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KARADENİZ TEKNİK ÜNİVERSİTESİ \* SOSYAL BİLİMLER ENSTİTÜSÜ

BATI DİLLERİ VE EDEBİYATI ANABİLİM DALI

UYGULAMALI DİLBİLİMİ YÜKSEK LİSANS PROGRAMI

AN APPLICATION OF THEME-BASED MODEL OF CONTENT-BASED  
INSTRUCTION (CBI) FOR THE PREPARATORY SCHOOL OF  
KARADENİZ TECHNICAL UNIVERSITY

YÜKSEK LİSANS TEZİ

Cengiz Koray SAKA

Temmuz- 2005

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**Temmuz – 2005**

**TRABZON**

**KARADENİZ TECHNICAL UNIVERSITY\* INSTITUTE OF SOCIAL SCIENCES**

**DEPARTMENT OF WESTERN LANGUAGES AND LITERATURE**

**MA PROGRAM IN APPLIED LINGUISTICS**

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**KARADENİZ TECHNICAL UNIVERSITY**

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**We certify that we have read this thesis and that in our combined opinion it is fully  
adequate in scope and in quality as a thesis for the degree of**

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## ABSTRACT

English has become the lingua franca of the modern world. That's why, learning English has become a necessity for many people. Many approaches, techniques and methods concerning teaching English have been developed and applied in language institutions. Recently, Content-based Instruction (CBI) – an approach that integrates the learning of language with the learning of some other content, often academic subject matter- has received a great popularity in both English as a Second Language (ESL) and English as a Foreign Language (EFL) settings.

This study was conducted to determine whether the Theme-based model of CBI can meet the language needs of the students in the preparatory school of Karadeniz Technical University (KTU). During the data gathering process, questionnaires were distributed to the students in the preparatory program and the students in the departments in order to find out their language needs and expectations. English lecturers in the preparatory program and subject specialists in the Physics, Chemistry and Biology departments were also given questionnaires to find out their ideas about students language needs and their expectations from the students and the preparatory school. Additionally, interviews were conducted with subject specialists and students in the departments. Two thematic-units were presented in the one of the classes in the preparatory school and the students were distributed questionnaires to find out their ideas and attitudes towards those units.

The results of the study indicate that the needs and expectations of the parties are mainly related to academic language skills, and those needs and expectations can be met if a curriculum based on theme-based model is applied in the preparatory program. The data obtained from the students who studied thematic units showed that students' motivation increased since they tried to learn language using materials related to their field of study.

## ÖZET

İngilizce modern dünyanın ortak dili haline gelmiştir. Bu nedenle İngilizce öğrenmek pek çok insan için bir zaruret olmuştur. Son zamanlarda, dil öğrenme ile genellikle akademik bir çalışma alanı olmak üzere başka bir içerik öğrenimini birleştiren bir yaklaşım olan İçerik-odaklı Öğretim (CBI) hem İngilizce'nin ikinci bir dil olarak öğrenildiği (ESL) hem de yabancı bir dil olarak öğrenildiği (EFL) ortamlarda kayda değer bir popülarite kazanmıştır.

Bu çalışma CBI'nın Tema-odaklı modelinin Karadeniz Teknik Üniversitesi'nin (KTU) Hazırlık Okulu'ndaki öğrencilerin dil gereksinimlerini karşılayıp karşılayamayacağını belirlemek üzere yapılmıştır. Veri toplama sürecinde, hazırlık programındaki ve bölümlerdeki öğrencilere dil gereksinimlerini ve beklentilerini ortaya koymak amacıyla anketler dağıtılmıştır. Hazırlık programındaki öğretim elemanları ve Fizik, Kimya ve Biyoloji bölümlerindeki alan dersi veren öğretim görevlilerine de öğrencilerin dil gereksinimlerini ve kendi beklentilerini ortaya koymak amacıyla anketler sunulmuştur. Bunlara ek olarak, bölümlerdeki alan dersi veren öğretim görevlileri ve öğrencilerle mülakatlar yapılmıştır. Hazırlık sınıflarının birinde iki tematik ünite sunumu yapılmış ve öğrencilerin bu ünitelere karşı düşünce ve tutumlarını ortaya koyacak anketler dağıtılmıştır.

Araştırmadan elde edilen sonuç göstermektedir ki, her iki tarafın da gereksinim ve beklentileri temelde akademik dil becerilerini geliştirmektir ve bu gereksinim ve beklentiler hazırlık programında Tema-odaklı modele dayalı bir müfredatın uygulanmasıyla karşılanabilir. Tematik üniteleri işleyen çalışan öğrencilerden elde edilen veriler, kendi çalışma alanlarıyla ilgili materyaller kullanılarak dil öğrenmeyi denedikleri için öğrencilerin motivasyonunun arttığını göstermektedir.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1. Introduction**

English has become the lingua franca of the modern world. That's why, there is an increasing need to learn English. In order to meet the changing and increasing needs of language learners, language teaching institutions such as language courses, private and state universities have been searching for more effective ways of teaching language. Especially, language teaching at universities has become increasingly important since universities are to equip their students with not only expertise in their fields but also a good command of language. Thus, curriculum development in these settings has become vital to come up with the changes in learners' needs (Barkhuizen and Gough, 1996; Benesch, 1996; Markee, 1997; Towell and Tomlinson, 1999; Richards, 2001).

As a comprehensive and challenging process, curriculum development includes the determination of student needs, development of aims and objectives of the program, identification of an appropriate syllabus, course structure, teaching methods and materials, and evaluation of the program (Richards, 2001). Graves (2000) argues that a course designer may start designing a program with one of the components of curriculum. In this study, the starting point chosen is syllabus design.

Syllabus design is one of the most important components of curriculum. Richards (1990) argues that "a properly constructed and planned syllabus is believed to assure successful learning, since it represents a linguistically and psychologically optimal introduction to the target language" (p. 9). In parallel with Richards' argument, Yalden (1987) argues that "the syllabus is seen as an instrument by which the teacher, with the help of the syllabus designer, can achieve a certain coincidence between the needs and aims of the learners, and the activities that will take place in the classroom" (p. 86). In order to meet the needs of language learners, many syllabus types were constructed and

applied in language institutions such as grammatical, situational, notional-functional, proportional, communicative, task-based and content-based syllabuses (Dubin and Olshtain, 1986; Yalden, 1987; Nunan, 1988; White, 1988; Richards, 1990; Markee, 1997).

Of these syllabus types, content-based syllabus will be the focus of this study. Content-based Instruction (CBI) is one of the current approaches that have received a growing interest in both English as a Second Language (ESL) and English as a Foreign Language (EFL) settings (Snow, Met and Genesee, 1989; Grabe and Stoller, 1997; Davies, 2003; Snow, 2001; Brinton et al., 1989). In this study, it will be discussed whether or not a program based on CBI could meet the needs and expectations of the students in the preparatory school of KTU called School of Basic English (SOBE).

Snow (2001) argues that Content-based Instruction has received much interest in many language institutions since it claims that language and content cannot be separated from one another. Stoller (1997) mentions characteristics of CBI. She argues that it reflects the interests and needs of the learners. It not only takes into account the eventual uses that the learners will make of the second or foreign language, but also exposes the learner to authentic materials and tasks. Furthermore, it offers optimal conditions for the second language acquisition by exposing learners to meaningful, cognitively demanding language, and provides pedagogical accommodation to learner proficiency levels and skills (Stoller, 1997). Stoller (1997) also argues that it makes learning a language more interesting and motivating and enables students to use the language to fulfil a real purpose, which can make students both more independent and confident.

Content-based Instruction has been widely used in different language settings for many years (Ballman, 1997; Stoller, 1997; Grabe and Stoller, 1997; Snow, 2001; Richards and Rodgers, 2001). However, depending on the setting where CBI is used, ESL or EFL setting, the application of CBI varies. The basic models of CBI are immersion model, sheltered model, adjunct model and theme-based model (Snow, 2001). Nevertheless, Stoller and Grabe (1997) argue that "...all CBI is fundamentally theme-based" (p. 81).

In the theme-based model, the language class is organized around topics or themes. Unlike the traditional language courses in which the topics are restricted to a single activity

like speaking or reading, in this model, students deal with a variety of texts and activities. For example, a topic might be introduced through reading, vocabulary development through guided discussion, audio or video material on the same topics used for listening comprehension followed by written assignments (Brinton, Snow and Weschce, 1989; Richards and Rodgers, 2001). As can be seen in the activities, language teachers have different roles from the ones in traditional classes.

In this model, the language instructor is responsible for providing students with exposure to input from various content sources, making the students revisit the content for different purposes and providing the development of expertise. In order to achieve these goals and promote language learning, the language teacher should develop various teaching activities (see Stoller, 2002b).

Taking into consideration all these points, it is possible that the theme-based Model of CBI can be implemented in language teaching settings to meet the changing and increasing needs of language learners.

## **1.2. Background of the Study**

Content-based Instruction has received a lot of interest both in ESL and EFL settings since it integrates content and language learning. It not only takes into account learners' needs and interests but also can increase learners' motivation to learn the language. Therefore, Content-based Instruction has been applied in many different settings.

For example, Gianelli (1997) conducted a study with kindergarten, first, second, third and fourth grade students in Texas. In this study, Gianelli applied a theme-based approach. Broad multidimensional concepts such as weather that can be studied from the point of view of science, social studies, health, art, music were chosen as themes in the study. After the selection of themes, the most important content area concepts and the skills to be emphasized were identified. After that, learning strategies were identified and materials were gathered. Finally, lesson plans were written. The theme-based units were studied by the students. The results of this study were significant. The students stated that they no longer forgot what they were studying because they became quite familiar with the general

contexts of the units. In the thematic units, the concepts, and themes were very closely related to and also important to the students. That's why, themes were highly meaningful to students, and in this way, students' language was improved.

Another application of the theme-based model was conducted by Wiesen (2001) in an Israeli Teacher's College in Israel. Wiesen (2001) called his program "Content-Based Unit Learning" (p.374). In this study, authentic content materials were used to increase Teacher's College students' knowledge in the fields related to education. The students were given materials related to education since they would be teachers. The EAP courses in the college stressed a multi-skill approach to broaden students' academic horizons since the students would be teachers. The students chose the subjects they wished to investigate further, shared their findings with their classmates, summarized texts in groups, read a number of texts in related fields and discovered interrelationships. The study showed that concentration on a content-based unit learning was an effective aid to language learning and increased students' motivation while they were acquiring information for use in their college studies.

Sugliano and Greenfield (1998) also conducted a study in Miyazaki International College in Japan. In this study, students were taught English using Content-based Instruction, "concurrently teaching of academic subject matter and second language skills" (Brinton, Snow, and Wesche, 1989: 2). Both content teacher and language teacher were in the classroom for the entire class period, and both were responsible for fostering student mastery of content material and language development. In this study, the collaboration of the members of content and EFL faculties was highly significant. That's why, Sugliano and Greenfield (1988) called their model "Collaborative model of CBI" (p.23). They jointly developed conceptual exercises, writing assignments and class activities to encourage the development of skills needed. This study showed that the use of a variety of pedagogical approaches including active and cooperative learning improved student motivation and comprehension. This study also indicated that the teaching of academic subjects is compatible with a focus on the development of students' language needs.

In another study conducted by Owens (2002), adjunct model of CBI was applied in a Thai University called Asian University of Science and Technology. The course was



designed to address the language needs of 1<sup>st</sup>-year students such as reading and comprehending academic texts, understanding the lectures, asking and answering questions and taking notes at the university. It offered practice in listening, speaking and reading English using 20<sup>th</sup>-century history as the theme. The aim of the course was to improve learners' language proficiency in order for them to be successful in the mainstream courses in which English was the medium of instruction, and to provide high quality professional education in the fields of science, engineering and business. Owens (2002) states that "the content-based approach was chosen for this course in response to specific variables: the students' level of English and their needs in English, academic discourse and world knowledge" (p. 48). Owens (2002) also adds that the other variables were teachers' feedbacks on the first semester performance and teachers' conviction that these students needed to take greater charge of their own language development as well as the recognized need to prepare students for the demands of their content courses. At the end of the content-based approach, the program was successful in training the students to give oral presentations and participate in the class in a beneficial way. The student evaluation forms also supported the sense of achievement.

Snow et al. (1998) applied Content-based Instruction in an elementary school in Argentina. The government declared a law that made many changes in the curricula, and mandated the schools to develop new course designs in line with the law. Therefore, Snow et al. tried to develop a content-based curriculum. They tried to create a more content-oriented syllabus by using theme-based model of CBI, and used authentic stories for children to use English in contexts. Then, Snow et al. (1998) developed a content-based curriculum that would meet the requirements of the new law. They wanted to improve English language courses in a secondary language school by incorporating more content into the course, and in order to achieve this, they asked content teachers what they would be interested in sharing, what themes, topics, and/or materials they taught students could deal with or get information from their English courses. Their idea was to make thematic units based on the topics the content teachers suggested and use materials they could provide or suggest. Snow et al (1998) argue that they were convinced that the combination of language and content was a very powerful tool to make their EFL program a more challenging and profitable experience for students, teachers and administrators.

Heyden (2001) used a sustained-content based learning approach to promote advanced ESL writing. Murphy and Stoller (2001) argue that “Sustained-Content Language Teaching (SCLT) consists of a single content area or a carrier topic along with a complementary focus on second language learning and teaching” (p. 3). The students spent the term reading and writing about the general area of research in a novel, ‘the Alienist’. Since the students developed a genuine connection to the Alienist after reading it intensively, they became more engaged in writing about it. The study showed that since they were familiar with the content of the book, and had a sense of expertise about it, most students wrote with confidence. As a result of using sustained content, he managed to help students write full expressions going beyond short listing of facts to a richer presentation of their research.

There is also a growing interest in Content-based Instruction in the language programs of universities in Turkey. CBI is believed to be a very useful syllabus type for the students in universities since the medium of instruction in the universities where CBI is applied is English, and CBI can integrate subject matter and language learning. The students in English-medium universities need to learn both content of their courses and language together, and CBI can provide the language and content instruction at the same time. For example, Bilkent University and Middle East Technical University have been using Content-based Instruction in their language programs (Durmaz, 2001; Doğan, 2003; [www.mld.metu.edu.tr](http://www.mld.metu.edu.tr)). Durmaz (2001) in her M.A. study examined teachers’ working definitions of Content-based Instruction at English Language Support Unit (ELSU) in Bilkent University. ELSU had two aims the first of which was to provide English language and study skills support to students while they were engaged in full time study, that was English for Academic Purposes (EAP). Its second aim was to help students develop English for Occupational Purposes (EOP) skill that would facilitate their obtaining employment in the future. In order to reach these aims, CBI was used in ELSU. In her study, Durmaz collected detailed data to match the CBI definitions of ELSU teachers and the definitions in the literature and to find out what the teachers’ attitudes towards the new syllabus type were. She found out that there was a close match between the teachers’ definitions of CBI and the ones in the literature. Her data indicates that the teachers stated that the ideas presented by the students and contributions made to the courses were more meaningful since the students did not worry about the language they used while presenting

their ideas or participating in class discussions. The teachers in ELSU also stated that they were quite satisfied with their courses and most of the students showed a very positive reaction to content-based courses in general.

Another study conducted about Content-based Instruction is by Doğan (2003). He conducted his study to determine what content and language lecturers in Bilkent's Adjunct Programs thought about the rationale, development and implementation of current programs and future adjunct program offerings. There were two adjunct programs in Bilkent University called Cultures, Civilizations, and Ideas I (CCI) and Faculty Academic Support Team (FAST) ([www.bilkent.edu.tr/~CCT](http://www.bilkent.edu.tr/~CCT) and [www.bilkent.edu.tr/~WAC](http://www.bilkent.edu.tr/~WAC)). Bilkent University Adjunct Programs tried to help its students understand the content introduced and language used in content classes, and improve academic abilities. It also tried to create useful links between content and language classes. The linkages helped students understand subject matter better and improve their academic skills (Doğan, 2003). Doğan (2003) used two interview protocols to gather background information on the adjunct programs. His data indicated that adjunct courses at Bilkent University were beneficial for students since it prepares the students for the content and language demands of their future university studies even though programs still had problems to be solved.

These studies suggest that Content-based Instruction can possibly be used in many different settings in EFL contexts whose teaching aims and perspectives are different from each other. An appropriate model of Content-based Instruction, therefore, can be applied in any institutional program if it is modified according to the needs and expectations of all the parties involved in the program.

### **1.3. Statement of the Problem**

Karadeniz Technical University uses English as the medium of instruction in up to 30% of the courses taught in undergraduate programs. Therefore, a one year preparatory school called the School of Basic English (SOBE) was established in order to meet students' language needs. This preparatory school offered Coursebook, Grammar and Reading courses for 30 hours a week. Those students who graduate from the preparatory school are expected to have a good command of English in order to understand the lectures taught in

English, take notes in the lectures, read and understand field-related texts. They are also expected to participate in class activities by asking and answering questions. Additionally, they are expected to have a good range of vocabulary knowledge and the ability to make use of them. That is, they are expected to have academic language skills.

A number of studies were conducted to improve the language teaching in the preparatory program of KTU. For instance, Arslan (1989) conducted a study on curriculum design and proposed a communicative course design that is based on the data obtained from the people involved in the program. Arslan (1989) suggested a communicative syllabus for the beginning level of instruction arguing that students could acquire both linguistic and communicative competence. He suggested a skills-based syllabus for students at the intermediate level to improve their academic language skills to be able to utilize in their future studies. Arslan (1989) also stated that “content-based syllabus might be applied to advanced level students who have acquired linguistic competence and improved their academic English language skills” (p. 67).

Another study was conducted in KTU by Çuvalcı (2001). Çuvalcı (2001) conducted a detailed needs analysis in the preparatory school, and found out that the students thought that the requirements of the departments were higher than what they were being provided with at SOBE. According to her findings, the students felt that they needed to learn English for their education and for their future studies. The students were not happy because what they wanted to learn for studies in their departments did not match what they were being taught at SOBE. The students complained about the grammar-based language teaching in SOBE arguing that they needed more listening and speaking in English. Çuvalcı (2001) also stated that the students wanted to be given technical English related to their departments, complaining that they were not getting reading passages including technical English related to their departments. She suggested SOBE administrators talking to students at the beginning of the first term and informing them about the situation in SOBE. She also suggested that students’ language needs be taken into consideration while arranging the syllabus and determining the content of the courses. Additionally, she stated that at the advanced level, students may be given some reading passages including specific terminology related to their departments.

Another study conducted in KTU by Arslan (2001) shows that the proficiency level of the students was likely to be found unsatisfactory by the specialists and students. When the students started to attend the courses taught in English in their departments, they had too much difficulty in understanding the lesson. In his study, Arslan (2001) collected both qualitative and quantitative data from postgraduate students, English lecturers and subject professors about language needs, their views of the preparatory program, and suggestions to improve future preparatory program. He also analysed the present program in terms of goals and objectives of the program, language competencies to be improved in the program and available teaching resources. Arslan (2001) states that no curriculum framework was available to design the program, and there was not a committee responsible to review the program. He also states that the program had no specific goals and objectives written somewhere. His findings show that some lecturers thought that the program aimed at only teaching general English, while some believed that they were aiming at both general English and EAP. Arslan (2001) argues that the parties related to the program did not have common ideas about the purposes of the program. He also adds that there was no curriculum committee, and this led to an unsystematic program design. He also found out that the students in the program were not asked about their expectations and views of the program before. Another finding of his study was that the ideas of the English lecturers, students and subject professors were very different from one another. That's why Arslan (2001) argues that through a careful syllabus design with focus on first general English and then on teaching academic skills different purposes can be handled. He also suggests grouping students in terms of field of study. He also found out that professors and students demanded for more EAP for academic studies. Students also wanted more courses on teaching general English such as speaking, reading and writing courses. Finally, Arslan (2001) proposes a curriculum model based on his findings. Arslan's study shows that the teaching-learning conditions in the preparatory program of KTU should be improved by examining the existing situation in the program, and similar studies conducted in Turkey and abroad (Arslan, 1989; Barkhuizen and Gough, 1996; Benesch, 1996; Markee, 1997; Towell and Tomlinson, 1999; Arslan, 2001; Çuvalcı, 2001; Doğan, 2003).

All these studies mentioned about the preparatory school of KTU show that there is an urgent need to develop a curriculum that would meet the needs and expectations of all the parties including students, English lecturers and subject specialists in the departments.

Students' language abilities in the preparatory program might be improved through the application of the theme-based model of Content-based Instruction. The findings of the studies mentioned in the previous section showed that language abilities of the students who participated in the studies were highly improved through the application of Content-based Instruction (Gianelli, 1997; Wiesen, 2001; Sugliano and Greenfield, 1998; Owens, 2002; Snow et al., 1988; Heyden, 2001; Durmaz, 2001; Doğan, 2003). They did not forget what they were studying; concentration of a content-based unit increased students' motivation and they could learn content while they were learning language. Also, the teachers in these studies were satisfied since they observed that their students were more motivated and they contributed to the course more. Of course, the language learning-teaching settings of the studies were different from each other, but CBI is such an approach that it can be modified according to the setting where it will be used. Therefore, the application of CBI in the preparatory school of KTU might provide a better language teaching that will satisfy all parties including students, lecturers and subject specialists in the departments.

