion of a certain course or training. On the other hand, felt needs are viewed as "wants, desires and wishes of the learner". Perceived needs, on the other hand, are viewed as judgments of certified experts about the educational gaps in other peoples' experiences (Ibid).

Goal oriented and processes oriented needs are the other identified forms of needs. Widowson (1981) in Tudor (1996:96) describes those needs that goal oriented refers to 'what the learner needs to do with the language once he/she

has learned it'. Process oriented need, on the other hand, refers to 'what the learner needs to do to actually acquire the language.'

From the scholars' discussion above, objective, necessities, perceived and product oriented needs on the one hand fall under the same category in that, all refer to what the learner needs to know to be effective in a target situation. Here need is considered as the end of learning not the means. Subjective, wants, felt and process oriented needs, on the other, fall under the same category for the reason that they refer to the learners' wishes, attitudes, styles and strategies of learning as perceived by the learners themselves. Unlike the above ones, here need is taken as the means of learning not the end. Therefore, in order to conduct a comprehensive needs analysis, analysts should make a thorough examination on the different types of needs mentioned above (Robinson, 1991; Hutchinson and Waters, 1987).

2.2.2 Needs Analysis

2.2.2.1 The Concept of Needs Analysis

Because of the different perspectives of scholars, most of the time it is very difficult to give one and comprehensive definition for the concept needs analysis (Richterich, 1983).

Needs analysis to Richards (2001:51) is "procedures used to collect information about learners' needs." For Tarone and Yule (1989:32) needs analysis is a process of collecting and evaluating information concerning learners' language needs to answer the question "what aspects of the language a particular group of learner needs?" Dudley-Evance and John (1998) for their part define needs analysis as; it is a corner stone of ESP.

Similarly, Brown views needs analysis as:

> *The systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students with in the context of particular institutions that influence the learning and teaching situation (Brown,1995:36).*

To sum up, in all the above definitions given by different scholars, we can deduce that, needs analysis is the task of gathering information about learners' language needs and difficulties, the ways by which the relevant information can be identified and collected.

2.2.2.2 Approaches to Needs Analysis

Basically there are two types of approaches to language needs analysis: Present situation analysis (PSA) and target situation analysis (TSA).

The analysis of present situation refers to what the learners already know and what they lack, what strengths and weaknesses they have in language skills and experiences (Dudley-Evans, 2001).

The analysis of target situation, on the other hand, refers to what the learner needs to do well in a given situation. But it can not tell us how the leaner could learn the language items, skills and strategies he/she is exposed to use (Hutchinson and Waters, 1987). This is because of the reason that, the whole ESP process is concerned not with knowing or doing but with learning (Ibid).

PSA helps to gather data about the learners' language learning background, their motivation, interest, reasons for taking the course, learning styles, and the relation between the language course and learners' academic study and future occupation (Robinson, 1991; Tudor, 1996). TSA, on the other hand, helps to identify the target situation and then to carry out a detailed analysis of the target tasks, linguistic features and knowledge requirement of the situation (Robinson,

1991:8). TSA according to Jordan (1997:25-26) also helps to obtain information about the situations in which the language will be used and discourse and linguistic features commonly used in these situations.

Therefore, the main concern of PSA is making the exhaustive needs analysis by providing additional information which TSA fails to consider like: the learners' current status, expectations from the course, language background etc. (Robinson, 1991; Tudor, 1996).

Since PSA and TSA are complementary and make needs analysis comprehensive, need analysts are advised to carefully examine any of the approach before hand to the analysis (Robinson, 1991).

Therefore, the present researcher also focuses on analyzing computer science students' present and target situation needs by using eclectic approach as the basis for his study.

CHAPTER THREE

THE RESEARCH METHODOLOGY

3.1 Sampling

This section deals with human and institutional samples selected for the study. It also tells us the sites of the research and the reasons the researcher has for selecting them. The sampling technique used in this regard was in line with Gay and Airasian (2000).

3.1.1 Institutional Samples

Gondar University was selected as a sample area among universities in the country for the reason that the researcher has an experience of teaching in this institution. The familiarity thus helped him to collect relevant data for his study.

North Gondar Zone Finance Office and Abyssinia Computer Center were also selected as sites of research to see students' target needs out of their academic environment. These were the only places in the research area that computer systems application was available.

3.1.2 Respondents

Five groups of respondents were identified as sources of information. In this university, there were three batches of computer science students and in each batch there were fifty students. To get relatively reliable data from experienced students who faced the challenges of learning in the department, 50 of third year students (100%) were selected as the main sources of data purposely. It is clear that the larger the number of sample population, the more reliable the data would be. Therefore, on top of third year students, 25 students from second year batch (50%) were also selected randomly to make the total number 75 students which accounts for 75% of the entire sample population. First year students were not

were not included for the reason that their experiences to evaluate the language needs of computer science students assumed to be relatively less than their seniors.

All computer science instructors (13) were used as data source for the reason that the smaller the number of population the greater the sample population should proportionally be (Gay and Airasian, 2000). And this also was manageable to the researcher to collect information from this group.

Of the nineteen English language instructors who were working in the department, eleven instructors who gave language courses to the computer science students were selected.

To collect information about students' target needs, the researcher also took on-the- job graduates and their employers as the sources of information from three institutions namely, Gondar University (graduates doing non-teaching tasks), Abyssinia computer center and North Gondar Zone Finance Office. There were thirteen on- the-job graduates in these institutions, five from Gondar University and four from each of the other two institutions. All were taken as sources of information.

Two employers, one from Abyssinia computer and the other from Gondar University were taken as samples of the study. This was the possible number of respondents which the researcher could find.

3.2 Research Instruments

3.2.1 Questionnaire

Questionnaires along with interview were used as data collection instruments. All of the questionnaires were pre-tested. Fifteen students from AAU were participated by filling in the questionnaires for piloting purpose. Regarding the other three, about one third of the questionnaires were distributed to the respective respondents (English and computer science instructors) taken from AAU and On-the-Job graduates from MOFED. As a result, some modifications were made.

3.2.1.1 The questionnaire for Computer Science Students

The questionnaire for computer science students was composed of questions related with students' attitudes towards English language learning and the existing English course, their wants and abilities of the language skills and activities and their methodological preferences. Seventy five copies of questionnaire were distributed to computer science students. Of these, seventy one were filled properly and returned.

3.2.1.2 The questionnaire for Computer Science Instructors

A separate questionnaire was designed and distributed to computer science instructors. This was done with the assumption to substantiate students' responses. Because of lack of experience, students may sometimes fail to appropriately react what they are expected to.

Most of the questions in this questionnaire were similar to that of the computer science students. Here, thirteen copies of questionnaire were distributed. Of these, ten were filled in and returned.

3.2.1.3 The questionnaire for English Instructors

This was another set of questionnaire which intended to assess English instructors' evaluation of the existing English course and computer science students' abilities in English language skills. The purpose was to see the students' language needs from another angle.

Eleven copies of the questionnaire were distributed and all were filled in and returned.

3.2.1.4 The Questionnaire for On-the-Job Graduates

This group consists of former computer science students of Gondar University (employees).The fact that these groups of respondents are in the actual work place, they would be in a good position to identify the language competence what they have and what they lack. Therefore, computer science students' occupational needs could be seen by former students of the university. Further to these, thirteen copies of the questionnaire were distributed to them. Twelve copies were filled in and returned.

3.2.2 Interview

Semi-structured interview was also prepared for employers who have experience in the area. This was meant for verifying on-the-job graduates' responses. Therefore, the questions included in this instrument were similar with those in the questionnaire dispatched to On-the-Job graduates. The interview was believed to be semi-structured for the reason that it gives the researcher the freedom to direct the interview in a uniform fashion and sometimes allows the interviewees to 'frame' and 'structure' their responses the way they wish to. (Gay and Airasian ,2000).

3.3 Data Organization and Analysis

In this study, the data were collected by the means of questionnaires and interview. In relation to the questionnaires, the frequencies of responses were counted for each item and multiplied by the numerical values given to each scale. The numbers found under each scale for individual items were added to calculate the summation of mean. Based on the mean values obtained, items were ranked accordingly.

After the data have already organized in tables (see, Appendix-2 up to Appendix- 6), only the mean sores and ranks were put in tables for the analysis. Therefore, based on this, discussions for each group of items have been made.

CHAPTER FOUR

ANALYSIS AND INTERPRETATION OF THE DATA

4.1 Language Learning Information of Computer Science Students

4.1.1 Assessment with regard to Preferred Type of English (ESP)

Both students and instructors of computer science were provided with three statements which enquire their preferences related to ESP courses. They were asked to show this by using numbers 1-5 Likert -Scale where 5=very high, 4= high, 3= moderate, 2= low and 1= very low (See Appendix 2, Table1 and Appendix 3, Table 1). The responses given by both groups of respondents were computed to get the mean scores and ranks.

Table 1: Mean scores and ranks of preferred type of English in students' academic study as rated by students and instructors of computer science

Type of English	Mean score		Rank	
	CSS	CSI	CSS	CSI
a) General English	3.69	3.9	3	3
b) English for computer science	4.79	4.2	1	1
c) A balance between the two	3.94	4.0	2	2

Key: CSS=computer science students, CSI=computer science instructors

The result was similar for both students and instructors of computer science. English for computer science was given great attention and ranked first with mean scores of (4.79) and (4.2) by both groups of respondents respectively. A course that considers a balance between General English and English for

computer science also assumed to be essential for students' academic study which is ranked second by both of these groups. Though General English is relatively least preferred, it was also identified necessary for students' academic studies. Therefore, the English course would be appropriate when it incorporates variety of tasks that can promote the use of the three types of English that are presented in table-1 above.

4.1.2 Evaluation of Importance of Topics (Themes) and Vocabulary in Students' Academic Study

Students, instructors of computer science and English teachers were asked some four questions related with the importance of topics (themes) and vocabulary in students' academic study (See App -2, Table-6). Though the four items were presented within the same table, they were ranked separately, Statements that deal with themes in one, and those with vocabulary in another.

Table 2: Mean scores and ranks of importance of topics (themes) and vocabulary in students' academic study

statements	Mean score			Rank		
	CSS	CSI	EI	CSS	CSI	EI
a) Topics related with computer science	4.75	4.6	4.63	1	1	1
b) Any topic (theme)	3.07	3.6	3.27	2	2	2
c) Vocabulary specific to computer science	4.58	4.4	4.64	1	1	1
d) General vocabulary	3.73	3.9	3.64	2	2	2

Key: CSS= Computer Science Students, CSI = Computer Science Instructors, EI = English Instructors

As it is clearly indicated in the table above, regarding their level of importance, all the statements were identified above important level but with various degrees. In relation to topics (themes), all the respondents gave priority to topics related with computer science. All the respondents also give similar remarks in that

students of computer science are in need of vocabulary items specific to their field of study more than general vocabulary.

Generally speaking, as far as appropriate type of English is concerned, English course whose topics and vocabulary items are related with computer science will have greater acceptance than The English language with general topics and themes for computer science student's academic studies.

4.1.3 Students' Methodological Preferences (Learning Styles)

This part of the study is concerned with the learners' preferred ways of learning English skills. In this section, attempt was made to elicit information about students' preferred ways of English class room organization, better ways of learning, suitable correction method, means of learning and preferred learning activities. Computer science students were given different items to rate under the five statements mentioned above. Five-point Likert scale (very satisfied, satisfied, undecided, less satisfied and not satisfied at all) represented by numbers 5 to 1 was used. The frequencies of responses were counted to rank the most favorable ways of learning (For further, See Appendix-2, Table-7).

Table 3: Mean scores and ranks of students' methodological preferences (learning styles)

Methodological preferences	CSS	
	Mean Score	Rank
In class how would you like learning?		
a) Individually	2.97	3
b) in pair	3.24	2
c) in group	3.87	1
d) in whole class	2.90	4
How would you like learning by?		
a) memorization	3.54	6

b) Problem solving	4.03	2
c) Listening	3.90	5
d) Reading	3.93	4
e) Listening and note taking	4.13	1
f) Reading and note making	3.94	3
g) Reporting what you hear	3.37	7
h) Studying grammar	3.04	8
When you speak or write you like to be corrected :		
a) By students	3.49	3
b) By teachers	3.96	1
c) By yourself	3.75	2
d) Immediately there in the class	3.54	1
e) Later privately	3.19	2
Do you like learning from ?		
a) Videos (films)	3.38	6
b) Tapes (cassettes)	3.63	5
c) Written materials	4.09	3
d) Pictures posters, charts, maps	4.32	2
e) Over head projector	3.97	4
f) Computer	4.65	1
How would you like these activities?		
a) Role play	3.96	2
b) Language games	3.92	5
c) Discussions	3.93	4
d) Dramas	3.69	7
e) Dialogues	3.70	6
f) Conversation	4.01	1
g) Debating	3.94	3

Students were asked to rate the favorable ways of classroom organization they wish to involve in. The result shows that students are very happy to learn by

involving in groups which they rated first with mean scores of 3.87. They are also interested in learning in pairs next to group work. Individual and whole class modes of classroom organizations are not comfortable ways of learning for computer science students' academic studies.

