

CHAPTER I

INTRODUCTION

This chapter deals with the background, problem statement, objective, significance, and scope of the research.

A. Background

English for specific purposes (ESP), commonly known as English courses for students of non-English majors. Hutchinson and Waters (1987) say that ESP is an English language teaching approach where things are taught, and teaching methods are based on the reasons why the learner wants to learn English. Broadly, the ESP is divided into two: EAP (English for Academic Purposes) and EOP (English for Occupational Purposes). The purpose of EAP is learning English for academic purposes and needs. English for Academic Purposes (EAP) emerged in the early 1980s, “as a relatively fringe branch of English for Specific Purposes (ESP)” to meet the needs of internationalization of higher education, and has now grown into a major force in English-language teaching and research around the world (Liyanage, Indika and Wal ker 2014, Hyland, 2006). The EOP is learning English for the purpose or needs jobs and training. Dudley-Evans, T., & St. John, M. J (1998) adds that the ESP is actually built on the basis of English for General Purposes (EGP) and is designed to prepare learners of English used in disciplines and specific job in order to achieve certain goals.

Nobody argues that language knowledge is very important nowadays. It is not only reliable basis but also for better communication. Today it is the source of technological progress as it enables rapid exchange of information and research of common global problems. The development of language skills aims at active expansion of students' proficiency in English.

Professional areas (architecture, business, civil engineering, electronics, environment, management, etc.), texts should usually be focused on the communicative needs of the students of a certain higher schools. However, teaching/learning ESP includes much more than the teaching of English through specific material and content. Teaching ESP combines the development of linguistic skills together with the acquisition of specific information. Even homework assignment should be associated both with the specialty and with the skills mentioned. Previous studies have yet to provide evidence Khan (2011) stated that:

English for Specific Purposes is not a different variety of English in its nature. In the sense of linguistic terminology, ESP means, what learner needs in target situation or what he/she wants about his function of language usage or what are his/her needs according to his/her own views.

Critical understanding of the English for specific purposes (ESP) is in need of in-depth analysis derived from a specific type of purpose. ESP is generally defined as education for specialized English. As ESP is related to situated language usage, need analysis plays a key role in designing an ESP programme. Language Teachers for Specific Purposes have a lot in common with teachers of general foreign

language. For both, it is necessary to consider linguistic development and teaching theories, to have insights in contemporary ideas regarding their own position and role as well as the position and role of foreign language learners in education and to face new technologies offered as an aid to improve their methodology. Therefore it is essential to study the importance of teacher education in teaching ESP.

Educational technology as a concept and as a field of study has come of age. Nonetheless, its correct meaning has always posed a lot of problem for many people. Heinich, Molenda, Russel, and Smaldino (2002) recognized this fact and said that their efforts to explaining the meaning of educational technology started with their attempts to explain what the discipline is not. In almost all universities in Indonesia, for example, there is a compulsory course in Educational Technology for second-year students. The purpose is to raise their English proficiency in Educational Technology settings as well as to prepare them for successful communication in their future profession. After four years of study in vocational university and general English as well Educational Technology English, students have a professional understanding of internationally accepted business terms and their English level is sufficient to start the Educational Technology English course. It is an appropriate time in their university studies for them to embark upon English studies to meet their future needs. Since the Educational Technology English course runs parallel to those subject courses, students can relate their subject knowledge to the course context. For example, when students learn everyday uses the computers, type of computers, parts of computers,

input device, output device, networks, graphic and multimedia, etc, they relate those subjects with English for educational technology or english for computing.

The implementing of ESP courses in university is basically an attempt to answer the challenge on the one thing that the demands of the working world. ESP courses provide dual benefits.

The first is because the ESP is given at the time they are studying in accordance with the academic field of their interest, the students learn the English language directly in the context of their discipline both for the benefit of academic and non-academic. The academic interest here is capable of reading, listening, writing, speaking about matters relating to the content or the content of their discipline. As for the non-academic interests are interests outside their disciplines such as talking, reading, listening, writing in everyday life (daily needs). For example, talking with lectures, friends, write a short review, English-language news and many more.

The second advantage is in preparation for the world of work. As we all know, now English is a prerequisite looking for a job. Many job interview sessions require Test of English as a Foreign Language (TOEFL) or using English as the medium of instruction. This happens because the companies prepare themselves to be able to compete globally, especially in today's era of free trade. Not only in the interview session, but also in the execution of job duties in the company, English could not be separated for granted. The example is the work of the receptionist,

marketing, customer service banks/companies, technicians, programmers, journalists, lawyers, and others. ESP courses that they took when the “*Sarjana*” (*SI*) study period could give a key position to prepare them to work in many areas of expertise. The unique characteristics of ESP, namely the goal which adapted the learner is suitable to support the achievement of this dual role.

The dual benefits that can be provided by the ESP course this will be achieved if the maximum ESP implementation challenges can be overcome, at least be minimized. The challenges are situated at lecturers, materials, facilities, university policies, as well as ESP learners.

The first challenge lies in teaching. ESP lecturers at universities, in general, have several characteristics those lecturers who are young or new (junior lecturer) and inexperienced. New lecture faces many challenges, namely adaptation of teaching in higher education, teaching ESP adaptation that should differ from EGP. New lecturers naturally have difficulty in teaching because teaching, in university, maybe a new thing for them. Pedagogic maturity, emotional, length of time needed for the preparation of teaching in different departments with their science, demanding preparation is not trivial. In addition, many young lecturers also do not know the character of ESP courses which differ from EGP. This effect on the material, learning objectives, and methods which the sequel will result in ESP learning target. The other challenge faced by teachers is the excessive teaching load. In addition to ESP teaching, the teacher is also a lecturer at other departments or universities that

administer a wide range of subjects. Teaching load which is excessive resulting in the achievement of learning objectives of ESP will not be optimal because the lecturers are too tired so that the quality of teaching was at stake.

The second challenge is the material. The fact that some commercial textbooks available on the market are not suited to the needs of different learners in every university, every school year, and each class (Anthony, 1997). Moreover, the existence of matter is also unbalanced. For some majors, the textbook is very easy to find because of the large target market. Examples are the major of economics, law, agriculture, medicine, and others. But there is also the department / study program that difficult to find textbooks on the market such as the major of history, Indonesia literature. Furthermore, an alternative variation of the textbook is still rare. Searching the online catalog of books in various libraries ESP universities in Indonesia do not show encouraging results. These material availability issues become important for two reasons. First, because most lecturers do not have time to prepare materials for teaching load excess and lack of information about the characteristics of the ESP. Both because of the textbooks for learners actually the impression that learning ESP done seriously, and not just for a sweetener in the curriculum. For lecturers, textbook also serves as a major source of inspiration in teaching, even the curriculum itself (Garinger: 2002). In Indonesia, and certainly in STKIP Muhammadiyah Rappang, the availability of materials is a serious challenge; especially when the materials provided by lecturers sometimes do not succeed reflecting the learning objectives. This case if

left unchecked will lead to the position of ESP courses are increasingly underestimated by the learners themselves because of the lack of seriousness of teaching that can lead to low motivation to learn because learners do not know the usefulness of the use of such material for them both when they were in university and when they graduate later.

The third challenge is the institutions' policy. The policy of this institution includes two things: the system on curriculum and facility policy. In learning, the curriculum is teaching guides designed according to the vision and mission of the university courses where learners are. The curriculum reflects the learning objectives that constructed in such a manner and in tune with the needs so that the learner can produce competent graduates. The ESP Curriculum in STKIP Muhammadiyah Rappang is not clear decanted. This is because most of the lecturers do not know the vision and mission of teaching a course in which the ESP, so that instructional design of ESP in major has not been realized. Need analysis is rarely done, so the goal of ESP is not on target. In addition, the policy regarding the type of ESP curriculum also not clearly defined; whether to accommodate ESP or EGP. Policymakers should immediately take such a decision about English learning in universities. During this time the English language is given to the student by the name of ESP, but it reflects the EGP. This decision is related to the vision, mission and university courses and readiness support facilities, infrastructure, as well as the custodian of course English.

All facilities in ESP course are necessary given the dual benefits expected by the institution.

The fourth challenge is learners/students of ESP. This challenge includes two things: for the entry-level proficiency learners and learner motivation. Dudley and Evans (1997) suggest one additional characteristic of ESP: ESP is intended for learners with language skills and advanced intermediate level. ESP is built on the foundation of EGP so that learners of ESP are expected to have sufficient English language skills already and to be able to follow the ESP in accordance with the objectives and needs. However, the fact remains that the majority of English proficiency in STKIP Muhammadiyah Rappang is still at the level of beginner and post-beginner. This is from the English language test results from the admission of new students to the Educational Technology program STKIP Muhammadiyah Rappang (the last four years) as follows:

Table. 1.1 The English language test results in admissions of new students of educational technology program STKIP Muhammadiyah Rappang

No.	Entry year	Number of Students	Mean score
1.	2011	87	50.87
2.	2012	120	61.11
3.	2013	97	43.21
4.	2014	83	67.09

5.	2015	105	58.34
6.	2016	120	61.62

(source: New admissions committee of STKIP Muhammadiyah Rappang)

This result is not achieving the learning needs which have been set at the beginning of learning because teachers still need to improve and enhance the learner's ability to achieve proficiency in ESP. Furthermore, the higher percentage of students who are at the beginner level, then the English language learning model cannot be implemented with ESP models but EGP. This is certainly not the same as the vision and mission of teaching required by the study program. As a result, the gaps between the achievement of learning objectives and learning facts too wide. It is suspected because learners cannot find a practical advantage to learn English according to their field of interest. Motivation to learn in this problem is one of the effects of the various challenges that have unraveled in the previous points. The challenges mentioned above must be solved for the good and progress of the various parties. Good synergy between the university - students - and stakeholders is needed. The synergy that can be done in the form of attention to the development of materials or ESP textbook for various departments / study programs in STKIP Muhammadiyah Rappang.

The development of teaching material is also extremely helpful ESP course. Materials or textbooks that are developed are expected to improve the effectiveness and efficiency of teaching so that target oriented as well as assist the lecturers to

adapt the model ESP teaching and be teaching load. In what semester ESP should be given should be considered by the curriculum designers. This is because at least ESP courses require learners to be at intermediate level. Giving ESP courses in the first to second semester (I-II) are less able to help achieve the goal of learning entry level English considering that the average learner is at the end of the beginner level. In addition, knowledge of their program of study, the characteristics of their course of study generally is inadequate at the beginning of the semester. Learners understanding their major's field is necessary and has a great relationship with the learning success of ESP courses. The more they know the various issues related to their major field, the more they are against the ESP courses. This happens because many students understand and believe that ESP provides practical benefits for those that can boost learning motivation. Therefore, ESP should be given when the learner is in the third and sixth semester.

Educational Technology is one of the courses that offered at the *Sekolah Tinggi Keguruan dan Ilmu Pendidikan (STKIP) Muhammadiyah Rappang*, which is located on *Jalan Angkatan 45 No. 1A Salo Lautang Rappang, Kecamatan Pancarijang, Kabupaten Sidenreng Rappang*.

The vision of this program is in 2020 able to produce the professional technocrats, Islamic spirit, and have a global perspective. This program covers three missions: (1) creating an Islamic scholar, (2) creating scholars proficient in computer technology, photographer, and video or audio, (3) creating scholars who are capable

of designing instructional media and providing solutions in learning problems. To strengthen the vision and mission, this program arranges four purposes: (1) bringing in Educational technologists who are able to design, develop, utilize and manage, and evaluate programs, processes and products of education/ learning and training. (2) Bringing in educators who are masters in information, communication, and technology (ICT) and multi-media in primary and secondary education. (3) To produce educationists as curriculum developers, managers or technicians learning resources - including the school library, and administrative personnel who master the information, communication, and technology. (4) Generally academic work through research and development activities in the field of technology education/learning.

This educational technology program expands the task of developing the science education curriculum dimension and the dimension of educational technology. Dimensional development curriculum includes sub-dimensions philosophical foundation, sociological, psychological, cultural, methodological, approaches and evaluation. The development of educational technology dimension includes the sub-dimensional components: utilization, management, development, and evaluation of all sources of learning for the sake of increasing the effectiveness and efficiency. The educational technology department has been developed several times to amend the curriculum for anticipatory measures, improvement, and adjustment of majors competence in meeting the demands of society, the world of work and industry, and education. The subject continuously influenced by the

environment setting significant to the formation of cultural and academic atmosphere, which in turn affects the characteristics of the Educational Technology program.

Along with the development of the era, demanded the human resources are superior, intelligent, creative and productive in order to compete at the global level. Various things are done as an effort to increase the competitiveness of the nation. One of them is in the field of education by conducting bilingual learning that uses two languages, mostly English and Bahasa Indonesia. Expectations with this bilingual learning are to produce graduates who have Indonesian personality but have international capability. The success of bilingual learning, of course, must be supported by a good learning system, learning tools, and facilities that can support the implementation of bilingual learning itself. Without the appropriate learning tools, the characteristics of the applied learning will fade. The bilingual learning tools used at the moment have not been able to optimize bilingual learning. The learning book in English subject in the educational technology department is used fully in English.

This causes students not fully motivated to learn. According to observations, students tend to be lazy to learn English material, because it is considered difficult to learn. Students prefer to study Indonesian language materials, regardless of English material. This causes the use of bilingual books to be less than optimal. Therefore it is necessary to create a bilingual textbook that does not translate teaching materials from English to Indonesian, but a book that can make students and teachers able to apply bilingual learning, which is a book that presents teaching materials using

English and Bahasa Indonesia integrated with respect to the model and position of the translation.

The development of bilingual learning material is very important for bilingual science teaching as it can be used to develop both native language and second languages through reading and writing activities (Semingson et al., 2015 cited in Situmorang, at. Al. 2015). Bilingual learning material in the format of textbook or module provide learning instruction that can help the student to study science (Mantzicopoulosm & Patrick, 2011; Terrazas-Arellanes et al., 2013; Wood & Lewthwaite, 2008 cited in Situmorang, at. Al. 2015), or mathematics (Lim & Presmeg, 2011; Zahner, 2015 cited in Situmorang, at. Al. 2015). These are in line Hakuta and Diaz, 1985; Gelderen et al., 2003; Karimi and Kabiri, 2011; Tafaraji, Maryam Yeganeh, at. al. 2015, where the stated that the bilingual-based materials are very helpful for students in the learning process especially in achieve their language acquisition.

Bilingualism is the ability to communicate in two different languages. Bilingual education is the use of two different languages in classroom instruction. Garcia, et.al (2011) state that Bilingualism is the ability to communicate in two different languages. Most of the materials are served in two languages because students' language proficiency is sufficiently advanced. All the dialogues in the textbook are recorded from information, communication, and technology (ICT) contexts. Meanwhile, the reading texts are samples from international company

brochures and newspapers, not written for language teaching purposes. Nevertheless very interesting for the learners due to their relevance to the bilingual-based instruction they study at university levels. It is possible to conduct a pre-course needs analysis directly with the participants through questionnaires and informal discussions and interviews. Course evaluation can be done by means of tests, student feedback, teacher self-reports, and documents. Before the course starts, students have acquired specific bilingual-based knowledge. From the first semester to the second semester, they take a compulsory general English course, and most of them have passed the University English Test at the end of each semester. Then from the third semester, learning Educational the Technology English course serves as the bridge between their professional knowledge and their English proficiency to further develop their English competency in the real context. The overall aim of the course is to fully prepare the students for their future career because after the graduation they are likely to seek employment in international companies or in joint-venture enterprises. Before recruitment, resumes are sent out to companies and interviews are conducted, therefore; job application constitutes a vital part of the course. In their future business career, they may find themselves working in a company where English is widely spoken, and written communication is done, or using English as a medium of communication with other people from all over the world.

Along similar lines, Baker (2006: 68) argues that bilinguals are present in every country of the world, in every social class and in all age groups. Numerically,

bilinguals are in the majority in the world: it is estimated that they constitute between half and two-thirds of the world population. The bilingual population of the world is growing as international travel, communications and mass media, emigration and a planetary economy create a global village. Bilingual students also get a great social advantage over team-mates their language. Balanced bilinguals are more comfortable in a multi-cultural environment and a more tolerant and open to people, cultures, and languages.

The underline theory of bilingualism is also explored by Basri, at. al. (2018) as a result of research about the parental attitudes and approaches on Indonesian families to support their children L1 and L2 literacy practices and bilingualism in Australian home context. The research results demonstrate that more inspired and complex the parents were in the way to support the development of biliteracy and bilingualism at the Australian Indonesian families, and opening up space for engaging and learning biliteracy and bilingualism, better the instantaneous results of the biliteracy and bilingualism outcomes of the children were.

To create an effective learning activities, it is necessary to process the planning or good design. In line with the learning activities using the media stated by Smaldino, at. al, (2002) a model of instructional design system named ASSURE (A = Analyse Learners, S = State objective, S = Select methods and Materials, U = Utilize material, R = Require learner participation, E = Evaluate and revise). Just like other instructional systems design model, this model was developed to create learning

activities which are effective and efficient. In this study, the researcher tries to combine a development model of teaching based on bilingual materials for ESP course in educational technology.

In response to these problems, it is important to help students adapt to today's competitive society, meaning that vocational schools and universities even certain faculties of universities need to design ESP courses that can best prepare learners for future professional communication, not just presenting general English for the sake of passing the examination on the English subject. Designing a new ESP course involves issues such as what to teach, how to teach or where to start. Based on an integrated approach, this research puts forward a sample ESP course framework and critically analyzes the core elements of ESP course design through Bilingual-based materials of English for Educational Technology: target needs; learning needs; syllabus; instructional materials; and finally, assessment and evaluation.

B. Problem Statement

Based on the background above, the researcher focused on the formulation on the theoretical question "How is the bilingual based approach materials developed for English of Educational Technology." From the core question above, the researcher formulated three problem statements as follow:

1. How are the learning needs developed based on bilingual-based approach materials of the students of Educational Technology?

2. How are the target needs developed based on bilingual-based approach materials of the students of Educational Technology?
3. What are the appropriate English learning materials for students of Educational Technology developed based on bilingual-based approach materials?

C. The Objective of the Research

In relation to the problem statements above, the objectives of the research are:

1. To identify and analyze the learning needs of the students of educational technology developed based on bilingual-based materials.
2. To identify and analyze the target needs of the students of educational technology developed based on bilingual-based materials.
3. To develop the appropriate English learning materials for students of Educational Technology developed based on bilingual-based materials.

D. The Significance of the Research

The results of this research are expected to have a theoretical and practical contribution. Theoretically, this research can give more benefit to languages teaching and learn in some universities, especially educational technology, i.e.

1. The process of teaching and learning ESP at educational technology
2. The application of ESP syllabus design, instructional materials at educational technology through bilingual-based materials.
3. The effort to motivate the students of educational technology in learning ESP.
4. Human resource development in English language communication skills.
5. The results of this research hopefully will be useful and helpful information, syllabus, lesson plan, and materials of English for Educational Technology.
6. To produce the instructional materials based on bilingual which can give contribution in fostering ESP course especially in educational technology department.

E. The Scope of the Research

It is assumed that once identified; needs can be stated in terms of goals and objectives which in turn can serve as the basis for developing; test, materials, teaching activities, syllabus, evaluation strategies. But in this research, the researcher only focused his attention on need analysis (learning needs and language needs), syllabus design, and instructional materials in English for educational technology through bilingual approach.

This research, by discipline, is under the study of English for Specific Purposes (ESP). It is specified on fostering students of educational technology English proficiency through Bilingual-based materials development.

By content, this research was emphasized on developing students' English proficiency in two languages for students in educational technology department through bilingual-based materials on reading skills. In essence, ESP course aims to provide English proficiency for students as well as the basic needs of the future work demands and the approach of course design which applied this research is Learning-Centred Approach based on Hutchinson and water (1987).

By activity, the researcher developed bilingual-based materials, that are, designing syllabus design, and instructional materials in English for educational technology (EET). This research combines two approaches to the research namely: qualitative and quantitative data collection to explore the situation before conducting research and development (R&D) where the students would be treated with bilingual-based materials developed

By location, this research would be conducted in STKIP Muhammadiyah Rappang, which have Educational Technology Department as the direction of development of this research instruction, as the researcher would do.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter deals with the previous related studies, some pertinent ideas, resume, conceptual framework, and research hypothesis.

A. Previous Related Studies

This part presents some research findings undertaken by some previous researchers in the part of Bilingual materials and ESP course design.

Situmorang, et.al (2015). The development of innovative chemistry learning material for bilingual Senior High School (SHS) students in Indonesia is explained. The study is aimed to obtain an innovative chemistry learning material based on national curriculum in Indonesia to be used as a learning media in the teaching and learning activities. The results showed that the performance of developed chemistry materials is categorized as very good. The developed learning material is found effective to be used in teaching and learning process, and be able to motivate the students to learn chemistry. The facilities provided in the material are adequate to guide the student to study chemistry independently that make learning activities moving from teacher center learning become students center learning.