#### **1.4. Purpose of the Study**

This study aims at finding out whether or not Theme-based model of CBI might meet the language needs of the students in the preparatory school of KTU. In order to find this out, this study also aims to determine the language needs of the students who are studying English in the preparatory school as well as perceptions of the graduate students of SOBE who are freshmen in their departments, perceptions of the lecturers in SOBE and subject specialists in the departments. In order to reach its aim, this study seeks to answer the following questions.

#### **1.5. Research Questions**

Given all what have been said up to now about the CBI and its contributions to language learning, the main question of this study, then is:

**Main Research Question:**

1. Can Theme-based model of CBI meet the language needs of the students in the preparatory school of KTU?

As well as the main question above, this study also seeks answers to the following specific questions:

**Specific Research Questions:**

1. What language skills do the students in the preparatory school at KTU think that they should have?
2. What language skills do the English lecturers in the preparatory school of KTU think the students need to acquire?
3. What language skills do the subject specialists in the departments at KTU expect their students to have?
4. What are the ideas and attitudes of the students towards theme-based units?

**1.6. Significance of the Study**

It is hoped that Theme-based model of CBI can prove to be appropriate to meet the needs and expectations of the students and other related parties. If it is found appropriate, this study may help the administration of the preparatory school design a content-based syllabus. This study is also important because a needs analysis will be conducted and the data collected can also guide the administration of SOBE to evaluate, modify and better the present program.

This study is also important since it can provide guidelines for other universities and institutions in both Turkey and other countries in which English is the medium of instruction.

**1.7. Organization of the Study**

This thesis is comprised of six chapters. Chapter 1 provides an introduction to the topic with research questions, and it explains the purpose and significance of the study. Chapter

2 is a review of literature. It presents the curriculum development process, needs analysis, theoretical background of CBI, characteristics and principles of CBI, its models, comparison of models and assessment in CBI. Chapter 3 is an explanation of the methodology of the study. Chapter 4 is devoted to the analysis of the data collected through questionnaires and interviews. Chapter 5 discusses the findings. Chapter 6 presents the conclusion and implications. In the Appendices, questionnaires, interviews, two thematic units and some sample responses of the students are included.



## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **2.1. Introduction**

The aim of this study is to find out whether or not Content-based Instruction, especially its theme-based model can meet the language needs of the students in the preparatory school of Karadeniz Technical University. Therefore, this chapter deals with Content-based Instruction, focusing on its theoretical background, its characteristics and principles, its models, especially its Theme-based Model. Additionally, since Content-based Instruction is generally used as a syllabus design in language institutions and syllabus design is one of the essential components of curriculum development, a brief introduction to language curriculum development is provided at the very beginning of this chapter.

#### **2.2. Curriculum Development Process**

Curriculum development is such a comprehensive and challenging process that it includes the processes that are used to determine the needs of a group of learners, to develop aims or objectives for a program to meet these needs, to determine an appropriate syllabus, course structure, teaching methods and materials and to carry out an evaluation of the language program that results from these processes (Richards, 2001). Each of these processes must be carried out carefully for the success of the language teaching institution. Without a carefully designed curriculum, the program cannot reach its goals and objectives. It may not have explicit goals or objectives, either (Graves, 2000). Since it will not be prepared in parallel with its students' needs and expectations, it will not be able to meet those needs and expectations no matter how experienced teachers it has, or no matter how quality material it uses. Therefore, a number of models and frameworks have been suggested by the scholars in order to provide guidelines for the curriculum designers (see Dubin and Olshtain, 1986; Hutchinson and Waters, 1987; Yalden, 1987; White, 1988; Johnson, 1989; Brown, 1995; Graves, 2000).

All the curriculum frameworks proposed by the scholars (Johnson, 1989; Brown, 1995; Graves, 2000) share such similar components for curriculum development as needs analysis, formulation of goals and objectives, selection of an appropriate syllabus, and evaluation of the program. For instance, in the curriculum models of Taba-Tyler (in Dubin and Olshtain, 1986) and Brown (1995), needs analysis is the first step of the curriculum development because it provides the necessary information about the language needs and expectations of the students who would attend the program. Based on the data gathered by the needs analysis, goals and objectives of the program are determined. Goal statements provide a clear definition of the purposes of the program, provide guideliness for teachers, learners and material writers, and help provide a focus for instruction to describe important and realizable changes in learning (Richards, 2001). Goal statements reflect the ideology of the curriculum. Objectives of the program should also be stated. When the objectives are described clearly, course planning, material preparation, textbook selection, and related processes are facilitated. They provide measurable outcomes and thus provide accountability, and describe how planning should proceed. After the objectives of the program are stated clearly, an appropriate syllabus can be selected to meet the needs and expectations of the students, and materials and activities are prepared for teaching experiences. After the implementation of the the new syllabus, the outcomes of the program are evaluated to find out whether the program has been successful or not. There have been many curriculum studies in language teaching settings in order to create a program, modify or change an existing program so that it can be successful in meeting needs of learners.

One of the studies on curriculum development was conducted by Towell and Tomlinson (1999) in the French Section of the Department of Modern Languages of the University of Salford in UK between 1988 and 1998. Towell and Tomlinson (1999) argue that the attempt of developing a new curriculum was motivated by three interacting theoretical perspectives on how language is learnt at an advanced level. These were a second language acquisition perspective, a communicative language teaching perspective and a text-typological perspective. In the lights of these perspectives, they developed a curriculum model and applied the model in 1989-90. Then, they met a number of problems and some modifications were done in the syllabus in 1995-96. For example, they scaled

down the projects. The units were two or three weeks long instead of six. Intermediate objectives were determined according to the expected outcomes of each class hour. They also evaluated the program administering questionnaires to the students at the end of first and second term. Consequently, Towell and Tomlinson (1999) argue that “we trust that this account of a 10-year process has shown how, from a principled understanding of what an advanced language curriculum should contain, it has been possible to design and apply a particular kind of syllabus” (p. 25). In this study, Towell and Tomlinson (1999) prepared a new curriculum based on the three theoretical perspectives mentioned above. Each component of the curriculum was designed in parallel with these perspectives, and the curriculum was applied successfully.

Puella (1990) describes the curriculum development process conducted in University of Antioquia, Medellin in Colombia. In this university, a curriculum committee was in charge of carrying out a research and developing a new curriculum. First of all, the committee conducted a set of surveys to collect information about the needs and expectations, and also opinions of not only students in the departments but also private and state companies, educational institutions in the field of foreign language program. Out of the results of these surveys, they knew the knowledge and skills desired by all parties, and developed a curriculum. The curriculum guide was made up of;

1. the overall aims of the program
2. a list of specific goals
3. a list of items and language operations to be taught
4. a list of cultural concepts
5. a list of activities through which language skills can be practiced
6. materials for teachers’ reference and students’ texts (Puella, 1990: 39)

As can be seen in the curriculum development studies above, needs analysis is very important since it provides guidelines for the following steps of curriculum development.

### **2.3. Needs Analysis**

In order to carry out a successful program, the initial point of the process is the needs analysis, which gives ideas about what to do in the following phases and determines the next steps (Richards, 2001). Richards (2001) also argues that a curriculum in which needs of the students, teachers and other related parties are not incorporated is likely to cause

limitations and problems. Therefore, needs analysis is the first and most essential part of curriculum development.

Graves (2000) defines needs analysis as, “a systematic and ongoing process of gathering information about students’ needs and preferences, interpreting the information, and then making course decisions based on the interpretation in order to meet the needs” (p.98). She goes on to argue that “needs analysis helps the learners to reflect on their learning, to identify their needs, and to gain a sense of ownership and control of their learning” (p. 98).

Needs analysis is carried out to find out which language skills are needed by the learners in the program, to evaluate the existing program, to determine the needs of those outside the program such as parents, society, and market people. The idea behind conducting a needs analysis is that learners will benefit from the programs reflecting their needs (Graves, 2000). Benesch (1996) also argues that “the rationale for needs analysis is that by identifying elements of students’ target English situations and using them as the basis of English for Academic Purposes (EAP) or English for Specific Purposes (ESP) instruction, teachers will be able to provide students with the specific language they need to succeed in their courses and future careers” (p. 723). When a careful needs analysis is carried out, the limitations and problems that the learners and the teachers will face will be prevented in advance. In this way, the program will include the points the learners need, which will increase the motivation of the learners and prevent them from getting bored with the program.

There are a number of distinctions made between needs such as perceived and present needs, and potential and unrecognized needs by Richards (2001), target and learning needs by Hutchinson and Waters (1987), situation and language needs by Brown (1995), and objective and subjective needs by Brindley (1989). It is not important what the specialists call the needs of the learners or what kind of distinction they make between them, the needs of the students and people connected with the language program have a very crucial place in the language curriculum, and they should be carefully determined for the success of the program.

As an example of studies on determination of needs, Edwards (2000) conducted a needs analysis to design an ESP course. In this study, the initial course aims and objectives were determined by an interview with the employer and by a brief needs analysis administered to the students on the first day of the course. Based on the interview and needs analysis results, he determined the course aims, the most important of which was to improve speaking confidence of the students. After needs analysis and objectives, he designed the course syllabus, materials and teaching methodology. Edwards (2000) argues that “experience teaching at dozen of multinational companies has shown me that student input is crucial to the successful design of an ESP course in any context” (p.292).

Another study on needs of the students was conducted by Chia et al. (1999) at Chung Shan Medical College in Taiwan. The purpose of this study was to describe the perception that medical college students and faculty have of the English language needs of the students. The Ministry of Education in Taiwan had eliminated the English requirement criticizing that it did not meet the students’ needs (Chia et al, 1999). Chia et al. (1999) argue that to compensate this drawback, a number of courses were developed but unfortunately without conducting a needs analysis. That’s why, the aim of this study was to assess the English needs of the medical college students in order to increase teaching and learning effectiveness. Chia et. al. (1999) argue that results show that English was perceived as important by both the students and faculty for the students’ academic studies and future work. The results also show that there was a need for sound curriculum design and improvement in language teaching.

As can be seen in the examples above, needs analysis is very important in the course design, especially for the guidelines it provides for the following steps of course design. Since Content-based Instruction, which will be discussed in detail in the following section, is absolutely based on learners’ needs and expectations, a carefully conducted needs analysis will be conducted in order to find out whether or not Content-based Instruction could meet the learners’ needs.

As seen in the curriculum development studies, syllabus is one of the essential components of a course design. Frameworks for course design are very important because a course designer cannot incorporate a syllabus into a language program ignoring these.

That's why, a course designer who will prepare a course design or examine the existing preparatory program should take these into account.

Since the main goal of this study is to find out the place of Theme-based Model of Content-based Instruction in a course design for the preparatory program, in the following section Content-based Instruction will be discussed in detail.

#### **2.4. Content-Based Instruction (CBI)**

Selecting the syllabus type is a very important phase of the program development. Therefore, at the very beginning, there must be a course rationale which seeks answers to the questions such as "Who is the course for?", "What is the course about?" and "What kind of teaching, learning will take place in the course?" (Richards, 2001: 145). If the learners cannot be motivated by the activities and materials used by the teachers and get bored and lose their willingness toward language learning, the program will fail. That's why, selection of syllabus type is very crucial in language programs.

Widdowson (1984) states that

“ a syllabus is not only an educational construct, it is also a pedagogic one. It does not only define what the ends of education through a particular subject ought to be, but it also provides a framework within which the actual process of learning must take place and so provide a device by means of which teachers have to achieve these ends.” (p. 23)

Hutchinson and Waters (1987) define syllabus as “a document which says what will (or at least what should) be learnt” (p. 80). Every syllabus is a particular representation of knowledge and capabilities and this representation is shaped by the designer's views concerning the nature of language, how the language may be most appropriately taught or presented to learners, and how the language may be productively worked upon during learning. Recently, Content-based Instruction has gained a great amount of interest in the language teaching settings (Snow, Met and Genesee, 1989; Brinton et al., 1989; Grabe and Stoller, 1997; Snow, 2001; Davies, 2003). Having such interest, it could also be useful for the students of preparatory school of KTU to develop and implement such a syllabus design.

Richards and Rodgers (2001) define Content-based Instruction as an approach to second language teaching in which content or information is the centre of teaching. Jordan (1997) also mentions Content-based syllabus and argues that "... such a syllabus or approach focuses on teaching students the language, skills and academic conventions associated with their particular subject and its content (subject matter)" (p. 61). Kranke (1987, cited in Richards and Rodgers, 2001) offers another definition of CBI as "it is the teaching of content or information in the language itself being learned with little or no direct or explicit effort to teach the language itself separately from the content being taught" (p. 204).

Another definition of Content-based Instruction is by Larsen-Freeman (2000). She argues that "it integrates the learning of language with the learning of some other content, often academic subject matter" (p. 137). Moreover, Snow (2001) argues that content-based second language instruction is generally EAP oriented, and the main instructional goal of it is to prepare students for the types of academic tasks they will face in school, college, or university.

The term content is interpreted differently in CBI from traditional methods. For example, in grammar-translation method on which Product-oriented syllabuses (Yalden, 1987; Nunan, 1988; White, 1988) are based, content is defined as grammatical structures of target language. In audio-lingual method, content consists of grammatical structures, vocabulary or sound patterns in dialogue forms. In communicative approaches, content is defined as communicative purposes for which the learners use the target language. On the other hand, Content-based Instruction moves one step beyond communicative language teaching, and content is defined as the use of subject matter for second or foreign language teaching purposes (Snow, 2001; Stryker and Leaver, 1997). Eskey (1997) sees content as the third dimension in syllabus design following form and function and explains his point of view as follows:

In real language use speakers do not begin with a list of either forms or functions that they wish to produce, but with a subject that they happen to be interested in and would like to learn more, or say something about. Language syllabus designers, however, have not been much concerned with the purposes of learners, other than linguistic purposes, nor with subjects, so much as with the language of subjects, which most learners do not find especially interesting. Thus, the missing third dimension in syllabus design is, I would argue, subject matter or

content; and a real concern for subject matter is what most distinguishes the content-based syllabus from other syllabus types. (p.136)

Therefore, content in a CBI classroom may be topics or themes based on student interests and needs, or any specific subject in the curriculum students are studying in classes and content used in CBI classroom is relevant and meaningful to the students. Thus, these topics or themes can be motivating for students to learn both content and language at the same time. In accordance with this, Stoller (2002: 1) argues that “as students master language, they are able to learn more content, and as students learn more content, they are able to improve their language skills.” As Stoller states, students are presented subject matter and they learn language as a by-product of learning real world content. The subject matter provides a rich context for the language class, and in this way, language teachers can find new ways to focus on language features in that context (Brinton, 2003) and also present what Krashen (1985) calls comprehensible input challenging language that is slightly above the current linguistic level of students. Since Content-based Instruction provides students with content that can help them learn language in a better way providing comprehensible input, it has gained theoretical support from other research fields interested in language teaching (Grabe and Stoller, 1997).

#### **2.4.1. Theoretical Support for CBI**

Content-based Instruction has received support from a wide range of research fields such as Second Language Acquisition Research, Cooperative Learning Research, Extensive Reading Research (Grabe and Stoller, 1997; Dupuy, 2000; Crandell, 1993).

Support for CBI comes from Krashen’s “comprehensible input theory” (1985). According to Krashen, a second language is most successfully acquired when the conditions are similar to the ones in first language acquisition. That is, language is best acquired when the focus of instruction is on meaning rather than form; when the language input is at or just above the proficiency of the learner; and when there is sufficient opportunity to engage in meaningful use of that language in a relatively anxiety-free environment. Snow et al. (1989) argue that one “rationale behind integrating language and content is that language is learnt most effectively for communication in meaningful, purposeful, social and academic contexts” (p. 202). That is, language acquisition is



facilitated and motivation increases if the information acquired is highly relevant to students' personal and educational aims (Snow, Met and Genesse, 1989). In real life, language is used by people to talk about what they know and what they want to know. It is not used just to talk about language itself. That's why, meaningful materials and contexts are needed for successful language learning. CBI meets all these conditions (Dupuy, 2000, Kasper, 2000, Grabe and Stoller, 1997). To illustrate, in CBI, the major principle in curriculum organization is subject matter, not language. Content-based class is a language class, but every effort is done to make the subject matter comprehensible to students. This means that pedagogical modifications are made in CBI classes taking into account the language competence of the students, their needs and interest, and subject area knowledge. Also, in CBI, language teachers attempt to shelter input so that it will be comprehensible to students (Dupuy, 2000).

Cummins (1981: cited in Kasper, 2000) claims that becoming proficient in a second language involves a "two-tiered model" of skill acquisition. At the first tier, basic interpersonal language skills are learnt. These skills involve the ability to converse with others and to articulate needs in the second language. These skills are developed within one to two years in school; however, these students with these skills are not able to read widely in English. That is, they are at an inadequate level of academic language proficiency. That's why, they need to develop the second tier. The second tier, called cognitive academic language proficiency, involves the acquisition of academic literacy skills. These skills are the ability to use second language to understand complex, often decontextualized linguistic structures, and to analyze, explore, and deconstruct the concepts presented in academic texts, and CBI is believed to be an effective way for students to develop cognitive academic language skills (Grabe and Stoller, 1997; Kasper, 2000).

Another support for CBI comes from Cognitive Learning Theory. Anderson's ACT theory is briefly described by Grabe and Stoller (1997) and Kasper (2000). In this theory, there are three stages through which learning is developed. Kasper (2000) argues that in the *cognitive stage*, the learner gradually develops a rough mental representation of task requirements. In the *associative stage*, error correction is made and connections to related declarative and productive knowledge are strengthened, and the knowledge and skills

become proceduralized. In the final stage, the *autonomous stage*, the task representation is increasingly refined, and the learner can automatically and autonomously perform the task. Content-based tasks provide students with the necessary materials and demanding activities and allow students pass through those learning stages in Anderson's theory as Kasper (2000) argues that through content-based tasks, students are guided through the process of gathering, evaluating and synthesizing information. Kasper (2000) also argues that in the mainstream courses, students are asked to discuss issues, pose questions and evaluate different viewpoints. He continues that "in order to carry out these tasks, students must be able to function on an autonomous level, synthesizing information from a variety of sources and weighing the importance of the different pieces of information they have found" (p. 8). CBI activities also help students develop their critical thinking skills giving them purposeful, goal-directed assignments. These assignments involve planning, organizing, reading, and editing which require description, comparison-contrast, cause-effect, and argumentation. While engaged in these assignments, students expand knowledge, generate ideas, and develop their own thinking skills.

There is also support for CBI from Cooperative Learning Research (Grabe and Stoller, 1997; Dupuy, 2000). Dupuy (2000) argues that cooperative learning offers students the opportunity for greater participation and use of target language in less stressful situations. It also gives students the support needed for self-confidence and motivation. In a CBI classroom, activities that allow students to share responsibility and work together to complete tasks are extensively used. Students in a CBI class are also provided with opportunities to interact, share ideas, construct knowledge together in a low-risk atmosphere through small group work, team learning, jigsaw reading and peer editing activities (Dupuy, 2000).

Grabe and Stoller (1997) and Dupuy (2000) mention another support for CBI from Extensive Reading Research. Reading coherent extended materials promotes language competence and content area knowledge. Extensive reading helps the students not only become better readers and writers, but also develop larger vocabulary. It also helps students acquire grammatical and spelling accuracy, and improve their speaking and listening (Kasper, 2000). Students in a CBI classroom are asked to read extensively since extensive reading is an integral part of CBI (Grabe and Stoller, 1997; Dupuy, 2000). They

engage in reading materials related to content they study. A variety of text types are utilized to expose students to different types of discourse.

Taking into account the practical features of CBI and other support mentioned above, Grabe and Stoller (1997) suggest seven strong rationale for CBI:

1. In content-based classrooms, students are exposed to a considerable amount of language while learning content. This incidental language should be comprehensible, linked to their prior learning, and relevant to their needs.
2. CBI supports contextualized learning; students are taught useful language that is embedded within relevant discourse contexts rather than as isolated language fragments.
3. Students in CBI classes have increased opportunities to use the content knowledge and expertise that they bring to class.
4. CBI itself promises to generate increased motivation among students; in content-based classrooms, students are exposed to complex information and are involved in demanding activities which can lead to intrinsic motivation.
5. CBI supports such learning approaches as cooperative learning, apprenticeship learning, experiential learning, and project based learning.
6. CBI allows greater flexibility and adaptability to be built into the curriculum and activity sequences.
7. CBI lends itself to student-centered classroom activities. (pp.19-20)

As seen, Content-based Instruction has received support from many research areas. Receiving such strong theoretical support from other research fields dealing with language teaching and learning, CBI seems to be a powerful innovation in language teaching. It is considered that CBI could offer ideal conditions for language learning when carried out appropriately (Grabe and Stoller, 1997).

#### **2.4.2. Characteristics and Principles of CBI**

Content-based Instruction is based on the principle that successful learning occurs when students are presented with target language material in a meaningful, contextualized form with the primary focus on meaning and acquiring information and knowledge (Brinton et al, 1989).