As indicated in the table above, in the second group of questions, students were asked to prioritize their favorable ways of learning. Regarding students' preferred ways of learning, they evaluated their own preferences by ranking the eight items given from a-h. Learning by listening and note taking, and learning by problem solving are the two most favorable ways with mean scores of 4.13 and 4.03 respectively. Methods of learning like by grammar and reporting what they hear were items that are difficult to them to decide and rated close to the middle value in the scale. In the rest of the cases, respondents feel good in using the methods in their academic studies. Therefore, emphasis is given to listening and note taking as the most favorite method of learning as they further proved this fact when they rank the importance of skills (See Appendix-2, Table-1 and Appendix-3, Table-1).

As indicated in the same table above, the third group of questions was treated separately under two sub-groups. The first three questions ask whether students are comfortable with taking corrections given by those people mentioned above (See Table 3), and the second two which ask the favorable time they want to take correction. They reported that they feel comfortable when they are corrected by instructors than by themselves and peers which they ranked 2nd and 3rd respectively. As to the time of correction, they gave priority to immediate correction there in the class. Therefore, correction for these students is more acceptable when it is given at the spot by a teacher in the classroom.

Students of computer science were also provided with some six learning materials to show their degree of preferences. It appeared that great

proportion of the respondents favored lessons substantiated by materials related with computers. Furthermore, they are reasonably interested in learning from pictures, posters, charts and maps. Tapes and videos are least favored materials by computer science students. Therefore, means of learning could be graded as computers, pictures, posters, charts, maps, written materials, overhead projector, tapes and videos from the most preferred to the least.

Under this section, attempt was made to assess students' favorite language learning activities. Seven items were presented to the respondents to identify the most preferred activities important for computer science students. Students' preferred learning by way of conversation better than other ways of learning. Next to conversation, based on their ratings, it is possible to put these activities from the most to the least preferred order as follows: conversation, role play, debating, discussions, language games, dialogues and dramas. In general terms, students enjoy language classes which give them the opportunity to learn actively than being dominated by the teacher.

4.1.4 Evaluation of the Existing English Course as Rated by English Instructors

English instructors in the college were asked to identify the extent to which they are satisfied with the various elements of the existing English language course (sophomore English in this case). They were given a five point scale to rate their degree of satisfaction represented by numbers 5-1 (5 = very much satisfied, 4 = satisfied, 3 = undecided, 2 = dissatisfied and 1 = very dissatisfied). The mean scores of the responses are presented in the table below.

Table 4: Mean scores of English teachers' evaluation on the existing English course

I am satisfied with:	Mean score
The clarity of the aims of the course	3.55
The focus of the objective of the course on the development of the language skills	3.82
The number of courses offered to computer science students	2.73
The attitude of students towards the course	3.27
The relevance of the contents of the course	3.27
The appropriateness of topics (themes) of the course to computer science students academic needs	3.09
The relevance of the vocabulary items to computer science students academic needs	3.36

As one clearly sees from the table above, English teachers are not happy, with the existing English course which was given to computer science students. The mean scores are between 2.73 and 3.82. This shows that there is to some extent a gap between the existing English course and the course respondents wish to exist. Therefore, it is possible to suggest that the English course is not as it was intended in preparing students to cope with activities they are expected to perform in their academic and future occupation.

English instructors were provided with a question that asks whether the existing English course be changed or not. They were asked to say 'yes' on 'no'. Of the eleven instructors, the seven reacted positively (See Appendix-8, Item-2.1).

Though 35.4% of them resisted, majority of the instructors' agreed that the existing English course have limited role in helping students to cope with their target situations. 63.6% of them accepted this statement. This also was proved by English instructors themselves in evaluating the exiting English course in the

previous section (see appendix-4, table-3). This, therefore, implies that, the English course which is currently given to computer science students has its own deficiency in meeting students' learning and target needs.

4.1.5 Students' Attitude towards Learning English and the Existing English Course

Attempt was made to see computer science students' attitude towards learning English and the existing English course. In effect, two sets of statements intended to elicit students' attitude were prepared .Each set has six statements, of which three were positive and three were negative. Five point Likert scale ranging from" strongly agree" to" strongly disagree" was used for rating each statement. Different numerical values were given to each scale. For positive statements '5' is given to strongly agree, 4 to agree, 3 to undecided, 2 to disagree and 1 to strongly disagree. For negative statements, on the hand, the reverse values were given. This can help to compute all responses under the same category and finally to add up the mean scores of all the six statements. The maximum value of the six statements is 30 which is calculated as (6X5) and the minimum value 6 which is (6X1) where (6) represents number of statements and (5and 1) represents the maximum and the minimum value in the given scale. For further information (See Appendix -2, Table- 5).

Table 5: Mean scores and summation of mean scores of students' attitude towards English language learning and the existing English course as rated by themselves

Statements	Mean score	Σμ
The English language :		
a) Learning English is very interesting	4.49	26.17
b) Learning English is very important	4.66	
c) Learning English will help me in my future life	4.59	
d) Learning English is wasting of time	4.44	
e) Learning English is very difficult	3.76	
f) Learning English has nothing to do with learning other courses	4.23	
The current English course :		
a) The course is irrelevant to my interest	3.42	20.69
b) I hate the course because it doesn't help me	3.21	
c) I take the course because I am forced to	3.65	
d) The course is helpful to computer science students	3.68	
e) I like the content of the course	3.34	
f) The course is an appropriate one	3.39	

The result of their responses about their attitude towards learning English is 26.17 (See Appendix -1, table 14). This is close to the maximum value (30) compared to the gap between the median which is (18). This implies that, the students have strong positive attitude towards leaning English language. Regarding their attitude towards the existing English course, the sum of the mean scores for the six statements is 20.69 which are close to the median whose value is (18) and rated as undecided in the given scale greater than the maximum

value (30).

Therefore, it is possible to conclude that, their attitude towards the course is not negative but not as strong as their attitude towards the English language. This may attribute to the general nature of the course which is not specifically designed to meet their language needs. As rated by them selves this course is given least priority compared with English for computer science and the course designed consisting of the two (See Appendix-2, Table -5 and Appendix -3, Table- 5).

4.2 Target Situation Analysis of Computer Science Students

4.2.1 Assessment of Students' Learning Needs

4.2.1.1 Evaluation of Importance of English Language Skills for Academic Studies

Both computer science students and computer science instructors were asked to rate the respective importance of language skills for the successful completion of students' training. To this end, they were given a rating scale 1-5 (1= not important, 2= less important, 3= important, 4= much important and 5= very much important). The mean scores of the frequencies of each skill were calculated and later ranked (See Appendix 1, Table 1 and Appendix 2, Table 2).

Table 6: Mean scores and ranks of importance of language skills for students' academic study as rated by students and instructors of computer science

English Language Skills	Mean score		Rank	
	CSS	CSI	CSS	CSI
a) Speaking	4.37	4.04	3	3
b) Listening	4.60	4.7	1	2
c) Reading	4.37	4.9	3	1
d) Writing	4.49	4.4	2	3
e) grammar	3.80	3.8	5	4
f) Vocabulary	4.35	3.7	4	5
g) Pronunciation	3.73	2.9	6	6

Key: CSS = computer science students, CSI = computer science instructors

Computer science students attached a great deal of value to listening skill whereas, computer science instructors gave greater attention to the reading skill. Instructors share students' view in skills like, grammar, vocabulary and pronunciation as they are not important for students' academic studies. Despite slight differences in their rating, both computer science students and instructors prioritized the importance level of English language skills reasonably alike. It is fairly safe to make some reconciliation, given precedence to the responses of the instructors taking into consideration their better experience in the field. The skills could, thus, be put in order of reading, listening and, writing and speaking equally important next to listening, and, writing and speaking equally important next to listening, grammar, vocabulary and pronunciation from most to least importance level.

4.2.1.2 Assessment of importance of Activities to be Accomplished in English in Computer Science Students' Academic studies

Thirty three activities relevant to computer science students' training were identified and categorized under the four macro-skills (Reading, writing, listening and speaking), so that computer science students would rate them according to their importance in academic studies. The numbers were later multiplied by the frequency of respondents to compute mean scores (see Appendix - 2, Table-3; Appendix-3, Table-3) which was thought to prioritize each activity. Similarly, activities were provided to subject area instructors to judge their importance for computer science students' academic studies with the same procedure above. Instructors' responses were used as a verification tool for students' responses. A summary of mean scores and ranks are presented in the table hereunder.

Table 7: Mean scores and ranks of the importance of activities in students' academic study

Activities in English	Mean score		Rank	
	CSS	CSI	CSS	CSI
Reading:				
Computer science journals	4.29	4.6	9	3
English web sites related to computer science	4.56	4.4	6	5
Reference books	4.42	4.4	8	5
Computer program instructions	4.60	4.4	4	5
Computer language	4.82	4.5	2	4
Diagrams written by system designers	4.46	4.1	7	6
Computer science monographs	4.21	3.5	11	7
The internet	4.83	4.9	1	1
On how to prepare system manual	4.58	4.6	5	3

Proposal (e.g to see if the proposed system works or not)	4.70	4.8	3	2
Flash messages	4.27	4.1	10	6
Lists and news groups	3.79	4.1	12	6
Writing:				
Course project at the end of the course	4.49	4.6	7	4
Senior project for graduation	4.70	4.9	2	1
Course assignment	4.39	4.5	10	5
Seminar in computer science	4.68	4.7	3	3
System proposal	4.58	4.7	5	3
Program instructions	4.41	4.5	9	5
Programming codes	4.61	4.4	4	6
On soft ware installation	4.49	4.5	7	5
To develop web page	4.75	4.5	1	5
To prepare system manual	4.45	4.8	8	2
Codes (if there is a problem in coding)	4.56	4.3	6	7
Data in system testing	4.35	4.1	12	8
Letter through e-mail	4.37	4.3	11	7
Listening to:				
course lecture	4.31	4.8	2	1
CD-ROM instructions	4.25	4.6	3	2
window media instructions	4.37	4.1	1	3
real media player instructions	4.23	4.1	4	3
Speaking:				
To present seminar courses	4.61	5.0	1	1
To report system proposal	4.45	4.8	2	2
In class discussion	4.45	4.6	2	3
To report news in media	4.18	4.3	3	4

Key: CSS = Computer Science Students, CSI = Computer Science Instructors

It is very clear to understand from the table above that, except "Computer science monographs" and lists and news groups that are least favored by students, all the activities lie between "very much important" and "much important" and their mean scores also are between 5.0 and 4.1 though their degree of importance varies. Therefore, in almost all cases, both groups of respondents expressed that the activities presented under the four macro skills are very crucial for computer science students' academic studies.

Under reading, twelve activities believed to be pertinent to the field of computer science were provided for the subjects to judge their level of importance. The mean scores in both groups of respondents didn't reveal wide difference; rather they showed similarity between their arrangements. Regarding their rankings, both groups of respondents agreed that reading on the internet is the first favored activity. In the rest of the cases, the rank orders are not similar. However, taking instructors' experiences in the field into consideration, it is possible to put activities in order, from the most to the least importance level as follows. Reading: the internet, proposal to see if the proposed system works properly or not, on how to prepare system manual, computer language, English websites related to computer science, references books, program instruction equally important and ranked 5th, Diagram written by system designers, flash messages and lists and news groups equally important and ranked 6th level and computer science monographs last.

Thirteen writing activities pertinent to students' academic needs were selected and presented to the students to rate their level of importance. The result shows that writing senior project work for graduation, and seminar in computer science are the two top important activities which were ranked 1st and 3rd by instructors and 2nd and 3rd by students. In all cases, concerning writing, students reacted to all activities positively. Though, students and instructors of computer science could discriminate the level of importance of activities, with minor variation, all

the writing activities were found above much important. This, therefore, implies that, the task of material design would have wide range of resources .in the preparation of English language courses for computer science students' academic studies.

Regarding listening tasks, activities like listening to course lecture, to CD-ROM, instructions, to window media instructions and real media player instructions were presented for respondents to decide their relative importance. Both groups of respondents reported that, all the activities are found to be important for students academic studies since the range of the extreme scores lie between 4.1 and 4.8. Listening to window media instruction which was the 3rd choice of instructors ranked 1st important by students. For teachers, listening to course lecture took the first position in degree of importance which was given the second by students. Therefore, considering both groups of respondents' views, it is possible to put the activities in order of importance as listening: to window media instructions, to CD-ROM instructions and to real media player instructions.