Tafaraji, et al (2015). In their research found that reading skill has been noticed by the majority of Iranian English teachers and learners because of its importance in promoting language use and success in understanding authentic

materials. Due to this fact that bilingualism and multilingualism have been increased around the world, most of the researchers investigated the impact of bilingualism in learning English. The aim of this study is to find the effect of bilingualism on learners reading ability. After treatment, the result revealed that reading skill was statistically significant in bilingual students, in comparison with monolingual counterparts. The findings of this study have various implications for language teachers and policymakers to provide bilingual students with optimal teaching and learning opportunities.

Pfefferle and Thomas (2017) found that, in the context of bilingual modules (BM) in the German educational system, English is used as the medium of communication in certain time-limited thematic units, where the topic offers itself to be taught in a foreign language. These BM can be implemented in most school subjects and are well suited for project work. An advantage of bilingual education and BM is that students are exposed to the many benefits of being able to communicate in English, promoting their motivation to learn the language and allowing them to acquire scientific English. Since not all German schools offer bilingual chemistry streams, carefully selected BM can serve as a way of exposing students to scientific English as well as the benefits of bilingual education. A potentially promising concept of learning that could be used as a base for the educational design of BM is Lave and Wenger's situated learning. The concept is based on the "situated character of human understanding and communication" and

promotes learning as participation in a community. Thus the paper's scope focuses on the advantages of BM and gives a concrete example of how the application of the principles of situated learning can provide a learning context, in which the use of English in a chemistry classroom can make sense. Furthermore, the paper shows how bilingual models can develop intercultural, scientific and linguistically competences.

Atef, et.al (2010). This research identified the petroleum engineering students' English language needs in terms of the frequency of their use of English language skills, their English language lacks, the importance of these skills, and their English language wants. In addition, the study illustrated the students' perceptions of the current English language course and what course they preferred to take. The research found that proficiency in English is serious and does need to be treated urgently. This is because, as in many countries, in Yemen, the English language is an essential requirement in the academic domain and the workplace. In addition, English language courses taken by petroleum students did not enable them to use English effectively. Thus the students do need assistance based on their needs and want.

Huang (2012). Academic English writing has become essential because of the fast development of Chinese economy. The results showed that first, the genre-based approach could be a good model because participants can understand the function of the academic research article well and the patterns from each move of the research article can help the graduates' writing effectively; second, participants' improvement in their writing and speaking for academic purposes is obvious through

interactive learning by means of QQ2; and third, the time to run this course is essential because the graduates' research experiences may help them better understand research article writing. This article concludes that the genre-based approach, coupled with appropriate interactions, can enhance students' motivation in writing and speak for academic conference publications.

Huang (2013). The aim of this study is to shed light on teacher training in a Business English course, co-taught by an industry expert and an ESP teacher for one semester. Students were found to appreciate the field expert for increasing their exposure to the business industry culture and for sharing real-world professional knowledge. Learning about the field expert's working experiences helps students to develop awareness of industry values and reduces their anxiety regarding their future career development. The ESP teacher also appreciated the opportunities to acquire business knowledge and understanding of business practice from the co-teacher and reflected upon the roles and needs of ESP teachers.

Hsiao-I Hou (2013). This work investigates culinary arts majors' learning, and target needs to improve an existing ESP curriculum at a hospitality-specialized institution in Taiwan. Their work suggests that a needs analysis should use multiple methods and multiple sources. Through documentary analyses, questionnaires with culinary arts majors including sophomores and seniors with internship experience, and interviews with an ESP instructor, a senior student, and a chef, this multi-faceted investigation has led to a deeper understanding of the English communication needs

placed on culinary arts majors and this industry in Taiwan. The results show that there are some significant differences between learning needs and target needs. The problems of the current ESP program are also identified. A curriculum design model is proposed based on the research results.

Sajadi, et.al (2011). The study also reported helpful information about both the students' subjective needs and the teachers' objective needs. Findings indicate that in terms of reading comprehension, grammar, and partly technical vocabulary, there was alignment between the instructors' objective needs and the students' subjective needs. However, writing skill, which was among the major subjective needs, was deemed a minor objective need and requires particular attention on the part of instructors. Applying materials directly related to the learners' branch of study was another significant subjective need mentioned by the students. Some of the subjective needs, such as using updated technical materials, motivating learners, increasing classroom activities, and not overemphasizing literal translation, were among the needs that could be easily met by the instructors through the ESP course. However, some of the subjective needs, such as developing listening comprehension, improving speaking, and enhancing general English proficiency, required more time and consideration. Finally, in order to improve the ESP course, researchers propose that the official administrators play a more active role in the course design and reconsider the current ESP programs. They ought to develop particular curricula for various fields of study and review the syllabus design, teaching methodologies, and

instructional materials in order to enhance the instruction efficiency. Also through an ongoing assessment of the students' needs and teachers' opinions, they would satisfy both students' and teachers' needs and diminish the discrepancies between these two groups.

Based on previous findings, the researcher concludes that this research relates to all the previous studies especially in aspects of teaching language in ESP course design, bilingual education, and material development. The difference between this research and some researchers above are in the use of two languages in ESP course (English for educational technology), that is, Indonesian, and English. Besides, it also to develop ESP course design through Bilingual-based materials of English for Educational Technology: learning needs; target needs; syllabus; instructional materials; and finally, assessment and evaluation that appropriate to Educational Technology context and vision in universities.

B. Some Pertinent Ideas

This part describes the review of the concepts of ESP, English for educational technology, and Bilingual-based materials. It also consists of the concepts or theories, which are closely related to material development that covers need analysis, curriculum, syllabus, lesson plan, and materials.

1. English for Specific Purposes (ESP)

Before the researcher describes and explains the important parts of the concept of English for the educational technology itself, first the researcher tries to classify the origin of English for educational technology which is sorted from the concept of ESP itself.

a. What is ESP?

Definitions of ESP in the literature are relatively late in time if we assume that ESP began in the 1960s. Hutchinson and Waters (1987) define ESP as an approach rather than a product – meaning that ESP does not involve a particular kind of language, teaching material or methodology. The basic question of ESP is: Why does this learner need to learn a foreign language? The purpose of learning English became the core.

Strevens' (1988) definition of ESP makes a distinction between 1) absolute characteristics (language teaching is designed to meet specified needs of the learner; related in content to particular disciplines, occupation, and activities; centred on the language appropriate to those activities in syntax, text, discourse, semantics, etc., and analysis of the discourse; designed in contrast with General English) and 2) two variable characteristics (ESP may be restricted to the language skills to be learned, e.g., reading, and not taught according to any pre-ordained methodology).

Robinson's (1991) definition of ESP is based on two criteria: 1) ESP is normally 'goal-directed', and 2) ESP courses develop from a needs analysis which aim to specify what exactly it is that students have to do through the medium of English, and a number of characteristics which explain that ESP courses are generally constrained by a limited time period in which their objectives have to be achieved and are taught to adults in homogenous classes in terms of the work or specialist studies that the students are involved in. The fact that learners know specifically why they are learning a language is a great advantage on both sides of the process. The learners are therefore motivated, and this enables the teacher to meet learners' needs and expectations more easily. Learner and the way of learning (acquiring language) are considered to be the main factors in the whole process.

Hutchinson and Waters (1987: 19) emphasize ESP to be an approach and not a product that means language learning, not language use is highlighted. They draw attention to a learning-centred approach "in which all decisions as to content and method are based on the learner's reason for learning."

From everything said, we can see that some of the qualities of ESP as one of the ELT branches include that:

1. ESP has specific needs.
2. ESP has content related materials.

3. ESP is centered on particular language function, skills (listening, speaking, writing, and reading); English components (grammar, pronunciation, vocabulary) or activities.
4. ESP is learner-centered.
5. ESP is perceived as relevant by the learners.

b. The Tree of ESP

Hutchinson & Waters, (1987) stated that ESP basically emphasizes a language-centered approach and to define ESP, we need to create a context on how ESP is currently associated with other ELTs. At a time that Linguistic respects, we must represent the relationship in the form of a tree. They represent some general divisions made in ELT. The uppermost branch of the tree indicates the rate at which individual ESP courses occur. This level is divided into two main types of ESP according to whether students need English for academic studies, they are EAP (English for Academic Purposes for work training) and EOP, EVP, VESL (English for Work Objectives / English for Purpose Vocational / Vocational English as a Second Language). At the next level, the ESP course is distinguished by the general nature of the learners' specialism. Three categories are identified here: EST (English for Science and Technology), EBE (English for Business and Economics) and ESS (English for Social Sciences).

The next level, we can see that ESP is just one branch of EFL / ESL which is the main branch of English teaching in general. ELT is one of the many possible types of language teaching. As we know, trees cannot survive without roots. In this case, the root that nourishes the ELT tree is communication and learning. The tree analogy shows us what it ESP does. Here they are (Hutchinson & Waters, 1987):

1. ESP is not a teaching problem of " special varieties " because it is used for a particular purpose. There are some features that can be identified as " typical " from a particular usage context, and which, so, learners are more likely to meet in the target situation.
2. ESP is not just a matter of science and grammar for scientists, soon. When we see the tree, in fact, there are many hidden from the view inside and under the tree even though we know the leaves and branches. They are supported by a complex base structure. The point is that we need more communication than just the surface features of what we read and hear and also we need to distinguish between performance and competence in terms of what people actually do with the language and extent of knowledge and ability that can enable it. to do it
3. ESP is no different from other forms of language teaching. It is based on effective and efficient learning principles. Although the content of the learning is different, the learning process should be different for ESP learners rather than the general English learner.

ESP differs from the ELT form because ESP should be seen as an approach, not as a product. ESP is not a particular language or methodology, nor does it consist of a particular type of resource. ESP is a language learning approach, based on the needs of learners. Thus, we conclude that ESP is a language teaching approach in which all decisions about content and methods are based on the learner's reason for learning.

In conclusion, the main factor of ESP's origin is that Linguistic factors dominate the development of ESP that focuses on the particular nature of varieties of language use. In the ELT tree, this shows that they are primarily concerned with communication and learning. ESP is not a language product but rather as a language teaching approach directed by specific and clear reasons for learning.

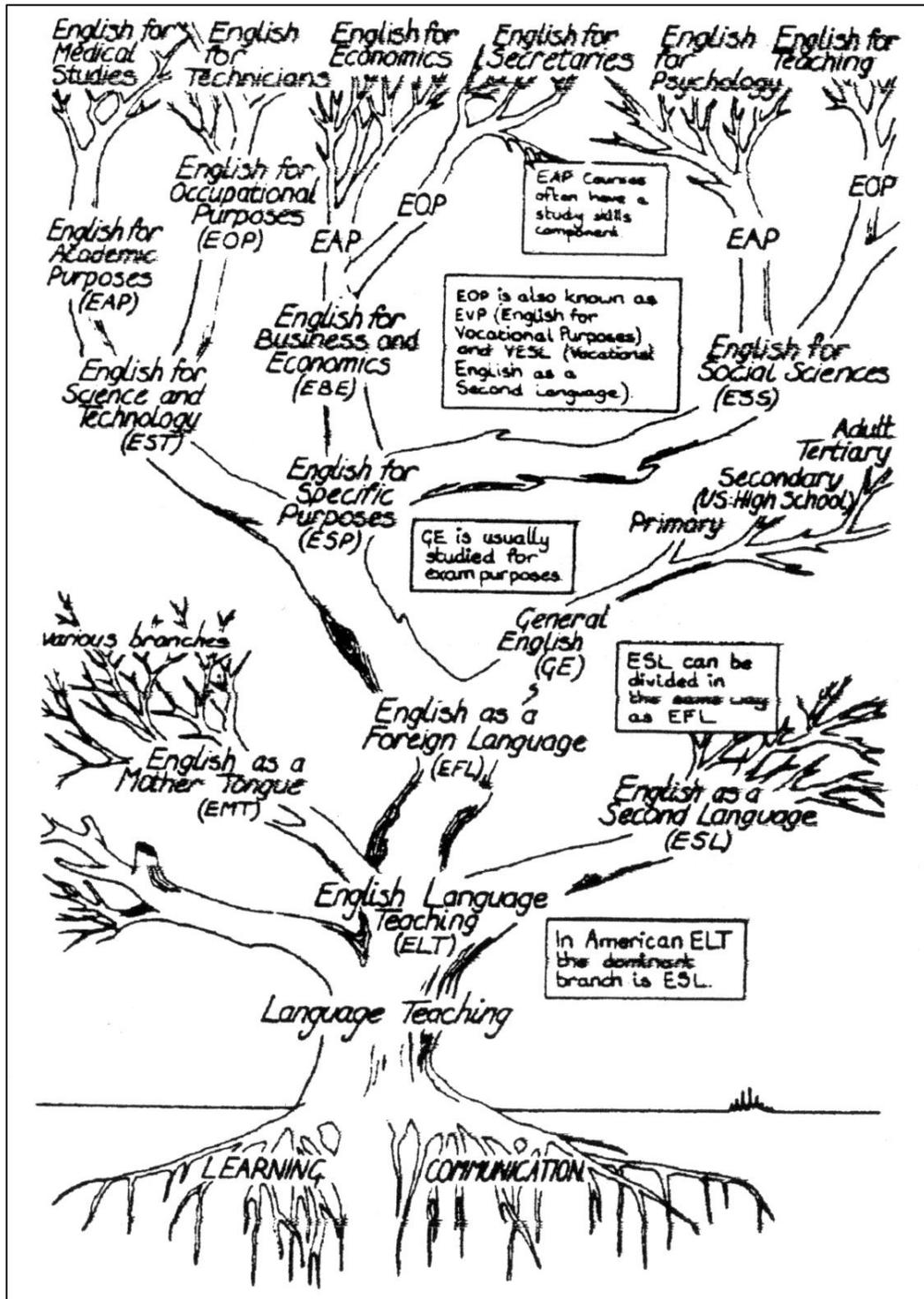


Figure 2.1 The Tree of ESP (Hutchinson & Waters, 1987: 17)

c. Characteristics of ESP

We have established the relationship between ESP and ELT. Now you will be informed about some characteristics of ESP. ESP is seen as an approach by Hutchinson and Waters (1987). They suggest that ESP does not concern a particular language, teaching methodology or material. If you want to understand ESP, they suggest that you find out exactly why a person needs to learn a foreign language.

Strevens (1988) makes a distinction between absolute characteristics and variable characteristics of ESP. The absolute characteristics are that ESP courses are:

1. designed to meet the specific needs of the learner;
2. related in content to particular disciplines or occupations;
3. centered on language specific to those disciplines or occupations;
4. in contrast to General English.

The variable characteristics are that courses may:

1. be restricted in the skills to be learned;
2. not be taught according to a particular methodology.

Robinson (1991) also suggests two absolute criteria for defining ESP courses. The first is that ESP programmes are normally goal-oriented. The second is that they derive from a needs analysis. The needs analysis will state as accurately as possible what the learners will have to do when speaking the language.

This description helps to clarify to a certain degree what an ESP course constitutes and what it does not constitute. Dudley-Evans and St. John have removed the absolute characteristics that “ESP is in contrast with General English” and added more variable characteristics. They assert that ESP is not necessarily related to a specific discipline and that it is likely to be used with adult learners although it could be used with young adults in a secondary school setting. ESP should be viewed as an “approach” to teaching, or what Dudley-Evans describes as an “attitude of mind.”

Other characteristics are that ESP courses are generally limited to a certain time and that they are taught to adults in classes that are homogeneous in terms of the work or study that participants are doing. However, Hutchinson and Waters (1987) do not emphasize any concrete limits of students’ level or age; they emphasize learners’ individual needs and specialist knowledge of using English for specific purposes. Although there exist several aims and different purposes why learning English, the way of learning may be the same.

There are a number of other characteristics of ESP that several authors have put forward. Belcher (2006: 135), states that “ESP assumes that the problems are unique to specific learners in specific contexts and thus must be carefully delineated and addressed with tailored to fit instruction.” Mohan (1986: 15) adds that ESP courses focus on preparing learners “for chosen communicative environments.”

Learner’s purpose is also stated by Graham and Beardsley (1986) and learning centredness (Carter, 1983; Hutchinson & Waters, 1987) as integral parts of

ESP. Thus, it could be argued that ESP, from the outset, focused on learner-centred teaching, a situation that was certainly not true of traditional general English courses. As stated above, however, this situation has changed dramatically in recent years.

Lorenzo (2005) reminds us that ESP “concentrates more on language in context than on teaching grammar and language structures.” The researcher would agree with him but would argue that grammar still plays an important and necessary part of an ESP course. He also points out that as ESP is usually delivered to adult students, frequently in a work-related setting (EOP), that motivation to learn is higher than is usual in English as Second Language (ESL) contexts. Carter (1983) believes that self-direction is important in the sense that an ESP course is concerned with turning learners into users of the language. Thus ESP played an integral role in communicative language teaching.

To sum up, there are three features common to ESP: (a) authentic materials, (b) purpose related orientation, and (c) self-direction. These features are indeed useful in attempting to formulate one’s own understanding of ESP. Revisiting Dudley-Evans’ (1998) claim that ESP should be offered at an intermediate or advanced level, one would conclude that the use of authentic learning materials is entirely feasible. The use of authentic content materials, modified or unmodified in form, is indeed a feature of ESP, particularly in self-directed study and research tasks. Purpose-related orientation, on the other hand, refers to the simulation of communicative tasks required of the target setting, for example, student simulation of a conference,

involving the preparation of papers, reading, note-taking, and writing. Finally, self-direction is characteristic of ESP courses in that the point of including self-direction is that ESP is concerned with turning learners into users. In order for self-direction to occur, the learners must have a certain degree of freedom to decide when, what, and how they will study. There must also be a systematic attempt by teachers to teach the learners how to learn by teaching them about learning strategies (Hutchinson & Waters, 1987; Dudley-Evans, 1987 & 1998; Shohamy, 1995; Douglas, 2000).

Each of these definitions has validity but also weaknesses. Considering Hutchinson and Water's definition, Anthony (1997) noted that it is not clear where ESP courses end and General English courses begin because numerous non-specialist ESP instructors use ESP approach in that their syllabi are based on analysis of learner needs and their own specialist personal knowledge of English for real communication. Strevens' definition, by referring to content in the second absolute characteristic, may confirm the impression held by many teachers that ESP is always and necessarily related to subject content. Robinson's mention of homogeneous classes as a characteristic of ESP may lead to the same conclusion. However, much of ESP work is based on the idea of a common-core of language and skills belonging to all academic disciplines or cutting across the whole activity of business. ESP teaching should always reflect the underlying concepts and activities of the discipline. Having all these on the mind, Dudley-Evans and St John (1998) modified Strevens' definition of ESP:

1. *Absolute characteristics:*

a) ESP is designed to meet specific needs of the learner; b) ESP makes use of the underlying methodology and activities of the disciplines it serves; and c) ESP is centered on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.

2. *Variable characteristics:*

a) ESP may be related or designed for specific disciplines; b) ESP may use, in specific teaching situations, a different methodology from that of general English; c) ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation; it could be used for learners at secondary school level; d) ESP is generally designed for intermediate or advanced learners, and e) Most ESP courses assume basic knowledge of the language system, but it can be used with beginners.

d. ESP Course and Syllabus Design

The terms "syllabus," "syllabus design" and "curriculum" have given rise to confusion in terms of their definitions and use. According to Stern (1990), the field of curriculum studies is part of the discipline of educational studies. In its broadest sense, it refers to the study of goals, content, implementation, and evaluation of an educational system. In its restricted sense, curriculum refers to a course of study or

the content of a particular course or programme. It is in this narrower sense of curriculum that the term "syllabus" is employed. According to Stern, "syllabus design" is just one phase in a system of interrelated curriculum development activities.

1) ESP Curriculum

ESP curriculum is rather different than the one in General English. In ESP curriculum, the objective or goal is more to the practical aspect: applying the language in a job-specific related-situation. Corresponding to this goal, ESP requires a curriculum which facilitates the use of English language in a job-related-situation.

This curriculum contains the following aspects (besides the other core aspects of the curriculum such as goal and syllabus):

- (a) Specific task, vocabulary, and language in context (Higgins in Swales, 1988),
- (b) The starting point based on the learners' background knowledge,
- (c) Operational, communicative, and notional syllabus,
- (d) Learner-centred.

In the first aspect, the specific task, vocabulary, and language in context need to be taught because ESP learners aim to use the language in their own field. If the ESP students get other aspects of language learning instead of the specific task, vocabulary, and language in context, they will first spend too much time in learning

English (whereas usually ESP courses are held in ‘urgency’ basis—for a specific purpose and limited time) yet inefficiently.

The next question is where do you start the lesson in ESP? What is the benchmark? The starting point for the ESP lesson is based on the learners’ background knowledge (how much they have already known English and to what practical extent: speaking, reading, listening, writing). Then, the Operational, communicative, and notional syllabus is the kind of syllabus fitting the ESP setting. The students of ESP usually have a more realistic expectation in learning the language (e.g., to be able to read a manual book of a new machine which has just arrived) compared to their fellow university students who learn English for academic reason.