Richards and Rodgers (2001) also support the implementation of CBI arguing that a language is learnt most successfully when the information is perceived by the learners as interesting, useful and leading to a desired goal and when language is used as a means of

acquiring information rather than as an end in itself. Richards and Rodgers (2001) also argue that there is a number of assumptions about the nature of language underlying CBI:

1. Language is text- and discourse based: Language is seen as a vehicle for content learning
2. Language use draws on integrated skills: Several skills are involved in language use
3. Language is purposeful: Language is used for specific purposes (p. 208)

Content-based Instruction, which is based on these principles, has many kinds of application. That is, there is no “single formula” (Stryker and Leaver,1997; 3) for CBI. Some of the common applications are carried out by both second and foreign language instructors, in university level foreign language instruction, English for Academic Purposes (EAP) programs, Language for Special Purposes (LSP), Foreign Language Across the Curriculum (FLAC), Sheltered Content Courses, Adjunct Courses, and Theme-based and Area Studies models (Stryker and Leaver,1997). As can be seen, CBI is gaining significance in different settings in many countries both in English as a Second Language (ESL) and English as a Foreign Language (EFL) contexts.

Because of the diverse contexts for instruction, contrastive perspectives on the integration of content and language learning, and varying expectations of the students, different kinds of application are used in different parts of the world. Despite these differences, Stoller (2002b) argues that all these applications share common characteristics;

1. They promote the integration of language, content and strategy learning
2. They view language as a medium for learning content and content as a resource for learning and improving language
3. They use content materials to drive most instructional decisions
4. They endorse purposeful and meaningful language use in the classroom
5. They encourage active student participation
6. They focus on the development of discourse level activities (p. 109).

Additionally, Brinton (2003) argues that Content-based Instruction is based on the following principles;

1. “Instructional decisions are based on content rather than language criteria” (Brinton, 2003: 205). As mentioned above, the departing point of CBI is highly different from the traditional approaches and it allows the choice of content. Richards and Rodgers (2001)

argue that language learning is very motivating when the students are focusing on something other than language such as ideas, issues and opinions.

2. “Language skills are integrated” (Brinton, 2003: 206). An integrated skills approach is also used in language teaching, and this approach covers all four skills as well as grammar and vocabulary. This is achieved through the topics that provide coherence and continuity across skills (Snow, 2001; Stryker and Leaver, 1997; Brinton, 2003).

3. “Students are actively involved in all phases of learning process” (Brinton, 2003: 207). Content-based Instruction classroom is learner-centered rather than teacher-centered. That’s why, students and teachers have different goals from the ones in traditional classes. For example, it is believed that learning occurs not only through exposure to the teacher’s input, but also through peer input and interactions. Therefore, students in a content-based class support each other collaboratively, and take active roles in interpreting input, exploring alternative learning strategies, take part in the selection of topics and activities (Richards and Rodgers, 2001; Brinton, 2003; Snow, 2001). In this aspect, Stryker and Leaver (1997) argue that participation in choosing topics and activities has been found to be highly motivating and has resulted in a course changing direction in order to better meet the needs of students.

4. “Content is chosen according to its relevance to students’ lives, interests and/or academic goals” (Brinton, 2003: 207). Analysis of needs of the students is the starting point of a successful curriculum development process and content-based instruction supports this main idea. In a content-based classroom, students are asked what they are interested in and what they would like to study while learning language, and they may choose any content that is relevant to their interest or academic fields, subjects that they are going to study in subject matter classes. In this way, students’ background knowledge is activated and it helps learners cope with unknown language in other contexts and foster development of foreign language proficiency. Content-based Instruction is highly fluid and flexible, that’s why, the needs of the students can successfully be met by the teacher in the on-going teaching process by determining the needs and assessing the students’ language proficiency levels (Snow, 2001; Stryker and Leaver, 1997). According to Eskey (1997), students must apply language to subjects they know something about. He also adds that in

the process of acquiring the key knowledge and skills, it is content that will eventually provide the critical information on the subject that will make it increasingly comprehensible.

5. “Authentic texts and tasks are selected” (Brinton, 2003: 208). It is believed that artificial language of foreign language texts does not provide students with models of how people really communicate in the foreign language (Stryker and Leaver, 1997). Therefore, the use of authentic texts and tasks is very important in a content-based classroom. Hutchinson and Waters (1987, 159) define authentic texts as “those that are not originally constructed for language purposes.” That is, a text may be an extract from a content area text book, a cartoon, the lyrics to a popular song, a short story (Brinton, 2003). Authentic texts are very useful for students to have self-confidence and motivation because when they encounter such kind of texts and can understand them, the way native speakers communicate, they have self-confidence and a stronger motivation to learn language (Wiesen, 2001; Guariento and Morley, 2001; Peacock, 1997). Guariento and Morley (2001) argue that exposing students to the language of the real world helps them acquire an effective receptive competence in the target language, adding that the use of authentic texts and tasks is useful in maintaining or increasing students’ motivation for learning. Peacock (1997) conducted a study with beginner-level students in two classes at a South Korean university EFL institute. His aim was to investigate whether authentic materials increase the classroom motivation of learners. The results of the study showed that authentic materials significantly increased learner on-task behaviour. The results also indicated that the overall class motivation increased when the learners used authentic materials.

6. “Overt attention is drawn to language features” (Brinton, 2003: 209). Unlike some other approaches to language teaching, in content-based instruction, it is believed that comprehensible input alone is not sufficient enough to lead to successful language acquisition. Hence, content-based teachers draw overt attention to language features such as grammar and vocabulary (Brinton and Holten, 2001). Eskey (1997) states that students must develop some skills in the use of language forms and routines needed for dealing with these subjects in whatever ways they may have to deal with them. Brinton and Holten (2001) argue that since the main aim in CBI is to learn language using subject matter, that is content, the only way to content is through language. That’s why, they argue that “while

it is important that students understand a concept central to the content of a given CBI unit, language instructors can help them achieve this comprehension through focusing primarily on the language rather than the content” (p. 250).

Assessment in content-based courses is also different from other approaches in language teaching. Brinton et al. (1989) argue that in a content-based class, it is important “what” and “how” to evaluate (p. 181). Weigle and Jensen (1997) provides a good summary for what Brinton et al.(1989) refer to saying “what” to evaluate. The primary focus of the instruction in different models of CBI is on different components. For instance, the primary focus in the theme-based model is on language acquisition. That’s why, Weigle and Jensen (1997) argue that the focus of evaluation in theme-based courses is language skills and functions rather than mastery of content. On the other hand, since the focus of instruction in the sheltered model is on content mastery, evaluation in this model focuses on content, with little emphasis on language. In the adjunct model, students attend both a content and language course. Therefore, assessment of the students focuses on equally on language and content. Weigle and Jensen (1997) argue that instructional emphasis should be reflected in the focus of assessment, adding that “a course whose primary goal is language acquisition should not test mainly content knowledge” (p. 202). In CBI, it is important to define the relationship between language and content while designing the assessment.

In regard to “how” to evaluate, Short (1993) mentions alternative assessment measures such as skill checklists and reading/writing inventories, anecdotal records and teacher observations, student self-evaluations, portfolios, performance-based tasks, essay writing, oral reports and interviews. She supports implementing a wide range of assessment procedures arguing that students may have different learning and testing styles, and they may be unable to demonstrate the extent of their knowledge at a single sitting on one designated testing day. Short (1993) presents an assessment framework and argues that

“Successful implementation of the framework requires that (a) students be given frequent opportunities to demonstrate the growth of their knowledge base; (b) assessment tools be varied to meet individual learning styles, needs, and current skill levels; and (c) students be made aware of the assessment objectives in advance” (p. 634).

According to Kasper (2000), if it is accepted that a second language can be acquired most efficiently when presented in meaningful contexts where the primary focus is on acquiring information (Brinton, Snow and Wesche, 1989), assessment in CBI courses should be designed so that they reflect this goal. That's why, Kasper (2000) argues that content-based assessment should be authentic and interactive. This means that students should be required to complete discourse level tasks, rather than discrete, decontextualized tasks. She goes on to argue that the focus of content-based assessment should be on the skills that students actually need to use in an academic settings.

### 2.4.3. CBI Models

Sharing these principles, three models of Content-based Instruction are identified in an EFL situation by Brinton et al. (1989); the theme-based model, the sheltered model and the adjunct model. On the other hand, Snow (2001) describes five models of Content-based Instruction; immersion model, content-enriched foreign language in the elementary school, sheltered model, adjunct model and theme-based modal. In this study, the three models identified by Brinton et al (1989) are considered to be the main models of CBI; therefore, they will be discussed in detail after giving brief information about the two other models, immersion model and content-enriched foreign language in the elementary school, described by Snow (2001).

Snow (2001) argues that “**immersion model** of foreign language education is perhaps the prototypical content-based approach” (p.305). The first immersion program was established in a suburb of Montreal in Canada and now immersion programs are applied across Canada and the United States (Snow, 2001). These programs provide education in such foreign languages as French, Spanish, German, Chinese and Japanese. Snow (2001) mentions two types of immersion; total and partial immersion. In total immersion model, English speaking elementary school students are taught the majority of their schooling through their second language. In the partial immersion program, there is usually a 50/50 time allocation of English and the foreign language to teach academic content. Snow (2001) argues that some other variation of the immersion model has developed which differs with respect to the amount of time the foreign language is used and the grade in



which the program begins. However, Hamayan (2000, cited in Snow, 2001) argues that most immersion programs share the following four objectives:

1. Grade-appropriate levels of primary language (L1) language
2. Grade-appropriate levels of academic achievement
3. Functional proficiency in the second / foreign language
4. An understanding of and appreciation for the culture of the target language group (p. 5).

Snow (2001) argues that in **Content-enriched Foreign language in the Elementary School (FLES)** model, subjects from the school curriculum are selected for introduction or reinforcement. The language teachers in this program find points in the school curriculum that can be paired with the objectives of the foreign language curriculum. In this way, the students have a more relevant and meaningful context for their language learning. Also, since the students are exposed to the content in English, there is a richer content for use of the foreign language.

As an example of this FLES model, Ballman (1997) describes a lesson plan for a unit of six class periods and offers suggestions. Ballman (1997) argues that “the perceived purpose of beginning or first year language courses is to introduce basic target language vocabulary and grammatical structures and to initiate the development of language proficiency” (p. 174). Initially, the textbook was analyzed for their implementation of content and to find out whether or not they consisted of cultural and real-world information. Then, family was chosen as it was one of the most common themes in beginning level Spanish textbooks. And the most appropriate topics parallel with the objectives of the program were selected. Ballman (1997) argues that Content-enriched instruction applied to beginning level language learners has the following characteristics:

1. Each lesson or unit is dedicated to a specific topic or theme. All the vocabulary, grammar, and content relates to that topic.
2. The cultural and real-world information is presented by both teacher and textbook in the target language. If possible, it is presented via authentic materials.
3. Students use target language to learn the new information and relate it to their own lives.
4. The content presented is appropriate to the linguistic, cognitive and effective needs of the students. (p. 175)

Ballman (1997) established an instructional sequence: setting the stage, providing input, guided participation and extension activities. At the first step of implementation,

existing knowledge of the students was used to give meaning to new knowledge. After that, necessary input was provided such as vocabulary, grammar or content. Then, students were assigned task to work in pairs or groups to make them participate the classroom activities. As a conclusion, Ballman (1997) argues that “ not only a Content-enriched Instruction broaden students’ cultural horizons, it can also increase their motivation by its focus on content that interest them” (p. 185).

#### **2.4.3.1. The Sheltered Model**

The Sheltered Model is one of the models of CBI which Brinton, Snow and Wesche (1989) identified in EFL settings. In the Sheltered Model, which generally exists in secondary and post-secondary settings, the main goal is to mainstream the minority students to the school curriculum (Freeman, 2000). All the instruction in content courses is given in the second language by a content area specialist, a member of faculty who is the native speaker of the target language. The students are segregated or sheltered from native-speakers of language (Brinton, Snow and Wesche, 1989; Snow, 1991).

This model was originally for elementary foreign language immersion program. It is widely used in immersion and two-way/bilingual immersion programs (Crandall, 1993; Brinton, Snow and Wesche, 1989; Snow, 1991). Snow (1991) argues that “sheltered courses offer language minority students an alternative to traditional ESL classes, which are often taught in isolation from the rest of the school curriculum, giving them access to school subjects from which they might otherwise be barred on the basis of their limited English proficiency” (p. 319).

The content teacher in the sheltered model uses various modified instructional strategies and materials to develop these students’ proficiency levels (Brinton, 2003; Snow, 2001; Weigle and Jensen, 1997). For instance, the content teacher may select texts according to their organization and clarity, might adapt lectures more closely to the written text and make some linguistic adjustments to allow students to comprehend the text (Brinton et al, 1989). For example, in the study of Brinton and Holten (1997), seventh grade students studied the Big Bang Theory of the origin of the universe and tried to improve their language skills. In this study, the teacher tried to make the students

understand the content material but she also spent some time helping students with language related issues.

A good example of the sheltered model can be seen at the University of Ottawa (Brinton, Snow and Wesche, 1989). In this sheltered program, the students were presented an Introductory to Psychology course in modules. They were separated from the native-speakers, and the course was team-taught by a content professor and a language teacher. In the modules, listening and reading comprehension skills which were important to understand the lectures and readings were emphasized. The students' proficiency level was intermediate. The content teacher was aided by a language teacher. The language teacher helped the students with specific language problems. The main goal of this program was to bring students to levels of proficiency and self-confidence that would help them in the academic environment in the university.

Gaffield-Vile (1996) describes a sheltered content-based course implemented at universities in Britain. Non-native speakers had great difficulty in the first year courses in the universities, and due to lack of preparation for university study in English in Britain, most of those students failed. As a solution to this problem, the sheltered content-based course Gaffield-Vile (1996) describes was developed in order to bridge the perceived gap between the standard EAP course and the normal first-year undergraduate courses at universities. The course was restricted to students of at least intermediate level. Sociology was selected as the content since it was interdisciplinary, and included concepts and theories from other subject areas. Through the subject of sociology, this model was designed to develop students' language and study skills, especially academic writing, and also to familiarize students with scholarly discourse that could be transferable to other academic courses.

#### **2.4.3.2. The Adjunct Model**

In the Adjunct Model, typically implemented in post-secondary, university settings, the students are concurrently enrolled in two linked courses; a language course and a content course (Freeman, 2000; Snow, 2001; Snow and Brinton, 1988; Brinton, Snow and Wesche, 1989). In this model, two separate instructors, a language instructor and a content

specialist, teach the class. The coordination between these two instructors is very important for the success of the teaching (Brinton, Snow and Wesche, 1989; Grandell, 1998; Crandall, 1993). Generally, the language instructor, with the guidelines of the content instructor, develops some strategies to teach better, uses content course materials as content for the language course. The aims of these two instructors are different from each other. The aim of the content specialist is to make students understand and learn the subject matter while the language instructor's is for students to improve their language skills (Brinton, 2003). Additionally, the content instructor should be so experienced that he could identify students' needs and devise learning tasks and materials accordingly (Andrade and Makaafi, 2001).

The adjunct model is typically limited to the students whose language proficiencies are at the advanced level (Dupuy, 2000; Brinton, Snow and Wesche, 1989). This advanced proficiency level is required since the students in this model participate in content instruction with English speaking students.

A very well-known sample implementation of the Adjunct model is the one applied in the Freshman Summer Program (FSP) at the University of California, Los Angeles (UCLA) (Brinton, Snow and Wesche, 1989; Snow and Brinton, 1988). The FSP program was designed to meet the language and academic needs of the students who had not experienced the types of tasks required for success at the university. The linguistic and academic needs of the students were identified through a number of needs analyses. The most essential needs were the acquisition of critical writing and thinking skills. In this adjunct program, which lasted seven weeks, students were enrolled concurrently in two linked courses – a language course (Intermediate ESL) and a content course (e.g., Introductory Psychology) (Brinton, Snow and Wesche, 1989). In the content course of this program, native and non-native students were integrated, ESL students were sheltered in the ESL language course. In this way, language needs of the ESL students could be met. These students were also introduced to the authenticity of the academic demands of the university.

Snow and Brinton (1988) mention the following studies conducted at UCLA to show the effectiveness of adjunct model. In the first study, the aim was to collect data on the

former students' performance at UCLA who participated in the FSP from 1981-1985. A questionnaire was designed and administered to those students. The results showed that the vast majority of the former ESL students were Asian immigrants. The results also showed that those students generally valued the activities in the program. According to students, the additional benefits of the program were adjusting to UCLA, increased self-confidence, and ability to use UCLA facilities. The highest rated academic skill was taking lecture notes.

The second study Snow and Brinton (1988) mention involved an intensive follow-up of ESL students who had participated in the 1986 summer program. The results of the study showed that FSP helped the students to achieve success in time management, lecture note taking, and reading, and the program made them wise to the system in the university. The students noted that the small class size and amount of attention paid to them in the program increased their confidence making them less nervous about participating in class discussions. Almost all of the students noted that they were able to cope with written assignments as a result of FSP. When the test scores of FSP and non-FSP students were compared, it was found out that there was no significant difference in performance on either the objective or essay portions of the simulated examination. According to the results, the FSP students performed as well as the non-FSP students on an exam that tested listening and reading comprehension.

Andrade and Makaafi (2001) describe an adjunct model that was implemented for advanced level students in the English as an International Language program at Brigham Young University-Hawaii. The students of the university had little awareness of the academic expectations and language demands of university course. That's why, adjunct model was developed to raise students' awareness. The main goal of the program was to provide students with the language, study and acculturation skills they needed to succeed in university courses on their own. The students were enrolled simultaneously in the adjunct course and the content course. ESL adjunct students, native or near-native-English speaker were all enrolled in the content course. Andrade and Makaafi (2001) firstly piloted the adjunct model they developed; they examined the experiences of the instructors and the students. The pilot work was successful and then implemented in all departments. Andrade and Makaafi (2001) argue that students benefited from the program and could succeed in

university courses on their own. They also added that course grades of the adjunct students were comparable to those of the nonadjunct model students.

When the necessary requirements are provided, a language institution can make use of adjunct model to improve their students' language and content knowledge. The last model identified by Brinton et al. (1989) in EFL settings is the theme-based model.

#### **2.4.3.3. The Theme-based Model**

In the **Theme-based Model**, widely implemented in language institutes at university level, the language class is organized around a series of selected themes drawn from one content area or from across the curriculum a major theme with subtopics (Brinton, Snow and Wesche, 1989; Dupuy, 2000; Crandall, 1993). Unlike traditional language courses, in a theme-based classroom, students are provided with a rich amount of language items and activities. The materials used are generally teacher-generated or adapted from outside sources (Brinton, Snow and Wesche, 1989). The theme-based model attempts to integrate the topic into the teaching of all skills including reading, writing, speaking and listening. The topics selected provide coherence and continuity across skill areas. Themes and topics are selected according to students' needs and interests, but sometimes topics are selected just for their linguistic appropriateness, as well as for its timeliness and for its interest to the students. The topic selection, to some extent, is based on the availability of materials that would match the students' proficiency level (Brinton, Snow and Wesche, 1989). Additionally, Brinton et al. (1989) argue that "in an academic context it is important to take into consideration the types of topics which students will encounter in their general educational curriculum" (p. 27). Therefore, since the responsibility of the teachers in a theme-based class is teaching the topic, they must be enthusiastic about the topic to stimulate student interest (Brinton, Snow and Wesche, 1989).

Grabe and Stoller (1997) argue that CBI is fundamentally theme-based. Furthermore, Brinton et al. (1989) and Weigle and Jensen (1997) state that theme-based language courses are the most widespread of the content-based model. It is the most popular model because it can be developed for learners of almost any age and any level of language proficiency (Brinton, Snow and Wesche, 1989; Crandall, 1993; Dupuy, 2000). Dupuy

(2000) also argues that when compared to other models, theme-based model is more flexible, less costly, less labor intensive, simpler to implement and adaptable to changing needs and interest of the students. Theme-based model of CBI received a great amount of interest in both ESL and EFL settings (Stoller, 2002a; Grabe and Stoller, 1997; Snow, 2002).

An example of application of theme-based model can be seen in the study conducted by Kasper (1997). This study demonstrates the effectiveness of content-based instruction in language teaching. Kasper (1997) conducted a study to assess the effect of Content-based Instruction and compare the subsequent academic performance of ESL students at Kingsborough Community College (KCC) who were enrolled in content-based courses with the subsequent performance of ESL students who were not enrolled in such courses during the same semester, and then, he followed all the students' performance through the Spring 1995 semester or until their date of graduation.

Textual material used in the instruction was the major difference between the groups. The students who were enrolled in the content-based course took a multiple-content course. That is, they were presented materials from five academic disciplines: language acquisition, computer science, anthropology, biology and psychology since they were likely to be enrolled in such courses in the mainstream curriculum. On the other hand, the selections of reading in the other course for the students who were not enrolled in the content-based course were not grounded in any specific academic disciplines. They covered a wide range of topics.