In relation to speaking, four activities; speaking to seminar courses, to report system proposal, in class discussion and to report news in media were presented to both students and instructors of computer science to determine the level of importance they have in computer science students' academic studies, both groups showed almost full agreement in prioritizing the importance of each activity. All the activities presented in the list were found between "much" and very much importance level. As respondents ranked them, speaking to present seminar courses, to report system proposal, in class discussion and to report news in media are identified important to students' academic studies in ascending order of importance.

4.2.2 Assessment of Students' Target Needs

4.2.2.1 Evaluation of the Importance of English Language Skills for Computer Science Students' Future Job

The importance of English language skills in occupational setting was evaluated by both the on-the-job graduates and their employers. This was for the genuine reason that students can not be in a position to judge professional activities and skills which they haven't experienced. To this effect, on-the-job graduates were requested to rate the degree of importance of English language skills to judge whether they help them to accomplish their duties successfully. This of course was not the only source of information. Their responses were verified with the responses collected from their employers. The summary of mean scores and ranks of the result found from on-the-job graduates are presented here in the table below.

Table 8: Mean scores and ranks of importance of English language skills in occupational setting as rated by on-the-job computer science graduates

English language skills	Mean score	Rank
Speaking	3.83	4
Listening	4.08	2
Writing	4.0	3
Reading	4.17	1
Grammar	3.50	5
Vocabulary	4.08	2
Pronunciation	3.25	6

As one can understand from the table above, reading is ranked as the top

important skill in students' future occupation with mean score of 4.17 and lying above 'much important' level. Following reading skill, listening and vocabulary (vocabulary specific to computer science) as reported by students and instructors of computer science (See Appendix-2, Table-1 and Appendix-3, Table-1) were identified the second equally important skills in students' professional area. This is clearly justified by their partners who experienced the challenges of the actual job.

Writing, according to these people, also took the third position which also was put exactly at 'much important' level. As to employers, they emphasized more on reading and writing than other skills. Here, on- the-job graduates' judgments should be considered for the reason that, they are more familiar to the field. Thus from top to bottom, one can reasonably put the skills in their order of importance as, reading, listening and vocabulary, writing, speaking, grammar and pronunciation.

4.2.2.2 Assessment of the Importance of Activities in Computer Science Students' Future Occupations

Regarding this, some thirty activities, which were thought to be performed in the medium of English in organizations that apply computer systems were identified and provided to the on-the-job computer science graduates (former students of the university). Here computer science students' target needs were seen from the point of view of employees for the reason that in identifying students' target needs, no one could be real source of information better than the one who is working in the actual occupational setting. Therefore, in this assumption, the result found from employees could be applicable for students' target needs. These groups of respondents were required to respond to the questions that were asking about the level of importance of activities in students' professional

setting. In addition to on-the-job graduates, employers were also asked about the language needs of their employees. This was meant to substantiate the responses which are given by on-the-job graduates (See Appendix-9, Number-1). The importance level was later determined by using mean scores which were computed from the frequency of responses.

The activities were categorized under reading, listening, speaking, and writing skills. Respondents were also provided with blank spaces to add activities of their own. They, accordingly, added 'voice mail', under listening skill. The type of activities included under this questionnaire were similar with most of the activities presented under students' and subject area instructors' evaluation of importance of activities in academic settings (For detail, see Appendix-2, Table-3 and Appendix-3, Table-3).The mean scores and ranks of these activities are presented in the table hereunder.

Table 9: Mean scores and ranks of evaluation of importance of activities in professional setting

Types of activity in English	Mean score	Rank
Reading :		
To check system failure	3.92	8
Memo (e.g. from system owners)	3.50	9
Users' requirements (e.g. to translate in to key words)	4.17	5
System proposal	3.92	8
Questionnaire (e.g. collected from system owners etc)	4.75	1
Computer science monographs	2.33	11
Program instructions	4.42	3
Computer language (e.g. C++, Java, V. b. net)	4.33	4
System diagram	4.50	2
The internet	4.0	7
On how to prepare system manual	4.08	6

Proposal (e.g. to see if the proposed system works properly or not)	4.17	5
Flash messages	3.42	10
Letter through e-mail	4.33	4
Lists and news groups	3.42	10
Writing :		
Questionnaire (e.g to end users, system owners, etc)	4.67	2
Memo (e.g to clients, stake holders etc)	4.08	4
System proposal	4.58	3
To users requirement (e.g to translate in to computer key words)	4.67	2
Program instructions	4.67	2
On E.R diagram	4.08	4
Programming codes	4.75	1
During software installation	3.92	5
To develop web page	4.75	1
To prepare system manual (report)	4.58	3
Data in system testing	3.83	6
Letter through e-mail	3.92	5
Speaking :		
Interview with customers (e.g. with end users)	4.33	2
To report system proposal	4.50	1
Through telephone with people	4.50	1
Listening to:		
Interviewees responses	4.17	3
System proposal oral reports	4.42	1
Window media player	4.42	1

As vividly indicated in the table above, under reading skill, some fifteen activities were identified and provided for respondents to rate. The result shows that, fourteen of these activities lie between 'very much important' and

important level, except reading computer science monograph, which is rated the least important of all. During the interview, employers also put some of the activities in their order of importance. The rankings of employers were very much similar with that of employees. Activities ranked 2nd, 3rd, 5th and 7th by employees were ranked by employers in similar order except reading proposal which overlaps with users' requirement as rated by graduates and ranked 6th level by employers.

On-the-job graduates also agreed that, reading questionnaires has great role in helping them to accomplish their duties in their job and so have reading system diagrams and program instructions. They also didn't deny that they are idle for activities like; reading computer science monographs, flash messages, and "lists and news groups which also were identified least important by computer science students.

With regard to writing, on-the-job computer science graduates were provided with some thirteen activities to put in their order of importance. With little variation, all the activities were rated important for computer science students' future occupation. They also reported that, writing to develop web page and writing programming codes are equally top important to their professions. Accordingly to these people, the second equally important activities are writing: questionnaire, users 'requirement, program instructions and code checking if there is a problem in coding.

On top of this, employers were also asked to identify the most important activities in the field. They also proved that, from top to bottom programming codes, preparing manuals (reports), developing webpage and writing during soft ware installation were found to be important for their employees to carry out their tasks successfully. Here, there is a distinction between the two groups of respondents in their responses. However, taking employees responses into consideration, it is possible to put the rank order according to their order

indicated in Table-9 above.

Speaking activities were also sorted out and presented to employees to rate in their order of importance. Accordingly, all the activities were rated and then ranked. Speaking: to report system proposal and speaking through telephone (e.g. with stake holders) were identified the first equally important activities with a mean score of 4.5. Interview with clients' was also ranked second next to the above two activities. However, employers in this regard complained that, speaking activities are mostly held in local languages mixed with English, for this reason, it has limited role in employees' duties compared to other skills. Here, in realities of foreign language situations, employers' judgments seem to be reasonable. Therefore, though on-the-job graduates rated those activities vital for their jobs, it is logical to take employers' views into consideration. Therefore, speaking in job situations could be seen as occasional and relatively lesser in importance than other skills.

Following speaking skill, different listening activities were also given to respondents to decide the order of importance they have in employees' occupations. All the activities were considered much important for employees to accomplish their duties efficiently. The mean scores of all these activities lie between 'very much important 'and 'much important. Coming to their order of importance, they reported the following: listening to system proposal oral reports which overlap with window media player, real media player, interviewees' responses, and voice mail ranked 1st, 2nd, 3rd and 4th respectively.

4.3 Present Situation Analysis

4.3.1 Evaluation of Students' Abilities in Using Language Skills in Academic Setting

Here, the evaluations of students' abilities of the language skills as rated by themselves and English and Computer science instructors are presented.

Instructors' responses were taken to substantiate the students' ratings in instances where they overrate or underrate their own ability. The mean scores and the ranks made from the responses are presented in the table here under.

Table 10: Mean scores and ranks of students' ability in using language skills in academic setting as rated by CSS, CSI and EI

English Language Skills	Mean score			Rank		
	CSS	CSI	EI	CSS	CSI	EI
a) Speaking	3.30	2.8	3.64	5	3	2
b) Listening	4.07	3.6	3.45	2	2	3
c) Reading	4.29	3.9	3.81	1	1	1
d) Writing	3.82	3.6	3.18	3	2	5
e) grammar	3.39	2.6	3.36	4	4	4
f) Vocabulary	3.29	2.8	3.18	6	3	5
g) Pronunciation	3.01	2.5	3.18	7	5	5

Key: CSS= Computer Science Students, CSI = Computer Science Instructors EI = English Instructors

The respondents were asked to make their ratings using scales graded as 'very good', 'good', 'average', 'poor' and 'very poor' which were represented by numbers 5, 4, 3, 2, and 1 respectively. The mean scores obtained by multiplying the numbers with their respective frequencies were used to rank the level of competence students have in English language skills. (See Appendix-2, Table-2 and Appendix-3,Table-2).

In the table above, both English and computer science instructors rated students' competence between average and good level. Students' ratings on their own abilities are also similar to instructors. Except for listening and reading, they could do better than other skills with mean scores 4.07 and 4.29 respectively.

Some sort of difficulty was also witnessed in pronunciation, vocabulary and grammar. Students themselves seemed to admit this with regard to these skills. In any case, comparing to other skills, students are doing best in reading materials written in English.

4.3.2 Assessment of Computer Science Students' English Abilities to Accomplish Activities in their Academic Studies

Activities that were treated under (Table-2 Above) were also presented here to computer science students to rate their own abilities. Subject area teachers were also asked to judge students' proficiency level on these activities.

Likert scale was used to let learners and instructors rate students' perceived abilities. The numbers were later multiplied by their corresponding frequency of responses which would help to compute the mean scores of each activity. The scores were again used for ranking the learners' ability of performing the activities (See Appendix-2, Table-4 and appendix-3, Table-4).

Table 11: Mean scores and ranks of students' perceived ability in performing activities in academic setting

Activities in English	Mean score		Rank	
	CSS	CSI	CSS	CSI
Reading :				
Computer science journals	3.14	3.3	8	6
English web sites related to computer science	3.58	4.0	2	2
Reference books	3.56	3.7	3	3
Computer program instructions	3.41	4.0	4	2
Computer language	3.61	3.7	1	3
Diagrams written by system designers	3.24	3.7	6	3
Computer science monographs	2.90	3.4	10	5
The internet	3.58	4.1	2	1
On how to prepare system manual	3.23	3.4	7	5
Proposal (e.g to see if the proposed system works or not)	3.58	3.6	2	4
Flash messages	3.34	3.1	5	7

Lists and news groups	2.92	3.3	9	6
Writing:				
Course project at the end of the course	3.38	4.0	8	3
Senior project for graduation	3.77	4.2	2	2
Course assignment	3.68	4.0	4	3
Seminar in computer science	3.76	3.7	3	6
System proposal	3.77	4.2	2	2
Program instructions	3.34	3.9	10	4
Programming codes	3.35	3.7	9	6
On soft ware installation	3.44	3.8	7	5
To develop web page	3.61	4.3	6	1
To prepare system manual	3.29	3.9	11	4
Codes (if there is a problem in coding)	3.27	3.8	12	5
Data in system testing	3.67	3.6	5	7
Letter through e-mail	4.07	3.9	1	4
Listening :				
To course lecture	3.75	4.3	1	1
To CD-ROM instructions	3.25	3.7	4	3
To window media instructions	3.48	3.5	2	4
To real media player instructions	3.37	3.8	3	2
Speaking:				
To present seminar courses	3.44	3.6	2	2
To report system proposal	3.48	3.7	1	1
In class discussion	3.08	2.9	4	3
To report news in media	3.32	2.4	3	4

Key: CSS = Computer Science Students, CSI = Computer Science Instructors.

Coming to the rankings of students' abilities, students themselves put reading computer language first, reading English web sites related to computer science, reading the internet and reading proposal second and reading reference books'

third. However, even though they claimed these activities are relatively less difficult, their ability in performing them is between average and good. Instructors, on the other hand, evaluated their students' abilities in the other way round. They gave priority for reading the internet, reading web sites and program instructions, reference books, computer language and diagram written by system designers 1st, 2nd and 3rd respectively. Therefore, even though students enjoy reading in some of the sub skills, they face difficulties in the majority.

Regarding writing activities, students' self evaluation shows that, they are good at writing letter through e-mail but not well in the rest of activities. Instructors' evaluation of students' writing ability is better than the students' evaluation on their own abilities. For instructors, students are good at writing course project at the end of the course and course assignment, senior project for graduation and system proposal and writing to develop web page in ascending order respectively. In the rest of the cases, both students and instructors believe that students' ability in writing activities is less than good.