Finally, the ESP curriculum and its syllabus have to be learner-centered, which means all the teaching-learning activities are focused on the learners’ need and progress. The ESP teachers are true ‘facilitators’ or the resource-people who are expected to facilitate learning and not only lecturing. As P’Rayan (2008: 55) argues:

One of the hallmarks of English for Specific Purposes (ESP) was that English Language Teaching (ELT) should be learner-centred, i.e., it should respond to the language needs of the learner. In this view, each language-learning situation is unique and should be thoroughly studied and delineated as a prerequisite for the design of language courses. With the spread of communicative language teaching (CLT), much emphasis in the second language (L2) methodology has been paid to the learner-oriented instruction.

This last point trait of ESP curriculum, learner-centered curriculum, leads to the need of need analysis in ESP courses. Having understood what the terms "curriculum" and language "syllabus" refer to, the next step would be to come to terms with what language "syllabus design" encompasses.

2) Syllabuses

(a) Types of Syllabuses

The design of a syllabus a teacher adopts is dependent on the needs it is meant to serve. Various types of syllabuses can be designed to serve different needs. Before we go into the different types of syllabuses, let us first of all look into the two kinds of syllabus sequencing known as "Linear" and "Spiral" Syllabuses.

Linear Syllabus: Most language courses, especially in the past, were usually "linear" whereby new points are strung along in a line, and each point was completely utilized before moving on to the next. That is, Language items like grammar and vocabulary etc. are presented once.

Cyclic or Spiral syllabus or Language items are presented more than once. For example, if the course has 24 units, every Unit is composed of 4 lessons including language items and the fourth Unit is always a revision. Revision is cyclic which is better. It helps learners to learn more on the general level. The "spiral" syllabuses have greater pedagogical and psychological advantages; they are more difficult to organize. That could be the reason why "linear" syllabuses are more readily found.

A syllabus can also be external or internal to the learner. While external syllabus exemplifies external specifications of the future learning, internal syllabus shows internal constructs developed by the learner. The external syllabus is interpreted when the course designer has input to make in the designing of the syllabus but uninterpreted if otherwise. Syllabus types can be grouped under interpreted and uninterpreted as represented by Umera-Okeke (2005: 57) in the figure below.

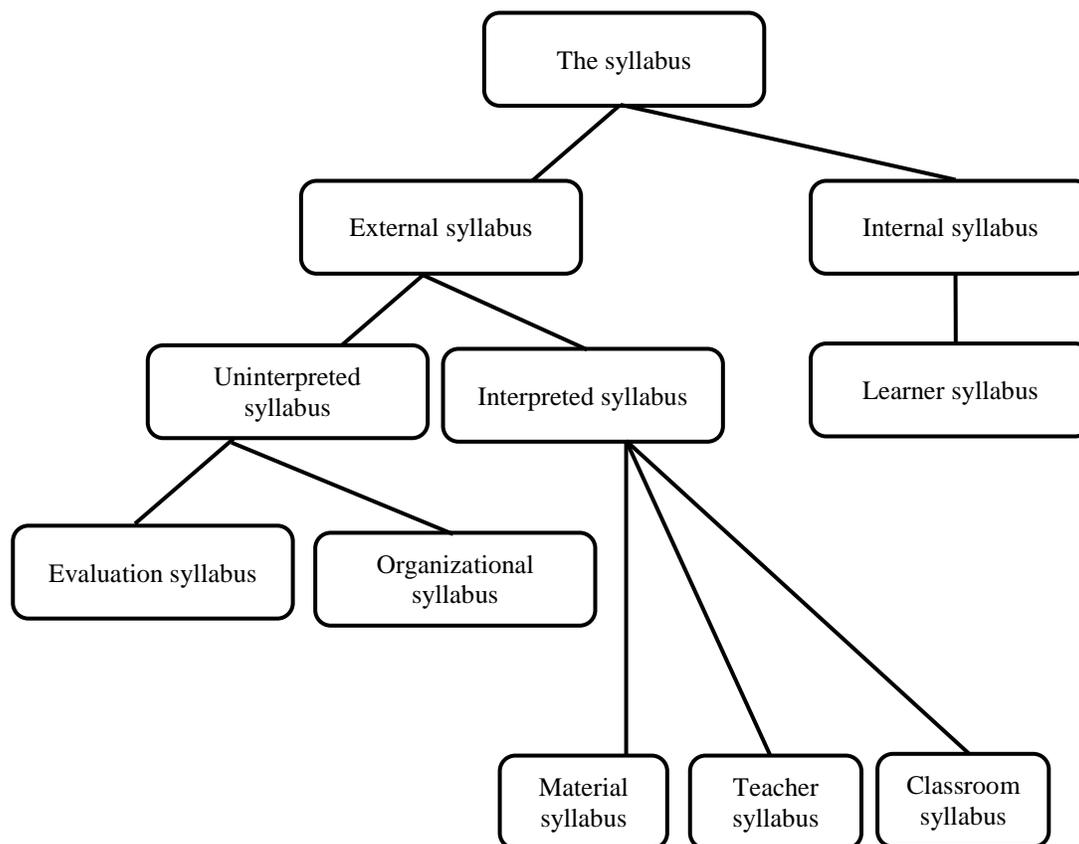


Figure 2. 2. Types of Syllabus (Adopted from Umera-Okeke, 2005: 57)

(b) Evaluation Syllabus

This is a statement of what is to be learned handed down by ministries and/or regulatory bodies. “It states what a successful learner will know by the end of the course... it reflects an official assumption as to the nature of language and linguistic performance (Hutchinson & Waters 1987: 80). It is an uninterpreted syllabus because the teacher has no input in its design and s/he is expected to implement it whole without any change.

(c) The Organisational Syllabus

The organisational syllabus is an implicit statement about the nature of language and of learning. This kind of syllabus not only lists what should be learned but also states the order in which it should be learnt. Example of an organizational syllabus is the contents page of a textbook. It is the most commonly know syllabus. It differs from evaluation syllabus “in that it carries assumptions about the nature of learning as well as language, since, in organizing the items in a syllabus, it is necessary to consider factors which depend upon a view of how people learn (Hutchinson & Waters, 1987: 81). Such factors, they state, include:

- (a) What is more easily learnt
- (b) What is more fundamental to learning?
- (c) Are some items needed in order to learn other items?
- (d) What is more useful in the classroom?

These criteria determine the order of items to be learned. Organisational syllabus is also an uninterpreted or a pure syllabus.

(d) The Materials Syllabus

While organizational and evaluation syllabuses state what should be learned with some indication of the order to be followed, they do not say how learning will be achieved. The organizational syllabus undergoes a lot of interpretations on its way to the learner. The first interpreter is the material writer; thus we have ‘materials syllabus.’ While the material writer writes his or her material, he or she makes assumptions about the nature of language, language learning, and language use. The author also makes decisions as to the context of use, the skills and strategies, the number and types of exercises to be given, the how and when of revisions and tests, etc. There are 8 criteria for a materials syllabus design, namely, topic syllabus, structural/situational syllabus, functional/notional syllabus, skills syllabus, situational syllabus, functional/task-based syllabus, discourse/skills syllabus, and skills and strategies syllabus (Hutchinson & Waters, 1987: 85). In some syllabuses such as topic syllabus and skills syllabus, a single criterion is at work, while other syllabuses blend two criteria together, such as a structural and situational syllabus.

(e) Teacher Syllabus

Another person that interprets the syllabus is the teacher. Many students learn a language through the mediation of a teacher who influences the clarity, intensity, and frequency of any item.

(f) Classroom Syllabus

One thing is to plan a lesson and another is to achieve what has been planned in the classroom. A lot of classroom conditions can affect the planned lesson. Some of them are extraneous factors such as noise from outside, hot weather, interruptions to deal with other things. Other conditions that may affect the classroom learning might come from the learners as a group such as tiredness, distractions, etc. Hutchinson and Waters (1987: 66) therefore conclude that

... the classroom is not simply a neutral channel for the passage of information from teacher to learner, it is a dynamic, interactive environment, which affects the nature both of what is taught and what is learned. According to Breen (1984), “the classroom generates its own syllabus.”

(g) The Learner Syllabus

The learner syllabus is an internal syllabus. It is the network of knowledge that develops in the learner’s brain and which enables that learner to comprehend and store the later knowledge (Hutchinson & Waters, 1987: 83). Candlin (1984) describes it as “a retrospective record of what has been learned rather than a perspective plan of what will be learned.” The learner’s syllabus is important because it is through its filter that the learner views all the other syllabuses.

Items in a syllabus can be broken down following certain criteria. These can generate other kinds of syllabuses such as structural/situational syllabus, functional-notional syllabus, skills syllabus, task-based syllabus, etc.

3) Importance of Syllabus

In designing a syllabus, the designer actually organizes and specifies what is to be taught in a body of materials to enable the learning of a language to be as effective as possible. Hutchinson & Waters (1987: 83) give the following as the 'hidden reasons for having a syllabus:

- (a) Because language is a complex entity that cannot be learned in a go, there is need to have some way of breaking it down into manageable units. The syllabus, therefore, provides a practical basis for the division of assessment, textbooks and learning time.
- (b) A syllabus gives moral support to the teacher and learner, in that it makes the language learning task appear manageable.
- (c) A syllabus, particularly an ESP syllabus has a cosmetic role. Sponsors and students (where there are commercial sponsors) will want some reassurances that their investment of money and/or time will be worthwhile.
- (d) It gives direction to the teacher and the learner. It can be seen as a statement of projected routes, so that teacher and learner not only have an idea of where they are going, but how they might get there.
- (e) A syllabus is an implicit statement of views on the nature of language and learning.

- (f) A syllabus provides a set of criteria for materials selection and/or writing.
- (g) A syllabus is one way in which standardization is achieved (or at least attempted). It makes for uniformity in educational activities.
- (h) A syllabus provides a visible basis for testing.

4) Factors Affecting ESP Course Design

Hutchinson and Waters (1987: 21-22) list the questions that need the attention of the teacher in designing a course to include:

- 1) Why does the student need to learn?
- 2) Who is going to be involved in the process? – the teacher, sponsor, inspector, etc.
- 3) Where is the learning to take place?
- 4) What potentials does the place provide and what limitations?
- 5) When is the learning to take place?
- 6) How much time is available?
- 7) How will it be distributed?
- 8) What does the student need to learn?
- 9) What aspect of language will be needed?
- 10) How will they be described?
- 11) What level of proficiency must be achieved?

- 12) What will topic area be covered?
- 13) How will the learning be achieved? And
- 14) What will learning theory underlie the course?

These questions they summarized into three key factors namely: 1) Language description, 2) Learning theory and 3) Needs analysis. Now, look at the diagram below to see the systemic relationship existing between the three.

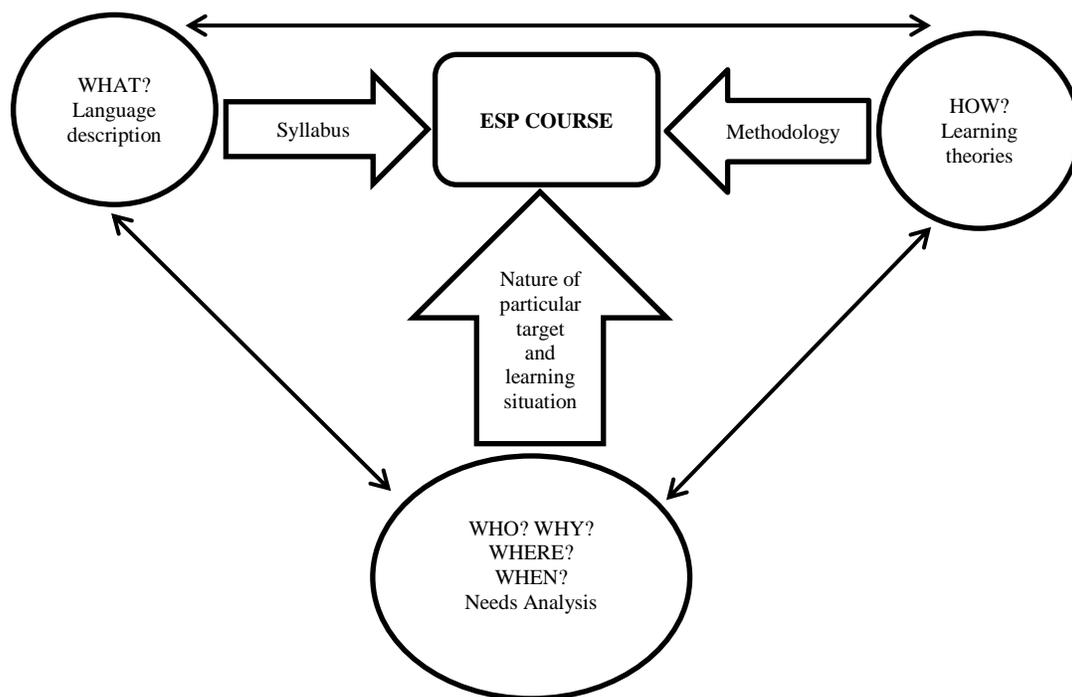


Figure 2.3. Factors affecting ESP Course Design (Hutchinson & Waters, 1987: 22)

According to Hutchinson and Waters (1987), the language description involves questions like “What topic areas will need to be covered?” “What does the student need to learn?” “What aspects of language will be needed and how will they

be described?” You can only find the right answers to these questions if you have been able to set exact goals and objectives of the course. Designing a syllabus analyses ‘what’ the course is going to be about. Setting goals and objectives of the course in advance is inevitable. The aim of language description is to understand the features of the development stages and incorporated the ideas in the course design. There are six main stages in the development of language. They include:

- (a) Classical or Traditional Grammar
- (b) Structural linguistics
- (c) Transformational-Generative Grammar
- (d) Language Variation and Register analysis
- (e) Functional/Notional Grammar
- (f) Discourse (Rhetorical) Analysis

5) Factors Affecting ESP Course Design: Learning Theories and Needs Analysis

a) Learning Theories

Another feature of organizing course underlines the way the learning is achieved. Hutchinson and Waters (1987) speak about “‘learning theories’ which provide the theoretical basis for the methodology, by helping us to understand how people learn” (Hutchinson & Waters, 1987: 23). It is the psychological processes involved in language use and language learning. It is natural that learning strategies vary and corresponds with learners’ groups, their age, level or for what reason they

study English. The way adults acquire language differ from the way children do; Advanced group expects different attitudes from beginners, and teachers determine which aspects of ESP learning will be focused on to meet learners' needs and expectations successfully. Some of these theories are: (a) Cognitive Code, (b) Behaviourism (c) Mentalism (d) Constructivism (e) Humanistic Theory/ Affective Factor (f) Learning and Acquisition

b) Needs Analysis

(1) Definition and Development

Needs analysis the process of establishing what and how of a course (Dudley-Evans & St. John, 1998). Conducting a needs analysis is an important first step in the development of a curriculum that is being developed from scratch for a completely new program (Brown, 1995). According to Brown (1995: 36), needs analysis is “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 within the context of particular institutions that influence the learning and teaching situation.” Brindley (cited in Johnson 1989: 63) states that it is “a vital pre-requisite to the specification of language learning objectives.” while Hutchinson and Waters (1987) add that needs analysis is “the most characteristic feature of ESP course design.”

The outcome of a needs analysis should be a list of goals and objectives for the parties involved, which should “serve as the basis for developing tests, materials,

teaching activities, and evaluation strategies, as well as for re-evaluating the precision accuracy of the original needs assessment” (Brown, 1995: 35). Since needs analysis serves as an important initial step in curriculum design for further development of teaching materials, learning activities, tests, program evaluation strategies, and so forth, there is an impressive amount of research on needs analysis in the language teaching field. Recently, a considerable degree of emphasis has been placed on needs analysis for English for Academic Purposes, English for Business Purposes, and English for Specific Purposes (Bosher & Smalkoski, 2002; Brown et al., 2007; Cowling, 2007; Edwards, 2000; Jasso-Aguilar, 2005 & Robinson, 1991). As Nunan (1988: 43) puts it, “during the 1970s, needs analysis procedures made their appearance in language planning and became widespread in language teaching”. In their first days, such procedures were used as "the initial process for the specification of behavioral objectives" which then explored different syllabus elements, such as functions, notions, lexis, in a more detailed manner. At the same time, Language for Specific Purposes (LSP) became a matter of general interest and LSP experts were making efforts to give birth to a more comprehensive and better LSP syllabus. As a result, needs analysis was warmly welcomed by LSP teachers as an approach to course design, which focused on learner's needs. But needs analysis did not find its remarkable influence and position in LSP until Munby's approach to needs analysis came into being. Before the advent of Munby's model, EAP course may have been based mainly on teachers' intuitions of students' needs. Today, however, EAP

literature is replete with descriptions of the methodology and outcome of research into learner needs around the world (Braine, 2001). A needs analysis was firmly established in the mid-1970s as course designers came to see learners' purposes rather than specialist language as the driving force behind ESP. Early instruments, notably Munby's (1978) model, established needs by investigating the target situation for which learners were being prepared. Munby's model clearly established the place of needs as central to ESP, indeed the necessary starting point in materials or course design. However, his model has been widely criticized for two apparently conflicting reasons: (i) its over-fullness in design, and (ii) what it fails to take into account (that is, socio-political considerations, logistical considerations, administrative considerations, psycho-pedagogic, and methodological considerations). Needs analysis is neither unique to language teaching nor within language training but it is often seen as being "the cornerstone of ESP and leads to a much-focused course" (Dudley-Evans & St. John, 1998 : 122).

Brindley (1989: 65) in trying to state the role of needs analysis, we shall first, try to define the word "needs". Looking at the works of others like Berwick, Mountford, and Widdowson, he provides different interpretations of needs. The first interpretation is "narrow or product-oriented needs." The learner's needs are seen as the language they will use in a particular communication situation. It is the target language behavior, that is, what the learners have to be able to do at the end of the language course. Widdowson (cited in Robinson 1991: 7) calls this "goal-oriented

needs” while Berwick (1989) used the term “objective needs.” The second interpretation of needs, according to Brindley is the “broad or process-oriented needs.” This involves analyzing the needs of the learner as an individual in the learning situation. In this kind of interpretation, the teacher tries to identify and take into account both the affective and cognitive variables which affect learning such as learner’s attitudes, motivation, awareness, personality, wants, expectations and learning styles. This is also called ‘subjective needs’ by Widdowson (1978). Although there are various ways of interpreting ‘needs,’ the concept of ‘learner needs’ is often interpreted in two ways:

- (1) as what the learner wants to do with the language (goal-oriented definition of needs) which relates to terminal objectives or the end of learning; and
- (2) what the learner needs to do to actually acquire the language (a process-oriented definition) which relates to transitional/means of learning.

Hutchinson and Waters (1987) classified needs into necessities, lacks and wants. Necessities are what the learners have to know in order to function effectively in the target situations. By observing the target situations and analyzing the constituent parts of them, we can gather information about necessities.

Lacks are the gap between the existing proficiency and the target proficiency of learners.

Wants are what the learners feel they need. Wants to be perceived by learners may conflict with necessities perceived by sponsors or EAP teachers and this conflict may have a destabilizing effect on motivation. Therefore, ESP course designer or teacher must take into account such differences in materials and methodology (Hutchinson & Waters, 1987). The objective needs should act as the starting point in programme design, and after learning has begun, methods such as surveys, group discussion, counseling, interview, communication awareness activities and learning contracts can be used to assess needs as they arise and are expressed (Richterich & Chancerol, 1980). Information on learners ability to use English, his or her biological data (subjective needs) is necessary in order to make decisions on matters such as class placement and learning mode.

Jordan (1997: 29) is of the opinion that the stakeholders in needs analysis are the student, the course designer and teacher, the employer/sponsor and the target situation. What is expected from each of them, he states as:

- (a) Student: needs present, current, subjective, felt, learning, learner-centered, wants/likes, lacks, deficiency analysis, present situation analysis (PSA) and process-oriented
- (b) Course Designer and Teacher: purposes/needs- perceived needs, process-oriented, PSA, strategy analysis, means analysis, constraints, learning-centered.

- (c) Employer/Sponsor: demands – product - oriented, PSA and TSA, language audits
- (d) Target Situation: (Subject/department) needs – target, future, objective, target-centered, goal-oriented, aims, necessities, TSA, language analysis

(2) Conducting Needs Analysis (Sources and Procedure)

Conducting needs analysis requires knowing the sources of learners' needs and methods/steps to be used. Brindly (1989) states that teachers' approaches to needs are influenced by their personal philosophy and conception of their role. The teachers' views of students' needs were identified as

- (a) Language proficiency view
- (b) The psychological-humanistic view and
- (c) The specific purposes view.

Needs analysis from the specific purposes point of view is the 'instrumental' needs of the learners which arise from their stated purposes for learning English. That is, what a learner needs to do with the language once he has learned it. Their responses will necessitate aligning course content with the learner's occupational or academic goals. Jordan (1997) provides a variety of methods of data collection for needs analysis. They include advance documentation, tests, self-assessment, observation and monitoring, surveys, structured interview, learner diaries, case-study,

evaluation, follow-up investigations and previous research. In order to obtain more information, different methods should be used simultaneously. In practice, time, money and resources may influence needs analysis. It is important to plan in advance and remember that needs analysis is not a once-for-all activity but a continuing process, in which conclusions are constantly checked and re-assessed (Hutchinson & Waters, 1987).