In the implementation of the study, the students in Kasper's content-based course studied disciplined based units which were presented in four stages;

- (a) prereading in which background information for the topic was established
- (b) factual work which presented students with the actual discipline-based readings
- (c) discussion and analysis in which students were required to synthesize and apply knowledge gained from the reading
- (d) extending activity in which students viewed topical videos (Kasper, 1997: 312).

The students in the other course were also taught via a four-stage instructional sequence. After the students studied those materials, their performances were compared.

Findings obtained at the end of the implementation showed great significance. At the end of the semester all students took a final examination assessing their writing and reading skills. The results showed that the students in the content-based course obtained higher average score than the students in the other course. Also, the subsequent performances of the students in the two courses were investigated. To find out the results, students' performance on the college reading assessment examination was compared. It was found out that the students in the content-based course obtained higher grades. Another comparison between the students' performance was made in the City University of New York Writing Assessment Test. The students had to pass this exam to progress to mainstream freshman composition course. Once again, the students in the content-based course outperformed the others. As a result, Kasper (1997) argues that "the data generated by this study suggest that implementing a content-based program at the intermediate level of English language instruction may help to facilitate ESL students' subsequent performance in the college academic mainstream" (p. 316).

Theme-based model was applied in the Science Faculty of UND, South Africa by Parkinson (2000). In this course, Parkinson's aim was that students would acquire or improve their control of a range of literacies of science. The organizing principle for the design of the course was not skills acquisition, but the following skills were emphasized. Writing skills were emphasized since they were appropriate in a science class. Reading skills were emphasized since students were required to focus on a range of scientific texts. Listening skills were emphasized since the focus was on lectures. Speaking skills were emphasized because students were required to use language both informally in small groups and more formally as poster presentations. Some grammatical forms such as impersonal language and passivization were emphasized, and development of register was emphasized since students were required to both read a variety of texts and write. The aim of the course was for students to experience a few written genres as readers, writers and speakers.

Parkinson (2000) argues that a wide range of literacy can be acquired through the medium of themes, adding that "the theme provides the necessary context for acquisition, and makes the course relevant in the eyes of the students" (p.381).



Another study was conducted by Kasper (1995) on content-based reading instruction at Kingsborough Community College. In this study, there were two variations of content-based ESL reading instruction: the single content course and the paired content course. The students in the single content course read texts on various topics in one specific mainstream discipline. On the other hand, the students in the paired content course were also enrolled in a mainstream class paired with an ESL reading class. The texts read in the paired content course paralleled topics as they were studied in that mainstream class.

Both the single content and paired content reading course variations were on just one subject area, psychology. Students read articles on learning, memory, perception, development, personality. The study of both the single and paired content reading courses was carried out over a two semester period. Each of them involved two classes of advanced level ESL students.

At the end of the semester, the students in the single content class, the ones in the paired content class and the the other students at the college who were enrolled in an English course took the same final reading examination. The results of the examination showed that the students in both the single content and paired content course variations achieved higher pass rates in the reading comprehension examination at the end of the semester than did students in literature-based reading courses.

Students involved in this study gave feedback about the content-based reading courses they received at the end of the semester. They stated that they enjoyed reading about one subject area all semester. When they were asked whether they thought the readings and exercises done in the class were helpful in preparing them to take the departmental final examination, the responses of the students in both classes were positive. Also, when they were asked whether they preferred ESL courses to use academic material or literature, students in both classes express a preference for academic material (Kasper, 1995). Having the results of this study, Kasper (1995) argues that

“content-based ESL courses improve reading performance and prepare students for the academic demands of the mainstream college curriculum. Students are faced with the same types of reading and writing tasks that they will encounter in the mainstream, and they meet the challenge quite impressively. As a result, ESL students are able to advance quickly to a level of proficiency that will allow them to

enter and succeed in the academic mainstream. For this reason, college ESL programs should implement content-based reading courses.” (pp. 228-229)

Raphan and Moser (1994) applied Content-based Instruction at Brooklyn College. In their study, they made use of Theme-based model of CBI. Raphan and Moser (1994) state that there were problems in the art history curriculum felt by both the students and the instructors. That’s why, firstly, they conducted a needs analysis to find out the needs, expectations of both the students and instructors, and the difficulties the students had. Then, they designed a bridge course to link upper level reading courses to the art history course. In the lessons, they used content-specific material. They provided students with comparison and contrast exercises and sentence combinations. Students were taught note-taking both from lecture and readings. Students were presented vocabulary in the reading passages. They were told to paraphrase the texts and summarize the main ideas and major details of the texts. Skills of finding the main ideas, outlining, and note taking were emphasized via a variety of activities. Students were encouraged to work in groups collaboratively. They were also taught to synthesize material from different sources.

At the end of the semester, Raphan and Moser (1994) administered a survey to obtain feedback from the students. The results of the survey were in favour of theme-based model. Students stated that they were challenged by what they perceived to be real college work. They expressed they felt a heightened sense of belonging to the college community. They also said that the reading course had more meaning for them because they knew they would ultimately be responsible for the material in the required core curriculum course. They also argued that their model can be replicated to develop and strengthen academic skills of language minority students.

In addition, Brinton, Snow and Wesche (1989) mention another application of theme-based model which was implemented in the Intensive Language Course at the Free University of Berlin. One objective of the theme-based model designed for this course was to offer German university students an opportunity to activate and further develop their English skills by providing them with exposure to English meaningful tasks and projects related to their social and academic needs. A second objective of the course was to help the students develop language-processing skills and learning strategies for use after the course since they would continue to study or use English at the university or in their future

vocations. The third objective of the course was to develop students' academic skills that would be important for effective study in the university context. Various types of needs analysis were conducted and theme-based model was selected as an effective way of providing a meaningful context for the English language skills of advanced students.

In the methodology and material development, the following principles were applied:

- theme and content were of primary importance
- the language exercises were derived from the text rather than imposed on it
- the texts were authentic
- texts used represented all the media. (Brinton et al., 1989: 34)

The themes were organized as modules. The initial exercises in the modules were to stimulate student interest and to develop comprehension and the students' ability to manipulate the language of the texts. In the final activities, the students were required to use language in communicative interaction. In the topic selection, designers selected the ones which were interdisciplinary in nature so that all the students could deal with the same topic. They also selected the ones which are culturally and politically related to English-speaking countries. Also, availability of materials was another criterion in the theme selection. Then, the authors organized the modules in such a way that modules could be related to each other in order to create a cohesive transition of certain skills, vocabulary, grammatical structures and concepts.

After describing some implementations of the theme-based model both in ESL and EFL settings including the one implemented in the Free University of Berlin, Brinton et al. (1989) argue that

“the key to success in a theme-based program may not be the specific context itself – ESL versus EFL, adult versus adolescent learners, homogeneous versus heterogeneous learners. Instead, the critical factor may well be the ability of the curriculum planners to ‘unlock’ the interests of students, and to choose themes, text types, and activities which are relevant to the particular language needs of the learners for whom the program is designed.” (p. 40)

Moreover, Stoller (2002b) describes another theme-based course in the intensive English program faculty at Northern Arizona University. The hybrid curriculum of the faculty consists of 26 hours of instruction per week, and it is divided into seven instructional modules that run for 15 weeks. The modules are Content-based course,

Reading Lab, Intercultural Communication, Video, Computer Lab, Writing Tutorials and TOEFL Preparation. Stoller (2002b) states that they chose a hybrid curriculum arguing that “it permits them to address students’ pressing language- and content-learning needs effectively” (p. 112).

There are three aspects of the content-based course in the faculty; methods for promoting the acquisition of knowledge, attempts to assist students in developing some level of expertise, and an approach to building curricular coherence. In order to promote the acquisition of knowledge, they decided to provide content information as well as language. Stoller (2002b) argues that it requires that “learners (a) be exposed to input from a variety of content sources, representing diverse perspectives on related subject matter, (b) revisit the input for different purposes, and (c) have the opportunity to synthesize knowledge that originates from multiple sources” (p. 112). In order to provide exposure to input from various content sources, a primary text is adopted and it is combined with a variety of secondary sources. Stoller (2002) argues that the best way of succeeding this is to create a thematic unit that

- lasts long enough to allow students to be introduced to new information and related vocabulary
- gives students opportunities to consider newly learnt information in relation to already introduced perspectives on the same topic
- facilitates student encounters with pertinent vocabulary in the range of contexts
- assists students in making connections among different concepts, facts, and perspectives (Stoller, 2002b; 113)

In order to make students revisit content, a number of tasks are assigned and they are asked to revisit content for different reasons.

Since mainstream university classes require subject matter expertise, the content-based course seeks to promote the development of expertise. That’s why, the thematic units are sequenced carefully so that the students could make use of their knowledge in gradually more complex problem-solving tasks. In order to build coherence in the content-based course, the Six T’s Approach by Stoller and Grabe (1997) is used as a guide for the content-based course in the Northern Arizona University.

Their Six T's are themes, texts, topics, threads, tasks, and transitions.

- Themes are the central ideas appropriate to students' needs and interests, institutional expectations, program resources and teacher abilities and interests
- Texts are content resources (written or aural) which drive the basic planning of thematic units
- Topics are the subunits of content which explore more specific aspects of the theme
- Threads are linkages across themes which create greater curricular coherence. They are relatively abstract concepts that provide natural means for linking themes, for reviewing and recycling content and language across themes, and for revisiting selected learning strategies
- Tasks are the instructional activities and techniques utilized for content, language and strategy instruction in language classrooms
- Transitions are planned actions which provide coherence across topics in a theme unit and across tasks within topics (pp. 83-85)

As the studies mentioned in this section suggest, theme-based model of CBI has received great interest in both ESL and EFL settings, and has been implemented in many language institution (see Dupuy, 2000). Giving several examples of theme-based studies conducted for all levels, beginner, intermediate, and advanced, Dupuy (2000) argues that students enrolled in theme-based courses indicated that they made gains in speaking, listening, and reading. Students in these studies also reported increased self-confidence and motivation to continue studying the target language. Students' reactions to these courses were highly positive because they felt they learnt a great deal. When these students' feedback is taken into account, the implementation of a theme-based model with low level proficient students seems beneficial.

#### **2.4.4. A Comparison of Features of the Three Models of CBI**

The three models identified by Brinton, Snow and Wesche (1989) have some similarities and differences (Table 1). The most important features of them is that they share the fact that content is the departing point or organizing principle of the course. This feature grows out of the common underlying assumption that successful language learning occurs when students are presented with target language material in a meaningful, contextualized form with the primary focus on acquiring information (Brinton, Snow and Wesche, 1989). Another similarity between them is that in all of them authentic tasks and

materials are utilized. The activities in the classrooms reflect the types of academic demands placed on the students, and they aim to meet students' needs.

The models also differ in several ways including course purpose and learning focus, instructional format, instructor responsibilities, student population, and focus on evaluation (Dupuy, 2000; Brinton, Snow and Wesche, 1989). Concerning the course purpose and learning focus, in the theme-based model, the primary aim of the course is to help students develop second language competence, while in the sheltered model, the primary aim is to help the students master content material. On the other hand, the primary aim of the adjunct model is to help students master both language and content, and introduce students to general academic discourse in order to help them develop transferable academic skills.

There are also differences in the instructional format. In the theme-based model, the responsibility of the language instructor is to provide students with language and content instruction, while it is the responsibility of the content instructor to provide content and language instruction in the sheltered model. In the adjunct model, language and content instructors share the responsibilities of providing language and content instruction for the students (Dupuy, 2000; Brinton, Snow and Wesche, 1989).

The other differences concern the student population and focus of evaluation. Students in theme-based and sheltered models are separated or sheltered in the presentation of course material. However, they differ from each other in the following way. The students in the theme-based model earn language credit and are evaluated on the development of their second language skills, whereas the students in the sheltered model earn subject matter credit and are evaluated on content mastery. Nevertheless, the students in the adjunct model are enrolled in both a content course with the native speakers and a language course where they are segregated. The students in adjunct model earn credits for both of the courses (Dupuy, 2000; Brinton, Snow and Wesche, 1989; Crandall, 1993; Snow, 2001).

**Table: 1**  
**Distinguishing Features of Three Content-Based Models**  
**(Brinton, Snow and Wesche, 1989: 19)**

	<b>Theme-based</b>	<b>Sheltered</b>	<b>Adjunct</b>
Primary Purpose(s)	Help students develop L2 competence within specific topic areas	Help students master content material	Help students master content material introduce students to L2 academic discourse and develop transferable academic skills
Instructional Format	ESL course	Content course	Linked content and ESL courses
Instructional responsibilities	Language instructor responsible for language and content Instruction	Content instructor responsible for content instruction Incidental language learning	Content instructor responsible for content instruction Language instructor responsible for language instruction
Student population	Nonnative Speakers	Nonnative speakers	Nonnative and native speakers integrated for content instruction nonnative speakers seperated for language instruction
Focus of evaluation	Language skills and functions	Content mastery	Content mastery (in content class) Language skills and functions (in language class)

The differences between these models have a number of implications. These implications are summarized in Table 2. These implications are about the appropriateness of these models for particular settings and proficiency levels as well as approaches to curriculum design, material development, teacher training, and program administration (Brinton, Snow and Wesche, 1989).

Brinton et al. (1989) argue that the most appropriate model for the settings where there are no content course offerings is the theme-based model. Brinton et al. (1989) and Dupuy (2000) also argue that theme-based model is the most appropriate one for all levels of language proficiency. On the other hand, sheltered and adjunct models are restricted to settings in which content courses are offered. In addition, neither of these model is appropriate for lower levels of language proficiencies because of the linguistic and conceptual complexity of academic subject matter (Dupuy, 2000; Brinton, Snow and Wesche, 1989; Snow, 1991 ). The sheltered model is appropriate for intermediate to high intermediate levels, while adjunct model appears most appropriate for high intermediate to advanced levels of proficiency.

With respect to curriculum and materials development, there are other differences between these models. For example, in theme-based classes, the curriculum is composed of thematic or topical units. Traditional language skills are taught through these units. Authentic materials are used in the preparation of the thematic units. Similarly, content materials are the core of the curriculum in sheltered and adjunct models. However, in sheltered model, language component is limited to comprehension and study skills that are required for mastery of the particular content. Also, in the adjunct model, both academic language needs and content-specific language needs are emphasized. Content texts and lectures provide the presentation and practice of language skills (Snow, 1991; Dupuy, 2000; Brinton, Snow and Wesche, 1989).

The other implications of Content-based Instruction are about teacher training, staff development, and other administrative concerns. Brinton et al. (1989) argue that teachers in the adjunct model should be willing to coordinate, and trained in team teaching. They also argue that time is needed for development of content-based language materials used in theme-based and adjunct courses. Selection of the content teacher is also an important administrative issue. Having all these implications, these three models of CBI can be applied in different language settings.



**Table: 2**  
**Summary of Implications of the Content-Based Models**  
**(Brinton et al, 1989: 21-22)**

	<b>Theme-based</b>	<b>Sheltered</b>	<b>Adjunct</b>
Setting	Adult schools; language institutes; all other language programs	Secondary schools; colleges and universities	Secondary schools; colleges and universities
Proficiency Level	Low to advanced L2	Intermediate to high intermediate L2	High intermediate to advanced L2
Curriculum	Theme-based (topic-based) curricular units integrate all four skills	Content course syllabus study skills may be integrated into content syllabus	Curriculum objectives coordinated between content and language staff Treatment of general language skills in addition to content- specific language skills
Materials	Teacher-developed materials Commercial ESL texts	Commercial content texts selected with sensitivity to proficiency level Coordination of lectures and readings	Content texts and lectures provide bases for majority of language skills instruction and practice supplemented by teacher- developed materials and commercial ESL texts
Teacher Training	Language teachers need training in curriculum/ syllabus design and materials development	Content teachers need awareness of second language development	Language and content teachers need training in curriculum and syllabus design and in materials development Training should focus on curriculum coordination and team teaching
Administrative issues	Release time needed to develop curriculum/materials	Careful selection of content instructor	Support and remuneration for extensive coordination and for materials and curriculum design

There is no single formula for this syllabus, and there is a variety of CBI models applied in many language institutions. As seen in these examples, Content-based Instruction is used in many different settings in ESL and EFL contexts whose teaching aims and perspectives are different from each other. Content-based syllabus, therefore, can be applied in any institutional program with some modification in accordance with the needs and expectations of all the parties involved in the program. Dupuy (2000: 217) argues that “when deciding which CBI model to implement, universities and academic units need to carefully think through the goals of their students, involving both students and instructors in making the decision – to smooth the process”.

## **2.5. Conclusion**

In order to prepare an appropriate course design, a course designer should follow the steps suggested by the researchers (Dubin and Olshtain, 1986; Brown, 1995; Graves, 2000). One of the most important steps of curriculum development is syllabus design. In this study, great importance was given to Content-based Instruction since the aim of this study is determine what the place of CBI would be in a course design for the preparatory program by finding out whether what CBI offers coincides with the needs and expectations of all the parties related to the language program in Karadeniz Technical University. If Content-based Instruction is found out to be appropriate for the language program it can be incorporated into the curriculum so that it could improve the students' language proficiency as in the studies mentioned above.

In the following chapter, setting, participants, instruments used and procedures of the study will be introduced in detail under the heading of Methodology.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1. Introduction**

This study was conducted to find out whether or not theme-based Model of Content-based Instruction is applicable in the preparatory school of Karadeniz Technical University. That's why this study sought to find out whether theme-based Model of CBI could meet the language needs of the students in the preparatory school of KTU, what the language needs of the students in the preparatory school of KTU were, what language skills the students in the preparatory school of KTU were expected to have, what language skills the subject specialists in the departments of KTU expected their students to have, and what the attitudes of the students towards theme-based units were.

The following sections of this chapter describes the setting in which the study took place, participants of the study, instruments used in the study, the data collection procedures, and data analysis procedures.

#### **3.2. Setting**

This study took place in the preparatory school of Karadeniz Technical University, Trabzon, Turkey. The preparatory school called SOBE was established in order to teach English to students so that they could be successful in the courses taught in English in their departments. The aim of the preparatory school is to equip its students with the abilities to understand and comprehend the subjects related to their own field of study they read and listen to, to translate texts into Turkish, to express themselves both orally and writing, and to have the necessary language proficiency for professional, cultural and social life (Official Gazette, 1997). During the course of the study, there were 65 English lecturers in the Foreign Languages Department, 40 of whom taught in the preparatory school. These lecturers were required to teach grammar, reading, writing and listening for at least 30

hours a week in the courses called Coursebook, Grammar and Reading. They used the same course materials, but they were free to bring their own materials to their classes. There were 35 classes in the preparatory school, and the students came from many different departments including the departments of Physics, Chemistry, Biology, Civil Engineering, Computer Engineering, Deck, Electric and Electronic Engineering, Medicine, Public Administration, International Relations and Forestry.

### **3.3. Participants of the Study**

#### **3.3.1. Sample Selection**

As mentioned above, there were many students from different departments at SOBE. That's why the researcher decided to form a sample that would represent all the student population at SOBE. Therefore, the researcher used a cluster sampling model, which is used when the population is large and widely dispersed (Cohen and Manion, 1994). In the sample selection, Physics, Chemistry and Biology students were selected and all the students in these departments were involved in the study.

It was necessary to find out subject specialists' ideas about their students' language proficiency levels, and also their ideas concerning program in SOBE. Since Physics, Chemistry and Biology students at SOBE were selected as the sample representing all the student population, the subject specialists in these departments were selected and involved in the study. All the subject specialists who taught their courses in English in these departments were involved in the study.

It was necessary to learn what the students who completed the program in SOBE thought about the program. That's why the first year students from Physics, Chemistry and Biology departments were selected so that all the participants were from the same departments. The students from the departments were administered questionnaires in their English class hours. They were unaware of the administration of the questionnaire. Hence, it can be argued that the students were selected randomly.

Another group of the participants were lecturers because their ideas concerning the important language skills for the students and the program were important for the study. Therefore, all the lecturers who were working in the preparatory school of KTU were involved in the study.

The last group of participants were the students in the researcher's class. These students were selected because it was the most convenient class for the researcher to implement the thematic units he prepared.

The total number of participants was 192. Participants of the research were 97 students from Physics, Chemistry and Biology departments who were studying English at SOBE, 34 students from Chemistry and Biology departments who graduated from SOBE and who were attending the first year courses in the departments, 19 students in the researcher's class, 32 lecturers who were working in SOBE, 10 subject specialists from Physics, Chemistry and Biology departments (Table 3).

**Table: 3**  
**Participants**

Number of the Participants	Participants
97	Students from Physics, Chemistry and Biology Departments in SOBE
34	First year Students from Chemistry and Biology
19	Students in the Researcher's Class
32	Lecturers in SOBE
10	Subject Specialists in Physics, Chemistry and Biology Departments
Total:	192

Participants were selected to obtain different points of view such as expectations from the SOBE, expectations from the students, ideas about the program in SOBE and suggestions about the program in SOBE.