Concerning the difficulty level of the activities, students reported that they face problems especially in writing codes if there is a problem in coding, to prepare system manual, program instructions, programming codes and course project at the end of the course. Instructors' evaluation in this regard is by far different from students' evaluation of their own ability. Subject area instructors believed that their students have difficulties in writing data in system testing, programming codes and seminar in computer science, on soft ware installation and codes if there is a problem in coding which is different from what students reported. Since students' responses are central to the evaluation of their own ability, it is better to see the difficulty level of the activities in line with the students' self evaluation.

Generally speaking, students' competence in writing activities is above the average but not the required level.

Students and instructors of computer science were also asked about some four activities under listening macro-skill. Except instructors rating on listening to course lecture, in all cases, students' ability in performing the activities is less than good. Students' ratings of their own abilities also show that they face much difficulty in listening to CD-ROM instructions and listening to real media player instructions respectively. They have relatively better performance in listening to course lecture and listening to window media instructions.

Therefore, from what was seen in reading, writing and listening activities, it is possible to say that computer science students do not have a general competence which is up to the standard to accomplish the tasks considered to be quiet important as well as imperative in their academic setting.

Students and instructors of computer science were also given four speaking activities to rate in the light of students' ability of performing these activities. It is clearly seen in the table above. In all cases, the students' ability in speaking activities is less than good. This fact is also proved by both groups of respondents by their rankings against activities under the three macro- skills discussed above. Among the four activities, students perform better in speaking to report system proposal and to present seminar courses respectively. This is quite similar for both groups .Considering the objective views of instructors; it is possible to reconcile the minor distinctions of the ratings between both groups of respondents. Therefore, from high to low difficulty order they could be ranked as, speaking to report news in media, in class discussion, to present seminar course and to report system proposal.

4.3.3 Assessment of Computer Science Students' Abilities in Performing Activities in English in their Future Occupation

This part of the paper is devoted to assessing computer science students' abilities in accomplishing tasks they are likely to encounter in their future career. To this effect, former students of the university and their employers were taken as a source of information in the assumption that these groups will have better knowledge of students target situation needs than the students themselves. And by way of comparing students' perceived ability with actual employees' existing ability, one may reach a sound conclusion on how well the English courses in the universities prepare students to target situations.

Therefore, the information taken form these groups of respondent were interpreted in terms of the students' target English language needs. Consequently, on-the-job computer science graduates were provided with activities similar to whose importance was rated in the earlier section. Employers, on the other hand, were also given open ended interview questions which were intended to elicit information to substantiate the responses of on-the-job graduates. The mean scores and ranks of the information found from on-the-job graduates are presented in the table below.

Table 12: Mean scores and ranks of assessment of students' abilities in performing activities in occupational setting

Activities in English	Mean score	Rank
Reading :		
To check system failure	4.08	3
Memo (e.g. from system owners)	3.67	7
Users' requirements (e.g. to translate in to key words)	3.92	5
System proposal	3.67	7

Questionnaire (e.g. collected from system owners etc)	3.75	6
Computer science monographs	2.42	10
Program instructions	4.0	4
Computer language (e.g. C++, Java, V. b. net)	3.58	8
System diagram	3.58	8
The internet	4.17	2
On how to prepare system manual	4.08	3
Proposal (e.g. to see if the proposed system works properly or not)	4.17	2
Flash messages	3.92	5
Letter through e-mail	4.42	1
Lists and news groups	3.50	9
Writing :		
Questionnaire (e.g to end users, system owners, etc)	4.33	1
Memo (e.g to clients, stake holders etc)	4.25	2
System proposal	4.17	3
To users requirement (e.g to translate in to computer key words)	4.17	3
Program instructions	4.33	1
On E-R diagram	4.25	2
Programming codes	3.42	7
During software installation	3.92	4
To develop web page	3.92	4
To prepare system manual (report)	3.92	4
Codes(if there is a problem in coding)	3.83	5
Data in system testing	3.83	5
Letter through e-mail	3.75	6

Speaking :		
Interview with customers (e.g. with end users)	4.0	2
To report system proposal	4.17	1
Through telephone with people	3.75	3
Listening to:		
Interviewees' responses	4.08	2
System proposal oral reports	4.0	3
Window media player	4.25	1
Real media player	3.92	4
Voice mail	4.25	1

Under reading skill, fifteen activities were presented and later rated. In this regard, on-the-job graduates evaluated their abilities between 'average' and 'good'. They also could discriminate between activities in their level of difficulties. As they reported, they are relatively comfortable with reading: letter through e-mail, system proposal, and the internet on how to prepare system manual and to check system failure. They also did not deny that they face considerable difficulties in the remaining activities.

Employers, on their side, also evaluated students' perceived abilities in comparison with on-the-job graduates' actual performances. They reported that employees' abilities in reading are not good or bad. This is to mean that on–the-job graduates have an 'average' level of competence.

Therefore, based on the on-the-job graduates and employers' evaluation, it is possible to infer that, there is a gap between what they perform and what they should be able to perform.

On-the-job graduates also were provided with some 13 writing activities to rate their own ability in performing the activities in their occupations. They

responded that, they are good at activities like, writing-questionnaire, memo, system proposal, to users' requirement, program instructions and writing on E-R diagrams. They also did not deny that they are not as good at the remaining seven activities. Employers in this regard tended to share their employees' opinions. They, in the majority cases, also observed problems in writing in on-the-job graduates' job situations. This is more or less similar with what was reported by employees.

As clearly seen in the table above, on-the-job graduates also evaluated their own speaking ability as almost 'good'. This is contradictory with the views' of employers, for the valid reason that according to employers, the practice of speaking activities in English in job situations is very rare. This is also similar with their judgment about the importance of this skill in professional setting (see Appendix-5, Table-2).

In relation to listening ability, on-the-job graduates reported that they devote most of their time by listening to system proposal oral reports and window media player instructions which were equally ranked 1st with mean score 4.42. On-the-job graduates also sorted out listening activities in their order of difficulty from low to high as follows. Listening: to system proposal oral reports and window media player, real media player, interviewee's responses and voice mail. Concerning their overall ability, they have a good command of listening ability which also was supported by their employers' responses.

Next to reading, students seem also to be comfortable with listening in both academic and occupational situations. Generally, according to instructors, students' competence can be from high to low summarized as, reading, listening, speaking, writing, grammar, vocabulary and pronunciation.

4.3.4 Evaluation of Computer Science Students' Perceived Abilities of English Language Skills in their Future job

Under this section, students' perceived ability in performing the duties in which they may be engaged in their future job was evaluated in terms of the ability of their experienced partners, (on-job computer science graduates). The scale used for checking students' ability in the previous sections was also used here. The responses of these subjects were still substantiated by the responses of the employers. The summary of the data collected from on-the-job graduates is presented in the table below.

Table 13: Mean scores and ranks of assessment of students' abilities in English language skills in professional setting as rated by themselves

English language skills	Mean score	Rank
Speaking	3.83	3
Listening	4.0	2
Writing	3.83	3
Reading	4.08	1
Grammar	3.17	5
Vocabulary	3.17	5
Pronunciation	3.25	4

The mean scores in the table show that in actual work place, reading and listening are practiced more comfortably than the other five. On-the-job graduates also reported that they have good ability in speaking and writing. The ability they have in grammar and vocabulary is not as good as they have in other skills. They have also an average level ability in Pronunciation which they rated the least important for their occupation. Students' perceived abilities in English language skills, thus, can be summarized as follows: Students, comparing to

other skills would perform grammar, vocabulary and pronunciation less comfortably. They can carry out productive skills averagely and they are good at receptive skills.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Based on the data analysis and interpretation, the following conclusions have been made.

- **Language Learning Information**

Students were found closely attached to field specific type of English (English for computer science) in this case. They also claimed that themes and vocabulary items should mostly, not entirely, talk about computer science than any other theme. Learning from conversation in groups was found to be the top preferred activity in students' academic studies. When they make mistakes in their learning, they wanted to be corrected by teachers rather than other people. The existing English course was also found to be insufficient to prepare computer science students academic and target needs. Students' attitude towards the existing course was not also as strong as that of the English language.

- **Students' Academic Needs**

Students are supposed to carry out a number of tasks in English. Among these, reading the course lecture, and window media instructions listening to course lecture, and to window media instructions speaking to present seminar course, and to report system proposal and writing senior project for graduation, seminar in computer science, system manual and system proposal were the top important ones which are seriously needed by students. On top of activities, computer science students' needs were evaluated in terms of the importance of the macro - skills knowledge areas. Reading followed by listening was given top priority to the students' academic studies. Vocabulary technical but related to computer science was also found to be important input to students of computer science in their academic duties.

- **Students' Target Needs**

Similarly, plenty of activities were identified and prioritized in computer science students' future occupation. On-the-job graduates were the main source of information their responses substantiated by their employers. The most essential skills found under each macro-skill were, reading questionnaire e.g. collected from system owners, end users etc, system diagram, program instructions, writing programming codes, to develop web page and, questionnaire e.g. to end users, speaking to report system proposal and through telephone with clients. However, graduates' judgments of the level of importance of speaking viewed in the other way by employers. In the majority of cases, the activities believed to be frequently performed in the academic setting are widely different from the occupational. This indicates that there has been a gap between students' academic training and their actual performances.

- **Students' Present Situation Needs (Lacks)**

Endeavor has been made to assess computer science students' lacks. From the analysis, a considerable gap was found to exist between what the academic and professional situations demand and the language competence students actually have. Students, hence, are less likely to be in a position to hold their responsibilities of learning and their future occupation as well. These facts were clearly confirmed by on-the-job graduates and employers, people who are on the actual job of computer systems application.

5.3 Recommendations

Based on the above conclusions, the following major recommendations have been made.

- Teachers of English in Gondar University should take computer science students' learning preferences in to consideration and see if there is a need for necessary adjustments.
- In this university, English language syllabuses and course materials should be designed by taking the relative importance of language skills and activities in to consideration and should also be directed towards students' language needs.
- Material developers and English teachers of the university should always be alert for the problems their students are facing and should make endeavors to find out solutions to them.
- Since needs analysis is a routine assessment of different features of a language, any concerned body who is engaged in jobs related to the teaching of English need to suit these features to students' language needs by conducting further research studies in the are ?,

BIBLIOGRAPHY

Abiy Yigzaw (1990). "The Communicative Needs of High Schools in Addis Ababa." Unpublished MA Thesis .AAU.

Abrham Menna (1993). "Developing Criteria for a Course in English for Aircraft Technicians of the Ethiopian Air Force." Unpublished MA Thesis. Addis Ababa University.

Anteneh Getachew (2005). "Determining the English Language Needs of Trainees at Technical and Vocational College" Unpublished MA thesis. AAU.

Berwick, R. (1989). Needs Assessment in Language Programs. From Theory to Practice. In R.K Johnson (ed). *The Second Language Curriculum.* Cambridge: Cambridge University Press.

Brindley, G.P. (1984). Needs Analysis and Objective Setting in Adult Migrant Education Program Sydney. N.S. W: Adult Migrant Education Service.

_____. (1989). "The Role of Needs Analysis in Adult ESL Program Design" In Johnson, R.K. *The Second Language Curriculum.* Cambridge: CUP.

Brown, I. (1995). "Internet Treasure Hunts-A treasure of an activity for Students Learning English." The Internet TESL Journal 5/3 http://iteslj.org/Lessons/Brown-Treasureltunts.html.

Dudley-Evans, T. (1997). 'How far can we, should we go?' *World English* .16/3: 351-358.

Dudley-Evans, T. (2001). "English for Specific Purposes" in Teaching to Speakers of other Languages by Carter R. and Nunan, D. Cambridge: CUP.

Dudley-Evans, T. and John, M. (1998). *Developments in English for Specific Purposes.* Cambridge: CUP.

Ephrem Tessema (2004). "Government Nursing Schools English Course Needs Analysis: Menelik-II and Asella Nursing Schools and The Respective Hospitals in Focus." MA Thesis. AAU.

Gay, L. R. and Airasian, P. (2000). *Educational Research: Competencies for Analysis and Application.* 6th Edition, New Jersey: Prentice-Hall.

Haile Mehari (1989). "The Attitudes of Students and Teachers towards the Use of ESP Teaching Materials in Technical Schools in A.A." Unpublished MA Thesis. AAU.

Hailemariam Kekeba (1993). "Establishing Criteria for Designing an Appropriate English Course for the Yared Music School." Unpublished MA Thesis. AAU.

Hutchinson, T and Waters, A. (1987). *English for Specific Purposes.* Cambridge: CUP.

Jordan, R. R. (1997). *English for Academic Purposes.* Cambridge: CUP.

Kennedy, C. and Balitho, R. (1984). *English for Specific Purposes.* London: McMillan Publisher Ltd.

Marew Zewdie (1990). "The Teaching of English at the Tertiary Level with Special Reference to ESP: An Evaluation of Objectives, Implementation and Learning Out Comes." Unpublished Doctoral Dissertation. AAU.