Learners: both experienced and pre-experience learners: Find out what information they can provide. Do they have enough knowledge about the content of the job and language needs? Are they familiar enough with a target discourse domain to provide usable, valid information? Information could be gotten from the learner through the structured, semi-structured and unstructured interview.

Participant observation and non-participant observation could also be used to assess the learners' needs. Nonparticipant observation means there is no involvement with the people or activities studied (collecting data by observation alone). Participant observation shows there is some degree of involvement. From the point of view of situation analysis and developing a real feel for the workplace, it is the most useful of data gathering procedures. Questionnaires might be designed for broad coverage of representative members and numbers of each category. It is the chief instrument for collecting quantitative data and also the most formal. According to Drobic (cited in Hutchinson & Waters 1987), needs analysis is not a once and for all thing. He states: It is also important to remember that needs analysis is not a once and for the affair. It

should be a continuous process in which the conclusion drawn is constantly checked and reassessed. Jordan (1997: 23) saw needs analysis as a systematic thing and identified the steps a needs analyst must follow in conducting a needs analysis. The steps are as represented below:

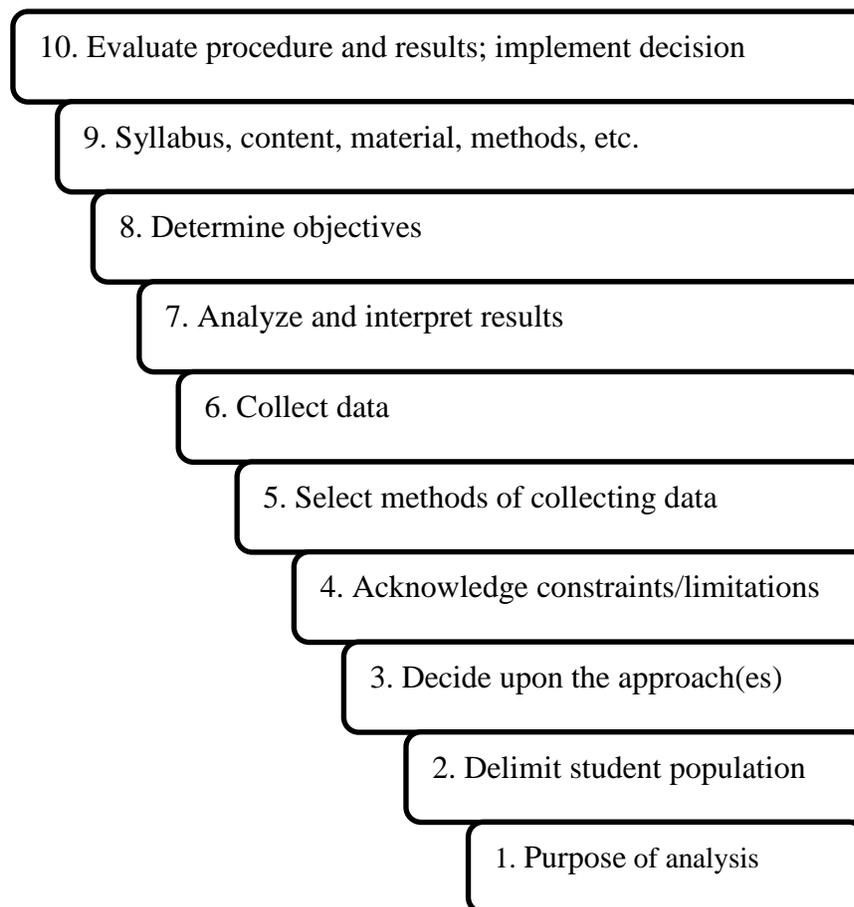


Figure 2.4. Steps in Needs Analysis (Jordan, 1997: 23)

(3) The Purpose of Needs Analysis

Richards (2001) itemized the following as some of the reasons why needs analysis is conducted:

- (a) To find out what language skills a learner needs in order to perform well in the target situation
- (b) To help determine if an existing course adequately addresses the needs and potential students
- (c) To determine which student from a group is most in need of training in particular language skills
- (d) To identify a change of direction that people in a reference group feel are important.
- (e) To identify a gap between what students are able to do and what they need to be able to do
- (f) To collect information about a particular problem learners are experiencing. The information gathered distinguished ESP from General English instruction because it focused on an awareness of need. A flexible and responsive curriculum determined by an instructor's assessment led to ESP as an attractive learning alternative.

(4) Approaches and Techniques for Need Analysis

- (a) Approaches to Needs Analysis

A Sociolinguistic Model

In his attempt to make a contribution to syllabus design, Munby (1978) proposed his approach to needs analysis which soon drew great attention from syllabus designers, particularly ESP architects. His work was a landmark in ESP and had a huge influence on ESP since it provided a new vision on individual needs (Hutchinson & Waters, 1987). His model can be used to specify valid ‘target situations’ (Jordan, 1997; West, 1994) that is, target communicative competence. Target-situation analysis proceeds by first identifying the target situation and then carrying out a rigorous analysis of the target tasks, linguistic features and knowledge requirement of that situation (Robinson, 1989). The best-known framework for target-situation analysis is devised by Munby. The core of this framework is the “Communication Need Processor” in which account is taken of the variables that affect communication needs and the dynamic interplay between them. After operating with this framework, we can obtain a profile of students’ language needs and convert them into a “communicative competence specification” from which a syllabus is drawn up (Jordan, 1997).

A profile of communication needs which Munby presented comprise of communicative events (e.g. discussing everyday tasks and duties), purposive domain (e.g. educational), medium (e.g. spoken), mode (e.g. dialogue), channel of communication (e.g. face-to-face), setting of communication, main communicator/s, person/s with whom the communicator/s communicate, dialect, attitudinal tone (e.g.,

informal), subject content and level of English ability required for the communication. After a profile has been created, the communication needs are developed into a syllabus. You can see that Munby emphasizes everything relating to learner's needs purpose, medium/mode/channel of communication, Sociolinguistic aspects, linguistics, and pragmatics. He looks at all the assumptions regarding the roles of language, the learner, the syllabus, the teacher that lie behind his design. This indicates that he is taking into account language and culture and communication purpose, but pays no attention to implementation (activities, resources, and classroom dynamics). He also seems to assure a very teacher-directed method, in which students' inputs about purpose are superficial and only required at the beginning of the course. It is clear that his emphasis on text and his categorization rely on his intuition.

All of these weaknesses result in criticisms of his work. While the model provides an abundance of detail, it is impractical, inflexible, complex and time-consuming (West, 1994). It does not include needs that are dependent on human variables. For example, learner's voice is not taken into account: "it collects data about the learner rather than from the learner" (West, 1994:9). Jordan (1997) criticizes the model for considering 'implementational constraints' such as the number of trained teachers available only after completion of syllabus specifications. Despite these criticisms, sociolinguistic variables remain important for effective communication.

To counter the shortcomings of target-situation needs analysis, various forms of pedagogic needs have been identified to give more information about the learner and the educational environment. These forms of needs analysis should be seen as complementing target-situation needs analysis and each other, rather than being alternatives. They include deficiency analysis, strategy analysis, and means analysis. Before we move into another approach to needs analysis, let us consider these other needs analyses complementing target-situation analysis.

Deficiency Analysis gives us information about what the learners' learning needs are (i.e., which of their target-situation needs they lack or feel they lack). This view of needs analysis gains momentum when we consider that the question of priorities is ignored by standard needs analysis. In discussing learners' perceptions of their needs, deficiency analysis takes into account lacks and wants, as well as objective needs of the learners (Allwright, 1982).

Strategy Analysis seeks to establish how the learners wish to learn rather than what they need to learn. By investigating learners' preferred learning styles and strategies, strategy analysis provides a picture of the learner's conception of learning. Means Analysis, on the other hand, investigates precisely those considerations that Munby excluded. These relate to the educational environment in which the ESP course is to take place (Swales, 1989).

West (1994: 9-10) mentions the shortcomings of the Munby's model in terms of four headings:

1. Complexity: Munby's attempt to be systematic and comprehensive inevitably made his instrument inflexible, complex, and time-consuming.
2. Learner-centredness: Munby claims that his CNP is learner-centered. The starting point may be the learner, but the model collects data about the learner rather than from the learner.
3. Constraints: Munby's idea is that constraints should be considered after the needs analysis procedure, while many researchers feel that these practical constraints should be considered at the start of the needs analysis process.
4. Language: Munby fails to provide a procedure for converting the learner profile into a language syllabus.

Hutchinson and Waters (1987) also point out that it is too time-consuming to write a target profile for each student based on Munby's model. This model only considers one viewpoint, i.e. that of the analyst, but neglects others (those of the learners, user-institutions, etc.). Meanwhile, it does not take into account of the learning needs nor does it make a distinction between necessities, wants, and lacks.

A Systemic Approach

Richterich and Chancerel (1977) propose a systemic approach for identifying the needs of adults learning a foreign language. This approach fills the gaps in the sociolinguistic model in terms of flexibility and shows a distinct concern

for learners. The learners are the center of attention, and their present situations are thoroughly investigated. In the words of Jordan (1997) “Learner needs are approached by examining information before a course starts as well as during the course by the learners themselves and by ‘teaching establishments’ such as their place of work and sponsoring bodies.” Richterich and Chancerel (1977) also recommend using more than one or two data collection methods for needs analysis such as surveys, interviews and attitude scales. Jordan (1997) suggests that course designers approach real-world learner needs both in terms of the target situation as recommended by Munby, and in the systemic model put forth by Richterich and Chancerel (1977) as complementary approaches. Over-reliance on learners’ perceptions becomes an issue because many learners are not clear about what they want (Long, 2005a). ‘Learner training’ (Trim, 1988, cited in Holec, 1988) can be usefully incorporated to strengthen the systemic approach, as it aims at training learners on how to learn. It is important for engineering students in particular because their needs are continually changing. Engineers must be able to identify emerging needs and gain new skills to satisfy them.

A Learning-Centred Approach

Hutchinson and Waters (1987) call this approach the learning-centered approach and stress the importance of a lively, interesting and relevant teaching/learning style in ESP materials. Learner needs are approached from two directions; target needs and learning needs. Target needs are defined as “what the

learner needs to do in the target situation” (Hutchinson & Waters, 1987:54). They are broken down into three categories: necessities lacks and wants.

Necessities are considered to be “what the learner has to know in order to function effectively in the target situation” (Hutchinson & Waters, 1987: 55). Lacks are defined as the gaps between what the learner knows and the necessities (Hutchinson & Waters, 1987: 56). Wants are described as “what the learners think they need” (Nation, 2000: 2). Under target needs, the following question can be posed (Jordan, 1997: 25):

- a) Why is the language needed?
- b) How will the language be used?
- c) What will the content areas be?
- d) Who will the learner use the language with?
- e) Where will the language be used?
- f) When will the language be used?

The second focus in this approach is on learning needs, referring to numerous factors, including who the learners are, their socio-cultural background, learning background, age, gender, background knowledge of specialized contents, background knowledge of English, attitudes towards English, attitudes towards cultures of the English speaking world and studying English. Hutchinson and Waters suggest posing the following questions to analyze learning needs:

- a) Why are the learners taking the course?

- b) How do the learners learn?
- c) What resources are available?
- d) Who are the learners?
- e) Where will the ESP course take place?
- f) When will the ESP course take place?

The learner needs also involve:

- a) Teaching and learning styles with which the learners are familiar
- b) Appropriate or ineffective teaching and learning methods
- c) Knowledge of specialized contents that teachers should have
- d) Suitable instructional materials and the study location
- e) Time of study and status of ESP courses
- f) Expectations about what learners should achieve in the courses
- g) How necessary the courses are for the learners

Similar to the systemic approach, Hutchinson and Waters (1987) also recommend that needs analysis be checked constantly. They also stress the use of multiple methods of data collection – such as interviews, observation, and informal consultations with sponsors, learners, and others involved – to deal with the complexity of target needs. Analysis of needs in this approach is well-supported (Nation, 2000; West, 1994). Richterich and Chancerel (1977) insist on considering learners' background knowledge from the outset of the teaching and learning process.

Grellet (1981) supports the use of authentic materials to encourage students to face the complexity of authentic texts. Eggly (2002) discusses differences in expectations between students who are forced to study and those who voluntarily enroll.

Learner-Centred Approach

Berwick (1989) and Brindley (1989) are leaders in contributing learner-centered approaches to needs analysis. Three ways to look at learner needs are offered: perceived vs. felt needs; product vs. process oriented interpretations; an objective vs. subjective needs. 'Perceived needs' are from the perspective of experts while 'felt needs' are from the perspective of learners (Berwick, 1989). In the product-oriented interpretation, learner needs are viewed as the language that learners require in target situations. In the process-oriented interpretation, the focus is on how individuals respond to their learning situation, involving affective and cognitive variables which affect learning (Brindley, 1989). Finally, objective needs are explored prior to a course, whereas subjective needs are addressed while the course is underway. According to Brindley (1989), objective needs can be derived from various kinds of factual information about learners, their real-life language use situations, their current language proficiency, and difficulties. Subjective needs can be derived from information concerning their affective and cognitive factors such as personality, confidence, attitudes, learning wants, learning expectations, cognitive style and learning strategies. Aside from language needs, learners' attitudes and feelings are clearly highlighted in the learner-centred approaches. The classification

of perceived vs. felt needs gives rise to consideration of how needs can depend on an individual's perceptions and interpretations. A combination of the concepts of needs as specified in the sociolinguistic model and the learning-centered approach would effectively embrace the issue raised concerning learner-centred approaches. For example, needs in the product-oriented interpretation are similar to the concepts of communication needs (Munby, 1978) and target needs (Hutchinson & Waters, 1987).

A Task-Based Approach

Long (2005: 3) recommends taking a task-based approach to needs analysis as well as with teaching and learning based on the argument that “structures or other linguistic elements (notions, functions, lexical items, etc.)” should not be a focal point of teaching and learning. “Learners are far more active, and cognitive-independent participants in the acquisition process than is assumed by the erroneous belief that what you teach is what they learn, and when you teach it is when they learn it.” In this approach, tasks are the units of analysis and “samples of the discourse typically involved in the performance of target tasks” are collected. An example of a ‘real-world task’ or ‘target task’ for engineers is the reading of textbooks (Mudraya, 2006).

The concept of tasks is similar to that of communicative events as defined by Munby (1978). The difference is that language variables, rather than sociolinguistic variables, are highlighted in the task-based approach.

(b) Principles for Analyzing Learners Needs

Give First Priority to Communication Needs

Communication needs come to attention when it is believed that what learners are taught should be specifically what they will really use and that this should determine the contents of ESP courses (Munby, 1978; Dudley-Evans & St John, 1998). It is also argued that specific knowledge concerning the English language alone is insufficient. The ability to communicate also involves understanding the discourse practices where the language is situated and in which learners must operate (Long, 2005a, 2005b; Orr, 2002). While many types of needs can be addressed in an ESP course, communication needs analysis is particularly necessary.

These cases highlight the importance of predicting students' specific communication needs as accurately as possible to prepare them adequately for situations they are likely to face in the near future.

Give Equal Importance to Learning Needs

Cognitive and affective variables as well as learning situations are influential in determining the manner in which a language is learned or should be learned (Berwick, 1989; Brindley, 1989). Hutchinson and Waters (1987) argue that the study of language descriptions, namely, the study of communication needs, does not enable someone to learn a language. Learning situations comprising several learning factors

must also be taken into account. In fact, a thorough study of both descriptions will help elaborate learner needs more thoroughly.

Take “Context” into Account

Context influences the teaching and learning of ESP (Holliday & Cooke, 1982; Jordan, 1997; Richterich & Chancerel, 1977). Language teaching and design that does not consider particular groups of students is likely to be either inefficient or inadequate (Long, 2005b). For instance, English instruction for the technical students can be directly based on the students’ specialized knowledge, e.g., engineering, as suggested by Hutchinson & Waters (1987). The civil engineering students of the course under investigation will come from the technical background. English instruction for the academic students, on the other hand, probably should not be too closely connected with their specialized knowledge, as they do not possess much knowledge of the specialized content before attending ESP courses. Additional factors to consider when looking at the context of teaching and learning include societal, institutional and teacher factors (Richards, 2001). Societal factors refer to expectations of society such as employers’ English standards for employment. Educational institutions may influence the specificity of ESP for engineering. Finally, teacher factors influence the way ESP courses are run, for example, when ESP courses aim at teaching all four skills, a given teacher may believe that reading and writing should be emphasized more than listening and speaking. Teaching style,

conservatism, and personality are also vital factors that influence every learning situation.

Invite Multiple Perspectives

Learners' English needs depend on various expectations, interpretations, and individual value judgments (Berwick, 1989; Brindley, 1989). Vandermeeren (2005: 161) points out that "researchers, too, have attitudes concerning language needs, which inevitably influence their choice of research objectives and their interpretation of the findings." It is therefore important to ensure that interpretations consider the perspectives of all involved. Multiple perspectives refer to institutions, teachers, and learners (Benesch, 1999; 2001; Richterich & Chancerel, 1977). ESP relates to work or professional study situations (Flowerdew & Peacock, 2001; Jordan, 1997). Therefore, stake-holders from both locations should be invited to participate in needs analysis research.

Employers and engineers can be direct sources of learners' communication needs in workplaces. Lecturers witness actual professional study situations. Former students include those who have already completed the course under investigation but continue studying other professional courses required in their programme of study. They will be witnesses of both learning needs and communication needs in professional study situations. The teachers and current students will contribute useful knowledge of the learning situation as well as a variety of experience.

Employ Multiple Data Collection Methods

Use of multiple data collection methods is recommended when dealing with complex needs and for validating data (Gilabert, 2005; Hutchinson & Waters, 1987; Jasso-Aguilar, 2005; Richterich & Chancerel, 1977). Jasso-Aguilar's (2005) study revealed that some of the language needs of hotel maids could not have been found if participation observation had not been employed in addition to the study of task force predictions. Long (2005a, 2005b) calls for more attention to 'methodological options' in needs analysis. It is also recommended that limitations of data collection methods should be dealt with both before and during the research process.

Some of the data collection methods that will capture all available data include: individual interviews, class observation, collection of students' work samples, focus group interviews and evaluation of instructional materials. Interviews are the most direct way of determining what stakeholders will think about learner needs (Long, 2005). Using structured interviews, questions concerning learner needs that have been carefully constructed can repeatedly be asked to focus all stakeholders on specific concerns (Dudley-Evans & John, 1998; Lynch, 1996). By collecting data through observation, inquiries into learner needs can be addressed by perceiving what will actually happen in day-to-day situations (Patton, 2002; Rea-Dickens & Germaine, 1992). Structured, but open-ended observation will provide the opportunity for observers to focus on particular aspects of learner needs and at the same time be open to the discovery of innovative findings (Lynch, 1996). Students'

classroom work samples produced in the classroom can be useful sources for confirming the relative success of a course in satisfying learner needs (Wortham, 1995). Focus group interviews will be effective for discussing the fulfillment of specific learner needs in the course (Cohen, Manion, & Morrison, 2000; Patton, 2001). Instructional materials will need to be evaluated to ensure that they correspond to learner needs, reflected real language uses and facilitate the learning process (Cunningsworth, 1995).

Treat Needs Analysis as an On-going Activity

Learner needs should be analyzed on an on-going basis because they are likely to change over time, depending on contextual and human affective variables (Brown, 1995; Holliday, 1994; Hutchinson & Waters, 1987; Nunan, 1988; Richterich & Chancerel, 1977). This principle expands the attention of needs analysis to include both curriculum development and action research. The purpose of needs analysis is to identify learner needs, taking place at a relatively theoretical level outside of classes, yielding recommendations on how a course should be designed. Yet, at a more profound level, needs analysis is actually a process in curriculum development (Brown, 1995; Richards, 2001); it can and should be extended to curriculum development because many other important variables are connected with learner needs in authentic teaching and learning. A description of needs conducted prior to classes, by itself, will not generate a complete understanding of learner needs. Allwright (1988:51) states that “what happens in the classroom still must matter. We

need studies of what actually happens (inside classes)”. In fact, Holliday (1994) points out that data about what really happens in the classroom are not only insufficient, but also lacking for the settings around the world. The subject of needs analysis also extends to curriculum development by action research. The spiral, iterative and evaluative procedures of action research plus its belief in change for improvement demand consideration (Dick, 2000; Kemmis & McTaggart, 1988; McNiff & Whitehead, 2002). Action research usually originates from a ‘thematic concern’ (Kemmis & McTaggart, 1988), which is ‘learner needs’ in the present situation. The concern leads to the first ‘moment’ (Kemmis & McTaggart, 1988), planning, which involves building learner needs into the first half of a curriculum. Research then proceeds to subsequent moments such as acting, observing and reflecting. Implementing and evaluating are engaged to ascertain whether or not the curriculum meets learner needs. Action research generates spirals of investigation which “unfold from themselves and fold back again into themselves” (McNiff & Whitehead, 2002:56). With this consideration, a curriculum is redesigned based on learner needs discovered in the initial procedure of teaching and learning, which are then implemented and evaluated in the second half. Change for improvement is another important characteristic. Action research is “an inquiry which is carried out in order to ... change, in order to improve some educational practice” (Bassey, 1998:93). In employing action research in needs analysis, needs are checked in the

first component; elements which are unsuitable can be changed to improve the curriculum during the second half to comply with learner needs more effectively.

e. Approaches and Steps in ESP Course Design

1) *Approaches to Course Design*

A course could be designed following any of the approaches below:

(a) Language-centered approach to Course Design

Language is the focus in a course book, in which learners have the chance to take the language to pieces, study how it works and practices putting it back together (Hutchinson & Waters, 1987: 109). A syllabus based on language centered approach highlights the structures of discourse. Firstly, it presents many significant vocabulary items: subject-specific words of the topic, sub-technical words in scientific English and many common core words as well. Lexis is important to express functions (Swan, 1990) and the lexical input enables participants to learn and master these expressions to communicate on their subject. The following steps should be taken by a course designer who intends adopting the language-centered approach to course design:

- a) Identification of the target situation;
- b) Selecting the appropriate learning theory;
- c) Finding out the linguistic features characteristic of the target situation;

- d) Designing/creating a syllabus
- e) Designing or writing materials to suit the purpose and
- f) Evaluation/assessment of the syllabus (Umera-Okeke, 2005: 53)

The learner is only used to identify the target situation and is dumped. His learning needs are not considered. Hutchinson and Waters (1987: 88-89) give the following as the disadvantages of constructing syllabus based on language-centered approach:

- a) it is a learner-restricted syllabus.
- b) It is a static and an inflexible procedure.
- c) It appears to be systematically giving the impression that learning is systematic. Systematization in learning is internally generated not externally imposed.
- d) Language centered approach is at the surface level.
- e) It gives no attention to other factors which play a part in course design such as the role of interest and motivation.