### 3.3.2. Students at SOBE

The first set of participants, 97 students from Physics, Chemistry and Biology departments, was involved in the study through a questionnaire in order to solicit information concerning their ideas about the program, their expectations from the program, their ideas of the language skills they needed, and suggestions for the the program. 31 of the students were Biology students while 32 of them were Physics students. The rest 34 were Chemistry students (Table 4).

**Table: 4**  
**Students at SOBE**

Number of the Students	Students' Department
31	Biology
32	Physics
34	Chemistry
Total: 97	

### 3.3.3. Students from Departments

The second set of participants included 34 graduate students of SOBE who were freshmen in Chemistry and Biology departments. 15 of them were Biology students whereas the other 19 were Chemistry students. These students were involved in the study to collect information about their ideas and opinions about the program they attended the previous year, the difficulties they had in terms of language, their ideas about the reasons they had, and their suggestions for the program. Since they were the ones who experienced the courses in the departments after graduating from SOBE, their ideas about the language program in SOBE and their suggestions for a better program were very important for this research.

### 3.3.4. Students in the Researcher's Class

The third set of participants, 19 students in the researcher's class, were involved in the study. These students were also involved in the study in order to learn their ideas and attitudes towards theme-based units prepared for them by the researcher.

### 3.3.5. English Lecturers in SOBE

The fourth set of the participants included 32 English lecturers who were working in SOBE. The years of experience of these lecturers varied from 1 year to 30 years in general and 1 to 5 years' experience in SOBE. In SOBE, since the students were grouped into classes according to the departments they were going to study after graduation from SOBE, lecturers were teaching students of certain departments (Table 5). The lecturers were involved in the study in order to gather information about their ideas about students' language needs, their opinions about the existing program and suggestions for better instruction.

**Table: 5**  
**English Lecturers in SOBE**

<b>Number of Lecturers</b>	<b>Students the lecturers teach</b>
6	Physics, Chemistry and Biology Students
6	Forestry, Geology and Geodesy Engineering Students
5	International Affairs, Public Administration and Deck departments Students
4	Post graduate students
4	Civil and Mechanical Engineering Students
4	Computer, Electric and Electronic Engineering Students
3	Medical Faculty Students
Total: 32	

### 3.3.6. Subject Specialists in the Departments

The fifth set of participants included 10 subject specialists who were teaching their courses in English in the Physics, Chemistry and Biology departments (Table 6). Four of them were teaching in the department of Physics, and they taught Physics 1, Physics 2, Solid State Physics, Mechanics, Electricity and Magnetism courses in English. Four of the specialists were teaching in Biology department. They taught General Biology 1, 2, Comparative Animal Anatomy and General Biology Laboratory courses. The last two of the specialists taught in Chemistry department. They taught General Chemistry 1, 2, Inorganic Chemistry Laboratory 1, 2, Industrial Chemistry Laboratory, Techniques and Safety, Introduction to Organic Chemistry and Organic Chemistry 1, 2 courses. The

subject specialists were involved in the study so as to get their ideas about students' language proficiency levels, important language skills they expected their students to have, the major language-related difficulties their students had and the reasons for them, their expectations from SOBE, and their suggestions for the program in SOBE.

**Table: 6**  
**Subject Specialists**

Number of the Subject Specialists	Departments in which they taught
4	Physics
4	Biology
2	Chemistry
Total: 10	

### 3.4. Instruments

In this research, questionnaire and interview techniques were chosen as data collection tools. These two techniques were used because it was essential for the researcher to have complete data about what the participants thought about the program. Questionnaires are one of the most common instruments used in data collection process since they are easy to prepare, and they can be used with a large number of subjects and they can obtain information that is relatively easy to tabulate and analyze. Also, interviews allow for a more in-depth exploration of issues than is possible with a questionnaire (Richards, 2001). Cohen and Manion (1994) argue that interviews can serve three purposes. First, they may be used as a means of gathering information for research objectives. Second, they may be used to test hypotheses or to suggest new ones. Third, they can be used in conjunction with other methods in a research.

Cohen and Manion (1994) identified four kinds of interview: the structured interview, the unstructured interview, the non-directive interview and the focused interview. In the structured interview, the content and procedures are organized in advance. That is, the sequence and wording of the questions are determined by means of a schedule and the interviewer is left little freedom to make modifications. On the other hand, the unstructured interview is an open situation. It has greater flexibility and freedom. The content, sequence and wording of the questions are entirely in the hands of the interviewer although the



research purposes govern the questions asked (Cohen and Manion, 1994). Cohen and Manion (1994) argue that “the principal features of the non-directive interview are the minimal direction or control exhibited by the interviewer and the freedom the respondent has to express her subjective feelings as fully and spontaneously as she chooses or is able” (p. 273). The distinctive feature of the focused interview is that it focuses on a respondent’s subjective responses to a known situation. The respondent has been involved in that situation and the situation has been analysed by the interviewer prior to the interview.

In this study, a triangular approach was applied to collect data from the participants. Richards (2001) argues that in order to obtain the necessary data, a triangulation is needed. Triangulation is collecting information from two or more sources such as questionnaires, self-ratings, interviews, meetings, observation (Richards, 2001). Two or more of these can be used to collect necessary data because only one technique may not provide the necessary data and the data obtained becomes incomplete and does not help the researcher get deeper insights from the participants. That’s why, both questionnaire and interview techniques were used in this research.

### **3.4.1. Questionnaires**

#### **3.4.1.1. Questionnaire for Students in SOBE**

There were 29 questions in the questionnaire administered to the students who were taking English courses in SOBE (Appendix 1). 26 questions in this questionnaire were close questions while the other 3 questions were open-ended. As stated previously, the aim of administering this questionnaire was to collect data about language needs of the students, their expectations from the program, their satisfaction with the program, and their suggestions for the program. The questionnaires were administered to these students on December 29, 2003, towards the end of the first term with the help of the lecturers in one of the course hours. Before the administration of the questionnaire, permission was taken from the administration. All the students were administered the questionnaire at the same time. This questionnaire included general questions, questions about language skills, questions about difficulties that the students had and the reasons of those difficulties and questions about expectations and suggestions.

There were general questions such as:

- What is your department?
- Why are you learning English?

There were also questions concerning the language skills including:

- Which skills do you think will be the most important when you attend your departments?
- Which reading skills do you think will be the most important in your department?

Additionally, there were questions about difficulties they had and the reasons of the difficulties in order to get information about areas of difficulty such as:

- Do you have difficulty in reading in English?
- What are the problems you have while reading in English?

Questions and statements concerning the expectations of the students were also included in the questionnaire such as:

- I want vocabulary relevant to my own field of study to be taught in SOBE
- I want to read texts, passages related to my own field of study in SOBE
- I want to make speech on subjects related to my own field of study
- What are your expectations from the program in SOBE?
- Has the program in SOBE met your expectations so far?

There was also a question asking students their suggestions for a better program in SOBE such as:

- What suggestions would you make for a better program in SOBE?

#### **3.4.1.2. Questionnaire for the Students in the Departments**

In the questionnaire administered to the students who completed the program in SOBE and who were attending the courses in the departments, there were 23 questions (Appendix 2). 21 questions in this questionnaire were close questions while the other 2 were open-ended questions. The questionnaire for the students in the departments was administered

between May 17, 2004 and May 21, 2004. This questionnaire was administered by the researcher himself in the classes in the departments with the help of English lecturers in their course hours. There were questions about language skills, difficulties the students had and the reasons of the difficulties, their ideas about the program in SOBE and their suggestions for the program.

There were questions concerning the language skills the students in the departments need such as:

- Which language skill do you think is the most important at your department?
- Which of the following reading skills do you think are the most essential in your department?
- Which of the following writing skills do you think are the most important for your department?

To find out whether or not they had difficulty in language skills and to get information about language deficiencies of the students, some questions were also included in the questionnaire such as:

- Do you have any difficulty in reading in English?
- If yes, What are the reasons?

There were also questions to obtain information about what they thought of the program in SOBE such as:

- Do you agree that the English knowledge you have gained in SOBE is useful in your department?
- If no, what are the reasons?
- Do you agree that you should have studied texts related to your own field of study in SOBE?

Additionally, one question was included in the questionnaire to find out their suggestion for the program in SOBE as follows:

- If given opportunity, what changes would you do in the program of SOBE?

### 3.4.1.3. Questionnaire for Lecturers

The questionnaire for lecturers in SOBE had 18 questions (Appendix 3). 14 questions in this questionnaire were close questions while the other 4 were open-ended questions. The questionnaire prepared for the lecturers in SOBE was administered in the semester holiday between January 5, 2004 and February 23, 2004 in order not to take their time in the busy working period and because they could give better answers to the questions and clear ideas when they were free. The lecturers were told that they could return the questionnaires whenever they wanted. Therefore, it took a longer time than expected to collect the questionnaires. The questionnaire included questions about language skills they thought to be important for their students, materials they used, their ideas about academic language, problems they had and their suggestions for the program.

There were some general questions about language skills to obtain information about what the lecturers thought about students' language needs such as:

- Which speaking skills do you think are important for your students to acquire?
- Which reading skills do you think are important for your students to acquire?
- Which language skill do you think will be important for your students when they start to study in their department?
- Do you think that adequate importance is given to the language skills you find important in the program at SOBE ?

The questions concerning the materials the lecturers used, their ideas about academic language and problems they had were as follow:

- Do you think that the materials you use are adequate to reach your teaching aims?
- Do you agree that the materials you use for your lessons should aim at fostering your students' academic English language skills?
- Do you think that academic English relevant to the students' fields of study should also be presented at SOBE?
- Do you experience any problem in teaching at SOBE ?'

#### 3.4.1.4. Questionnaire for Subject Specialists

There were 16 questions in the questionnaire administered to the subject specialists (Appendix 4). 11 of the questions in this questionnaire were close, and the rest 5 were open-ended questions. The questionnaire for the subject specialists were administered between April 12, 2004 and April 22, 2004. The specialists were regularly visited to give and collect the questionnaires in their offices since they were very busy with their classes and did not complete the questionnaire and sometimes the researcher could not find them in their offices. There were questions about language skills, students' performance, cooperation between their departments and SOBE, their ideas about academic language in SOBE and suggestions for the program in SOBE.

In order to learn what the content teacher thought about the essential language skills that their students should acquire, such questions were included as follow:

- Which language skills do you think will be the most important for your students when they start to study in their department?
- Which speaking skills do you think are important for your students to acquire?
- Which reading skills do you think are important for your students to acquire?

Questions to find out the students' performances from the subject specialists' point of view were also included such as;

- Can your students understand and participate in the lectures presented in English?
- How would you evaluate your students' proficiency levels who graduated from SOBE?

There were also questions to find out whether there was any cooperation between the departments and SOBE such as:

- Is there any cooperation between your department and SOBE?
- If you are asked for your assistance, would you be willing to cooperate?
- How do you think the cooperation between your department and SOBE should be?

Also, there were questions concerning specialists' ideas about academic language in SOBE such as:

- Do you think that academic English (such as texts including technical vocabulary, writing and presenting papers) relevant to the students' fields of study should also be presented at SOBE?

There was also a question so as to find out what the specialists suggest for the program in SOBE such as:

- What do you think would improve the program at SOBE?

#### **3.5.1.5. Questionnaire for the Students in Researcher's Class**

Another questionnaire was administered to the students in the researcher's class after the implementation of the two theme-based units (Appendix 5). The aim of this questionnaire was to elicit information about what the students thought about the materials used in the units, the possible benefits of the units for their language learning, and their ideas and attitudes towards those units. There were 15 questions concerning language skills, motivation, opinion and time for Theme-based model in the questionnaire. All the questions were open-ended.

Questions about the language skills emphasized in the units were as follow:

- Do you agree that the reading activities in these units were useful to develop your reading skills?
- Do you agree that listening and speaking activities in the units were useful to develop your listening and speaking skills?

Questions related to motivation of the students were also included in the questionnaire such as:

- 'Do you agree that these thematic units have increased your motivation of language learning?
- Has the application of these thematic units increased your interest in language learning?
- Did you find the subjects of the thematic units interesting and motivating?

Additionally, questions asking students when they wanted to study such units were included in the questionnaire such as:

- When do you think such thematic units should be taught to you from the very beginning of the year to the end or later in the second semester?

#### **3.4.1.6. Piloting the Questionnaires**

The researcher took feedback from his supervisor and one of his colleagues who conducted a needs analysis in the preparatory school of KTU before the administration of the final versions of the questionnaires. The questionnaire that was administered to the students in SOBE was first prepared in English. It was piloted with the help of 15 students in one of the researcher's classes. Then, it was found out that the students had difficulty in understanding the questions in English in the questionnaire. Therefore, that version was translated into Turkish and it was piloted with the same students once more and necessary adjustments were made to the questions (Appendix 6) The other questionnaires were not piloted because all the lecturers in SOBE were going to be given questionnaire and the questions in this questionnaire were very similar to the ones in the questionnaire administered to the students. The other questionnaires and interview questions were prepared in line with the guidelines given by the researcher's supervisor.

### **3.4.2. Interviews**

#### **3.4.2.1. Interview with the Students in the Departments**

After the administration of the questionnaires, the researcher conducted an unstructured interview with the students in the departments. This interview was tape-recorded by the researcher. The researcher asked the students whether they had difficulty in the courses taught in English, the reasons of the difficulties, their ideas and suggestions about the program in the preparatory school such as

- Do you have difficulty in your courses taught in English?
- Why do you think you have difficulties?
- What do you think about the program in SOBE?
- Do you have any suggestion for the program in the preparatory school?

### **3.4.2.2. Interview with the Subject Specialists**

After the questionnaires were collected, the researcher conducted a structured interview with the subject specialists in their offices between April 26, 2004 and May 7, 2004. The interview period took a long time because of the specialists' heavy work schedule. There were 6 questions in the interviews (Appendix 7). There were questions to find out their ideas about language skills they thought their students should have, the language problems of their students have and the reasons, cooperation between the departments and SOBE. They were asked to give more suggestions for the success of the students in both SOBE and in the departments. The questions were:

- Which language skills do you think are important for your students?
- What are the factors that you think cause low level of language proficiency?
- How do you think the cooperation between the departments and SOBE should be?
- Do you think that academic English (such as text including technical vocabulary, writing academic papers) relevant to students' field of study should also be taught in SOBE?
- What subjects and texts do you think the students at SOBE should be taught to be able to cope with the academic demands of the departments?

### **3.5. Application of the Theme-based Units**

The main goal of applying theme-based units was to expose the students to academic materials, to a different kind of language learning and to find out their attitudes towards such kind of units. All the students in each class of the preparatory program were taking a 12-hour Course Book course, 8-hour Grammar course, 6-hour Reading course and 2-hour Self-Access course.

The researcher was teaching only the Course Book course and Self-Access course in his classroom, which consisted of Physics, Chemistry and Biology students. The number of the students in the class was 19. In order to study the theme-based units, the researcher asked the reading teacher of his class to exchange the classrooms. Upon her approval, the researcher told the students in his class that they were going to study the theme-based units in the 6-hour reading class and in the 2 hours of the Course Book class and also in the Self-



Access class. In this way, a 10-hour period in a week was provided for the application of theme-based units. The application of the thematic units lasted two weeks, and each week, the researcher tried to finish one of the units. This amount of time was not enough for the units, but the end of the term was approaching and the students were responsible for the subjects in their Course Book, Reading and Grammar courses. In order to make up the other subjects that should be studied during that period, a 10-hour period was preferred, and in other hours the subjects in the courses were covered quickly.

Two theme-based units were prepared by the researcher himself under the guidelines of the principles of CBI. Firstly, he found sample theme-based units in the Internet (<http://ankara.usembassy.gov/ELO/project.htm>). Then, the researcher visited the university library and surfed Internet to find authentic materials to utilize in the units. Finally, having insights from the sample units in the Internet and using the authentic materials obtained through library and internet search, he prepared two sample theme-based units. Additionally, those thematic units were shown to one of the plenary speakers who was one of the most important advocates of Content-based Instruction in the 8<sup>th</sup> METU International ELT Convention on 13,14,15 May 2004, and advice was taken about the thematic units. After that, the necessary adjustments were made such as including grammar and vocabulary sections in the units. After the preparation of these sample theme-based units, the researcher handed out the copies of the units to the students, and they were studied in the researcher's class, Prep-D, between May 24, 2004 and June 10, 2004.

These units were completely related to the students' areas of study. The unit related to biology was called 'The Cell', and the other unit related to physics was called 'Nuclear Energy'. These subjects were chosen because the students would encounter such kind of topics in their courses when they attended their own departments. They all had background knowledge of these topics since they were all science students and studied these topics before entering the university exam. The major aim of choosing these topics was to trigger students' background information of biology and chemistry. All the materials used in the preparation of the units were chosen from among the materials the researcher collected through library search and internet resources. All the activities in the units were designed to make the students participate in all stages and make learners revisit the texts for different purposes. All four skills, reading, writing, listening and speaking as well as

grammar and vocabulary were integrated. Graphic organizers, visual aids such as pictures, transparencies were used to make students re-examine and reformat information they learnt.

### **3.5.1. Application of the First Theme-based Unit ‘The Cell’**

The first unit “The Cell” comprised of pre-reading, reading, post-reading, vocabulary, grammar, writing, speaking, and culminating activities (Appendix 8). In these activities, all four skills were integrated, and grammar and vocabulary were also studied.

At the very beginning of the first unit, the reseacher wanted the students to look at the pictures on the first page (cell pictures) and write about what they knew about the cells in the first column of the chart on the paper, and then they talked about them. After that, the reseacher told the students to write in the second column what they wanted to learn.

After these activities, students read the passage in the unit. Some of the unknown vocabulary was given, and also some of the sentences were translated into Turkish to make the texts more comprehensible. Then, the students analyzed the text using graphic organizers, and answered comprehension questions. This activity was followed by study of the vocabulary. The students were asked to use the newly learnt vocabulary in their own sentences. After these reading and vocabulary studies, relative clauses were studied in detail using the content in the units.

Following grammar exercises, students were asked to write about a given figure (cell division) and compare their writings with the original one in the unit ‘The Cell’. Then the reseacher wanted them to talk about the cell division process. After these activities, students were divided into two groups, and one read about tissues while the other read about organs. After reading, they talked about their texts, asked and answered questions about the texts.

### **3.5.2. Application of the Second Theme-based Unit ‘Nuclear Energy’**

The second thematic unit “Nuclear Energy” consisted of reading, vocabulary, grammar and writing activities which were similar to the other unit, and another type of reading, listening and speaking activity (Appendix 9). In the beginning activity, the students were asked to look at the picture of a nuclear energy plant and talk about nuclear energy in general. Then, they read a text about nuclear energy and studied the text in detail through comprehension questions, vocabulary exercises, and graphic organizers. After that, noun clauses as a grammar subject were studied using the text they read.

After completing these activities, the researcher wanted the students to look at the picture describing fission process and to write the process in their own words. Then, the students compared their writings with the original one. After that, they were asked to read the statements on the chart and mark whether they agreed, disagreed or were unsure about the statements before and after the reading. Before reading, they gave their responses about the statements for and against nuclear energy. Then, they were separated into two groups, and one group read a text for nuclear energy, while the other read against it. After reading, they talked about their texts and tried to persuade each other. And at last, they talked about their ideas.

The culminating activities of both units, which required the students to synthesize information from multiple sources to display their knowledge in written or spoken ways, could not be studied due to lack of time.

After the implementation of these units, all the students in the class were given questionnaires to elicit their ideas about the units, especially about the materials used and the activities completed (see Appendix 9).

### **3.6. Data Analysis**

In this study, both quantitative and qualitative data were collected. Quantitative data are defined by Richards et al (1992) as the data that are in numerical form and obtained through counting and measurement. In this study, quantitative data were collected through

questionnaires. Qualitative data are not in numerical form, such as a written account of what happened during a lesson or an interview. (Richard, Platt and Platt, 1992). Quantitative data can be obtained through procedures such as observations, interviews or participant observation. In this study, qualitative data were obtained through interviews.

In order to analyze questionnaire data, descriptive statistical techniques such as frequencies and percentages were used. The responses of the respondents obtained were coded and then were entered into computer and SPSS 11.5 was used to perform statistical procedures.

After collecting interview data, which was tape-recorded, the researcher listened to the tape records many times and wrote down the responses of the respondents. The responses were coded and converted into quantitative data. Then, they were entered into computer with the questionnaire data and SPSS 11.5 was used to perform statistical procedures.

The results of the questionnaires and interviews are presented in tables in the data analysis chapter.

## **CHAPTER FOUR**

### **DATA ANALYSIS**

#### **4.1. Introduction**

This study investigated the language needs and expectations of the students in both the preparatory school of KTU and the Physics, Chemistry and Biology departments. Also, language skills the lecturers working in the preparatory school thought important for their students, materials they used, their ideas about academic language, problems they had and their suggestions for the program were investigated. This study also investigated what the subject specialists in the Physics, Chemistry and Biology departments thought about the language skills their students should have, students' performance, cooperation between the departments and SOBE, their ideas about academic language at SOBE and suggestions for the program in SOBE, and students' ideas and attitudes towards theme-based units. The study aimed to find out whether Theme-based Model of CBI could meet the language needs of the students and expectations of the lecturers and subject specialists.