Mariko.J.(2002). English for ComputeScience. Mhtml:file:llG:/Gnglish% 20 for % 20 computer % 20 Science. Mht. (online). Accessed in 12/27/200.

Mekasha Kassaye (1994). "A study of the syllabus of unity private language schools in relation to the need of the learners." Unpublished MA Thesis. AAU.

Morris, B. (1982). "The English Language Communicative Needs of AAU Students" Unpublished MA thesis. Addis Ababa University.

Munby, J. (1978). *Communicative Syllabus Design.* Cambridge: CUP.

Nunan, D. (1988). *The Learner-Centered Curriculum: A Study in Second Language Teaching.* Cambridge: Cambridge University Press.

Richards, J. C. (2001). *Curriculum Development in Language Teaching.* Cambridge: CUP.

Richterich, R. (1983). *Case Sstudies in Identifying Language Needs.* Oxford: Pergamon Press.

Robinson, P. (1991). *ESP Today:* A Practitioner's Guide. New York: Printice Hall International UK Ltd.

Stern, H.H. (1983). *Fundamental Concepts of Language Teaching.* Oxford: Oxford University Press.

Strevens, P. (1988). "ESP after twenty years: A re-appraisal' In M. Tickoo (Ed.) ESP: State of the art, Singapore: SEAMEO Regional Language Center.

Tarone, E. and Yule, G. (1989). *Focus on the Language Learner.* New York: OUP.

Tilahun Bekele (2003). "An Analysis of The Needs of Evangelical Theological Colleges in Teaching English: Meserete Kirstos College in Focus" MA Thesis. AAU.

Tudor, I. (1996). *Learner-Centeredness and Language Education.* Cambridge: Cambridge University Press.

White, R. (1988). *The ELT Curriculum Oxford: Blackwell.*

Widdowson, H.G. (1983). *Learning Purpose and Language Use.* Oxford: OUP.

Wright,C.(1992)."The Benefits of ESP" >http.///www.Camblang. Com/articles.cfm-18k.

Appendix 1

Summary of Statistical Computation

In the appendix section, there are summaries of statistical computations and questionnaires. In the data collection and presentation, for the sake of convenience, some standard and non-standard symbols were used. Therefore, before moving to the appendices, please refer here.

f= Frequency of response

x= Numeric value which is given to agreement, importance ability and satisfaction represented by numbers "5 to 1" from left tot right in each column respectively. Note that the numbers are reversed for items presented under students' attitudes.

fx= Frequency multiplied by a given value

$\sum f$= Summation of Frequency (f)

$\sum fx$= Summation of (fx)

μ = Mean

SA= Strongly Agree

A= Agree

UD= Undecided

DA= Disagree

SDA= strongly disagree

VMIMP= Very much important

MIMP= Much important

IMP=

LIMP= Less important

NIMP= Not important

VH = Very high

H = High

M = Moderate

L = Low

VL = Very Low

VGD = Very good

GD = Good

AV = Average

VPR = Very poor

PR = Poor

VSD = Very satisfied

SD = Satisfied

UD = Undecided

DSD = Dissatisfied

VDSD = Very dissatisfied

Appendix - 2

Statistical Analysis of Computer Science Students' Responses in Academic Studies

Table 1: Importance of Language skills as rated by computer science students

Language skills	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Speaking	36	180	25	100	10	30	-	-	-	-	71	310	4.37	3
Listening	47	235	22	88	-	-	2	4	-	-	71	327	4.60	1
Reading	45	225	13	52	9	27	2	4	2	2	71	310	4.37	3
Writing	47	235	15	60	6	18	3	6			71	319	4.49	2
Grammar	23	115	23	92	17	51	4	8	4	4	71	270	3.80	5
Vocabulary	42	210	17	68	8	24	3	6	1	1	71	309	4.35	4
Pronunciation	26	30	14	56	21	63	6	12	4	4	71	265	3.73	6

Table 2: Computer Science Students' ability in performing language skills in academic setting

Language skills	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Speaking	8	40	17	68	36	108	9	18	1	1	71	235	3.30	5
Listening	21	105	35	140	14	42	1	2	-	-	71	289	4.07	2
Reading	38	190	22	88	7	21	2	4	2	2	71	305	4.29	1
Writing	20	100	24	96	21	63	6	12			71	271	3.82	3
Grammar	11	55	17	68	33	99	9	18	1	1	71	241	3.39	4
Vocabulary	3	15	23	92	38	114	6	12	1	1	71	234	3.29	6
Pronunciation	9	45	15	60	27	81	8	16	12	12	71	214	3.01	7

Table 3: Students' evaluation of the importance of activities in their academic study

Activities	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Reading:														
Computer science journals	33	165	26	104	12	36	-	-	-	-	71	305	4.29	9
English websites related to computer science	48	240	17	68	4	12	2	4	-	-	71	324	4.56	6
Reference books	42	210	21	84	6	18	-	-	2	2	71	314	4.42	8
Program instructions	48	240	18	72	5	15	-	-	-	-	71	327	4.60	4
Computer language	62	310	7	28	-	-	2	4	-	-	71	342	4.82	2
Diagram written by system designers	44	220	18	72	7	21	2	4	-	-	71	317	4.46	7
Computer science monographs	30	150	26	104	15	45	-	-	-	-	71	299	4.21	11
The internet	59	295	12	48	-	-	-	-	-	-	71	343	4.83	1
On how prepare system manual	47	235	18	72	6	18	-	-	-	-	71	325	4.58	5
Proposal	53	265	15	60	3	9	-	-	-	-	71	334	4.70	3

Flash messages	29	145	32	128	10	30	-	-	-	-	71	303	4.27	10
Lists and news groups	18	90	27	108	21	63	3	6	2	2	71	269	3.79	12
Writing:														
Course project at the end of the course	44	220	21	84	3	9	3	6	-	-	71	319	4.49	7
Senior project for graduation	61	305	3	12	5	15			2	2	71	334	4.70	2
Course assignment	38	190	26	104	4	12	3	6	-	-	71	312	4.39	10
Seminar in computer science	55	275	11	44	3	9	2	4	-	-	71	332	4.68	3
System proposal	49	245	18	72	2	6	-	-	2	2	71	325	4.58	5
Program instructions	41	205	18	72	12	36	-	-	-	-	71	313	4.41	9
Programming codes	55	275	6	24	8	24	2	4	-	-	71	327	4.61	4
On soft ware installation	49	245	15	60	3	9	1	2	3	3	71	319	4.49	7
To develop web page	58	290	8	32	5	15	-	-	-	-	71	337	4.75	1
To prepare system manual	42	210	23	92	4	12	-	-	2	2	71	316	4.45	8
Codes if there is a problem in coding)	54	270	6	24	8	24	3	6	-	-	71	324	4.56	6
Data in system testing	33	165	30	120	8	24	-	-	-	-	71	309	4.35	12

Letter through e-mail	41	205	19	76	9	27	-	-	2	2	71	310	4.37	11
Listening:														
To course lecture	43	215	14	56	9	27	3	6	2	2	71	306	4.31	2
To CD-ROM instructions	35	175	24	96	8	24	3	6	1	1	71	302	4.25	3
To window Media instructions	38	190	24	96	6	18	3	6	-	-	71	310	4.37	1
To real media player instructions	30	150	30	120	8	24	3	6	-	-	71	300	4.23	4
Speaking:														
To present seminar course	52	260	14	56	3	9	-	-	2	2	71	327	4.61	1
To report system proposal	45	225	17	68	7	21	-	-	2	2	71	316	4.45	2
In class discussion	45	225	17	68	7	21	-	-	2	2	71	316	4.45	2
To report news in media	36	180	19	76	11	33	3	6	2	2	71	297	4.18	3

Table 4: Students' evaluation of their perceived ability on activities in their academic study

Activities	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	F	fx	f	fx				
Reading:														
Computer science journals	3	15	20	80	33	99	14	28	1	1	71	223	3.14	8
English websites related to computer science	18	90	20	80	18	54	15	30	-	-	71	254	3.58	2
Reference books	9	45	35	140	16	48	9	18	2	2	71	253	3.56	3
Program instruction	6	30	33	132	18	54	12	24	2	2	71	242	3.41	4
Computer language	11	55	31	124	21	63	6	12	2	2	71	256	3.61	1
Diagram written by system designers	6	30	17	68	36	108	12	24	-	-	71	230	3.24	6
Computer science monographs	9	45	10	40	26	78	17	34	9	9	71	206	2.90	10
The internet	17	85	23	92	18	54	10	20	3	3	71	254	3.58	2

On how to prepare system manual	11	55	15	60	27	81	15	30	3	3	71	229	3.23	7
Proposal	11	55	27	108	27	81	4	8	2	2	71	254	3.58	2
Flash messages	9	45	18	72	32	96	12	24	-	-	71	237	3.34	5
Lists and news groups	3	15	15	60	33	99	17	34	3	3	71	211	2.97	9
Writing:														
Course project at the end of the course	7	35	26	104	27	81	9	18	2	2	71	240	3.38	8
Senior project for graduation	15	75	30	120	21	63	5	10	-	-	71	268	3.77	2
Course assignment	12	60	27	108	29	87	3	6	-	-	71	261	3.68	4
Seminar in computer science	21	105	21	84	20	60	9	18	-	-	71	267	3.76	3
System proposal	20	100	21	84	24	72	4	8	2	2	71	268	3.77	2
Program instructions	7	35	23	92	30	90	9	18	2	2	71	237	3.34	10
Programming codes	10	50	17	68	35	105	6	12	3	3	71	238	3.35	9
On soft ware installation	17	85	15	60	24	72	12	24	3	3	71	244	3.44	7
To develop web page	14	70	26	104	23	69	5	10	3	3	71	256	3.61	6

To prepare system manual	11	55	15	60	33	99	8	16	4	4	71	234	3.29	11
Codes if there is a problem in coding)	11	55	11	44	39	117	6	12	4	4	71	232	3.27	12
Data in system testing	6	30	21	84	29	87	13	26	2	2	71	239	3.67	5
Letter through e-mail	29	145	21	84	18	54	3	6	-	-	71	289	4.07	1
Listening:														
To course lecture	20	100	26	104	15	45	7	14	3	3	71	266	3.75	1
To CD-ROM instructions	12	60	21	84	20	60	9	18	9	9	71	231	3.25	4
To window media instructions	15	75	23	92	20	60	7	14	6	6	71	247	3.48	2
To real Media player instructions	12	60	23	92	21	63	9	18	6	6	71	239	3.37	3
Speaking:														
To present seminar course	20	100	9	36	27	81	12	24	3	3	71	244	3.44	2
To report system proposal	17	85	15	60	28	84	7	14	4	4	71	247	3.48	1
In class discussion	11	55	11	44	27	81	17	34	5	5	71	219	3.08	4
To report news in media	17	85	10	40	25	75	17	34	2	2	71	236	3.32	3

Table 5: Students self rating' of preferred type of English I n the academic studies

Types of English	Degree of preference										Σf	Σfx	μ	Rank
	VH		H		MD		LD		VL					
	f	fx	f	fx	f	fx	f	fx	f	fx				
General English	22	110	20	80	20	60	3	6	6	6	71	262	3.69	3
English for computer science	59	295	9	36	3	9	-	-	-	-	71	340	4.79	1
A balance between the two	21	105	33	132	12	36	2	4	3	3	71	280	3.94	2

Table 6: Importance of topics (themes) and vocabulary in academic study as rated by computer science students

Type of topics and vocabulary	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) Topics related with computer science	53	265	18	72	-	-	-	-	-	-	71	337	4.75	1
b) Any topic (theme)	4	20	23	92	29	87	4	8	11	11	71	218	3.07	2
c) vocabulary specific to your field	47	235	18	72	6	18	-	-	-	-	71	325	4.58	1
d) General vocabulary	14	70	33	132	18	54	3	6	3	3	71	265	3.73	2