A language-centered course design, according to Hutchinson and Water (1987: 66) will look like this:

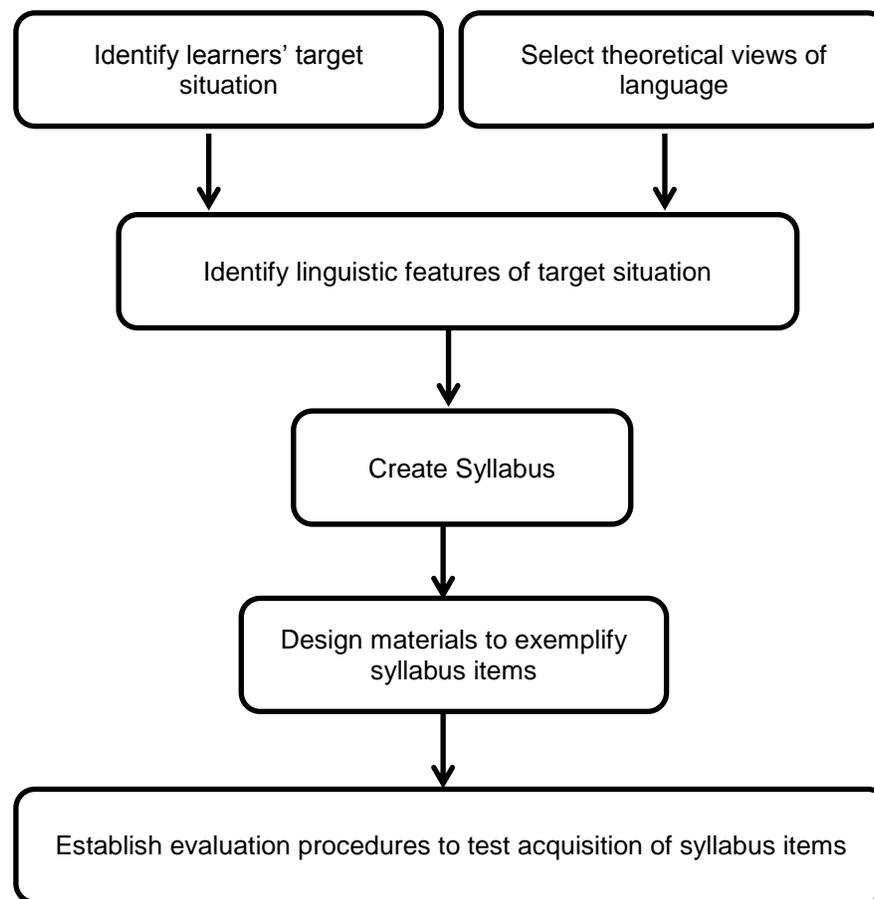


Figure 2.5. A Language-centred Approach to Course Design (Hutchinson & Waters, 1987: 66)

(b) A Skill-based Syllabus

Skills are abilities that people must be able to do to be competent enough in a language, rather independently of the situation or context in which the language use can occur. In this syllabus, the content of the language teaching involves a collection of particular skills that may play a role in using language. Although situational syllabuses combine functions together into specific settings of language use, skill-based syllabus merges linguistic competencies (pronunciation, vocabulary, grammar,

and discourse) together into generalized types of behavior, such as listening to spoken language for the main idea, writing well-formed paragraphs, delivering effective lectures, and so forth. The primary purpose of skill-based instruction is to learn the specific language skill. A possible secondary purpose is to develop more general competence in the language, learning only incidentally any information that may be available while applying the language skills. The skills-centred approach enables the course designer to discover the potentials and abilities that the learner brings to the ESP classroom. By this approach, Widdowson's goal oriented and process oriented courses are distinguished. The entire success of a programme is not achieved at the target situation because of time and students' experiences. The learner is considered in the process of learning unlike in the language-centered approach.

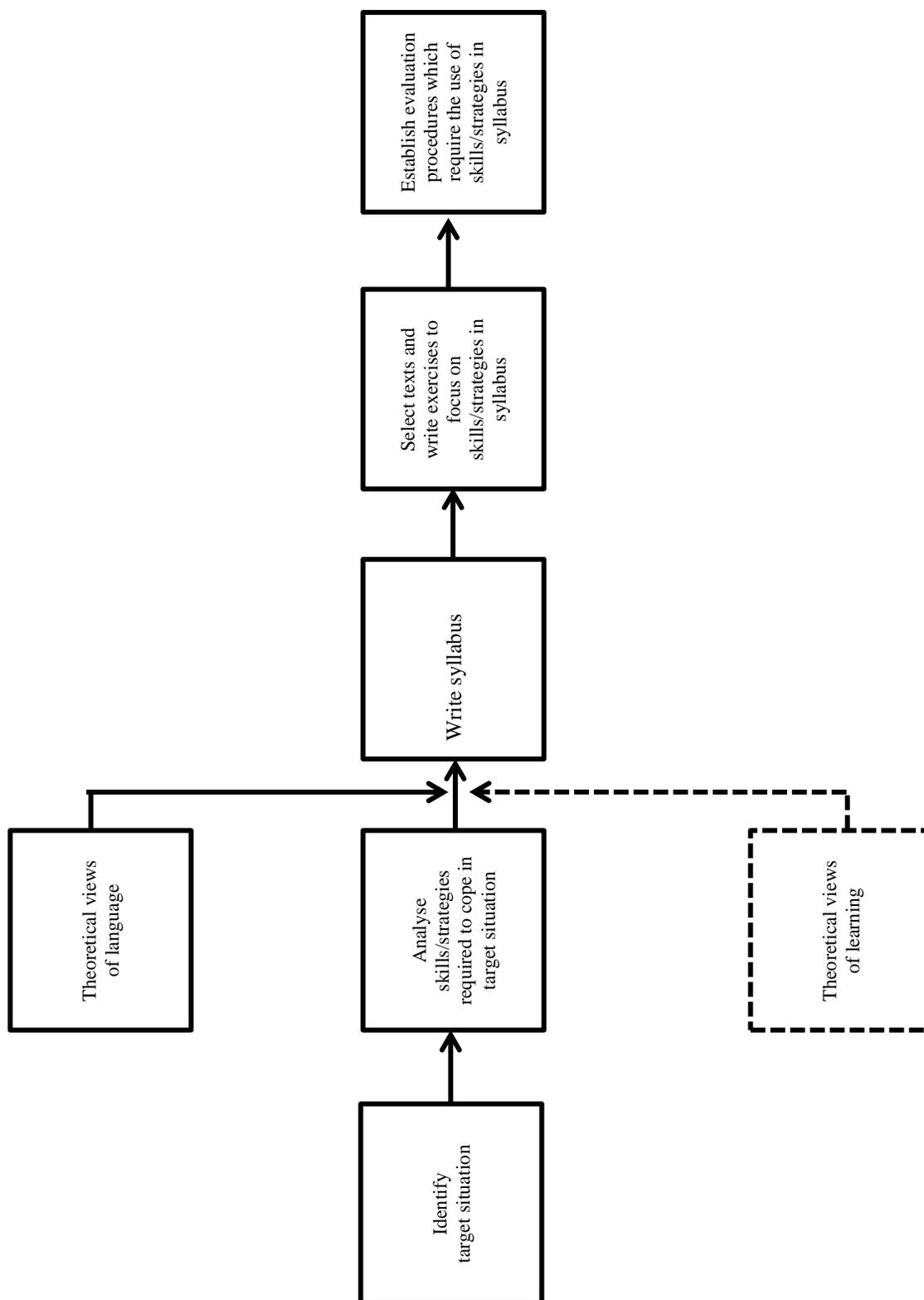


Figure 2.6. A Skill-centred Approach to Course Design (Hutchinson & Waters, 1987: 71)

(c) Learning-Centred Approach

Hutchinson and Waters (1987) offer an often-cited learning-centred approach to ESP. They argue that other approaches give too much attention to language needs, whereas more attention should be given to how learners learn. They suggest that a learning needs approach is the best route to convey learners from the starting point to the target situation. Learner needs are approached from two directions; target needs and learning needs. Target needs are defined as “what the learner needs to do in the target situation” (Hutchinson & Waters, 1987:54-56). They are broken down into three categories: necessities lacks and wants. Necessities are considered to be “what the learner has to know in order to function effectively in the target situation.” Lacks are defined as the gaps between what the learner knows and the necessities. Wants are described as “what the learners think they need” (Nation, 2000:2). The second focus in this approach is on learning needs, referring to numerous factors, including who the learners are, their socio-cultural background, learning background, age, gender, background knowledge of specialized contents, background knowledge of English, attitudes towards English, attitudes towards cultures of the English speaking world and studying English. Learner needs also involve:

- a. Teaching and learning styles with which the learners are familiar
- b. Appropriate or ineffective teaching and learning methods
- c. Knowledge of specialized contents that teachers should have

- d. Suitable instructional materials and study location
- e. Time of study and status of ESP courses
- f. Expectations about what learners should achieve in the courses
- g. How necessary the courses are for the learners

Similar to the systemic approach, Hutchinson and Waters (1987) also recommend that needs analysis be checked constantly. They also stress the use of multiple methods of data collection – such as interviews, observation, and informal consultations with sponsors, learners, and others involved – to deal with the complexity of target needs. Analysis of needs in this approach is well-supported (Nation, 2000; West, 1994). Richterich and Chancerel (1977) insist on considering learners' background knowledge from the outset of the teaching and learning process. Grellet (1981) supports the use of authentic materials to encourage students to face the complexity of authentic texts. Eggly (2002) discusses differences in expectations between students who are forced to study and those who voluntarily enroll.

This, in essence, emphasizes the fact that learning is more than representing language items and skills advocated by the two previously discussed approaches. Learning centered approach considers the social context of education and gives more latitude to the teacher. Learning should consider tasks, exercises, teaching techniques, and all other activities through which the content is to be learnt. Learning-centred approach examines how the learners achieve their goals in learning. All that is

required at the initial stage of the learning process is a general syllabus stating the content and skills and the teacher/material writer takes care of other factors that emerge from the needs analysis of the learning situation.

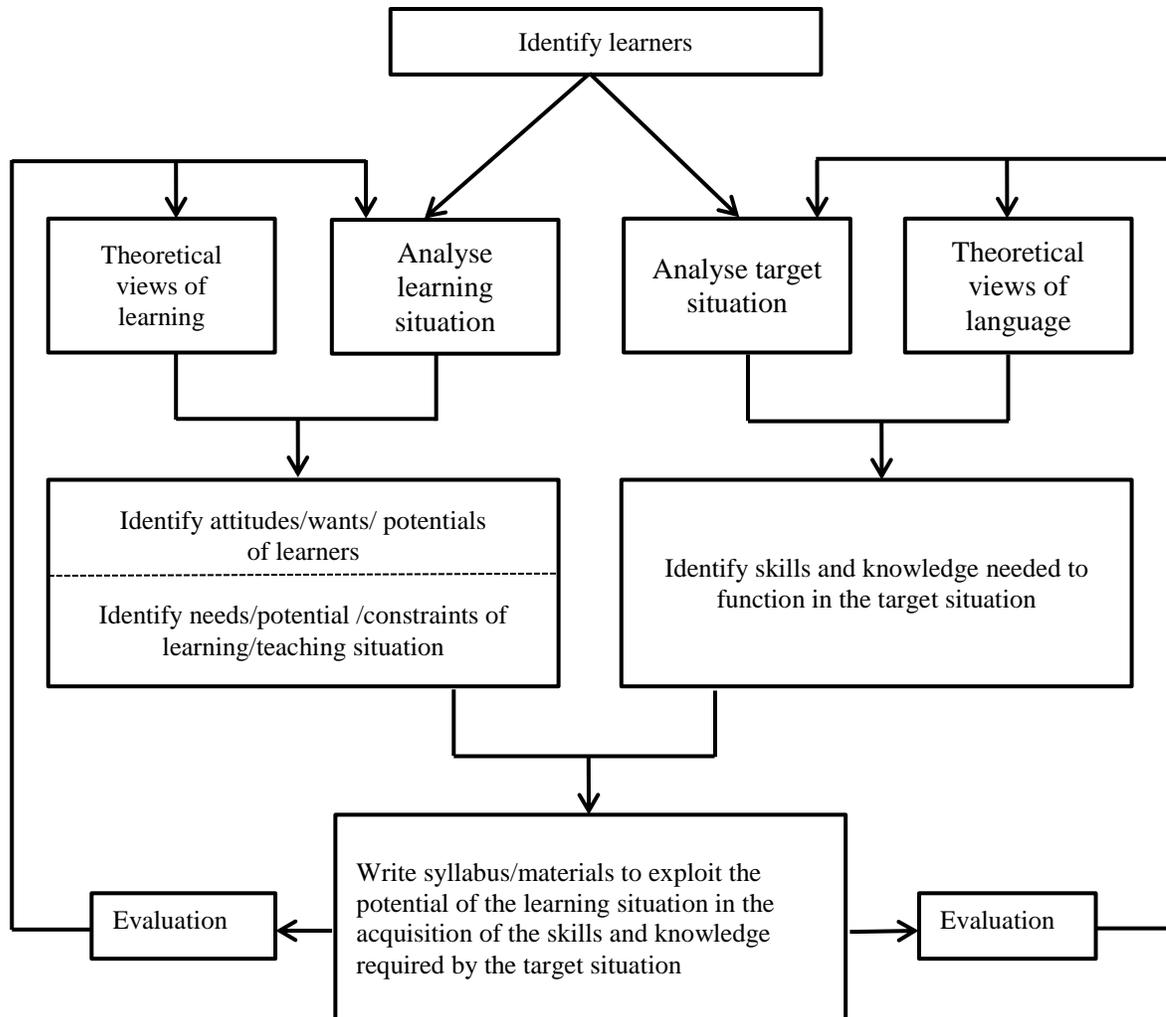


Figure. 2.7. Learning-centered Course Design Process (Hutchinson & Waters, 1987:74)

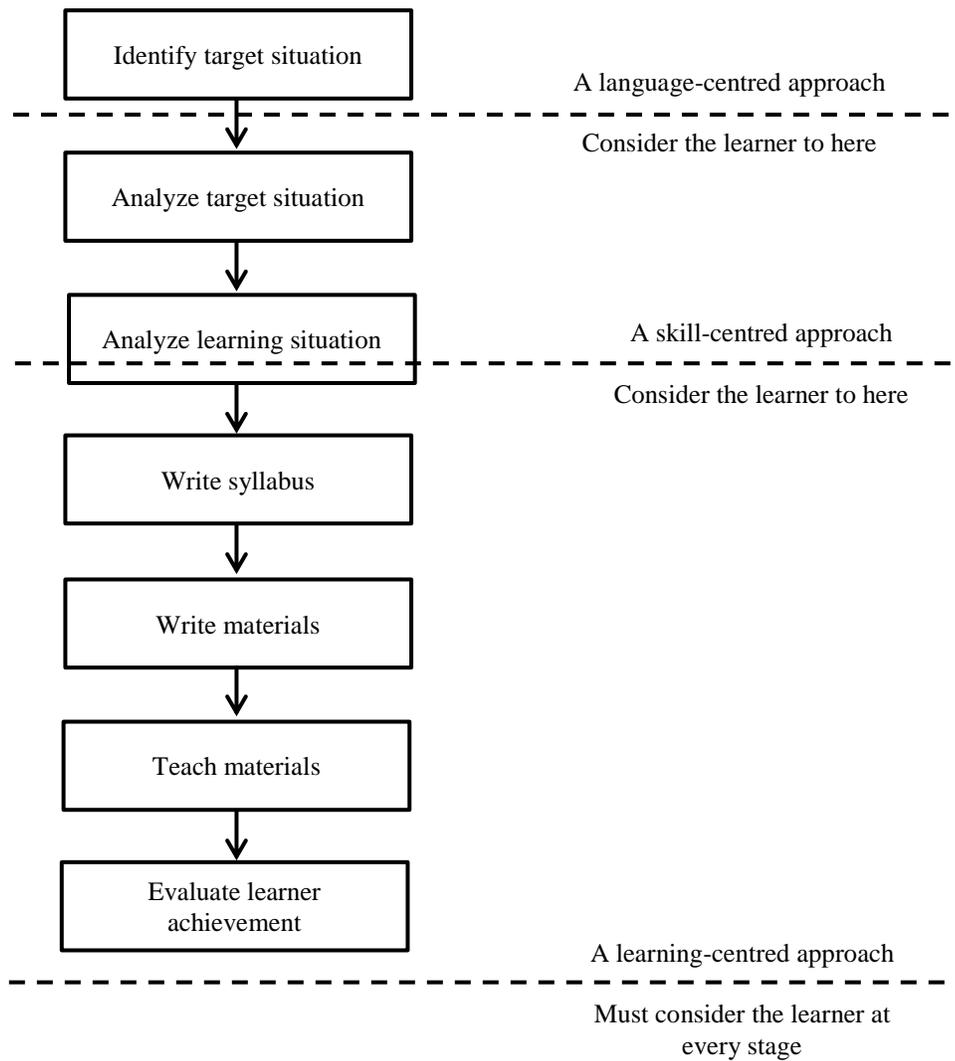


Figure. 2.8. A comparison of approaches to course design (Hutchinson & Waters, 1987:73)

The figure above shows that a learning-centered approach to course design takes account of the learner at every stage of design process. This has two implications Hutchinson & Waters, 1987:74:

- (1) Course design is a negotiated process. There is no single factor which has an outright determining influence on the content

of the course. The ESP learning situation and target situation will both influence the nature of the syllabus, materials, methodology, and evaluation procedures. Similarly, each of these components will influence and be influenced by the others. (2) Course design is a dynamic process. It does not move in a linear fashion from initial analysis to completed course. Needs and resources vary with time. The course design, therefore, needs to have built-in feedback channels to enable the course to respond to developments.

2) Steps in ESP Course Design

To design a course based on the learner's needs, you are expected to follow a particular procedure. The figure below illustrates the steps in ESP course design:

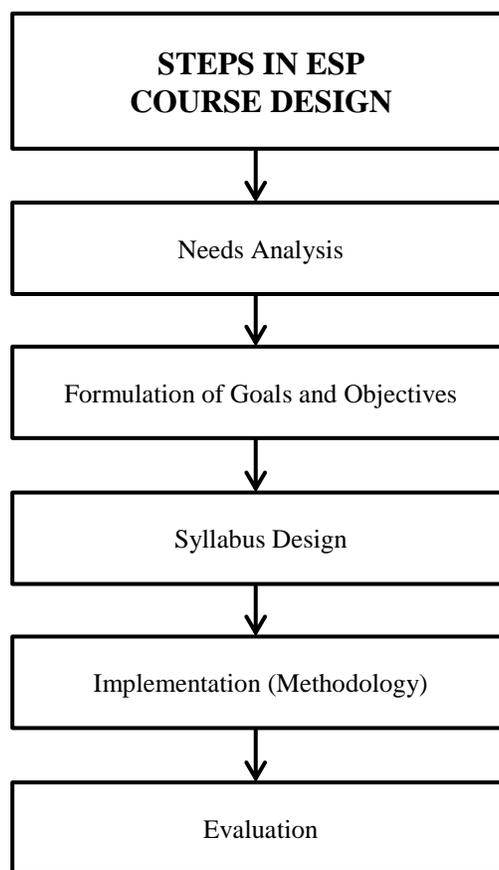


Figure. 2.9. Step in ESP Course Design

2. English for Educational Technology

a. The meaning of Educational Technology

Educational Technology, as a concept, and as a field of study has come of age. Nonetheless, its correct meaning has always posed a lot of problem to many people. Heinich, Molenda, Russel, and Smaldino (2002) recognised this fact and said that their efforts to explaining the meaning of educational technology started with the attempts to explain what the discipline is not.