In order to collect data, questionnaires and interviews were used, and the study was conducted with 97 Physics, Chemistry and Biology students who were studying English at SOBE, 32 lecturers who were teaching in SOBE, 10 subject specialists from Physics, Chemistry and Biology departments, 34 students from Chemistry and Biology departments, and 19 students in the researcher's class.

#### **4.2. Responses of the Students at SOBE**

The questionnaire prepared for the students studying English at SOBE was administered to 97 Physics, Chemistry and Biology students.

The proficiency levels of the respondents of this questionnaire were different ranging from beginner level to intermediate level (Table 7). Proficiency levels of the students at

SOBE were determined by a placement test given at the very beginning of the semester, and the students were put into classes according to their proficiency levels.

**Table: 7**  
**Students' Proficiency Levels**

Proficiency level	Number of students	Percentages
Beginner	74	76,3
Pre-intermediate	21	21,6
Intermediate	2	2,1

The questionnaire distributed to the students who were learning English in the preparatory program included questions to identify the following points:

- their purpose in learning English
- essential language skills and subskills for their further studies
- sources of difficulties they had
- activities they would like to do and materials they would like to use while learning English
- their expectations, comments, and suggestions for the present program

The following five sections explain these points in detail.

#### **4.2.1. Students' Purpose in Learning English**

The question concerning the identification of the students' purpose in learning English was included in the questionnaire since it is very important in designing language programs to explore students' aims and expectations from the program. Data elicited from the question indicated that 25.8 percent of them were learning English in order to be successful in the courses taught in English. 22.7 percent of them were learning English to find a good job in the future, followed by 21.6 percent who were studying English for their future studies. 15.5 percent of the students were learning English because it was compulsory. 10.3 of them were learning English to be able to make use of materials in their field of study, while the rest (4.1 percent) were learning to go abroad and work. The items were put in order of importance to the students according to average percentage (Table 8).

**Table: 8**  
**Purposes of the students to learn English**

Rank	Percentage	Purpose
1	25.8	To be successful in the courses taught in English
2	22.7	To find a good job in the future
3	21.6	For future studies
4	15.5	Because it is compulsory
5	10.3	To be able to make use of materials in their field of study
6	4.1	To go abroad and work

#### 4.2.2. Students Perceptions of Essential Language Skills

When asked which language skill would be the most essential for them when they attended their departments, 40.2 percent of the students found listening as the most essential one followed by speaking (35.1 percent), reading (10.3 percent), grammar and writing successively (Table 9).

**Table: 9**  
**Essential Language Skills**

Rank	Percentage	Skill
1	40.2	Listening
2	35.1	Speaking
3	10.3	Reading
4	8.2	Grammar
5	7.2	Writing
Total:	100 %	

#### 4.2.3. Essential Language Subskills

The analysis of the responses to the question used to identify the areas where the students would utilize reading skills in their future studies showed that 30.9 percent of the students would be utilizing reading skills in reading to understand the detailed information in texts, and 27.8 of them in reading fast and comprehend the texts. 23.7 of the students thought understanding the main idea of the text important ,while 11.3 of them thought reading literature related to their field of study important. The rest 6.3 of them thought making inferences from the text important (Table10).

**Table: 10**  
**Reading Skills for the Students in SOBE**

Rank	Percentage	Reading Skills
1	30.9	Reading to understand the detailed information in texts
2	27.8	Reading fast and comprehend the texts
3	23.7	Understanding the main idea of the text important
4	11.3	Reading literature related to their field of study
5	6.3	Making inferences from the text important
Total :	100 %	

Data concerning the writing skills that the students thought important for themselves showed that the most frequently (30.9 percent) selected writing skill was to write assignments and projects related to their field of study. The second most frequent (26.8 percent) writing skill was analysing what they read. The next writing skill with 23.8 percent was answering questions in exams in English. Writing academic papers and writing composition on a given topic followed by percentages of 7.2. Making summary was the less frequent (4.1 percent) writing skill (Table 11).

**Table: 11**  
**Writing Skills for the Students in SOBE**

Rank	Percentage	Writing Skill
1	30.9	Writing assignments and projects related to their field of study
2	26.8	Analysing what they read
3	23.8	Answering questions in exams in English
4	7.2	Writing academic papers
5	7.2	Writing composition on a given topic
6	4.1	Making summary
Total:	100 %	

Data concerning the listening skills that the students thought important for themselves showed that the most frequently selected listening skill that was found necessary for future studies was to understand the lectures presented in English with a percentage of 51.5. The second most frequent listening skill (20.6 percent) was understanding one-to-one speech with the lecturer. The other 11.2 percent of the students indicated understanding the lecturer in order to take notes necessary listening skill, and 10.5 of the students found understanding daily speech between the foreigners. The rest of the students (6.2 percent) indicated understanding recorded speech important (Table 12).



**Table: 12**  
**Listening Skill for the Students in SOBE**

Rank	Percentage	Listening Skill
1	51.5	Understanding the lectures presented in English
2	20.6	Understanding one-to-one speech with the lecturer
3	11.2	Understanding the lecturer in order to take notes
4	10.5	Understanding daily speech between the foreigners
5	6.2	Understanding recorded speech
Total:		100 %

Data concerning the speaking skills that the students thought important for themselves showed that communicating with people speaking English outside the classroom was the most frequent speaking skill with the percentage of 37.1 followed by asking and answering questions in lectures with a percentage of 26.8 (Table 13). Participating in classroom discussions was the third most important speaking skill with a percentage of 16.5. Preparing and presenting projects was the next speaking skill with a percentage of 12.4. Making presentations in conferences was the least frequent (2.1 percent) speaking skill that the students thought important. 5.1 percent of the students responded none.

**Table: 13**  
**Speaking Skills for the Students in SOBE**

Rank	Percentage	Speaking Skill
1	37.1	Communicating with people speaking English outside the classroom
2	26.8	Asking and answering questions in lectures
3	16.5	Participating classroom discussions
4	12.4	Preparing and presenting projects
5	2.1	Making presentations in conferences
6	5.1	None
Total:		100 %

#### 4.2.4. Most Frequently Wanted activities

When asked which reading activities the students would like to do in their classes, 75.3 percent of them wanted to read texts, and articles about their own field of study. Newspapers and journals were the second most frequently selected materials 59.8 percent of the students wanted to read in the classrooms.

When asked which writing skills they would like to practise in SOBE, 67 percent of the students wanted to practise writing about subjects related to their field of study. The second most frequently wanted activity was the activities that would improve their writing grammatically with a percentage of 62.9.

In regard to speaking activities that the students wanted to do in the classroom, activities for using technical vocabulary about their field of study was the most frequently wanted ones with a percentage of 68. Sixty five percent of the students also wanted to do activities that would improve their speaking skills in starting and finishing a conversation. Furthermore, 61 percent of the students also wanted to do activities that would enhance their speaking on a given topic.

The most frequently wanted activities by the students were the ones that would improve their understanding of daily conversations (81.4 percent) followed by discriminating sounds in English (53.6 percent)(Table 14).

**Table: 14**  
**Most Frequently Wanted Activities**

<b>Language skill</b>	<b>Most frequently wanted activities</b>	<b>percentage</b>
Reading	to read texts, articles about their own field of study	75.3
	to read newspapers, and journals	59.8
Writing	to write about their field of study	67
	to do activities that would improve their writings grammatically	62.9
Speaking	to use technical terms about their field of study	68
	to start and finish a conversation	65
	to talk about a given topic	61
Listening	to understand daily conversation	81.4
	to discriminate sounds in English	53.6

#### **4.2.5. Language Difficulties of the Students in SOBE**

Data for the questions concerning the identification of areas in which the students had difficulty (Table 15) and the reasons why they had those difficulties indicated that 46.4 percent of the students had difficulty in reading. The major problem that 75.3 percent of the students had was lack of vocabulary. 48.5 percent of the students commented that they

had difficulty in writing. The major difficulties they had were not being able to write grammatically, not expressing themselves and not using appropriate vocabulary. 73.2 percent of the students stated that they had difficulty in listening, and the major difficulty they had was lack of vocabulary and not being able to understand language from tape or TV. 78.4 percent of the students responded that they had difficulty in speaking. Not being able to speak fluently and grammatically and finding the appropriate vocabulary were the major difficulties they had.

**Table: 15**

**Percentages of Difficulties the Students Have and the Major Difficulties**

Percentage	Skill	Major difficulties the students have
78.4	Speaking	Not being able to speak fluently Not being able to speak grammatically Not being able to find appropriate vocabulary
73.2	Listening	Lack of vocabulary Not being able to understand language from tape or TV
48.5	Writing	Not being able to write grammatically, Not being able to express themselves, Not being able to use appropriate vocabulary
46.4	Reading	Lack of vocabulary

**4.2.6. Students' Perception of Academic English**

Data for the questions concerning the identification of students' ideas on whether they would like to study academic English (Table 16) showed that 93.8 percent of them wanted technical terms and vocabulary to be taught to them. 85.5 percent of them wanted to read academic texts and articles relevant to their field of study. 68.1 percent wanted to write paragraphs and essays on subjects in their field of study, and 84.6 percent of them wanted to listen to records and watch CDs about their field. 60 percent of them wanted to make speeches on subjects related to their field of study.

**Table: 16**  
**Percentages of Activities the Students Want for Academic Language**

Percentage	Activities
93.8	being taught, presented technical terms and vocabulary
85.5	reading academic texts, articles relevant to their field of study
68.1	writing paragraphs, essays on subjects in their field of study
84.6	listening to records and watch CDs about their field of study
60	making speech on subjects related to their field of study

#### **4.2.7. Comments and Suggestions for the Present Program by the Students in SOBE**

Data for the question concerning the identification of students' expectations indicate that 46.4 percent of the students wanted to have a good command of English when they graduated from the program. 8.2 percent of them also wanted to learn academic English to be successful when they went to their departments.

42.3 percent of the students stated that the program did not satisfy their expectations since they wanted to learn something about their own field of study. They complained that the program was not adequate enough to prepare them for the requirements of their field of study. They also added that the activities to improve their language skills were very limited and that subjects in their books and grammar points were studied too quickly.

Additionally, the students suggested that there should be more activities to improve their language skills. They also suggested that there should be a different course for each department.

#### **4.3. Responses of the Students in the Departments**

The questionnaire distributed to the students who graduated from SOBE and who were attending the freshmen classes in the departments included questions about language skills they needed, difficulties they had and the reasons of difficulties, and their ideas about the program in SOBE.

#### 4.3.1. Students' Perceptions of the Important Language Skills

Data for the questions concerning the identification of the most important language skills and subskills indicated that listening (41.2 percent) was the most important language skill followed by speaking, reading and writing respectively as can be seen in Table 17.

**Table: 17**  
**Importance of Language Skills**

Rank	Percentage	Skill
1	41.2	Listening
2	32.4	Speaking
3	14.7	Reading
4	5.9	Writing
5	5.9	Grammar

#### 4.3.2. Important Language subskills

Data concerning which reading skills the students in the departments thought important for themselves showed that the most important reading skills were the ability to read professional literature and to read to find the general idea with percentages of 26.5 each (Table 18). These were followed by reading to get detailed information (23.5 percent), reading to do well in tests (8.8 percent), guessing vocabulary and rapid reading (5.9 percent each) and skimming and scanning (2.9 percent).

**Table: 18**  
**Reading Skills for the Students in the Departments**

Rank	Percentage	Reading Skill
1	26.5	Reading professional literature
2	26.5	Reading to find the general idea
3	23.5	Reading to get detailed information
4	8.8	Reading to do well in tests
5	5.9	Guessing vocabulary
6	5.9	Rapid reading
7	2.9	Skimming and scanning
Total:	100 %	

Data concerning which writing skills the students in the departments thought important for themselves showed that the most important writing skills were the ability to take notes (32.4 percent) and write departmental assignments project work with a percentage of 26.5 (Table 19). These were followed by writing in English in exams (17.6 percent), summarising and analysing what they have read (14.7 percent) and writing academic papers (5.9 percent). 2.9 percent of the students did not respond at all.

**Table: 19**

**Writing Skills for the Students in the Departments**

Rank	Percentage	Writing Skill
1	32.4	Taking notes
2	26.5	Writing departmental assignments project work
3	17.6	Writing in English in exams
4	14.7	Summarising
5	5.9	Writing academic papers
6	2.9	None
Total:	100 %	

Data concerning which listening skills the students in the departments thought important for themselves showed that the most important listening subskill was the ability to understand the lectures with a percentage of 41.2 followed by the ability to understand one to one conversation with a percentage of 26.5, and the ability to listen to take notes with a percentage of 23.5 (Table 20). Understanding recorded speech was found important by 8.8 of the students.

**Table: 20**

**Listening Skills for the Students in the Departments**

Rank	Percentage	Listening Skill
1	41.2	Understanding the lectures
2	26.5	Understanding one to one conversation
3	23.5	Listening to take notes
4	8.8	Understanding recorded speech
Total:	100 %	

Data concerning which speaking skills the students in the departments thought important for themselves showed that the most important speaking subskill was the ability

to ask and answer questions in lectures with a percentage of 64.7 (Table 21). 11.8 of the students found preparing and presenting oral reports important, while 8.8 of them found presenting papers in conferences important. Presenting papers in class and participating in class discussions were found important with percentages of 5.9 each. 2.9 of the students did not answer the question at all.

**Table: 21**  
**Speaking Skills for the Students in the Departments**

Rank	Percentage	Speaking Skill
1	64.7	Asking and answering questions in lectures
2	11.8	Preparing and presenting oral reports
3	8.8	Presenting papers in conferences
4	5.9	Presenting papers in class
5	5.9	Participating in class discussions
6	2.9	None
Total:	100 %	

#### 4.3.3. Difficulties the Students Have and the Reasons

##### *Lack of Vocabulary*

Data for the questions concerning the identification of whether the students had difficulty in language skills and the reasons for the difficulties showed that 45 percent of the students had difficulty in reading, and the main reason of this was lack of vocabulary. One of the students said that “the reason for having difficulty is that we do not know the terminology. We are learning zoology in English. When we read three paragraphs, we can hardly understand one of them. We cannot translate it, either. We do not have adequate grammar knowledge”. 53 percent of the students had difficulty in writing, and the main reason for this was again lack of vocabulary. The data also indicated that 68.7 percent of the students had difficulty in listening, and the main reason was lack of vocabulary and fast speech of the lecturers. 76.5 percent of the students had difficulty in speaking and the reasons were not being able to speak fluently and not being able to use vocabulary or phrases relevant to the given topic.

### ***Basic English***

When asked whether the English proficiency they gained in SOBE was useful in their departments, 70.6 percent of the students responded “No.” The most important reason for this dissatisfaction was that 55.9 percent of them complained that they were taught only basic English, so they were unprepared for the lectures in their departments. Other reasons of this dissatisfaction were that the syllabus prepared for them was too difficult to cover in such a short time and that they were not presented any subject related texts or vocabulary in SOBE. One of the students said that “the program was not advantageous except for teaching grammar. Maybe, we know some of the easy vocabulary but we cannot read and translate what the teachers give us”. Another student said “it would be better if we had been taught field-related English, and we used vocabulary related to biology instead of coursebooks.” She also added that “we learnt only daily speech, daily usage of language, and simple structures, but here we are not taught daily conversations, we are not asked how we are. I think, we should have been provided with basic English in the first term, and in the second term, vocational English should have been taught”.

#### **4.3.4. Students’ Perceptions of Essential Language Skills That Should Be Taught in SOBE**

Data for the question asking the students in the departments what language skills they thought important for the students at SOBE indicated that asking and answering questions in the lectures, reading to find the general idea, using appropriate register relevant to their field of study and speaking grammatically and fluently were the most essential ones.

When asked whether they should have studied texts related to their own field of study in SOBE, 94 percent of the students responded ‘Yes’. One of the students stated that “we want to translate paragraphs related to our field of study”. Another student said that “if I were given opportunity, I would provide vocational English courses”. Another student stated that “grammar should not be the only focus, speaking, listening should also be emphasized”, and added that “vocabulary related to our field of study should also be given in another course”. Another student suggested that reading materials should be provided for reading courses according to the departments of the students in the class.



#### **4.3.5. Students' Comments and Suggestions for the Program in SOBE**

When asked what changes they would make in the present program, they stated that they would give more importance to speaking and reading skills, and less on grammar, select texts, reading passages according to the students interests and needs. Most of the students complained about the assessment system in the program. One of the students said that “we were only thinking about whether we would pass or fail, that’s why, learning was not important for us. Therefore, this anxiety should be removed from the heads of the students”. 32.4 percent of the students argued that the English courses they took in SOBE did not attract their attention and the main reasons they thought were that they found the syllabus inadequate to meet their language needs and that most of the topics in the books studied at SOBE were out of their interest.

The students in the departments suggested that speaking and reading should be given more importance and less importance to grammar. They also suggested materials appropriate for the students' level of proficiency and departments should be developed in order to attract their interest in language learning.

#### **4.4. Responses of the Lecturers**

The questionnaire distributed to the lecturers in the program included questions which aimed at finding out what teaching aims the lecturers had, what speaking, listening, reading and writing skills that they thought the learners in the program needed most and whether the materials they used were in line with their teaching aims. The lecturers were also asked questions to find out whether they thought academic language skills should be included into the program, what English language skills they thought their students would use in their studies in their departments, and whether they thought the materials used in the program attracted the learners' interest.

##### **4.4.1. Lecturers' Teaching Aims**

Data for the question concerning the identification of lecturers' language teaching aims indicate that 43.8 percent (14 lecturers out of 32) of the lecturers aimed at making students

understand what they read generally and in detail (Table 22). 21.9 percent wanted to make students understand the language when they were exposed to it. 12.6 percent of them wanted to make students use field-related vocabulary and translate field-related texts. And the following 9.4 percent wanted to make students speak English fluently with a good pronunciation.

**Table: 22**  
**Lecturers' Teaching Aims**

Teaching Aims	Percentage
to make students understand what they read generally and in detail	43.8
to make students understand the language when exposed to it	21.9
to make students use field-related vocabulary and translate texts related to their field of study	12.6
to make students speak English fluently with a good pronunciation	9.4

#### 4.4.2. Lecturers' Perceptions of Essential Language Skills for Students

Data for questions concerning the identification of language skills that the lecturers found important for their students showed that the lecturers thought reading skills as the most important ones followed by speaking, grammar, listening, and translation respectively (Table 23).

**Table: 23**  
**Important Language Skills and Components**

Rank	Language skill or component	Frequency	Percentage
1	Reading	10	31.3
2	Speaking	8	25
3	Grammar	8	25
4	Listening	3	9.4
5	Translation	3	9.4
Total: 32			

#### 4.4.3. Lecturers' Perceptions of Essential Language Subskills for Students

Data elicited through the question used to find out the reading subskills that the lecturers thought important for the learners in the program indicate that understanding the

main point of the text (31.3 percent), understanding journals, reports, papers related to their own field of study (28.1 percent), reading for pleasure (18.8 percent), understanding the detailed information in the text (12.5 percent) and reading to summarize and take notes (9.4 percent) respectively were the most important reading skills the lecturers thought the learners should acquire (Table 24).

**Table: 24**  
**Reading Skills for Students the Lecturers Thought Important**

Rank	Percentage	Reading Skill
1	31.3	understanding the main point of the text
2	28	understanding journals, reports, papers related to their own field of study
3	18.8	reading for pleasure
4	12.5	understanding the detailed information in the text
5	9.4	reading to summarize and take notes
Total:	100 %	

Data elicited through the question used to find out the writing subskills the lecturers thought important for the learners in the program indicate that the ability to write composition on a given topic (31.3 percent) was the most important writing skill followed by preparing assignments and project work in their own field of study (21.9 percent), answering the questions in English in examinations (15.6 percent), writing formal or informal letters (12.5 percent), taking notes (9.4 percent), writing papers and reports in their field of study (6.3 percent) and organising writing (3 percent) respectively (Table 25).

**Table: 25**  
**Writing Skills for Students the Lecturers Thought Important**

Rank	Percentage	Writing Skill
1	31.3	Writing composition on a given topic
2	21.9	Preparing assignments and project work in their own field of study
3	15.6	Answering the questions in English in examination
4	12.5	Writing formal or informal letters
5	9.4	Taking notes
6	6.3	Writing papers, reports in their field of study
7	3	Organising writing
Total:	100 %	

Data elicited through the question used to find out the speaking subskills the lecturers thought important for the learners in the program indicate that opening and closing conversation with people speaking English (37.5 percent) was the most important speaking skill followed by asking and answering questions in lectures in their departments (34.4 percent), participating in class discussions (25 percent) and and presenting papers in class (3.1 percent) (Table 26).

**Table: 26**  
**Speaking Skills for Students the Lecturers Thought Important**

Rank	Percentage	Speaking Skill
1	37.5	Opening and closing conversation with people speaking English
2	34.4	Asking and answering questions in lectures in their departments
3	25	Participating in class discussions
4	3.1	Presenting papers in class
Total:	100 %	

Data elicited through the question used to find out the listening subskills the lecturers thought important for the learners in the program indicate that understanding spoken English (46.9 percent), understanding the lecture in English in their departments (21.9 percent), following oral instruction (21.9 percent), understanding radio or TV programs (6.3 percent) and taking notes in lectures (3 percent) were the important listening skills respectively (Table 27).