Table 7: Students Evaluation on Methodological preferences and learning styles

In class I like learning:	Degree of preference										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) Individually	15	75	15	60	12	36	11	22	18	18	71	211	297	3
b) in pairs	11	55	23	92	15	45	16	32	6	6	71	230	324	2
c) in small group	29	145	23	92	6	18	7	14	6	6	71	275	3.87	1
d) in one large group	11	55	14	56	15	45	19	38	12	12	71	206	2.90	4
I Like learning by														
a) memorization	11	55	29	116	20	60	9	18	2	2	71	251	3.54	6
b) problem solving	26	130	30	102	9	27	3	6	3	3	71	286	403	2
c) listening	21	105	29	116	14	42	7	14	-	-	72	277	390	5
d) reading	23	115	29	116	12	36	5	10	2	2	71	279	393	4
e) listening and note taking	23	115	40	160	5	15	-	-	3	3	71	293	4.13	1
f) reading and note making	27	135	23	92	13	39	6	12	2	2	71	280	3.94	3
g) reporting what I hear	10	50	20	80	29	87	10	20	2	2	71	239	3.37	7

h) Studying grammar	9	45	17	68	20	60	18	36	7	7	71	216	3.04	8
When I speak or write, I like to be corrected:														
a) by students	18	90	25	100	9	27	12	24	7	7	71	248	3.49	3
b) by teachers	23	115	29	116	15	45	1	2	3	3	71	281	396	1
c) by myself	26	130	17	68	18	54	4	8	6	6	71	266	375	2
d) immediately in class	14	70	23	92	24	72	7	14	3	3	71	251	3.54	1
e) later privately	17	85	12	48	20	60	12	24	10	10	71	227	319	2
I like learning from:														
a) videos (films)	35	252	19	76	10	30	2	4	5	5	71	240	3.38	6
b) tapes (cassettes)	17	85	23	92	20	60	10	20	1	1	71	258	3.63	5
c) written materials	25	125	31	124	12	36	3	6	-	-	71	291	4.09	3
d) pictures, posters, charts, maps	39	195	21	84	7	21	3	6	1	1	71	307	4.32	2
e) over head projector	21	105	32	128	14	42	3	6	1	1	71	282	3.97	4
f) computers	47	235	23	92	1	3	-	--	-	-	71	330	4.65	1

I like these activities:														
a) role play	23	115	29	116	15	45	1	2	3	3	71	281	3.96	2
b) language games	24	120	26	104	12	36	9	18	-	-	71	278	3.92	5
c) discussions	27	135	20	82	17	51	6	12	1	1	71	279	3.93	4
d) dramas	17	85	27	108	18	54	6	12	3	3	71	262	3.69	7
e) dialogues	15	75	34	136	10	30	10	20	2	2	71	263	3.70	6
f) conversations	24	120	33	132	7	21	5	10	2	2	71	285	4.01	1
g) debating	29	145	20	80	13	39	7	14	2	2	71	280	2.94	3

Table 8: Students' self rating of their altitude towards English language and the existing English course

Statements	Degree of agreement										Σf	Σfx	μ	Σμ
	SA		A		UD		D		SD					
	f	fx	f	fx	f	fx	f	fx	f	fx				
The English Language:														
a) learning English is very interesting	50	250	13	52	4	12	1	2	3	3	71	319	4.49	26.17
b) Learning English is very important	53	265	12	48	6	18	-	-	-	-	71	331	4.66	

c) Learning English will help me in my future life	48	240	17	68	6	18	-	-	-	-	71	326	4.59	
d) learning English is wasting of time	1	1	3	6	5	15	17	68	45	225	71	315	4.44	
E) Learning English is very difficult	3	3	7	14	15	45	25	100	21	105	71	267	3.76	
f) Learning English has nothing to do with learning other courses	3	3	3	6	8	24	18	72	39	195	71	300	4.23	
The current English course:														
a) The course is irrelevant to my interest	18	18	3	6	4	12	23	92	23	115	71	243	3.42	
b) I hate the course because it doesn't help me	14	14	2	4	10	30	18	72	27	108	71	228	3.21	
c) I take the course because I am forced to	12	12	6	12	6	18	18	72	29	145	71	259	3.65	20.96
d) The course is helpful to computer science students	24	120	26	104	6	18	4	8	11	11	71	261	3.68	
e) I like the content of the course	15	75	23	92	14	42	9	18	10	10	71	237	3.34	
f) the course is an appropriate one	17	85	23	92	12	36	9	18	10	10	71	241	3.39	

Appendix - 3

Statistical Analysis of Computer Science Instructors' Responses

Table 1: Importance of language skills for students' academic study as rated by computer science instructors

English language skills	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) speaking	5	25	4	16	1	3	-	-	-	-	10	44	4.4	3
b) listening	7	35	3	12	-	-	-	-	-	-	10	47	4.7	2
c) reading	9	45	1	4	-	-	-	-	-	-	10	49	4.9	1
d) writing	5	25	4	16	1	3	-	-	-	-	10	44	4.4	3
e) grammar	2	10	4	16	4	12	-	-	-	-	10	38	3.8	4
f) vocabulary	2	10	3	12	5	15	-	-	-	-	10	37	3.7	5
g) pronunciation	1	5	3	12	4	12	2	4	-	-	10	29	2.9	6

Table 2: Students' ability in using language skills in academic setting as rated by computer science instructors

English language skills	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) speaking	-	-	1	4	6	18	3	6	-	-	10	28	2.8	3
b) listening	-	-	7	28	2	6	1	2	-	-	10	36	3.6	2
c) reading	4	20	2	8	3	9	1	2	-	-	10	39	3.9	1
d) writing	3	15	1	4	5	15	1	2	-	-	10	36	3.6	2
e) grammar	-	-	1	4	4	12	5	10	-	-	10	26	2.6	4
f) vocabulary	-	-	1	4	6	18	3	6	-	-	10	28	2.8	3
g) pronunciation	-	-	2	8	1	3	7	14	-	-	10	25	2.5	5

Table 3: Importance of reading activities in academic setting as rated by computer science instructors

Type of activity Reading	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Reading:														
Computer science journals	7	35	2	8	1	3	-	-	-	-	10	46	4.6	3
English web sites related to computer science	-	25	4	16	1	3	-	-	-	-	10	44	4.4	5
Reference books	5	25	4	16	1	3	-	-	-	-	10	44	4.4	5
Computer program instructions	5	25	4	16	1	3	-	-	-	-	10	44	4.4	5
Computer language	5	35	1	4	2	6	-	-	-	-	10	45	4.5	4
Diagrams written by system designers	7	20	3	12	3	9	-	-	-	-	10	41	4.1	6
Computer science monographs	4	-	6	24	3	9	1	2	-	-	10	35	3.5	7
The internet	9	45	1	4	-	-	-	-	-	-	10	49	4.9	1
On how to prepare system manual	6	30	4	16	-	-	-	-	-	-	10	46	4.6	3
Proposal (e.g to see if the proposed system works properly or not)	9	45	-	-	1	3	-	-	-	-	10	48	4.8	2
Flash messages	3	15	5	20	2	6	-	-	-	-	10	41	4.1	6
Lists and news groups	4	20	3	12	3	9	-	-	-	-	10	41	4.1	6

Writing:														
Course project at the end of the course	6	30	4	16	-	-	-	-	-	-	10	46	4.6	4
Senior project work for graduation	9	45	1	4	-	-	-	-	-	-	10	49	4.9	1
Course assignment	6	30	3	12	1	3	-	-	-	-	10	45	4.5	5
Seminar in computer science	7	35	3	12	-	-	-	-	-	-	10	47	4.7	3
System proposal	8	40	1	4	1	3	-	-	-	-	10	47	4.7	3
Program instructions	6	30	3	12	1	3	-	-	-	-	10	45	4.5	5
Programming codes	6	30	2	8	2	6	-	-	-	-	10	44	4.4	6
On soft ware installation	6	30	3	12	1	3	-	-	-	-	10	45	4.5	5
To develop web page	5	25	5	20	-	-	-	-	-	-	10	45	4.5	5
To prepare system manual	9	45	-	-	1	3	-	-	-	-	10	48	4.8	2
Codes (if there is a problem in coding)	6	30	1	4	3	9	-	-	-	-	10	43	4.3	7
Data in system testing	4	20	4	16	1	3	1	2	-	-	10	41	4.1	8
Letter through e-mail	4	20	5	20	1	3	-	-	-	-	10	43	4.3	7
Listening:														
To course lecture	8	40	2	8	-	-	-	-	-	-	10	48	4.8	1
To CD- ROM instructions	6	30	4	16	-	-	-	-	-	-	10	46	4.6	2
To window media instructions	2	10	7	28	1	3	-	-	-	-	10	41	4.1	3
To real media player instructions	3	15	6	24	-	-	1	2	-	-	10	41	4.1	3

Speaking:														
To present seminar course	10	50	-	-	-	-	-	-	-	-	10	50	5.0	1
To report system proposal	8	40	2	8	-	-	-	-	-	-	10	48	4.8	2
In class discussion	6	30	4	16	-	-	-	-	-	-	10	46	4.6	3
To report news in media	4	20	5	20	1	3	-	-	-	-	10	43	4.3	4

Table 4: Students' abilities in activities in academic setting as rated by computer science instructor

Types of activity	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Reading:														
Computer science journals	3	15	3	12	-	-	3	6	1	1	10	33	3.3	6
English websites related to computer science	4	20	2	8	4	12	-	-	-	-	10	40	4.0	2
Reference books	4	20	-	-	5	15	1	2	-	-	10	37	3.7	3
Computer program instructions	3	15	4	-	3	9	-	-	-	-	10	40	4.0	2
Computer language	2	10	4	16	3	9	1	2	-	-	10	37	3.7	3
Diagrams written by system designers	2	10	3	12	5	15	-	-	-	-	10	37	3.7	3
Computer science monographs	2	10	2	8	5	15	-	-	1	1	10	34	3.4	5
The internet	2	10	7	28	1	3	-	-	-	-	10	41	4.1	1
On how to prepare system manual	1	5	4	16	3	9	2	4	-	-	10	34	3.4	5

Proposal (e.g. To see if the proposed system works properly or not)	2	10	2	8	6	18	-	-	-	-	10	36	3.6	4
Flash messages	-	-	4	16	3	9	3	6	-	-	10	31	3.1	7
Lists and news groups	2	10	2	8	3	9	3	6	-	-	10	33	3.3	6
Writing:														
Course project at the end of the course	3	15	2	8	5	15	-	-	-	-	10	40	4.0	3
Senior project work for graduation	3	15	6	24	1	3	-	-	-	-	10	42	4.2	2
Course assignment	4	20	3	12	2	6	1	2	-	-	10	40	4.0	3
Seminar in computer science	2	10	4	16	3	9	1	2	-	-	10	37	3.7	6
System proposal	5	25	2	8	3	9	-	-	-	-	10	42	4.2	2
Program instructions	3	15	4	16	2	6	1	2	-	-	10	39	3.9	4
Programming codes	2	10	4	16	3	9	1	2	-	-	10	37	3.7	6
On soft ware installation	2	10	5	20	2	6	1	2	-	-	10	38	3.8	5
To develop web page	3	15	7	28	-	-	-	-	-	-	10	43	4.3	1
To prepare system manual	3	15	4	16	2	6	1	2	-	-	10	39	3.9	4
Codes (if there is a problem in coding)	2	10	4	16	4	12	-	-	-	-	10	38	3.8	5
Data in system testing	1	5	5	20	3	9	1	2	-	-	10	36	3.6	7
Letter through e-mail	2	10	5	20	3	9	-	-	-	-	10	39	3.9	4

Listening :														
To course lecture	4	20	5	20	1	3	-	-	-	-	10	43	4.3	1
To CD- ROM instructions	2	10	4	16	3	9	1	2	-	-	10	37	3.7	3
To window media instructions	2	10	3	12	3	9	2	4	-	-	10	35	3.5	4
To real media player instructions	3	15	3	12	3	9	1	2	-	-	10	38	3.8	2
Speaking:														
To present seminar course	1	5	4	16	5	15	-	-	-	-	10	36	3.6	2
To report system proposal	2	10	4	16	3	9	1	2	-	-	10	37	3.7	1
In class discussion	1	5	3	12	2	6	2	4	2	2	10	29	2.9	3
To report news in media	-	-	2	8	3	9	2	4	3	3	10	24	2.4	4

Table 5: Type of English language preferred by students in their academic students as read by computer science instructors

Types of English	VH		H		M		L		VL		Σf	Σfx	μ	Rank
	f	fx	f	fx	f	fx	f	fx	f	fx				
General English	3	15	4	16	2	6	1	2	-	-	10	39	3.9	3
English related to computer science	6	30	1	4	2	6	1	2	-	-	10	42	4.2	1
A balance between the two	5	25	1	4	3	9	1	2	-	-	10	40	4.0	2

Table 6: Importance in themes and vocabulary items in academic setting as rated by computer science students

Items	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) topics themes related to computer science	8	40	-	-	2	6	-	-	-	-	10	46	4.6	1
b) any topic theme	1	5	5	20	3	9	1	2	-	-	10	36	3.6	2
c) vocabulary specific to computer science	6	30	2	8	2	6	-	-	-	-	10	44	4.4	1
d) general vocabulary	2	10	6	24	1	3	1	2	-	-	10	39	3.9	2

Appendix – 4

Statistical Analysis of English Instructors' Responses

Table 1: Evaluation of students' abilities in using language skills as rated by English instructors