Bahasa Indonesia is the national language in Indonesia and English is taught as a foreign language, especially students of non-English departments. All subjects are taught in Bahasa Indonesia at the majority of universities, while English is included in the school curriculum as a compulsory subject. With the adoption of English as the international language for communication and its wide use all over the world, more and more universities and universities place emphasis on running different kinds of English courses for their students to enable them to become competitive and competent enough in their future career.

In almost all universities and universities all over Indonesia, for example, there is a compulsory course in Educational Technology for second-year students at commerce divisions. The purpose is to raise their English proficiency in Educational Technology settings as well as to prepare them for successful communication in their future profession. After four years' study in vocational university and general English as well Educational Technology English, students have a professional understanding

of internationally accepted business terms and their English level is sufficient to start the Educational Technology English course. Following this pathway of study, it is an appropriate time in their university studies for them to embark upon English studies which meet their future Educational Technology needs.

Since the Educational Technology English course runs parallel to those subject courses, students can relate their subject knowledge to the Educational Technology context. For example, when students learn everyday uses the computers, type of computers, part of computers, an input device, an output device, networks, graphic and multimedia, etc., they relate those subjects with Educational Technology English. The target learners' performance is assessed at the end of the semester because the course is compulsory along with other subjects. It focuses broadly on the four basic language skills of listening, reading, writing and speaking because it is unrealistic for the students to predict which specific skill their future jobs will require. In real practice, the four skills are interrelated. For example, in a telephone call, the dialogue is in a spoken way, then the message is written because the message is for another person who is absent in time of phone calls.

The overall aim of the course is to fully prepare the students for their future career because after the graduation they are likely to seek employment in international companies or in joint-venture enterprises. Before recruitment, resumes are sent out to companies and interviews are conducted. Therefore, job application constitutes a vital part of the course. In their future business career, they may find

themselves working in a company where English is widely spoken, and written communication is done, or using English as a medium of communication with other people from all over the world.

b. Dimensions of Educational Technology

Attempts to further provide a fuller description of educational technology has led to the emergence of three dimensions of educational technologies (Davids, 1975 and Plump and Pals (1989) in Adeyanju (1997).

(1) Educational Technology I (ET I)

This dimension of educational technology focuses more on physical media that are designed and developed to improve the quality of the teaching-learning process. This refers to the use of instructional materials of all categories to facilitate learning (Salawu, Taiwo and Aremu, 1994). It can also be called the hardware approach to teaching and learning. In short, ET (I) is synonymous with the meaning we gave to Technology in Education earlier in this unit.

(2) Educational Technology II (ET II)

The meaning of this dimension of educational technology is closely related to the one we earlier provided in the discussion of Technology of Education. Indeed, the major difference between the two concepts is that of nomenclature (names). ET (II), therefore refers to all strategies, techniques, and means through which

instructions are designed, planned, implemented and evaluated. It does not exclude integration of laws and rules especially in the field of education for proper integration and utilization of media for better results.

(3) Educational Technology III

This is an amalgam of Educational Technologies I and II that seeks to produce a desirable effect. This aspect of educational technology is usually attributed to a philosophical and holistic orientation based on the concept of problem analysis and goal achievement. Simply put, Educational Technology III has its roots in the systems theories and applications. This aspect attempts at putting man and machine efforts together to improve the quality of instruction. It has led to a popular concept known as “Systems Approach.” You would learn more about this concept in the subsequent units.

c. Areas of Educational Technology

The term “technology of education” refers to the application of theories and laws/rules in education and related disciplines for the purpose of improving the quality of education. Such related disciplines include sociology/sociology of education, philosophy/philosophy of education, psychology/psychology of education, communication, technology, etc. The technology of education is a component of educational technology that is involved in the use of systems approach to promote high-quality education. Furthermore, this aspect of educational technology is

concerned with the use of systematic and scientific procedures in educational practice. Simply put, technology of education refers to the application of the systems approach to educational enterprise. Its main concerns include issues bothering on identification of educational problem, analysing the problem, setting objectives, suggesting solution strategies, synthesizing the processes, embarking on evaluation and providing feedback. At this junction, it is to be noted that a combination of the meaning of technology in education and technology of education will provide a fairly acceptable/description of educational technology.

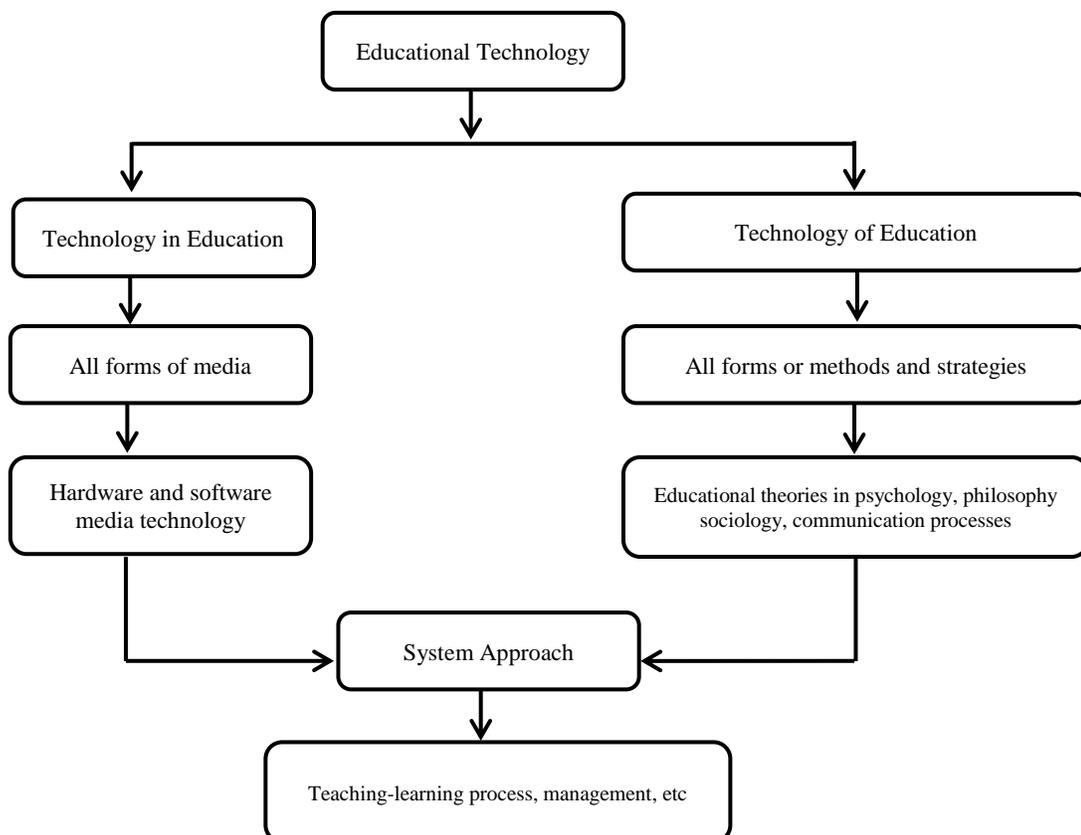


Figure 2.10. Specialists Interpretation of Educational Technology (Balogun and Abimbade: 2002)

3. Bilingual-based materials

a. The Nature of Bilingual

Bilingualism is the ability to communicate in two different languages.

Bilingual education is the use of two different languages in classroom instruction.

A general definition of bilingual is offered by Richards & Schmidt, (2004: 62):

A person who uses at least two languages with some degree of proficiency. In everyday use bilingual usually means a person who speaks, reads or understands two languages equally well (a balanced bilingual), but a bilingual person usually has a better knowledge of one language than another.

Carder (2007) further states that bilingualism begins when we speak to understand one word of another language. For students in international school the process should have been completed within the framework of the school years when they graduate, students being competent in English and their mother tongue; this implies being competent not only orally but also in the written language in all school subjects.

Longman Dictionary of American English (2009: 90) states that: bi·lin·gual /bal'liŋgwəl/ adj. 1 able to speak two languages: Their children are completely bilingual. 2 written or spoken in two languages: a bilingual dictionary

b. Bilingual Education Models/Types

To be able to perform the analysis of bilingualism from a pedagogical standpoint, we need the name of the first type of bilingual education. Appropriate

education is important to be bilingual efficient. Nevertheless, a person must be able to infiltrate and to disguise in a society of two or more languages, without being seen as foreigners. It is a tough and long lasting achievement, which requires not only a lot of work well distributed, performed by schools and parents, but also by individual communities. There can be various types of bilingual education: they depend on how the two languages taught, the teaching and the teachers' motivation, but on students, methods, state policies and public attitudes towards bilingualism. Factors that influence the few bilingual education and variety, and therefore a good classification is needed to get a global idea of the topic. Baker (2007) stated that to collect various types of bilingual education in ten different categories, which are divided into three major groups, depending on the linguistic objectives of each type of bilingual education.

- 1) Monolingual forms of education for bilinguals

The first type of program is called *Mainstreaming/Immersion Education*. This is the assimilation of minority language students in the primary school, which are taught across the curriculum in the language of the majority, regardless of their mother tongue. In the United States, a similar system is used in a structured immersion program, which only covers a small portion of children the language, and in which language learning is easier, because of the initial level of knowledge about the same for everyone. This type of program is typical of the colonial power and discriminatory policies of immigrants, is dangerous and unfair to minority children,

and thus frustrate them, disinterest, then impoverish their educational, political and economic, as indicated by Carrasquillo and Rodriguez (2002 ; in Baker, 2007), and Skutnabb and Kangas (1981, 2000; Baker, 2007).

The second program is called *Mainstreaming With Pull-out classes*. Type of education consists attract minority language children from mainstream classes for compensation in the majority language lessons. Although the program is clearly better suited for minority students, who can learn the language better, more interaction during school hours, and work more spontaneously and free, is still seen as a negative by the author. For example, Ovando (2003; Baker, 2007), showed that children withdrawn fell behind on the content of the curriculum, there may also be a feud with the majority of their colleagues, which led to stereotyping and labeling, discord and division into two groups.

The third program is called *Segregation of Education*. This occurs where the minority language speakers and the majority language speakers actually divided: for minority children access to school partially rejected, they attend different schools where the program is taught in their own language. The policy was discriminatory and separatist, and can be worn by law or practice. In this way the minority group is maintained through adherence and separation.

2) Weak forms of bilingual education for bilinguals

The first program of this group called the *Transitional Bilingual Education*. This program consists of teaching minority children in their language until they are

deemed sufficiently proficient in the language of the majority to overcome it in the mainstream education. The objective of this program is that assimilation, it just slows immersion, by continuing to increase the use of the majority language classes and consequently reduce the use of the mother tongue. Transitional bilingual education can be divided into two main types: the beginning and the end of the exit out. The first refers to two-year assistance using their mother tongue, while the second allows about 40% of classroom teaching in the mother tongue up to grade 6. The teachers who work in the class must be bilingual. Often, the bilingual teacher assistant can to help those who need to overcome language barriers that exist. The second program of this group called Mainstream Education with Teaching of Foreign Languages. It is about learning a foreign language as a subject in the curriculum. Very often the chosen foreign language is one of the world's major languages, e. g. English, Spanish, German, French, Italian, etc., take, however, to consider the most useful in a particular area. So, for example, here in Croatia, but also in most of Europe and all over the world, the first foreign language taught in English, for the simple reason that it is spoken and used in all the major institutions (European Parliament, the European Court, the UN, etc.) and in most internet sites, which is the most important media today. In this way, the next generation is being prepared for the future of an increasingly multicultural and multilingual. The Problems with this type of program is that it rarely produces bilinguals functional, able to communicate in a second language with native speakers. The exception that proves the rule is the Scandinavian

region, where there is a high degree of efficiency in a second language, which is mainly due to the high level of motivation. The program of this last group is called separatist Education. It is about the kind of education is also called a separatist by Schermerhorn (1970; Baker, 2007), because the language of the minority tends to detach themselves from the majority language. In fact, the purpose of this school monolingual and monoculture is trying to maintain the independence of the majority language and culture. Various reasons can specify options such as politics, religion, and even the survival of the culture, or others as well.

3) Strong forms of bilingual education for bilinguals

It is a kind of true bilingual education, and the first program known as *Dual Language Bilingual Education*. It is also called a *Two-Way* and occurs when the number is approximately equal to minority, and majority language students in the same class and both languages are used during the lesson. The aim is to produce bilinguals relatively balanced, which means efficient in both languages. Two languages to be used in a balanced way in the classroom (alternative use of bilingual weekly, daily, subjects, etc.), so it does not become dominant. The dominance of one of the two languages will cause divisions among pupils, the formation of groups, exclusion and negative competition. The number of students from the majority and minority groups should be approximately the same, and if not possible, it is suggested that a larger number of minority students, for the simple fact, that this will keep the prevalence of minority languages in schools, such as in the surrounding environment

(political, economic, cultural) replacing the majority language. The scheme should start from kindergarten dual language, continuing through primary and secondary schools are similar; it could exist in its own structure or coexist in building majority schools. Educators, teachers, professors, psychologists, directors, and all staff should be bilingual. In the absence of bilingual teachers, there are also works of two teachers, one for each language. The central idea of the type of separation of language education, which means there should be no mixing of the two languages. Mission all dual language bilingual schools are to produce children bilingual, bi-literate and multicultural.

The second type is called *Heritage Language Bilingual Education*. This occurs when minority children are taught in their native language or heritage, and the goal is to achieve complete bilingualism. Baker (2007) stated that in the United States forms of bilingual education is sometimes called bilingual maintenance education or bilingual education development maintenance, but a program like this can be found all over the world (Australia, Spain, New Zealand, etc.). Language is primarily used minority language, but sometimes the majority language used, also, as a percentage of a number of subjects chosen by the school board or determined by school policies. The majority language used for the rest of the time outside of school and that is why students are encouraged to use the minority language for most subjects. Schools with the same education programs are often supported by foreign governments or religious institutions.

The third type of program is called *Immersion Bilingual Education*. It consists of teaching the curriculum in a second language, with the goal of producing bilinguals efficient. Type bilingual education comes from Canadian educational experiments in the 1960s. A speak English a little; middle class parents persuaded school district administrator to set up an experimental kindergarten class, where the children will become bilingual and bicultural. Since then (Baker, 2007), the type of education has spread rapidly throughout Canada and in some parts of Europe (Spain, Finland, Scotland, Ireland, Switzerland, etc.), and also in other parts of the world (Japan, Australia, Colombia, Africa south, etc.). There are different types of immersion bilingual education, and they differ according to the age at which children begin to experience (the early immersion - from kindergarten, soaking the middle - at the age of about nine years, and the final immersion - after ten years) and the amount of time spent in immersion (total immersion and partial immersion). Early Total Immersion has become the most popular programs in Canada. The last type of program called Bilingual Education in the majority language. The majority here will be to spread world languages such as English, German, French, and so on. Type of education consists of the joint use of two languages in the majority of schools. The school is in a society where the majority of the population is already bilingual or multilingual (e.g., Singapore, Luxembourg) or where there are large numbers of people of different nationalities who wish to become bilingual (i.e. English or Americans living in Japan). Two prime examples of this type of education

International School (spread all over the world, they teach English and the majority language of the other, school fees paid and teachers come from various parts of the world) and the European Schools Movement (students come from European countries are different, they are taught in two or more different languages, its language, and other languages EC, aims to produce a true European citizens).

Unlike (2007) ideas Baker, Fast (1998; in Bialystok, 2001) distinguish two main types of bilingual education programs. The first is called *Bilingual Education Model*, which requires the use of two languages and try to produce bilinguals efficient. It includes: two language schools (e.g. international schools, such as the United Nations School in New York City), Canadian immersion education, two-way bilingual education (which includes minority-language and English-speaking children), two-way bilingual immersion, maintenance bilingual education, transitional bilingual education, immersion with native support language immersion bilingual education and bilingual education are integrated.

The second type is called *Monolingual Instruction Model*, where little or no attention paid to the language of children. This model includes English as a second language and immersion programs structured (the original language is protected)

c. The Advantages of Being Bilingual

There are a number of languages spoken throughout the world. Everyone knows at least one language, which he learned in childhood that is routinely used to speak and write. However, many people like to learn two or more languages. There

are many benefits of being bilingual as Meta linguistic enhancement and improvement of cognitive abilities such as thinking different flexibility, concept formation, verbal ability and general reasoning.

Many people have the capacity to learn a second language. This may be another language in the same country or language completely different from other countries. Currently, some institutions and schools that offer foreign language courses are popping up all over the world.

Some schools and universities, including some foreign language courses in their academic syllabus as well, while learning another language, students need to understand the basic grammar and improve vocabulary. Being bilingual offers greater sensitivity to language, more flexible in thinking and a better ear for listening. It also increases the understanding of a person's native language. This opens the door to other cultures. In addition, knowledge of other languages enhances career opportunities, offering few job options.

There are a number of benefits of being bilingual in various aspects such as cognitive benefits, curriculum profit, profit culture, job gains, gain communication and tolerance of other languages and cultures.

Cognitive benefits: bilingual people can have some particular advantages in thinking. They have two or more words for each idea and object. Therefore, bilingual people can develop creative thinking and the ability to think more flexibly. Bilinguals must be aware of the language spoken by people in certain situations. Therefore, they

are more sensitive to the needs of listeners of those languages. Being bilingual has a positive effect on intellectual growth. This enhances and enriches the mental development of a person. Recent research has proven bilinguals better at IQ tests compared to monolinguals.

Character advantages: bilinguals can switch between different languages and talking with different people in different languages. Improve self-esteem. Being bilingual creates a strong link in people different from different countries.

Curriculum benefits: bilingual education curriculum offers better results. Bilinguals tend to show higher performance in examinations and tests. These relate to thinking the benefits of bilingualism. Bilinguals find it very easy to learn and speak three, four or more.

Advantages of communication: bilinguals enjoy reading and writing in various languages. They can understand and appreciate literature in various languages. This gives a more in-depth knowledge of different ideas and traditions. This helps improve the way of thinking and behaving. Pleasure reading poetry, novels, and magazines as well as the pleasure of writing to family and friends is doubled for bilinguals. They do not face any difficulty in communication in a foreign country.

Cultural advantages: Bilingualism offer access and exposure to different cultures. Knowledge of different languages offers a wealth of traditional and contemporary sayings, idioms, history and folklore, music, literature, and poetry in

different cultures. Because of the wider cultural experience, there is a greater tolerance of differences in beliefs and customs.

Other advantages: being bilingual offers the potential benefits of the job. This offers a wider choice of jobs in various fields. Bilinguals can get prosperous career opportunities in the retail sector, transport, tourism, administration, Secretary of work, public relations, marketing and sales, banking and Educational Technology, translation, legal and teaching.

Some of the potential advantages of bilingualism of child according to Baker (2007: 2) are:

1. Communication advantages: Wider communication; literacy in two languages
2. Cultural advantages: broader enculturation, a deeper multiculturalism and two languages worlds of experience; greater tolerance and appreciation of diversity
3. Cognitive advantages: thinking benefit (e.g., creativity, sensitively to communication)
4. Character advantages: raised self-esteem; security in identity.
5. Curriculum advantages: increased curriculum achievement; easier to learn a third language.
6. Cash advantages: economic and employment benefit.

Bilingual teaching is a model of the use of two languages to deliver curriculum materials with the aim to strengthen students' competency in a foreign language. Bilingual teaching is a model of the use of two languages to deliver curriculum materials with the aim to strengthen students' competency in a foreign language. By using this model, there are two main things the students obtained, the mastery of science and literacy in two languages. Until now many countries have been implemented bilingual teachings, such as the Philippines, Australia, Japan, China, America, and our country itself. The purpose of these operations is to accelerate the improvement of quality education for children from various community groups that can simultaneously achieve alignment of national standards in the mastery of science and language. Indonesia aims to get the alignment quality of education, both at national and international level.