**Table: 27**  
**Listening Skills for Students the Lecturers Thought Important**

Rank	Percentage	Listening Skill
1	46.9	understanding spoken English
2	21.9	understanding the lecture in English in their departments
3	21.9	following oral instruction
4	6.3	understanding radio or TV programs
5	3	taking notes in lectures
Total:	100 %	

#### 4.4.4. Lecturers' Perceptions of Language Skills for Students' Further Studies

When asked what language skills they thought would be important to the learners for their future studies, the lecturers indicated reading (43.8 percent) as the most important one followed by listening (18.8 percent), translation (12.5 percent), speaking (9.4 percent), writing (6.3 percent) and grammar (6.3 percent) respectively (Table 28).

**Table: 28**  
**Important Language Skills for Lecturers**

Rank	Percentage	Skill
1	43.8	Reading
2	18.8	Listening
3	12.5	Translation
4	9.4	Speaking
5	6.3	Writing
6	6.3	Grammar

Among the language skills that the lecturers thought the students would be utilizing in future studies, the most frequently selected ones were

- translating materials written in their field of interest (37.5 percent),
- reading journals, magazines, papers, reports in their field of interest (34.4 percent)
- attending lectures and taking notes (28.1 percent),
- understanding the lectures in English (25 percent)
- asking and answering questions in the lectures (18.8 percent).

In addition to language skills, the lecturers were also asked questions to find out their ideas about teaching academic English. The findings are presented in the following paragraphs.

#### 4.4.5. Lecturers' Perceptions of Academic Language

Data elicited through the questions concerning the identification of whether the lecturers thought academic English and whether they thought the materials they used for courses should aim at fostering the students' academic English language skills indicated that 70 percent of the lecturers thought that academic language skills should be fostered in

the program. They stated that the learners did not have enough knowledge, and vocabulary in their fields and academic language texts were the things they would face when they attended their departments.

#### **4.4.6. Lecturers' Problems and Suggestions**

68.8 percent of the lecturers stated that the materials they used in the program were not adequate enough for them to reach their teaching aims and could not foster learners' language skills. 56.8 percent of them thought that sufficient importance was not given to the language skills that they thought important complaining that language meant only grammar in the program; that is, grammar was more important than the other skills in the program.

When asked whether they had any problem in teaching in SOBE, 78.1 percent of the lecturers responded "Yes." 62.5 percent of them indicated learners' lack of motivation. 34.4 percent indicated the uncertain goals and objectives of the program.

Data elicited through the questions concerning the identification of what changes they would do in the present curriculum indicated that 34 percent of the lecturers did not respond at all. 25 percent of the lecturers responded that especially speaking, reading and writing courses should be added in the curriculum. 37.5 percent thought that less importance should be given to grammar, and instead communicative skills should be emphasized.

#### **4.5. Responses of the Subject Specialists**

Ten subject specialists from Physics, Chemistry and Biology departments were distributed questionnaires and then interviewed in order to elicit data so that their ideas and expectations could be taken into consideration when designing a new curriculum framework. The questionnaire and interview included questions to identify which language skills and subskills that they thought important for their students to acquire, their students' proficiency levels, the degree of cooperation between departments and SOBE, whether

they thought academic English should be presented at SOBE, whether they could provide materials to be used at SOBE, and their expectations from SOBE.

#### 4.5.1. Subject Specialists' Perceptions of Essential Language Skills for Students

Data elicited through the questions concerning the identification of the most important language skills and subskills showed that 50 percent of the subject specialists indicated listening as the most important language skill followed by reading, speaking and writing respectively (Table 29).

**Table: 29**

#### **Subject Specialists' Perceptions of Essential Language Skills for Students**

Rank	Percentage	Skill
1	50	Listening
2	40	Reading
3	10	Speaking
4	0	Writing
Total:	100 %	

One of the subject specialists said that “first of all, understanding is important. The students should understand what we say so clearly that he can answer the questions we ask. That’s why listening is important”. Another subject specialist said that “speaking is very important because the students cannot ask questions although they can understand to some extent. They can comprehend but their speaking ability is weak”. He went on to say that “the students cannot actively participate in the classroom activities since they are afraid of making mistakes and being made fun of by their friends and the teachers. Similarly, if I write the questions on the board, they can understand, but cannot answer them”. Another specialist said that “students should understand what they read and what is spoken; otherwise, they cannot be successful”. One of the subject specialists also said that “the students cannot understand even the easiest things we say. They want everything written and in front of them”. Another specialist said that speaking was important so that students could answer questions in a discussion, and added that students had fears of making mistakes, and they did not have enough courage to speak. The most important listening skill according to them (90 %) was the ability to understand the lecture taught in English.

The most important reading skill was found to be the ability to understand the main point of the text, and the ability to ask and answer questions in lectures was found to be the most important speaking skill. Also, the ability to answer questions in English in the examinations was found to be the most important writing skill.

50 percent of the subject specialists thought that the ability to attend lectures and take notes was the most important language skill that their students would be utilizing in their studies. These were followed by the ability to have a good amount of academic vocabulary, the ability to read journals, magazines, papers and reports in their field of interest, and the ability to translate materials respectively as shown in Table 30.

**Table: 30**  
**Important Language Skills for Students**

Rank	Percentage	Skill
1	50	Attend lectures and take notes.
2	20	Have a good amount of academic vocabulary.
3	20	Read journals, magazines, papers, and reports in their field of interest.
4	10	Translate materials.

Data elicited through the question concerning the participation of the students in the lectures presented in English indicated that all the specialists thought that the students could not participate in the lectures. They complained that the students really had serious problems with their writing and speaking language skills. They stated that the students understood lectures to a great extent, but they had difficulty in asking questions. They also added that the students lacked a good amount of vocabulary in their own subjects and related fields; that's why, the teaching methods used to prepare students for the branches such as science and engineering should be changed.

#### **4.5.2. Students' Proficiency according to the Subject Specialists**

When asked about their students proficiency levels in four skills, all of them responded that their students' speaking, writing and reading skills were poor. 30 percent of them responded that their listening skills were good while 70 percent still found them poor. When asked the reasons for this low level of proficiency, one of the subject specialist said



that “the reason for this is that the students graduated from the preparatory school without being equipped enough with the necessary skills for success in the department. Of course they are taught everything, but they are not told that they cannot pass without learning. Assessment is a bit lenient”. Another specialist said that “the students study English only to pass the program, not to learn it, not to make use of it, or not to answer questions if the teachers ask. They do not take learning English as a responsibility”.

#### **4.5.3. Cooperation between Departments and SOBE**

All the specialists stated that there was no cooperation between their departments and SOBE. However, 70 percent of them stated that they would be willing to cooperate if asked, while 10 percent said it depended on the kind of cooperation, and one said ‘No’, and the last one did not respond at all. One of the subject specialists suggested that the lecturers in SOBE could take part in their classes and observe the teaching and learning atmosphere and decide the kind of changes that they should do in the program. Another subject specialist suggested that the English lecturers could see the exam papers of their students and five of them suggested meeting to discuss the weaknesses of the students and how to improve them. 90 percent of them stated that they could provide materials to be used in SOBE if they were asked.

#### **4.5.4. Subject Specialists’ Perceptions of Teaching Academic English in SOBE**

70 percent of the specialists stated that academic English relevant to students’ fields of study should also be presented in SOBE because they thought that basic technical and professional vocabulary and structure were highly useful and they should be taught in the preparatory school. They also added that the reading texts should be selected from physics, chemistry and biology fields so as to provide students with the academic vocabulary. They thought that if students learnt academic skills in SOBE, they would not spend so much time to teach the students technical terms at the beginning of first class when the students had so much difficulty to adapt themselves to academic environment. One of the specialists said that “the students should have a good amount of vocabulary and technical terminology so that they could understand what we say”. Another subject specialist said that “students should not have problems with academic scientific vocabulary when they attend the

department. They have problems with even the easiest vocabulary”. 30 percent of them stated that students should learn something interesting and related to social life since they would be exposed to academic language when they attended the classes in the departments. One of the specialists said that “when the students reach a certain proficiency level, materials related to chemistry can be used in reading courses. This helps students be ready for the courses here”.

#### **4.5.5. Subject Specialists’ Suggestions and Expectations**

When asked to give suggestions to improve the program in SOBE, they suggested teaching English for longer periods, especially practicing language much more by improving listening and speaking activities and persuading students that they would fail and lose years if they were not good enough to follow the lectures in English.

Data elicited through the question concerning the identification of the specialists’ expectations showed that 70 percent of them wanted reading, writing and listening skills to be improved enough not to cause problems in their departments. They expected SOBE to do more sentence structure, reading, listening activities; and to make the students be able to express themselves in the lectures, ask and answer questions, and contribute to the lectures. 50 percent of them argued that the students should be ready to speak fluently and understand what the lecturer said, and in order to achieve this, they should have a certain amount of academic vocabulary.

#### **4.6. Responses of the Students in the Reseacher’s Class**

The questionnaire distributed to the students who studied two thematic units prepared by the researcher himself included questions concerning language skills, motivation, opinion and time for theme-based units.

##### **4.6.1. Effects of Thematic Units on Students’ Motivation**

Data elicited through the questions concerning the identification of whether those units increased the students’ motivation of language learning indicated that 94.7 percent of the

students agreed that their motivation increased. They explained that they could learn more words and that they could understand the texts related to physics, chemistry, and biology better than the texts in the coursebook. They also stated that they did not have any difficulty although they were anxious at the beginning, and they believed that they examined themselves. The most important explanation was the statement of one of them that s/he did not use the Internet before, but s/he did research for these topics. Another student stated that “since the units were different from the units we have been studying since the beginning of the semester, I think these units were much more effective in terms of motivation”. The ones who did not agree stated that it was too late to apply the units and suggested separating students into classes according to their departments.

84.2 percent of the students stated that they found the application of those thematic units interesting and motivating because the subjects were related to their own field of study. One of them stated that s/he noticed how much pleasure s/he got when s/he commented on the things s/he had been learning since the primary school. One of the most attractive statements was “I really felt I am at a university for the first time”.

#### **4.6.2. Students’ Perceptions of Effectiveness of the Thematic Units for Further Studies**

When asked whether such units would be useful for their future studies in their departments, 89.5 percent of them responded “Yes.” They stated that they would not be unfamiliar with the vocabulary and structures of the texts they would be dealing with when they attended the classes in the departments, and that the units helped them learn the English equivalents of the terms relevant to biology, chemistry and physics and remember what they had in their minds. One of the students stated, “I was worried about taking classes in English, but I relaxed when I understood the topic studied in a single unit”. Another student stated, “I do not know what my friends think, but I am trying to benefit from these units especially from the information in them”. Another student stated, “since the subjects of the units are related to my department, I think they will be useful next year and in the following years” (see Appendix 10 for more student responses). The ones who disagreed stated that they would not be useful just because they were studied only for two weeks.

#### **4.6.3. Students' Perceptions of through What Types of Materials they would like to Study English**

Data elicited through the questions concerning the identification of the kind of materials through which they would like to learn English showed that 84.2 percent of the students wanted to learn English through both coursebooks that they had been studying and thematic units. They stated that they could learn both basic and academic English. They stated that in this way they would not focus only on academic subjects, and would be also able to learn about general subjects. 42.1 percent of the students thought that such thematic units should be taught from the very beginning of the year to the end, whereas 57.9 percent thought that they should be taught in the second term. They stated that such an application towards the end of the semester would be useless, and if they studied such units from the beginning their minds would be confused. The ones who wanted such units from the beginning stated that the classes would be more enjoyable and that they would learn both English and different subjects. Some of them also suggested that such units could be studied instead of reading courses.

#### **4.6.4. Students' Perceptions of the Activities in the Thematic Units**

Data elicited through the questions concerning identification of the students' ideas about the activities in the units indicated that 78.9 percent of them agreed that reading activities were useful to develop reading skills, 79 percent of them agreed writing activities were useful, and 73.7 percent of them found speaking and listening activities useful. They stated that these activities helped them analyze the sentences grammatically, improve their vocabulary, write what they understood and remembered. One of them commented that s/he still remembered what s/he talked about.

89.5 percent of the students stated that the thematic units triggered their background knowledge. They commented that they could understand the subjects better than the ones in the coursebooks because they had knowledge about them in advance, that they could understand what the text was about although they did not know all the vocabulary, and that they had difficulty in understanding the texts in the coursebooks if they did not know some of the vocabulary. 57.9 percent of the students agreed that such kind of units could

improve their vocabulary to meet their needs when they attended their departments. One of the students stated, "I still remember some of the vocabulary. Some of the vocabulary will be in my memory, so I will not have so much difficulty". They also stated that they remembered the things related to Physics and Chemistry that they began to forget and learnt more about them.

When asked whether they agreed that grammar would be easier to learn since they had some background knowledge about the subjects studied in the units, 73.7 percent of the students agreed commenting that they had difficulty in the ones they did not know.

Unfortunately, the culminating activities in which the students would be utilizing what they had learnt in the units and would prepare presentations were not completed in the classes. However, the students knew what they were expected to do, and 57.9 percent of them thought that those activities would be effective for language production.

## CHAPTER FIVE

### RESULTS AND DISCUSSION

#### 5.1. Introduction

In this study, the main aim was to find out the needs of the students and decide whether those needs could be met by theme-based model of CBI. Content-based Instruction was preferred as the syllabus type that could meet those needs because it gained a great popularity and interest in both ESL and EFL contexts. Content-based Instruction is based on the following principles (Stoller, 2002; Brinton, 2003):

- Instructional decisions are based on content rather than language criteria
- Language skills are integrated
- Students are actively involved in all phases of learning process
- Content is chosen according to its relevance to students' lives, interests, and/or academic goals
- Authentic texts and tasks are selected
- Overt attention is drawn to language features
- Integration of language, content and strategy learning is promoted
- Language is viewed as a medium for learning content and content as a resource for learning and improving language
- Content materials are used to drive most instructional decisions
- Purposeful and meaningful language use is endorsed in the classroom
- Active student participation is encouraged
- Development of discourse level activities are focused on.

Based on these basic principles, Content-based Instruction has been widely used in many language programs. Since language institutions should seek better ways to meet their students needs, they should be aware of the innovations in language teaching area. That's why the researcher decided to find new ways that could improve the program by determining the needs, and to find out whether those needs could be met with the

application of theme-based model of Content-based Instruction. Therefore, this study aimed to find answers to the following research questions below:

1. Can theme-based model of CBI meet the language needs of the students in the preparatory school of KTU?

As well as the main question above, the study also addressed the following minor questions:

1. What language skills do the students in the preparatory school of KTU think that they should have?

2. What language skills do the English lecturers in the preparatory school of KTU think the students need to acquire?

3. What language skills do the subject specialists in the departments of KTU expect their students to have?

4. What are the ideas and attitudes of the students towards theme-based units?

## **5.2. Important Language Skills from the Point of View of Students, Lecturers and Subject Specialists and Theme-based Model**

The proficiency level of 46.4 percent of the students in SOBE was beginner, and that of others was pre-intermediate. Data gathered through the student questionnaire administered in the preparatory program indicate that the students wanted to learn English to be successful in the courses taught in English, to find a good job, and to do further studies.

According to the students in SOBE, listening was the most important language skill followed by speaking because they wanted to understand the lectures and to be able to participate in the class activities. Among the language skills that they needed there were reading to understand the detailed information in texts, reading fast and comprehending the text and reading texts, articles about their field of study. Other skills they needed were writing assignments, preparing projects related to their field of study, asking and answering questions in the lectures, and communicating with people speaking English outside the classroom.

Like the students in the preparatory school, the students in the Physics, Chemistry and Biology departments indicated listening the most important language skill followed by speaking since they needed these skills to understand the lectures, take notes, and ask and answer questions in the lectures. According to them, the most important language skills were reading professional literature, reading to find the general idea, asking and answering questions in the courses, understanding lectures, understanding one-to-one conversation, taking notes and writing departmental assignments respectively.

Similarly, data elicited from the subject specialists showed that listening was found to be the most important language skill followed by reading, speaking and writing respectively. According to them, the ability to understand the lectures taught in English, the ability to understand the main point in the text, the ability to ask and answer questions in the lectures, the ability to answer questions in English in the exams and the ability to take notes were the most important language skills that their students should acquire.

When the results of the question asking the English lecturers the most important language skills were analysed, it is seen that reading was found to be the most important language skill followed by speaking. The lecturers thought that students should have language skills including reading and understanding the main point of the text, reading and understanding journals, reports, papers relevant to their field of study and opening and closing conversations. Additionally, asking and answering questions in the lectures in the departments, understanding spoken language, understanding lectures in English, writing composition on a given topic and preparing assignments and project works in their field of study, were the other language skills that the lecturers found important for their students.

When the language skills needed by the students both in SOBE and in the departments and the language skills found important by the subject specialists and the English lecturers are compared, it is seen that the students and subject specialists found listening and speaking the most important language skills. On the other hand, the lecturers found reading and speaking to be the most important respectively. In fact, it can be said that all these parties found the receptive skills of listening and reading to be the most important language skills. It can also be said that the students found listening to be the most important because they should understand what the teacher was teaching. The subject specialists found



listening to be the most important language skill for their students because they always lectured on a specific topic in their courses and they wanted their students to listen, understand and take notes. The lecturers found reading to be the most important skill because they thought that students learning English should read intensively to improve their proficiency. It was also found that all the participants found speaking to be the second most important language skill. It can be argued that they thought that the students should first understand the oral or written language, then should produce language orally.

When the language needs of the students and the necessary language skills for them are analysed, it can be said that theme-based model of CBI can meet the students' needs and equip them with the necessary language skills. Firstly, when the proficiency level of the students is taken into consideration, theme-based model looks like the most appropriate model because it can be implemented for all levels from low to advanced (Brinton, Snow and Wesche, 1989; Dupuy, 2000).

Secondly, when the language skills that the students at SOBE and the ones in the departments found to be important are analysed, it is seen that these language skills are mostly academic language skills as well as some basic language skills. That's why it can be argued that students' needs concerning the language skills can be met through implementing a theme-based model since in theme-based model, the content of the course can be chosen according to its relevance to students' lives, interests or academic goals (Snow, 2001). Hence, the content of language classes can be selected from the subjects in students' field of study as Wiesen (2001) chose materials related to education because the students in Israeli Teachers' College would be teachers. That content can help students be familiar with the vocabulary and sentence structure of the subjects in the fields. Since the main goal is purposeful and meaningful language use and development of discourse level activities in a content-based classroom (Stoller, 2002a), theme-based model of CBI can provide activities that would help the students of KTU be more active in the class and use language to communicate meaning.

Thirdly, data findings show that both subject specialists and English lecturers care about understanding. In a theme-based classroom, activities can be developed in order to help students understand the content of the course. The theme-based model can provide

opportunities to improve all four skills since they are all integrated (Stoller 2002b). In a theme-based unit, activities expose students to input from various content sources, and guide students to revisit content for different purposes. These activities include re-reading, filling out a graphic organizer, discussing reading, creating a graphic organizer, reporting content to classmates, role-playing, and writing a summary (Stoller, 2002b). These activities also help students synthesize information originating from different sources, and they promote the development of expertise in the content. Such features of theme-based model may help the students improve their language skills. This is clearly seen in the study conducted by Gianelli (1997). The students who studied theme-based units stated that they no longer forgot what they were studying because they became quite familiar with the content of the units.

In addition to subject specialists' focus on understanding and language skills development, when the language skills the subject specialists found important are taken into consideration, it is also clearly seen that all of them are academic language skills. On the other hand, as well as academic language skills, the English lecturers found basic language skills important. That's why the theme-based model can prove to be the most appropriate model since it can provide alternatives to improve both of them. As Cummins (1981: cited in Kasper, 2000) claims, becoming proficient in a language involves a two-tiered model of skill acquisition. In the first tier, basic interpersonal language skills are learnt. In the second tier, academic literacy skills are acquired. CBI is believed to be an effective way for students to develop these skills on both tiers. As a model of CBI, in the theme-based model, the contents can be chosen accordingly, and activities can be developed to provide opportunities for the students of KTU to improve both basic and academic language skills.

As a result, it can be argued that the language skills which the students need, and the ones which the lecturers and subject specialists found important for the students can be successfully provided for the students through the implementation of the theme-based model of CBI in the preparatory school of KTU.

### **5.3. Difficulties the Students in SOBE and in the Departments Have, the Reasons, and the Theme-based Model**

The students have difficulties in all four skills including reading, writing, listening and speaking. The common reason for this is the lack of vocabulary. The other reasons for the difficulties are not being able to write grammatically, not expressing themselves and not using appropriate vocabulary, not being able to understand spoken language and not being able to speak fluently and grammatically. That's why they want to do activities such as reading texts and articles in their field of study, and writing in their field of study. Additionally, they want to do activities that would improve their writing and vocabulary in their field of study. They also want to do activities including starting and finishing a conversation, and talking about a given topic. Having these difficulties and asking for activities to improve their language skills, the students at SOBE were not satisfied with the program at SOBE. They believed that the program did not provide proper and adequate language education necessary for their further studies in their departments. They also complained that activities to improve their language skills were very limited and that the subjects in their books and grammar points were covered too quickly.