Types of skill	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Speaking	-	-	7	28	4	12	-	-	-	-	11	40	3.64	2
Listening	-	-	5	20	6	18	-	-	-	-	11	38	3.45	3
Reading	1	5	7	28	3	9	-	-	-	-	11	42	3.81	1
Writing	-	-	3	12	7	21	1	2	-	-	11	35	3.18	5
Grammar	-	-	4	16	7	21	-	-	-	-	11	37	3.36	4
Vocabulary	-	-	2	8	9	27	-	-	-	-	11	35	3.18	5
Pronunciation	-	-	3	12	7	21	1	2	-	-	11	35	3.18	5

Table 2: Importance of themes and vocabulary items in academic studies as rated by English instructors

Items	Perceived ability										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	f	fx	f	fx				
a) topics/themes related to computer science	7	35	4	16	-	-	-	-	-	-	11	51	4.63	1
b) any topic/theme	1	5	1	4	9	27	-	-	-	-	11	36	3.27	2
c) Vocabulary specific to computer science	7	35	4	16	-	-	-	-	-	-	11	51	4.64	1
d) general vocabulary	-	-	7	28	4	12	-	-	-	-	11	40	3.64	2

Table 3: English Instructors Evaluation of the Existing English Course

How satisfied are you with:	Degree of Preference										Σf	Σfx	μ	Rank
	VS		S		UD		LS		NS					
	f	fx	f	fx	f	fx	f	fx	f	fx				
1) The clarity of the aims of the course?	-	-	6	24	5	15	-	-	-	-	11	39	3.55	2
2) The focus of the objectives of the course on the development of the language skills?	-	-	9	36	2	6	-	-	-	-	11	42	3.82	1
3) The number of courses offered to computer science students?	1	5	-	-	5	15	5	10	-	-	11	30	2.73	6
4) The attitude of students towards the course?	-	-	7	28	-	-	4	8	-	-	11	36	3.27	4
5) the relevance of the contents of the course	-	-	7	28	1	3	3	6	-	-	11	37	3.36	3
6) the appropriateness of topics (themes) of the course to computer science students academic needs	-	-	4	16	6	18	1	2	-	-	11	36	3.27	4
7) The relevance of the vocabulary items of the course to computer science students academic needs	-	-	5	20	2	6	4	8	-	-	11	34	3.09	5

Appendix 5

Statistical Analysis of on-job Computer Science Graduates' Responses

Table 1: Evaluation of on job computer science graduates' abilities of English language skills in their occupation

English language skills	Degree of ~~importance~~										Σf	Σfx	μ	Rank
	VG		G		AV		PR		VPR					
	f	fx	f	fx	f	fx	F	fx	f	Fx				
Speaking	4	20	4	16	3	9	-	-	1	1	12	46	3.83	3
Listening	4	20	5	20	2	6	1	2	-	-	12	48	4.0	2
Writing	4	20	4	16	2	6	2	4	-	-	12	46	3.83	3
Reading	5	25	4	16	2	6	1	2	-	-	12	49	4.08	1
Grammar	-	-	6	24	3	9	2	4	1	1	12	38	3.17	5
Vocabulary	-	-	7	28	1	3	3	6	1	1	12	38	3.17	5
Pronunciation	2	10	2	8	5	15	3	6	-	-	12	39	3.25	4

Table 2: Evaluation of importance of English language skills in occupational settings

English language skills	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Speaking	4	20	3	12	4	12	1	2	-	-	12	46	3.83	4
Listening	4	20	6	24	1	3	1	2	-	-	12	49	4.08	2
Writing	4	20	5	20	2	6	1	2	-	-	12	48	4.0	3
Reading	6	30	3	12	2	6	1	2	-	-	12	50	4.17	1
Grammar	2	10	4	16	4	12	2	4	-	-	12	42	3.50	5
Vocabulary	5	25	4	16	2	6	1	2	-	-	12	49	4.08	2
Pronunciation	2	10	2	8	5	15	3	6	-	-	12	39	3.25	6

Table 3: On-job computer science employees' evaluation of their own abilities in performing activities in their occupation

Types of activity in English	Degree of importance (perceived abilities)										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Reading :														
To check system failure	5	25	3	12	4	12	-	-	-	-	12	49	4.08	3
Memo (e.g. from system owners)	4	20	3	12	2	6	3	6	-	-	12	44	3.67	7
Users' requirements (e.g. to translate in to key words)	4	20	4	16	3	9	1	2	-	-	12	47	3.92	5
System proposal	3	15	4	16	3	9	2	4	-	-	12	44	3.67	7
Questionnaire (e.g. collected from system owners end users etc)	5	25	1	4	4	12	2	4	-	-	12	45	3.75	6
Computer science monographs	1	5	2	8	2	3	3	6	4	4	12	29	2.42	10
Program instructions	6	30	2	8	2	3	2	4	-	-	12	48	4.0	4
Computer language (e.g. C++ Java Vb. net)	4	20	3	12	2	3	2	4	1	1	12	43	3.58	8
System diagram	2	10	5	20	3	9	2	4	-	-	12	43	3.58	8
The internet	6	30	3	12	2	6	1	2	-	-	12	50	4.17	2
On how to prepare system manual	5	25	4	16	2	6	1	2	-	-	12	49	4.08	3

Proposal (e.g to see if the proposed system works properly or not)	6	30	3	12	2	6	1	2	-	-	12	50	4.17	2
Flash messages	3	15	6	24	2	6	1	2	-	-	12	47	4.08	5
Letter through e-mail	6	30	5	20	1	3	-	-	-	-	12	53	4.17	1
Lists and news groups	2	10	3	12	6	18	1	2	-	-	12	42	4.08	9
Writing														
Questionnaire (e.g. to end users, system owners, etc)	6	30	4	16	2	6	-	-	-	-	12	52	4.33	1
Memo (e.g. to clients, stakeholders, etc.)	5	25	5	20	2	6	-	-	-	-	12	51	4.25	2
System proposal	6	30	3	12	2	6	1	2	-	-	12	50	4.17	3
To users' requirements (e.g. to translate in to computer key words)	5	25	5	20	1	3	1	2	-	-	12	50	4.17	3
Program instructions	6	30	4	16	2	6			-	-	12	52	4.33	1
On ER diagram	6	30	4	16	1	3	1	2	-	-	12	51	4.25	2
Programming codes	1	5	3	12	8	24	-	-	-	-	12	41	3.42	7
During software installation	5	25	3	12	2	6	2	4	-	-	12	47	3.92	4
To develop web page	3	15	6	24	2	6	1	2	-	-	12	47	3.92	4
To prepare system manual (report)	5	25	3	12	2	6	2	4	-	-	12	47	3.92	4
Codes (if there is a problem in coding)	2	10	7	28	2	6	1	2	-	-	12	46	3.83	5
Data in system testing	2	10	3	24	4	12			-	-	12	46	3.83	5

Letter through e-mail	1	5	8	32	2	6	1	2	-	-	12	45	3.75	6
Speaking														
Interview with customers (e.g. with end users)	4	20	5	20	2	6	1	2	-	-	12	48	4.0	2
To report system proposal	5	25	4	16	3	9			-	-	12	50	4.17	1
Through telephone with people	4	20	3	12	3	9	2	4	-	-	12	45	3.75	3
Listening:														
Interviews responses	5	25	4	16	2	6	1	2	-	-	12	49	4.08	2
System proposal oral reports	5	25	4	16	1	3	2	4	-	-	12	48	4.0	3
Window media player	5	25	5	20	2	6			-	-	12	51	4.25	1
Real media player	4	20	5	20	1	3	2	4	-	-	12	47	3.92	4
Voice mail	5	25	5	20	2	6			-	-	12	51	4.25	1

Table 4: On-job computer science employees' evaluation on the importance of activities in occupational setting

Types of activity in English	Degree of importance										Σf	Σfx	μ	Rank
	VMIMP		MIMP		IMP		LIMP		NIMP					
	f	fx	f	fx	f	fx	f	fx	f	fx				
Reading														
To check system failure	3	15	6	24	2	6	1	2	-	-	12	47	3.92	8
Memo (e.g. from system owners)	2	10	2	8	8	24	-	-	-	-	12	42	3.50	9
Users' requirements (e.g. to translate in to key words)	3	15	8	32	1	3	-	-	-	-	12	50	4.17	5
System proposal	2	10	8	32	1	3	1	2	-	-	12	47	3.92	8
Questionnaire (e.g. collected from system owners end users etc)	9	45	3	12	-	-	-	-	-	-	12	57	4.75	1
Computer science monographs	1	5	2	8	1	3	4	8	4	4	12	28	2.33	11
Program instructions	6	30	5	20	1	3	-	-	-	-	12	53	4.42	3
Computer language (e.g. C++ Java Vb. net)	8	40	1	4	2	6	1	2	-	-	12	52	4.33	4
System diagram	9	45	1	4	1	3	1	2	-	-	12	54	4.50	2
The internet	3	15	7	28	1	3	1	2	-	-	12	48	4.0	7
On how to prepare system manual	3	15	7	28	2	6	-	-	-	-	12	49	4.08	6
Proposal (e.g to see if the proposed	3	15	8	32	1	3	-	-	-	-	12	50	4.17	5

system works properly or not)														
Flash messages	2	10	2	8	7	21	1	2	-	-	12	41	3.42	10
Letter through e-mail	6	30	4	16	2	6			-	-	12	52	4.33	4
Lists and news groups	2	10	3	12	5	15	2	4	-	-	12	41	3.42	10
Writing														
Questionnaire (e.g to end users, system owners, etc)	9	45	2	8	1	3	-	-	-	-	12	56	4.67	2
Memo (e.g. to clients, stakeholders, etc.)	3	15	7	28	2	6	-	-	-	-	12	49	4.08	4
System proposal	8	40	3	12	1	3	-	-	-	-	12	55	4.58	3
To users' requirements (e.g. to translate in to computer key words)	9	45	2	8	1	3	-	-	-	-	12	56	4.67	2
Program instructions	9	45	2	8	1	3	-	-	-	-	12	56	4.67	2
On E-R diagram	2	10	9	36	1	3	-	-	-	-	12	49	4.08	4
Programming codes	10	50	1	4	1	3	-	-	-	-	12	57	4.75	1
During software installation	2	10	8	32	1	3	1	2	-	-	12	47	3.92	5
To develop web page	9	45	3	12					-	-	12	57	4.75	1
To prepare system manual (report)	9	45	2	8			1	2	-	-	12	55	4.58	3
Codes (if there is a problem in coding)	9	45	2	8	1	3			-	-	12	56	4.67	2
Data in system testing	1	5	8	32	3	9			-	-	12	46	3.83	6
Letter through e-mail	2	10	8	32	1	3	1	2	-	-	12	47	3.92	5

Speaking														
Interview with customers (e.g. with end users)	5	25	6	24	1	3			-	-	12	52	4.33	2
To report system proposal	6	30	6	24					-	-	12	54	4.5	1
Through telephone with people (e.g. system owners)	6	30	4	16	2	6	1	2	-	-	12	54	4.5	1
Listening:														
Interviewees' responses	5	25	5	20	1	3	1	2	-	-	12	50	4.17	3
System proposal oral reports	6	30	5	20	1	3	-	-	-	-	12	53	4.42	1
Window media player	6	30	5	20	1	3	-	-	-	-	12	53	4.42	1
Real media player	6	30	4	16	1	3	1	2	-	-	12	51	4.25	2
Voice mail	5	25	4	16	2	6	1	2	-	-	12	49	4.08	4

Appendix - 6

Addis Ababa University
Institute of Language Studies
Department of Foreign Languages and Literature
(Graduate Program)

Questionnaire for Computer Science Students

The main purpose of this questionnaire is to collect information that would be helpful to determine computer science students' English language needs. This being the case, I would be grateful for your honest responses. Be sure for the confidentiality of the information. You do not need to write your name. Please attempt all the questions.

Thank you in advance!