C. Conceptual Framework

The figure below shows the process Bilingual-based material of educational technology as follows:

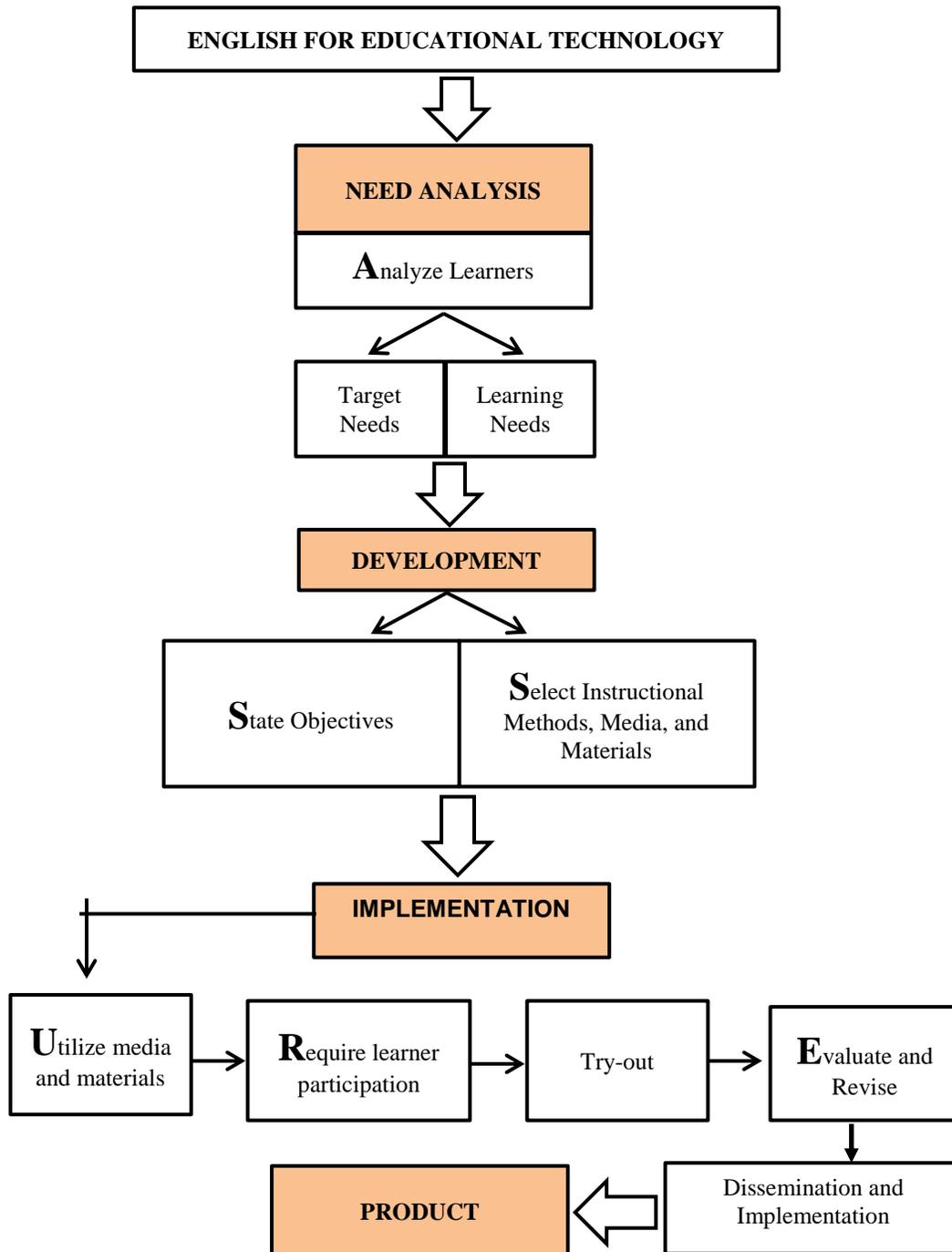


Figure 2.11. Conceptual Framework

Based on the conceptual framework diagram above, there are four main elements to be explained, they are:

1. Need analysis

In this study, the researcher divides the need analysis into two main parts: *target needs and learning needs*. To develop learning materials, a developer needs to collect data about the target needs and learning needs of students. The term need analysis also referred to as need assessment (Richards, 2001; Nation, 2010; Hyland, 2006; Hutchinson and Waters, 1987: 53-56; Graves, 1996). Needs, according to Hyland (2006: 73), is an umbrella term which oversees some aspects such as digging up information about the purpose of learning and student motivation, English proficiency of students, student learning activities and preferences of the target situations in which they will communicate in English.

Hutchinson and Waters (1987: 54-56) classifies needs in the target needs (what students need to be able to communicate in the target situation) and learning needs (what students need to learn). Furthermore, the target needs to be subdivided into 1) *Necessities*: Aspects of language does the student need. Example: the student must answer the exam orally. 2) *Lacks*: What student has not mastered. Example: aspects of writing that students have not been in English when compared with procedures written in Indonesian. 3) *Wants*: What would be learned by the students.

2. Development

The development phase includes preparing the material for learners and teachers in accordance with the specifications of the products developed. At this stage of development, which is developing products in accordance with the material and the purpose of which will be delivered in learning, as well as other learning environments that will support the learning process, everything should be prepared at this stage.

3. Implementations

The implementation phase covers the delivery or use of products for application development in the learning process that has been designed in such a way at the design stage. At this stage begins with preparing the instructor or teacher training, and preparing learning tools and environment that is conditioned after everything available, designers can implement product developed into the learning process. There are four stages that researchers would do in this section as follows: 1) Utilize media and materials; 2) Require learner participation; 3) Try-out; 4) Evaluate and Revise; 5) Dissemination.

4. Product

Bilingual-based materials as a material which are produced in this research.

CHAPTER III

METHOD OF THE RESEARCH

This part deals with research design, research variable, the operational definition of variables, population, and sample, research instrument, the procedure of collecting data, and technique of data analysis.

A. Research Design

Development learning model used in this study is Instructional Design Model ASSURE (Analyze learners, State objectives, Select instructional methods media and materials, Utilize media and materials, Require learner participation, and Evaluate and revise). It is combined according to the steps of research development recommended by the Borg and Gall (2001) with the consideration that the model is suitable for developing a model of instructional products / learning that targeted, effective and dynamic and very helpful in the development of learning for faculty, especially in the study of ESP.

This ASSURE model developed by Heinich, Molenda, Russell, and Smaldino provides an acronym to help practitioners remember the steps they must work through (Heinich et al., 2002, 2004). It incorporates Gagne's events of instruction to assure effective use of media in instruction. The ASSURE model was modified to be used by teachers in the regular classroom. The ASSURE model

applies these six processes that teachers and trainers can use to design and develop the learning environment for their students. 1) Analyze learners, 2) State objectives, 3) Select instructional methods, media, and materials, 4) Utilize media and materials, 5) Require learner participation, 5) Evaluate and revise

The ASSURE Model has six steps, represented by the acronym in its title that describes a set of tasks central to the informed selection and use of bilingual-based materials of English for educational technology.

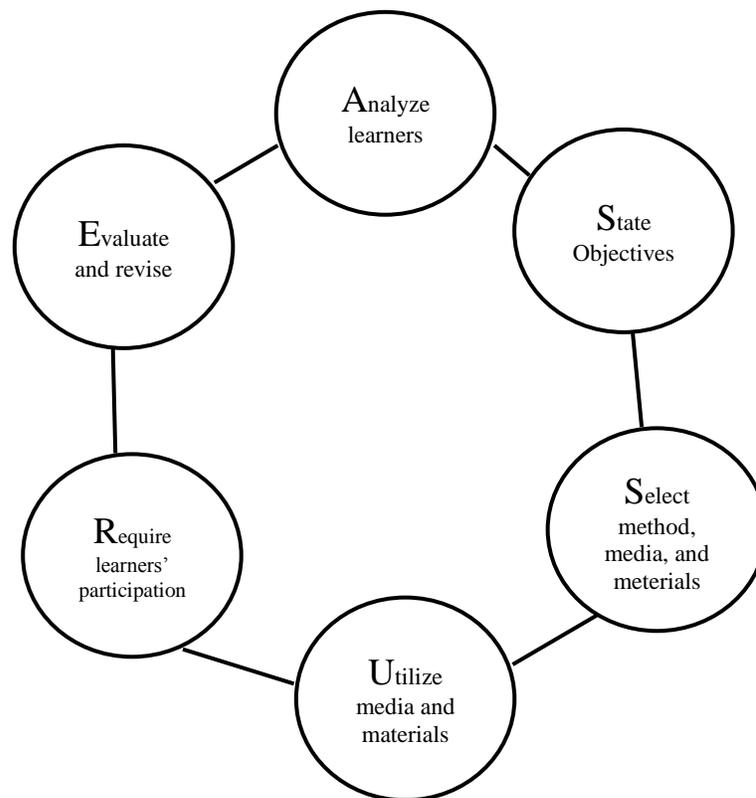


Figure. 3.1 The Assure Model.

This model in line with Borg and Gall theories (2003: 781), "educational research and development (R&D) is a process used to develop and validate the educational product." It means a series of measures of research and development carried out cyclically, and every step that is always referring to the results of previous steps until eventually gained a new educational product. The aim of R&D is to develop products, in this case, to develop educational products. Those products include not only course books, instructional films, and so forth, but also intended to refer to established processes, such as the method of teaching or a method for organizing instruction.

B. Research Variables and Operational Definitions

1. Research Variables

Variable is a quality, which can take a number of different values or states (Brown and Dowling, 1998: 22). Commonly, there are two kinds of variables; those are independent variable and dependent variable. Independent variable is a variable that is easily obtained and can be diversified into a free variable, while the dependent variable is the effect of the independent variable.

In this study, there are two variables involve namely: independent variable, the dependent variable. The independent variable is bilingual-based materials (X), and the dependent variable are deals to the students' proficiency in reading skill (Y1).

2. Operational Definitions

The following are the key terms used in this research:

a. English for educational technology.

In this study, the researcher focuses on one of the branches of educational technology, namely: Technology of Education. This section will explain all forms or methods and strategies as well as communication processes in reading skills. So, in this research, the researcher tries to design and develop English in the field of educational technology.

b. Bilingual-based materials

Bilingual-based materials in this research are to use teaching materials in two languages. Bilingual based materials involve teaching the academic content of English for educational technology in two languages (English and Bahasa Indonesia), in a native and secondary/ foreign language with varying amounts of each language used in accordance with the program model.

c. Reading Skills

Reading skills is a process to understand the text and can translate the text into personal language or simple explanation.

B. Population and Sample

1. Population

The population is defined as a set of elements or elements that become the object of the research. Elements of this population are usually the unit of analysis.

Population is the set of all the things that we want to know. It can be a collection of all the cities, all women, all the companies, etc. The population in the study may also be interpreted as a whole unit of analysis whose characteristics would be suspected. The unit of analysis is the unit/units to be studied or analyzed.

A population is a group of individuals who have the same characteristic. For example, all teachers would make up the population of teachers, and all high school administrators in a school district would comprise the population of administrators. As these examples illustrate, populations can be small or large. You need to decide what group you would like to study. (Creswell, 2007, 2009, 2011, 2012, 2014)

A population is a complete set of a particular type of individual (Cramer, 2004:128) . The population may be all the individuals of a particular type or a more restricted part of that group. The population of interest can vary widely depend on the research question and purpose of the study. The population was all individuals from whom the data were collected.

The population and sample of this research were divided into three different types, the population, and sample in the introduction stage, in the developing stage, and in the testing stage. The population and sample involved in this research are different in each stage.

Table. 3.1. The total of Population

Stage	Number of Population	Percentage
Introduction	286	82.18
Developing	7	2.01
Evaluation/ Testing	55	15.80
Total	348	100

2. Sample

Getting sample was very important in scientific research because the total number of population will usually too many. The researcher took a sample as the representative of the population. According to Cramer, 2004:128) a sample was a set of cases drawn or selected from a larger set or population of case, usually with the aim of estimating characteristic of the larger set or population. In this research the sample was being taken randomly, In this research, the researcher applies probability sampling (Dawson, 2002:51) with purposive sampling technique. Purposive sampling also referred to as judgment sampling, is the process of selecting a sample that is believed to be representative of a given population. In other words, the researcher selects the sample using his experience and knowledge of the group to be sampled (Gay et al., 2012; Hadi, 1987).

a. The introduction stage

The main purpose of the introduction stage of this research is to find out the needs of the students in learning English for Educational Technology students from different perspectives of the students, teachers and employees/employees. Therefore, this research employ multiple data sources by involving students, lecturers and employees/employees from Educational Technology department to analyze the needs of the students in learning English.

1) The Interview Sample

Long (2005c: 37) points out that interviewing several different stakeholders (insiders and outsiders) in NA provides reliable and accurate results. If a successful course evaluation is desired, there would always be a need ‘to include multiple perspectives that speak to all stakeholders’ (Ross, 2003: 4). Therefore, in selecting the sample for the semi-structured interviews in this study, multiple sources of information were sought from both insiders and outsiders. Purposive sampling was applied to select forty interviewees whose knowledge and experience were considered typical with regard to the research purpose. These participants were divided into six groups as follows: six current ESP students, seven graduates, six ESP lecturers, five administrators, five headmasters and eleven professional employees (five teachers civil servants and six volunteers teachers) working with the graduates.

a) Students

The student sample was composed of six current ESP students, ranging in age from 19 to 22 years. All were native speakers of Bahasa Indonesia and had studied English as an FL. They had enrolled in the ESP course at Educational Technology of STKIP Muhammadiyah Rappang in 2015/2016.

b) Graduates

The graduate sample was composed of seven adult males ranging in age from 24 to 30 years. All were native speakers of Bahasa Indonesia and had studied English as an FL educational Technology of STKIP Muhammadiyah Rappang (around 8 semester in all in getting sarjana).

c) ESP Lecturers

The sample of ESP lecturers comprised six ESP lecturers, ranging in age from 27 to 55 years. They had from two to 27 years of teaching experience, at the Educational Technology of STKIP Muhammadiyah Rappang and STKIP Muhammadiyah Bone.

d) LPMPT Staffs

The sample of LPMPT staffs was composed of five males ranging in age from 30 to 55 years. Their selection was automatically (purposive) since they were the only people in their position in the Educational Technology of STKIP Muhammadiyah Rappang.

e) Headmasters

The sample of headmasters consisted of five people ranging in age from 35 to 55 years, all of whom had been in post for more than four years. Each worked at different schools.

f) Teacher civil servants

All five-teacher civil servants in the sample were who work as a teacher in Sidenreng Rappang Regency, ranging in age from 30 to 50, three being male and two female.

g) Volunteer teachers

There were six volunteer teachers in the sample, ranging in age from 30 to 45 years. Four were female and two male. Each worked at different governmental schools.

Table. 3.2. Distribution of the interview sample

Area of specialization	Number of participants	Percentage
Students	6	15
Graduates	7	17.5
ESP Lecturers	6	15
LPMPPT Staffs	5	12.5
Headmasters	5	12.5
Teacher civil servants	5	12.5
Volunteer teachers	6	15
Total	40	100

2) The Questionnaire Sample

Questionnaire data were obtained from three main sources: current ESP students, graduates, and ESP lecturers. It was intended that a comparison of the three groups while “there are no hard and fast rules in setting up the optimal sample size” (Dornyei, 2007: 99), a total of 246 participants completed questionnaires. The selection of these participants was made using purposive random sampling procedures.

- a) The first group was composed of 120 first-year students following the ESP courses in Educational Technology of STKIP Muhammadiyah Rappang whose ages ranged from 19 to 23 years.

They had all studied English as an FL at the Educational Technology of STKIP Muhammadiyah Rappang. Their ESP course ran for a year, divided into two semesters. It was decided to include this group as one of the main sources because they had some experience of the ESP course and thus the information they provided was ‘grounded in experience’ (Graves, 2000: 114).

- b) The second group was composed of 106 adult graduates of Educational Technology of STKIP Muhammadiyah Rappang, ranging in age from 24 to 30 years.

All were native speakers of Bahasa Indonesia and had studied English as an EFL during their schooling and at Educational Technology of STKIP

Muhammadiyah Rappang. Again, their ESP courses had lasted a year, divided into two semesters. They were selected from different areas of specialization namely volunteer teachers, teacher (civil servants), Dapodik Operator, Bank employees, office clerk, journalist, and employee of a finance company.

Table. 3.3. Distribution of graduate sample by specialization

Area of specialization	Number of participants	Percentage
Volunteer Teachers	16	15
Teachers (Civil servants)	14	13.20
Dapodik operator	13	12.26
Bank employees	12	11.32
Office staff	13	12.26
Office clerk	11	10.37
Journalist	13	12.26
Employees of a finance company	14	13.20
Total	106	100

It was assumed that such participants, through their practical experience, would present an objective assessment of some of the ESP students' needs. They had been working for a considerable period, interacting daily with their English colleagues and employers in contexts where English was supposed to be important to

the completion of some tasks. The suggestion was that they would be mature enough to determine the work-related language needs of ESP students and that they would be unlikely to feel a need to overestimate their capabilities or to misunderstand the practical need for English within the ICT domain. They also had experience as ESP learners during their time at the Educational Technology of STKIP Muhammadiyah Rappang. Therefore, it seemed that the information they provided would be useful and justifiably included.

- c) The third group within the questionnaire sample comprised 20 ESP lecturers, ranging in age from 27 to 55 years.

They all had long teaching experience, both at the Educational Technology of STKIP Muhammadiyah Rappang (from 2 to 27 years) and in other institutions. Their selection was motivated by the fact that they were always in touch with students and could determine their needs by assessing and evaluating their abilities in using English to read and write different kinds of discourse or texts, both academic and professional. They would also be likely to notice the difficulties that students faced while learning ESP. It was suggested that these lecturers were in a position to provide important information about their students' ESP learning needs and language needs in both their academic studies and target careers.

It is very difficult in normal circumstances to gain access to lecturers on subject courses because they have duties other than teaching which they perform

outside their colleges, so it was considered impractical to seek to administer questionnaires to this population, let alone to arrange interviews with them.

a. The development stage

The development stage covers three main steps of the ASSURE models. They are designed (analyze learners, state objectives, select instructional methods, media, and materials), develop (utilize media and materials, require learner participation), and implementation (evaluate and revise).

The development stage focuses on the design and develops the course material into self-evaluation, and expert review. The results of the design and develop the course material in the self-evaluation stage by the researcher himself was recognized as the first prototype.

The course design and teaching materials that have been developed then reviewed or evaluated by the experts to validate the content and activities. The experts that have been chosen to review or validate teaching materials have been developed. The experts are divided into three categories which are explained in the table below:

Table. 3.4. Distribution of experts review

Area of specialization	Number of Experts	Percentage
The Head of ETD	1	14.285714
Native speakers	2	28.571429
Ph.D. Alumnus (Assessment, Higher Education, and Language Testing)	2	28.571429
Ph.D Alumnus (English Language Education)	2	28.571429
Total	7	100

The first expert is department head of Educational Technology of STKIP Muhammadiyah Rappang. The reason for choosing him as one of the experts in this study is because the understandings well what the needs of the students in learning English for Educational Technology. The second expert is a Germany-Australian who worked in an electrical company in Australia and has an educational background in electric and technology. The third expert is a Chinese-American who lecture in Department of Educational Technology, Research, and Assessment, Northern Illinois University (NIU), USA. The fourth and fifth experts are an alumnus of Assessment, Higher Education, and Language Testing Department Faculty of Education Universiti

Teknologi Malaysia (UTM). The sixth and seventh expert is a lecturer of English Education who teach ESP and Curriculum and materials development.

b. Evaluating/ Testing stage

The same draft of teaching material that has been reviewed by the experts also evaluated in one to one review. In this stage, a number of the respondents (50 students) evaluated the teaching material. The result of the respondents' review and one to one evaluation were used to revise the draft of product.

In this research, the research would test (try-out) to measure the knowledge of students. The research chose task 1, 2, 3, 4, 5, 6, 7, 13, 16, and 17 in Unit 1 to evaluate the students reading skill. The evaluation result of the trying out in the small classroom were used to revise the draft or prototype.

C. The instrument of the Research

In this research, both quantitative and qualitative data gathering tools have been employed. Semi-structured questionnaires are computed quantitatively; while information from semi-structured interview has been described qualitatively.

1. Questionnaires

While it is difficult to provide a precise definition (Dornyei, 2007: 102), questionnaires can be defined as 'any written instruments that present respondents with a series of questions or statements to which they are to react either by writing

out their answers or selecting from among existing answers' (Brown, 2001: 6). Questionnaires allow second language researchers to gather a variety of types of information concerning learners' beliefs about learning, their motivations to learn and their attitudes and reactions to learning, to classroom activities and to instruction (Mackey and Gass, 2005: 93), as well as data on language use and communication difficulties (Richards, 2001: 60).

Compared with interviews, questionnaires have the advantages of flexibility and brevity of timing, since respondents can 'fill out a questionnaire in their own time, at their own pace, and fit it into their schedule' (Brown, 2001: 77). When completing a questionnaire, people are also usually free from the stress and anxiety commonly associated with face-to-face interviews. According to Cohen et al. (2007: 333), 'lack of face-to-face contact between the researcher and the respondents in a questionnaire might facilitate responses to sensitive materials.'

However, there are some pitfalls associated with the use of the questionnaire as a research tool. One typical problem is that questionnaire items must be sufficiently simple to be understood by the respondents (Dornyei, 2007: 115); thus, badly designed questionnaires may yield superficial, imprecise and unreliable data. Another problem is that while it is frequently assumed that researchers can control bias by using questionnaires (Mackey and Gass, 2005: 96), it is possible that bias can creep into them in terms of what questions are put and how they are formulated. This underpins the need to conduct interviews as a preliminary stage in designing the

questionnaire, in order to work out what questions to ask and to formulate the items to be included in the questionnaire (Richards, 2001; Brown and Rodgers, 2002).