1. Perceived needs of language skills

1.1 How important are the following English language skills to you in your academic study? How would you rate your perceived abilities in each of these skills? (Please put a tick mark (✓) based on the scale given below)

5 = very much important 4 = much important 3= important 2= less important 1= not important	5= very good 4= good 3= average 2= poor 1= very poor

English Language Skills	Degree of importance					Your perceived ability				
	5	4	3	2	1	5	4	3	2	1
a. speaking										
b. listening										
c. reading										
d. writing										
e. grammar										
f. vocabulary										
g. pronunciation										

1.2 Please give information about the importance of the following activities and your perceived abilities in these activities in your academic study (please put a tick mark (✓) against each item)

5 = very much important 4 = much important 3= important 2= less important 1= not important

5= very good 4= good 3= average 2= poor 1= very poor

Type of Activity	Degree of importance					Your perceived ability				
	5	4	3	2	1	5	4	3	2	1
2.1.1 Reading										
computer science journals										
English websites related to computer science										
reference books										
program instructions										
computer language (e.g. c++, java, vv net)										
diagrams written by system designers										
computer science monographs										
the internet (e.g. how to install the software)										
on how to prepare system manual										
proposal (e.g. to see if the proposed system works properly or not)										

	5	4	3	2	1	5	4	3	2	1
flash messages										
lists and news groups										
others please specify _____ _____										
2.1.2 Writing										
course project at the end of the course (e.g. program on transaction)										
senior project for graduation										
course assignment										
seminar in computer science										
system proposal										
program instructions										
programming codes										
on software installation										
to develop web page										
to prepare system manual (report)										
codes (e.g. if there is a problem in coding)										
data in system testing										
letter through e-mail										
others (please specify) _____ _____										
2.1.3 Listening										
to course lecture										

	5	4	3	2	1	5	4	3	2	1
to CD-ROM instructions										
to window media instructions										
to real media player instructions										
others (please specify) _____ _____										
2.1.4 Speaking										
to present seminar course										
to report system proposal										
in class discussion										
others (please specify) _____ _____										

2. The type of English students need for academic study

2.1 Which type of English do your academic training needs? Please put a tick mark (✓) based on the given scale below.

5= very high
4 = high
3= moderate
2= low
1= very low

Type of English	**Degree of preference**				
	5	**4**	**3**	**2**	**1**
a. General English					
b. English for computer science					
c. A balance between the two					

2.2 Which type of themes/topics and vocabulary items are needed in your academic study. Please rate the degree of importance of the given items below.

5= very much important
4 = much important
3= important
2= less important
1= not important.

Items	Degree of importance				
	5	4	3	2	1
a. Topics/themes related to computer science					
b. Any topic/theme					
c. Vocabulary specific to your field					
d. General vocabulary					

3. Methodological preferences and learning style

Please give information about your methodological preferences (learning styles). Circle the numbers of your answers. Use the scale given below. (You can circle more than one)

5 = very satisfied 2 = less satisfied

4 = satisfied 1 = not satisfied at all

3 = undecided

3.1 In class how would you like learning?

a. individually 5 4 3 2 1

b. in pairs 5 4 3 2 1

c. in small groups 5 4 3 2 1

d. in one large group 5 4 3 2 1

3.2 How would you like learning?

By:

a. memorization	5	4	3	2	1
b. problem solving	5	4	3	2	1
c. listening	5	4	3	2	1
d. reading	5	4	3	2	1
e. listening and note taking	5	4	3	2	1
f. reading and note making	5	4	3	2	1
g. reporting what you hear	5	4	3	2	1
h. studying grammar	5	4	3	2	1

3.3 When you speak or write, you like to be corrected:

a. by students	5	4	3	2	1
b. by teachers	5	4	3	2	1
c. by yourself	5	4	3	2	1
d. immediately there in the class	5	4	3	2	1
e. later privately	5	4	3	2	1

3.4 Do you like learning from:

a. videos (films)	5	4	3	2	1
b. tapes (cassettes)	5	4	3	2	1
c. written materials	5	4	3	2	1
d. pictures, posters, charts, maps	5	4	3	2	1
e. overhead projector	5	4	3	2	1
f. computers	5	4	3	2	1

3.5 How do you like these activities?

a. role play	5	4	3	2	1
b. language games	5	4	3	2	1
c. discussions	5	4	3	2	1
d. dramas	5	4	3	2	1
e. dialogues	5	4	3	2	1
f. conversations	5	4	3	2	1
g. debating	5	4	3	2	1

4. Attitude towards English and the current English course

Please put a tick mark (✓) in the column of your choice about your attitudes towards English language and the current English course.

5 = strongly agree
4 = agree
3 = undecided
2 = disagree
1 = strongly disagree

	5	4	3	2	1
4.1 The English language					
a. Learning English is very interesting					
b. Learning English is very important					
c. Learning English will help me in my future life					
d. Learning English is wasting of time					
e. Learning English is very difficult					
f. Learning English has nothing to do with learning other courses					
4.2 The English course					
a. The course is irrelevant to my interest					
b. I hate the course because it doesn't help me					
c. I take the course because I am forced to					
d. The course is helpful to computer science students					
e. I like the content of the course					
f. The course is an appropriate one					

Thank you!

Appendix - 7

Addis Ababa University

Institute of Language Studies

Dept. of Foreign Languages and Literature

(Graduate Program)

Questionnaire for Computer Science Instructors

The main purpose of this questionnaire is to collect information that would be helpful to determine computer science students' English language needs. This being the case, I would be grateful for your honest responses. Be sure for the confidentiality of the information. You do not need to write your name. Please attempt all the questions.

Thank you in advance!

1. How important are the following skills for your students in their academic studies? And how do you rate your students' abilities in the following language skills? Use "5"for the most and "1" for the least.

English Language skills	Degree of importance					Perceived ability				
	5	4	3	2	1	5	4	3	2	1
a) speaking										
b) listening										
c) reading										
d) writing										
e) grammar										
f) vocabulary										
g) pronunciation										

2. Please rate the importance of the following activities for computer science students, and your students' abilities in performing these activities in their academic studies. (Put a tick mark based on the scale given below).

5 = very much important 4 = much important 3= important 2= less important 1= not important

5= very good 4= good 3= average 2= poor 1= very poor

Type of Activity	Degree of importance					Perceived ability				
	5	4	3	2	1	5	4	3	2	1
3.1.1 Reading										
computer science journals										
English websites related to computer science										
reference books										
computer program instructions										
computer language (eg. c++, java, vb. net)										
diagrams written by system designers										
computer science monographs										
the internet (e.g. how to install the software)										
on how to prepare system manual										
proposal (e.g. to see if the proposed system works properly or not)										
flash messages										
lists and news groups										

	5	4	3	2	1	5	4	3	2	1
others(please specify) _____ _____										
3.1.2 Writing										
course project at the end of the course (e.g. program on transaction)										
senior project for graduation										
course assignment										
seminar in computer science										
system proposal										
program instructions										
programming codes										
on software installation										
to develop web page										
to prepare system manual (report)										
codes (e.g. if there is a problem in coding)										
data in system testing										
letter through e-mail										
others (please specify) _____										
3.1.3 Listening										
to course lecture										
to CD-ROM instructions										

	5	4	3	2	1	5	4	3	2	1
to window media instructions										
to real media player instructions										
others (please specify) _____										
3.1.4 Speaking										
to present seminar course										
to report system proposal										
in class discussion										
others (please specify) _____										

4. How do you rate your students' preference for the following types of English in their academic studies and at work after graduation? Please use the scale given below.

5 = very high
4 =high
3=moderate
2=low
1=very low

Type of English	Degree of preference				
	5	4	3	2	1
4.1 General English					
4.2 English related to computer science					
4.3 A balance between the two					

5. Which type of themes/topics and vocabulary items do your students need in their academic studies? How important are they?

5 = very much important
4 = much important
3= important
2= less important
1= not important

Items	Degree of importance				
	5	4	3	2	1
a. Topics/themes related to computer science					
b. Any topic/theme					
c. Vocabulary specific to computer science					
d. General vocabulary					

6. Please add any other comment regarding the English language needs of your computer science students.

_____

Thank you!

Appendix - 8

Addis Ababa University

Institute of Language Studies

Dept. of Foreign Languages and Literature

(Graduate Program)

Questionnaire for English Teachers

The main purpose of this questionnaire is to collect information that would be helpful to determine computer science students' English language needs. This being the case, I would be grateful for your honest responses. Be sure for the confidentiality of the information. You do not need to write your name. Please attempt all the questions.

Thank you in advance!

1. English language skills required for academic studies.

How do you rate computer science students' ability in using language skills in their academic study?

5 = very good
4=good
3=average
2=poor
1=very poor

Type of skill	Perceived ability				
	5	4	3	2	1
a) speaking					
b) listening					
c) reading					
d) writing					
e) grammar					
f) vocabulary					
g) pronunciation					

2. Information about the current English course

2.1 Do you agree that the current English course be changed?

Yes ☐ No ☐

2.2 If your answer to the above question is "yes" how do you rate the importance of the following for course improvement?

5 = very much important
4 = much important
3= important
2= less important
1= not important

Items	Degree of importance				
	5	4	3	2	1
a. Topics/themes related to computer science					
b. Any topic/theme					
c. Vocabulary specific to computer science					
d. General vocabulary					

2.3 For each of the following questions, please circle the number that corresponds to your degree of satisfaction.

5= very satisfied 4= satisfied 3= undecided

2= dissatisfied 1= very dissatisfied

- How satisfied are you with:

2.3.1 The clarity of the aims of the existing English course?

5 4 3 2 1

2.3.2 The focus of the objectives of the existing English course on the development of the language skills?

5 4 3 2 1

2.3.3 The number of English courses offered to computer science students?

5 4 3 2 1

2.3.4 The attitude of students towards the course?

5 4 3 2 1

2.3.5 The relevance of the contents of the current English course to computer science students' academic needs?

5 4 3 2 1

2.3.6 The appropriateness of topics (themes) of the current English course to computer science students' academic needs? 5 4 3 2 1

2.3.7 The relevance of the vocabulary items of the current English course to computer science students' academic needs? 5 4 3 2 1

3. Please add any other comments which you think are relevant to the development of the English course for computer science students?

Thank you so much!

Appendix - 9

Addis Ababa University
Institute of Language Studies
Department of Foreign Languages and Literature
(Graduate Program)

Questionnaire for on-the-job computer science graduates

The main purpose of this questionnaire is to collect information that would be helpful to determine computer science students' English language needs. This being the case, I would be grateful for your honest responses. Be sure for the confidentiality of the information. You do not need to write your name. Please attempt all the questions.

Thank you in advance!

Personal Information

Qualification _____

Name of the organization _____

Your work experience _____

Your specific field _____

1. Information about the situation in which English is used by the on-the-job graduates of computer science

    1.1. Please give information on the importance of the following activities in your occupation and your perceived abilities in performing these activities in English (please put a tick mark (✓) according to the scale given below)

5 = very much important 4 = much important 3= important 2= less important 1= not important	5= very good 4= good 3= average 2= poor 1= very poor

Type of Activity	Degree of importance					Your perceived ability				
	5	4	3	2	1	5	4	3	2	1
1.1.1 Reading										
to check system failure										
memo (e.g. from system owner)										
users' requirement(e.g. to translate in to key words										
system proposal										
questionnaire (e.g. collected from system owners, end users, etc)										
computer science monographs										
program instructions										
computer language (e.g. c++, java, vv. net)										
system diagram										
the internet										
on how to prepare system manual										
proposal (e.g. to see if the proposed system works)										
flash messages										
letter through e-mail										
lists and news groups										

	5	4	3	2	1	5	4	3	2	1
others(please specify) _____										
1.1.2 Writing										
questionnaire(e.g. to end users, system owners, etc)										
memo (e.g. to clients, stake holders etc)										
system proposal										
to users' requirement (e.g. to translate in to computer key words)										
program instructions										
on E-R diagram										
programming codes										
during soft ware installation										
to develop web page										
to prepare system manual (report)										
codes (if there is a problem in coding)										
data in system testing										
letter through e-mail										
1.1.4 Speaking										
interview with customers (e.g. with end users)										
to report system proposal										
through telephone with people (e.g. system owners)										
others(please specify) _____										

	5	4	3	2	1	5	4	3	2	1
1.1.4 Listening to:										
interviewees' responses										
system proposal oral reports										
window media player										
real media player										
others (please specify) _____ _____										

1.2. Please give information on the importance of the following language skills in your occupation and your perceived abilities in these skills. Put a tick mark according to the scale given below.

5 = very much important 4 = much important 3= important 2= less important 1= not important	5= very good 4= good 3= average 2= poor 1= very poor

Type of skill	Degree of importance					Your perceived ability				
	5	4	3	2	1	5	4	3	2	1
a. Speaking										
b. Listening										
c. writing										
d. reading										
e. grammar										
f .vocabulary										
g. pronunciation										

Thank you!

Appendix 10

Structured Interview for Employers

The main purpose of this questionnaire is to collect information that would be helpful to determine computer science students' English language needs. This being the case, I would be grateful for your honest responses. Be sure for the confidentiality of the information. You do not need to write your name. Please attempt all the questions.

Thank you in advance!

Background Information

Name of your organization

Your responsibility in the organization

Qualification and field

Field of specialization

Interview Questions

1. What are the specific activities your computer science specialists (employees) carryout in English?
    - What do they read?
    - What do they write?
    - What do they speak?
    - What do they listen?

You can provide information considering each of the following computer science specialists.

- system analyst
- system designer
- programmer (system developer)
- implementer
- technical assistant (maintenance specialist)
- system tester

Declaration

I, the undersigned, declare that this thesis is my original work and it has not been presented for a degree in any other university and that all the sources of the materials used for the thesis have been duly acknowledged.

NAME: ABEBE ASRES

SIGNATURE: _____

PLAC: AAU: INSTITUTE OF LANGUAGE STUDIES

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