Vandermeeren (2005: 166) asserts that questionnaires offer access to respondents' real perceptions of language needs. They can also be used to measure respondents' attitudes and interests (Dornyei, 2007: 102). Therefore, questionnaires were used in this study mainly to investigate students' English language needs in their academic studies and target careers, as well as their attitudes towards the appropriateness and effectiveness of the current Educational Technology of STKIP Muhammadiyah Rappang ESP course. Specifically, the questionnaires were utilized to measure the participants' satisfaction with the course in terms of language needs and to highlight areas where students felt that their needs were not being met. Questionnaires are among the most widely used instruments in NA and evaluation studies (McKillip, 1998; Flowerdew and Peacock, 2001b; Brown, 2001; Boone et al., 2002; Brown and Rodgers, 2002; Dornyei, 2003; Lynch, 2003; McConnell, 2003; Hadley, 2006). As Long (2005c: 64) points out, 'questionnaire surveys undoubtedly constitute the most over-used and over-rated approach to NA at present.' A number of NA studies in ESP have utilized questionnaires to collect data (e.g., Jones, 1991; Taillefer, 2007; Lehtonen and Karjalainen, 2008; Mazdayasna and Tahririan, 2008; Elisha-Primo et al., 2010).

Two types of questionnaire item are usually identified: open and closed-ended (Mackey and Gass, 2005; Cohen et al., 2007; Dornyei, 2007; Brown, 2009). A

closed-ended item requires respondents to choose an answer from a limited selection determined by the researcher beforehand, whereas open-ended questions allow respondents to answer in their own words by writing in a blank space (Mackey and Gass, 2005; Dornyei, 2007; Brown, 2009). While both types have some disadvantages, Brown (2009: 201) observes that ‘many questionnaires contain both types, and they are usually seen as being complementary.’ Both types were used in this study because it was believed that they would serve different useful purposes.

a. Developing the Questionnaire

‘The developing and piloting of a questionnaire is a stepwise process’ (Dornyei, 2007: 112). Before writing the first versions of this study, the researcher drew ideas and inspiration from two sources. The first was the qualitative data gathered from the semi-structured interviews and the document analysis. The purpose of this logically prior endeavor was to obtain a better idea of the ESP learners’ needs in order to classify and list them in the questionnaires instead of designing them according to a preconceived classification of those needs. The second source was published NA and course evaluation questionnaires (e.g. Hutchinson and Waters, 1987; Nunan, 1992; Weir and Roberts, 1994; Ferris and Tagg, 1996; Jordan, 1997; Basturkmen, 1998; Dudley-Evans and St John, 1998; Chia et al., 1999; Graves, 2000; Brown, 2001; Richards, 2001; Boshier and Smalkoski, 2002; Lepetit and Cichocki, 2002; Kavaliauskiene and Uzpaliene, 2003; Brecht and Rivers, 2005; Gilabert, 2005; Jasso Aguilar, 2005; Miyake and Tremarco, 2005; Atherton, 2006;

Taillefer, 2007). Guidelines on how to design a questionnaire suggested by some scholars were also consulted (e.g., Robson, 1993; Dornyei, 2003; Cohen et al., 2007).

b. Piloting the Questionnaire

The main aim of the piloting stage was to increase the practicability, reliability, and validity of the questionnaires (Cohen et al., 2007: 341). The piloting stage was also essential to ensure that the questionnaires covered all aspects required to answer the research questions. In addition, it was helpful in assessing the clarity, readability, and comprehensibility of the items so that any errors or ambiguities could be corrected. It was also important to determine how long respondents would require to complete them. Finally, piloting provided a good opportunity to try out the statistical and analytical procedures that would be used in the main study.

Mackey and Gass (2005: 96) advise that ‘questionnaires should be administered in learners’ native language.’ Therefore, before distributing the students’ and graduates’ pilot questionnaires, the English versions were translated into Bahasa Indonesia, using the researcher’s own ability in Bahasa Indonesia as his native language.

The college was visited twice, to survey five ESP lecturers and then five ESP students. In the case of the school, five former students of the same Educational Technology of STKIP Muhammadiyah Rappang who had graduated at least three years earlier and were now employed as office staffs were invited to participate in the pilot study. All fifteen respondents were chosen randomly.

2. Interviews

One of the main methods of collecting qualitative data for the present study was to interview the research participants. Seen as ‘the gold standard of qualitative research’ (Silverman, 2000: 51), the interview is described as a ‘conversation with a purpose’ (Burgess, 1984: 102) that ‘offers different ways of exploring people’s experience and views’ and allows the researcher to probe beneath the surface of issues in order to see them from each participant’s perspective (Richards, 2009: 183).

The interview can serve different functions, such as that of a main instrument for collecting data to address the research objectives and that of a validating instrument, verifying and confirming data collected by other research methods (Cohen et al., 2007: 351). In the current study interviews were used for three purposes: (1) to collect data in order to answer the research questions, (2) to interpret, clarify and validate data collected by other research instruments used (document analysis and questionnaires) and (3) to help in designing and formulating the questionnaire. That is, interviews were used in the current study as a complementary instrument to explore in greater detail some related aspects and topics which could not be explored by means of the questionnaire survey. These included language needs, the problems, and difficulties students had in learning ESP, their motivations and attitudes towards learning ESP and the linguistic problems employees faced while communicating in English in the workplace. Because interviews are often useful for finding out which topics, issues and questions should be asked or focused

on in questionnaires (Brown, 2001; Richards, 2001; Brown and Rodgers, 2002), one of the essential reasons for using interviews in this study was to collect information on the ESP course and students' language needs in both their academic studies and target careers, in order to help formulate and design the questionnaires. In other words, interviews were used to help the researcher to formulate some items to be included, to work out what questions to ask and to understand the key issues. The premise was that the researcher risked being limited by his preconceptions or overlooking some types of target needs or learning needs that were unlikely to be discovered or classified unless he asked those involved.

Interviews are a common needs analysis and evaluation tool (McDonough, 1984; Hutchinson and Waters, 1987; Robinson, 1991; West, 1994; Jordan, 1997; McDonough and McDonough, 1997; Dudley-Evans and St John, 1998; Graves, 2000; Brown, 2001; Flowerdew and Peacock, 2001b; Richards, 2001; Boshier and Smalkoski, 2002; Lynch, 2003; Kiely and Rea-Dickins, 2005; Scrivener, 2005; Hadley, 2006; Hyland, 2006; Basturkmen, 2010).

The decision to make use of interviews in some parts of this research study was taken after careful consideration of their advantages, especially when compared with other data collection methods, although, as Richards (2009: 195) notes, 'all data collection methods have their drawbacks and interviews are no exception.' For example, in the present study, the interview was used instead of observation, i.e. 'the conscious noticing and detailed examination of participants' behavior in a naturalistic

setting' (Richards, 2009: 166), because 'we cannot observe everything. We cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous points in time' and 'we have to ask people questions about these things' (Patton, 2002: 341). This suggests that there is a need for a more appropriate research method such as interviews, which allow the researcher to ask the participants involved about their perceptions, feelings, attitudes, and needs.

Individual face-to-face semi-structured interviews were considered more suitable for the present study than either the unstructured or the structured alternatives. Cohen et al. (2007: 354) explain that the major distinction between these three types lies in the degree of structure in the process of the interview, which reflects its purpose. O'Leary (2005: 164) explains that semi-structured interviews 'start with some defined question plan, but pursue a [relatively] conversational style of the interview'. The interviewer follows a guide or schedule, which involves identifying in advance a key list of questions, topics, and sub-topics to help maintain a systematic coverage of the topic and guide the interview itself (Drever, 2003; Dornyei, 2007; Richards, 2009). The interview schedule can help the interviewer in five main ways: (a) by ensuring that the topic is covered and nothing important is forgotten; (b) by providing a template for the opening statement; (c) by offering suitable wording of questions; (d) by listing some probe questions to follow if needed; and (e) by offering a list of comments (Dornyei, 2007: 137). The present study made use of the interview schedule to serve as a guide to the researcher and to

enable the participants to provide profitable and fruitful answers. The semi-structured interview was chosen to be used in the present study because of its advantages over the other two types, and because it is commonly employed in NAs in ESP (Long, 2005c; Kim, 2006). It was used to collect some information about the participants' perceptions, views, needs, attitudes, likes and dislikes regarding the ESP course. Finally, it was useful in helping the researcher to gain a sense of what types of needs, skills, and activities should be addressed in the questionnaires.

a. Interview Preparation and Schedule Design

'It is important to prepare thoroughly for interviews. This involves piloting, preparing a realistic schedule, and paying attention to practical details such as timing and location' (Richards, 2009: 169). After equipping myself with knowledge of the background to the main topic through the literature review and examining some relevant documents, and after attending some courses concerning interviewing for research, the researcher started to decide on my overall aim in the interviews and think about the key questions and topics that needed to be covered. Then, while designing the interview schedules, the researcher tried to group the questions under the relevant topics and organize these topics to produce a natural developing line of investigation (Richards, 2009: 187). In constructing the interview schedules, the researcher followed some important guidelines for wording the questions suggested by a number of scholars (Drever, 2003; Cohen et al., 2007; Dornyei, 2007).

b. Piloting the Interviews

A pilot study can be defined as ‘a small-scale trial of the proposed procedures, materials and methods’ (Mackey and Gass, 2005: 43). It allows the proposed instruments and procedures for data collection and analysis to be tried and tested, to ensure that they are workable and produce useful data so that refinements and modifications can be made if necessary before the actual study begins (Dornyei, 2007; Murray, 2009). It can also help to save time and energy by revealing potential problems that can be addressed before the main study is carried out (Mackey and Gass, 2005; Murray, 2009). The interviews were piloted in July 2016. At the beginning of each, the researcher spent some time explaining the aim of the study and the purpose of the interview, then asked the interviewee to comment on whether the interview schedule made sense and whether it worked. Generally speaking, feedback from the stakeholders was helpful in including or eliminating particular questions, and any unclear or ambiguous items were refined. These pilot interviews gave me a good insight into and training in interviewing and related skills such as using a tape recorder, taking notes, approaching interviewees, developing a good relationship with them and following leads through prompts and probes. This helped to arrange the questions in the schedules. While transcribing the pilot interviews, the researcher felt that there needed to be more probing and prompting questions to clarify points with the interviewees and follow up important issues and ideas. Moreover, the researcher decided not to take notes during an interview that was recorded, because it was unnecessary and potentially disrupting (McDonough and McDonough, 1997;

Dornyei, 2007; Richards, 2009). Interviews, as Dudley-Evans and St John (1998: 135) assert, 'should be recorded so that the interviewer can really listen rather than take lots of notes.' However, it was decided to take notes if a participant was prepared to be interviewed but did not want to be recorded. This piloting process also gave me a chance to measure the time needed to conduct each interview and allowed me to collect some important documents such as the framework of the first year programme, the English language teaching plan that the lecturers followed in their classes, workplace texts, and other related documents. The next step was the actual event of conducting the interviews, as explained below.

D. The procedure for collecting data

Implementation of R & D models developed by Heinich, Molenda, Russell, and Smaldino; manifested in research steps in three phases: 1). Preliminary studies, research and information gathering in the course of a study of pre-survey form; 2). Model development; and 3). Validation of the model. With the following description:

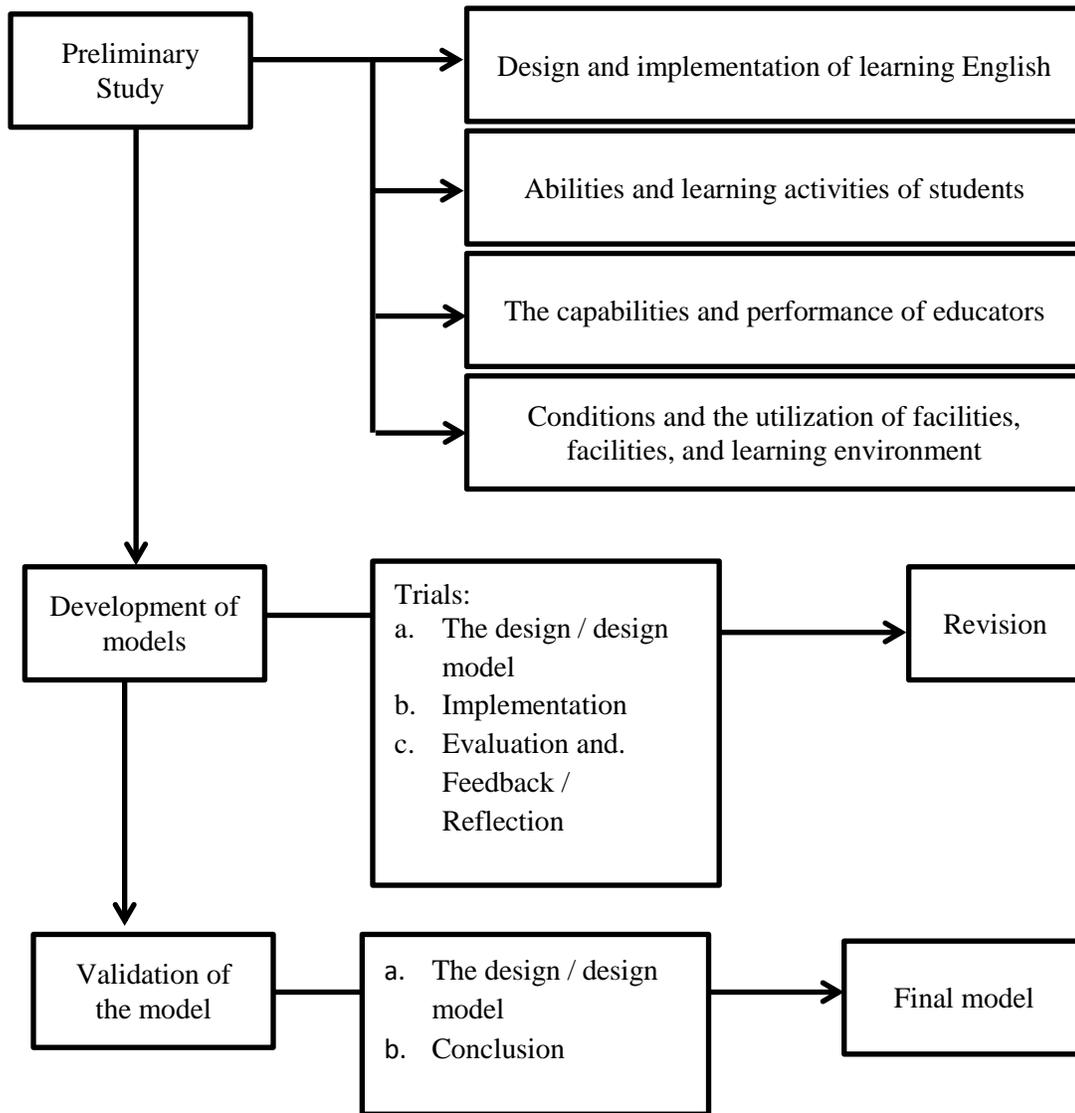


Figure. 3.4 The steps/ procedures of bilingual-based materials through ASSURE Model

This research is expected to produce a particular product and also test the effectiveness of the product. The preliminary study includes field surveys, needs analysis and literature review. Preliminary study is begun with field survey activities undertaken to look at the facts of English learning activities in the curriculum of the

educational technology department truth. Seeing the problems that arise in the field, especially with regard to learning English. The field survey is conducted directly by using recording devices such as cameras, as well as through notes. These observations are seeing an outline of the real learning happens in STKIP Muhammadiyah Rappang.

1. The field survey

It is also used to reveal the real facts both factors supporting and inhibiting factors in English learning activities running. The field survey is used to find similar models or emrio of the model in the implementation of ESP.

2. In the preliminary study

It can be mapped the factors inhibiting and supporting English language learning activities in STKIP Rappang Muhammadiyah, including a). Understanding of the English language educators in learning English; 2). Student learning conditions; c). The quality and quantity of facilities and infrastructure for learning English are available. Covering the media, learning tools, management of learning programs, curriculum applicable, as well as the opinion of academic staff and students of the English language related to English language learning.

The data which is obtained in the form of written notes about English learning activities in the STKIP Muhammadiyah rappang, deepened through interviews. Applied to the lecturers, Students of educational technology to validate the fact of learning English in STKIP Muhammadiyah Rappang truth.

Preliminary research is obtained through observation and interviews as a basic data to conduct a needs analysis. Needs analysis is used to look at the concept of learning the English language, which can be used to solve problems in learning English. Needs analysis given in the form of a questionnaire addressed to English language education personnel and students who ever received English language courses in educational technology program.

Activities of preliminary studies and needs analysis are used to solve learning problems in STKIP Muhammadiyah Rappang. The needs for learning model that can be used to improve the English language acquisition students felt even become one important thing. ESP learning through bilingual-based materials in educational technology was chosen to be tested, to see and to solve the problems of the teaching of English as well as efforts to improve the English proficiency of students STKIP Muhammadiyah Rappang.

The Efforts are underway to find innovation in the hope of learning can give an effort to increase the effectiveness of English language learning of students in STKIP Muhammadiyah Rappang. The efforts cover the aspect of input, output, and outcome. The result is expected to be the parameters of the success rate of students in learning English in STKIP Muhammadiyah Rappang.

The study of literature is also used to view and learn about the theoretical foundations of ESP and bilingual in teaching the English language. A literature

review is also conducted with the results of previous studies that linked to the ESP and bilingual model.

3. After a preliminary study

It is followed by the development of the model. The development model process includes several steps such as a). Drafting models; b). limited trial; c). extensive trials with the finalization of the model. Drafting a model is prepared based on the theoretical basis, the results of a literature review, combined with the characteristics of the model and English learning characteristics at the college level. The draft of the model is reviewed through brainstorming and discussion with fellow English lecturers, expert English language educators, peers, and experts in curriculum development. The bilingual concept is used as a tool in the development concept of the model. Bilingual-based materials are used in the development of ESP learning program through the ASSURE model. The concept draft initial model as follows:

- a. Drafting the initial concept in a model of learning ESP in educational technology with bilingual-based materials (1st), comprising: a theoretical framework and supporting instruments in ESP English teaching model based bilingual. The concept is structured based on the results of preliminary studies (literature study and field study)
- b. Preparation a draft for the concept of the ESP learning model in educational technology with bilingual-based materials. The draft concept is developed to

obtain feedback on the concept of ESP teaching model based bilingual in English language teaching.

- c. Selection of respondents and distribution of instrument. Respondents come from students of Educational Technology department in STKIP Muhammadiyah Rappang.
- d. Analysing of the instrument based on the previous sub-chapter.
- e. And reporting the data.

F. Technique of Data Analysis

The researcher employed descriptive statistics in analyzing the raw data of this research work. The mean scores of the participant's responses and their relative percentage (when needed) and their implication to the wide area of teaching-learning English had been analyzed through SPSS 21.0 program for Windows evaluation version. The tabulated data has further been thoroughly discussed for its implication to the wide area teaching-learning process. Other qualitative information has been recorded, transcribed, analyzed and described qualitatively and have been contrastively discussed with quantitative data collected in the research.

1. The introduction stage

The data collected from the questionnaire of the needs analysis were analyzed by using the frequency and the average score. Some data were described in

the frequency, and percentage only and some data were described in the figure of the scatter diagram, chart and crosstab. The data obtained from the interview and documentation were analyzed mix method (qualitatively and qualitatively). The result of the analysis was interpreted and discussed.

2. Validation of Product

The second validation uses *Likert-Scale* as the measurement. The result of the questionnaire was calculated by using the formula proposed by Suharto (2006: 52-53)

$$R = \frac{Xh - Xl}{4}$$

Where: R : Range
 Xh : The highest Score
 Xl : The Lowest Score
 4 : Range of *Likert-Scale*

Then, the data resulted were converted to descriptive analysis in terms of its goodness as proposed by Suharto (2006: 52-53). The indicator measure is the mean (\bar{x}). The means were calculated by using the formal of data conversion:

$$Mn(x) = \frac{\sum fx}{n}$$

Where: Mn (x) : Mean/Average Score

$\sum fx$: The sum of Score

n : The Number of Questions

Table 3.5. Data Conversion Table

Scales	Interval	Descriptive Categories
1	$1.00 < x \leq 1.74$	Poor
2	$1.75 < x \leq 2.49$	Fair
3	$2.50 < x \leq 3.24$	Good
4	$3.25 < x \leq 4.00$	Very Good

The data collected from the checklist used to evaluate the course design and the teaching material by the expert were analyzed by using the Pearson Correlation (SPSS) 22.00. The draft of teaching materials reviewed and evaluated by the ESP lecturers and students. In analyzing the data of field testing stage (try-out), the researcher would use the procedure is as follow:

Table 3.5 Scoring the students' correct answer of the test

Answer	Score
Correct	1
Incorrect	0

- a. Converting the students score into the following formula:

$$\text{Students' final score} = \frac{\text{Students' score}}{\text{Maximum score}} \times 100$$

- b. Classifying the score of the students

Based on the (*Panduan STKIP Muhammadiyah Rappang, LPMPT 2010*) where 0 – 29 Very poor (E), 30 – 49 Poor (D), 50 – 69 Average (C), 70 – 79 Good (B), 80 – 100 Very good (A).

- c. Calculating the mean score, standard deviation, and frequency table to identify the student's test by using descriptive statistics analysis in SPSS 21.0 program for Windows evaluation version.