Similarly, the findings show that the students in the Physics, Chemistry and Biology departments had difficulties in all four skills. The major reason for the difficulties in each skill was lack of vocabulary. The other reasons were lack of grammar knowledge, fast speech of the subject specialists and not being able to speak fluently. Having all these difficulties in their courses taught in English, the students in the departments were dissatisfied with the language education they got in the preparatory school and complained that they were only taught basic English. Therefore, they felt unprepared for the lectures in their departments.

Furthermore, the subject specialists found the students very poor in terms of language skills complaining that they could not write and speak. They thought that the most important reason for this was again lack of vocabulary. One of the reasons for this dissatisfaction can be summarized in the response of one of the subject specialists. He said that "the reason for the low level of proficiency is that students graduate from the preparatory school without being equipped enough for success in the department".

Similarly, the English lecturers working in the preparatory school complained that adequate importance was not given to other skills except from grammar.

All these findings show that all the parties related to the language program in the preparatory school are not satisfied with the present program. There are some problems in the program, and as a result, the students cannot acquire the necessary language skills. Thus, they cannot be successful when they attend the courses in their departments. As a result, the subject specialists find their students' proficiency levels very poor and complain about the language program in the preparatory school. In order to avoid all these problems, the language program should be modified or renewed in accordance with the language needs and expectations.

The theme-based Model of CBI may be a solution to the problems in the preparatory school. In a theme-based classroom, overt attention is drawn to both vocabulary and grammar. Additionally, since the content is chosen according to students' interest, their background knowledge is triggered, and learning vocabulary and grammar will be easier. Furthermore, since the content in a thematic unit is revisited for many different purposes, students' language skills are improved. Students will be highly active in preparing for the activities individually and collaboratively. At the same time, they learn language using content (Stoller, 2002a). The theme-based model can also provide better opportunities for the students to improve their language skills and be successful in their future studies. For example, in Kasper's study (1997), the students in theme-based courses outperformed the other students in the other language class and became successful in their mainstream courses. Furthermore, language skills of the students can be improved if the theme-based model is implemented. In parallel with this, Dupuy (2000) argues that students enrolled in theme-based courses indicated that they made gains in speaking, listening, and reading and that their self-confidence and motivation to continue studying the target language increased.

Moreover, since the students are unfamiliar with the texts in an academic setting, they are also unfamiliar with the vocabulary in those texts. However, in a theme-based class this problem can be solved since the content of the course can be chosen according to academic needs of the students as well as their interests, which can make students familiar with the

vocabulary that they would be exposed to in their departments. Additionally, there are many activities that would enhance students' language skills and prepare them for academic settings in a theme-based classroom including revisiting the content for different purposes such as reading, writing and speaking about it, synthesizing information using graphic organizers and preparing project works. All these activities make students actively involved in the learning process. That's why theme-based model of CBI can prevent possible problems of the students that they could encounter in the lectures in their departments. For example, in a study described by Brinton et al (1989) which was conducted at the Free University of Berlin, one of the objectives of the theme-based course was to help students develop language processing skills and learning strategies for use after the course since the students would continue to study or use English at the university or in their future vocations. Brinton et al (1989) argue that "the critical factor in the course may well be the ability of the curriculum planner to 'unlock' the interest of the students and to choose themes, text types, and activities which are relevant to the particular language needs of the learners" (p. 40).

As a result, the theme-based model of CBI can possibly be implemented in the preparatory program since it can prepare students for their future studies in their departments, helping them develop language processing skills and learning strategies by choosing materials relevant to their language needs.

#### **5.4. Suggestions for the Program in SOBE and the Theme-based Model**

The students at SOBE suggested that there should be more activities for them to improve their language skills. They also suggested that for each department, there should be a different course.

Similarly, the students in the departments argued that they should have been given texts related to their own field of study in the preparatory program. Hence, they suggested that in the program such activities as asking and answering questions in the lectures, reading to find the general idea, using appropriate vocabulary in the field of study, and speaking grammatically and fluently should be given more emphasis. The students also suggest that the assessment system should be changed.

The lecturers in SOBE also have some suggestions to better the present program. They state “that reading, writing, speaking and listening courses should be incorporated into the present curriculum”. They complain that these skills are not given adequate importance in the present program. They also complain that grammar is emphasized more than these skills. If modified, Stoller’s hybrid curriculum (2002b) which is applied in Northern Arizona University may be appropriate for the program in SOBE since it consists of modules including a core theme-based course and other supplementary courses such as Reading Lab, Writing Tutorials, Video, and TOEFL Preparation. The lecturers also suggest incorporating project work into the assessment system, and preparing less and appropriate questions for the students.

Subject specialists in the departments expect SOBE to improve their students proficiency levels especially in speaking and listening since these skills are very important in taking notes and participating in classroom activities. One of the major reasons that they assume their students proficiency levels are low is again lack of vocabulary in their field of study. As in the Parkinson’s study (2000) in which reading, writing, speaking skills were emphasized because these skills were very important for the students to improve their control of a range of literacies, theme-based model can help the students at SOBE improve their language skills. Similarly, as Raphan and Moser (1994) used content-specific materials in their theme-based course, content-specific materials can be used in the courses in SOBE. In this way, subject specialists’ expectations could be met.

The subject specialists also state that reading texts should be selected from students’ field of study to teach them technical and academic terms and to make them familiar with the learning atmosphere in the departments as Kasper (1995) did in his content-based course. The findings also demonstrate that the ideas of the lecturers in the program about teaching academic language are parallel with those of specialists’. Since content can be chosen according to the interest and needs in theme-based model, field-related contents can be chosen to trigger students’ background knowledge, and to teach them field-related vocabulary. Field-related content may also increase students’ motivation to learn a new language using an interesting and important content.

Assessment in the theme-based model is quite different from the traditional assessment. The primary focus of assessment in theme-based courses is language skills and functions rather than mastery of content. In order to evaluate students' performance, alternative assessment measures such as checklists, reading/writing inventories, anecdotal records, teacher observations, student self-evaluations, portfolios, performance-based tasks, essay writing, and oral reports can be utilized (Short, 1993). In this way, complaints about the assessment system can be avoided.

As a result, it can be argued that the suggestions of the participants for a better program in the preparatory school can be realized through implementation of the Theme-based model of CBI.

### **5.5. Application of Theme-based Units**

The findings obtained through the questionnaire administered to the students after the implementation of two theme-based units were very important because those findings support the application of the theme-based model of CBI in the preparatory school of KTU. Almost all of the students indicated that their motivation to learn English increased since they studied something relevant to their interest and academic fields. They also found the units beneficial for their future studies since they knew they would encounter such texts in the lectures in their departments.

They also enjoyed learning language through content about which they had already had some knowledge. They argued that the content they were familiar with helped them understand the main point of the text although they did not know all vocabulary in the text. They also argued that such texts would help them learn grammar and vocabulary better than the other texts in course books. Besides, they said that the content helped them remember what they studied.

Moreover, they liked the reading, writing and speaking activities, and found them useful for their future studies. They argued that the language skills they would gain through these activities would help them be successful in their departments. The students stated that they were very anxious about the lectures to be given in English in the

departments before they studied these two thematic units. They added that the units gave them a sense of relief and confidence about the lectures in the departments because they read texts that they could encounter when they took courses in their departments.

As can be seen from the attitudes of the students, thematic units studied for a short time increased the motivation and confidence of the students. If a theme-based model is implemented in the preparatory program and thematic units are studied for longer periods, they may help students be more successful in the lectures after they complete the program.

It is clearly understood from the responses of all the respondents involved in the surveys that all parties state that academic language skills should be presented and taught to the students when they are in the preparatory program. That is, all students are required to be well equipped with the academic demands of their fields. Therefore, the program of the preparatory school should be improved in order to meet these expectations. The theme-based model of CBI may be a solution to all the problems through its broad perspectives and advantages for the students.

It is also clear that the needs and expectations of the students and the subject specialists who teach courses in English and the needs of the ones described in the studies in the literature review, are very similar to each other (Kasper, 1997; Parkinson, 2000; Kasper, 1995; Raphan and Moser, 1994; Brinton, Snow and Wesche, 1989; Stoller, 2002b). Theme-based model applied in those settings proved to produce effective and successful outcomes in terms of learners' language learning achievements. That's why the application of Content-based Instruction in the settings mentioned in the literature review can be examined carefully and be adjusted according to SOBE since CBI can be modified according to the conditions of the context. Similarly, successful and effective outcomes can be obtained in the preparatory program of Karadeniz Technical University.



## CHAPTER SIX

### CONCLUSION

#### 6.1. Overview of the Study

As stated previously in the first chapter, the main purpose of this study was to find out whether theme-based model of Content-based Instruction could meet the needs and expectations of the related parties. In order to explore this, this study aimed at determining the needs and expectations of the students in the program and all the other parties concerned with the program, and then comparing their needs with the offerings of content-based instruction to find out whether they matched or not. Data were collected from 97 students from preparatory school of KTU, 34 first year students from Biology and Chemistry departments, 19 students in the researcher's class in the preparatory school, 32 English lecturers in the preparatory school and 10 subject specialists from Physics, Chemistry and Biology departments.

In order to collect data, questionnaires were distributed to those participants. Also, interviews were conducted with the subject specialists and the students in the Biology and Chemistry departments. The questionnaires and interviews included several questions concerning specific language skills needed by the students, the difficulties they had, and what kind of material they would like to study.

In order to analyze the questionnaire data, descriptive statistical techniques such as frequencies and percentages were used. The data recorded in interviews was listened to many times and written down to code them.

At the end of the data analysis, it was found that the students at SOBE and the ones in the departments needed language for academic purposes. Additionally, the subject specialists in the departments wanted their students to improve their academic language skills in order to be successful in the courses in the departments. Furthermore, the English

lecturers in SOBE thought that students needed basic language skills as well as academic language skills.

It was also found that the students both at SOBE and in the departments had difficulties, and the main reason for the difficulties was lack of vocabulary.

Each group of the participants suggested that there should be more activities for the students to improve their language skills. Most of the participants suggested that materials could be selected according to the students' interests and especially according to their field of study.

When the data findings and the offerings of the theme-based model of CBI were compared, it can be argued that students' basic and academic language skills can be improved, the difficulties they have can be prevented and they can be supported to be successful in their departments if the theme-based model is adapted and implemented in the preparatory school of KTU.

## **6.2. Implications of the Study**

The most striking implication of this study is that the program in the preparatory school of Karadeniz Technical University need to be redesigned in order to meet the language needs of students and expectations of other related parties such as English lecturers and subject specialists in different departments of the university.

Another striking implication of this study is that theme-based model of CBI can successfully meet the language needs of the students in SOBE and expectations of the subject specialists in the departments and lecturers in SOBE.

Another implication of the study is that in-service teacher training programs such as seminars and workshops will be needed if content-based syllabus is applied in the program because the lecturers will need training in curriculum and syllabus design and materials development. Therefore, the lecturers should be ready for the shift in their roles because their roles in a content-based classroom will be completely different from the present ones.

Another implication of the study is that material development is one of the crucial components of curriculum design. If the theme-based model is to be implemented in the preparatory program, the designer should be careful in the choice of themes, texts and tasks. The aim of the designer should be to find some familiarity between the themes to be taught and students' own lives and needs in order to make them meaningful to the students and to make more contributions to the course. This requires teacher training in material development.

A content-based syllabus requires students to participate actively in the classroom activities and prepare projects to present in their classes. It also requires lecturers to expose students to authentic texts and tasks. That's why a lot of facilities such as internet connection, and journals that will make it possible to connect students with real world language use should be provided.

The last implication of this study is that this study can be an example for the other language institutions which seeks better language programs in order to meet the needs and expectations of their students in terms of processes followed in conducting needs analysis and determining the most appropriate syllabus type for their institution.

### **6.3. Limitations of the Study**

In this study, due to time limitations, only students from Physics, Chemistry, and Biology departments and subject specialists from these departments were distributed questionnaires. Other students and subject specialists from the other departments could have been included into the data collection processes in order to find out their ideas and opinions about the program of preparatory school.

Another limitation of this study is that the thematic units prepared to find out the students' ideas and attitudes towards such kind of language learning were presented towards the end of the semester, so it did not last for a long time.

Because of the time limitation, the last activities, culminating activities, of the units could not be studied. If they had been studied, the responses of the students could have been more striking regarding the applications of thematic units.

#### **6.4. Implications for Further Study**

This study was done with the respondents in the Physics, Chemistry and Biology departments. The same study or similar studies may be extended to more departments and conducted with more students and lecturers in the preparatory school of KTU, and with more students and subject specialists from various departments.

If Content-based Instruction syllabus is applied in the program, a further study can be conducted on the validity of assessment tools in the content based courses, attitudes of lecturers towards CBI and traditional syllabuses, effects of CBI syllabus on students' motivation on language learning and students' attitudes towards different themes.

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## APPENDICES : 1

## Appendix 1: Questionnaire for the students in SOBE

Sevgili Öğrenciler,

Karadeniz Teknik Üniversitesi Hazırlık bölümünde (SOBE) öğretim görevlisi olarak çalışmaktayım. Karadeniz Teknik Üniversitesi Uygulamalı Dilbilim Anabilim Dalında master öğrencisi olarak, öğrencilerin ihtiyaçlarını ve beklentilerini karşılayacak uygun bir müfredat programı hazırlamak amacıyla öğrencilerin ihtiyaçları üzerine bir araştırma yapmaktayım. Sizlerin bu ankete vereceği cevaplar çalışmaya büyük bir katkıda bulunacaktır. Vereceğiniz cevaplar saklı tutulacaktır.

Katkılarınız için teşekkürler.

Cengiz Koray SAKA

## SORULAR

1-) Bölüm:.....

2-) SOBE'deki İngilizce seviyeniz şu anda nedir?

( ) Beginner

( ) Pre-Intermediate

( ) Intermediate

3-) Neden İngilizce öğreniyorsunuz?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

( ) Zorunlu olduğu için.

( ) Diğer ülkelerden insanlarla iletişim kurabilmek için.

( ) Kendi alanıyla ilgili İngilizce kaynaklardan yararlanabilmek için.

( ) Bölümümde İngilizce okutulan derslerde başarılı olmak için.

( ) İyi bir iş bulmak için.

( ) Yurt dışında çalışmak için.

( ) Daha ileri bir eğitim görmek için (master, doktora gibi).

( ) Diğer. Lütfen belirtiniz:.....

4-) Kendi bölümünüze geçtiğinizde sizce İngilizce'de aşağıdaki hangi beceriler daha önemli olacaktır?

(Lütfen en önemlisinden (1), en az önemlisine (5) kadar yazmak suretiyle önem sırasına koyunuz).

( ) Okuma

( ) Yazma

( ) Dinleme

( ) Konuşma

( ) Gramer

5-) SOBE'de kendi alanıyla ilgili İngilizce terimlerin öğretilmesini istiyorum.

a) kesinlikle istiyorum b) istiyorum c)kararsızım d)istemiyorum e) kesinlikle istemiyorum

6-) Aşağıdaki okuma becerilerinden hangilerinin bölümünüzde daha gerekli olacağını düşünüyorsunuz?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- Metnin ana fikrini anlayabilmek için okuma.
- Kendi alanıyla ilgili literatürü okuma.
- Metinden çıkarımlar yapabilme.
- Metindeki detaylı bilgiyi anlayabilmek için okuma.
- Metinleri hızlı okuyabilme ve anlayabilme.
- Diğer. Lütfen belirtiniz:.....
- Hiçbiri.

7-) İngilizce metinleri okurken zorluk çekiyor musunuz?

- a) Her zaman                      b) Sık sık                      c) Nadiren                      d) Hiçbir zaman

8-) İngilizce okurken yaşadığınız problemler nelerdir?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- Kelime eksikliği.
- Bilinmeyen kelimeleri doğru tahmin edememek.
- Gramer bilgisi eksikliği.
- Metni yorumlayamamak.
- Çok yavaş okumak.
- Diğer. Lütfen belirtiniz:.....
- Okumada zorluk çekmiyorum.

9-) SOBE'deki derslerde neler okumak istersiniz?

(Birden fazla şıkta işaretleyebilirsiniz).

- Bölümle ilgili yazılar, makaleler.
- Edebiyat eserleri (roman,hikaye gibi).
- Gazete ve dergiler.
- Diğer. Lütfen belirtiniz:.....
- Hiçbirşey.

10-) SOBE'de kendi alanıyla ilgili yazılar, metinler okumak istiyorum.

- a) kesinlikle istiyorum b) istiyorum c)kararsızım d)istemiyorum e) kesinlikle istemiyorum

11-) Aşağıdaki İngilizce yazma becerilerinden hangilerinin bölümünüzde daha gerekli olacağını düşünüyorsunuz?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- İngilizce sınavları cevaplayabilme.
- Bölümle ilgili ödevler ve projeler yazabilme.
- Akademik yazılar yazabilme.
- Okuduğunuzu analiz etme.
- Özet çıkarma.
- Verilen bir konu hakkında kompozisyon yazma.
- Diğer. Lütfen belirtiniz:.....
- Hiçbiri.

12-) İngilizce yazarken zorluk çekiyor musunuz?

- a) Her zaman                      b) Sık sık                      c) Nadiren                      d) Hiçbir zaman

13-) İngilizce yazarken yaşadığınız problemler nelerdir?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- ( ) Uygun kelimeleri seçememek.  
 ( ) Gramer kurallarını doğru kullanamamak.  
 ( ) İngilizce yazarken fikirlerimi ifade edememek.  
 ( ) Yazıyı iyi organize edememek.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Yazmada zorluk çekmiyorum.

14-) Aşağıdaki yazma becerilerinden hangilerini SOBE'de pratik yapmak istersiniz?

(Birden fazla şıkta işaretleyebilirsiniz).

- ( ) Gramer kurallarını doğru kullanma.  
 ( ) Bağlaçları doğru kullanma (however, therefore, hence...gibi).  
 ( ) Yazıyı organize etmek.  
 ( ) Kendi branşım ile ilgili yazılar yazabilmek.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Hiçbiri.

15-) SOBE'de kendi alanımla ilgili yazılar yazmak istiyorum.

- a) kesinlikle istiyorum b) istiyorum c) kararsızım d) istemiyorum e) kesinlikle istemiyorum

16-) Aşağıdaki dinleme becerilerinden hangilerinin bölümünüzde daha gerekli olacağını düşünüyorsunuz?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- ( ) Dersleri anlayabilme.  
 ( ) Öğretmenlerle bire bir konuşmaları anlama.  
 ( ) Yabancı konuşmacılar arasında geçen günlük konuşmaları anlama.  
 ( ) Kasete kaydedilmiş konuşmaları anlayabilme.  
 ( ) Not tutmak için öğretmeni anlayabilme.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Hiçbiri.

17-) İngilizce dinlerken anlamada zorluk çekiyor musunuz?

- a) Her zaman                      b) Sık sık                      c) Nadiren                      d) Hiçbir zaman

18-) İngilizce dinlerken anlamada yaşadığınız problemler nelerdir?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- ( ) Öğretmenin hızlı konuşması.  
 ( ) Konunun yabancı olması.  
 ( ) Kelime eksikliği.  
 ( ) Teyp ya da televizyondaki İngilizce konuşmaları anlamamak.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Dinlemede zorluk çekmiyorum.

19-) Aşağıdaki **dinleme becerilerinden** hangilerini SOBE’de pratik yapmak istersiniz?

(Birden fazla şıkki işaretleyebilirsiniz).

- ( ) İngilizcedeki sesleri ayırt edebilme ( ‘three’deki /θ/ sesi ve ‘tree’deki /t/ sesi gibi).  
 ( ) İçinde duraksamalar hatalar ve düzeltmeler olan konuşmaları anlayabilme.  
 ( ) Günlük konuşmaları anlayabilme.  
 ( ) Bağlaçların kullanımını anlayabilme (however, therefore, hence...gibi).  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Hiçbiri.

20-) SOBE’de kendi bölümümle ilgili kayıtlar dinlemek ve izlemek istiyorum.

- a) kesinlikle istiyorum                      b) istiyorum                      c)kararsızım  
 d)istemiyorum                      e) kesinlikle istemiyorum

21-) Aşağıdaki **konuşma becerilerinden** hangilerinin bölümünüz için daha gerekli olacağını düşünüyorsunuz?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- ( ) Sınıf tartışmalarına katılmak.  
 ( ) Derslerde soru sormak ve soruları cevaplamak.  
 ( ) Sözlü sunular hazırlamak ve sunmak.  
 ( ) Sınıf dışında İngilizce konuşan insanlarla konuşmak.  
 ( ) Konferanslarda sunu sunmak.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Hiçbiri.

22- İngilizce konuşurken zorluk çekiyor musunuz?

- a) Her zaman                      b) Sık sık                      c) Nadiren                      d) Hiçbir zaman

23-) İngilizce **konuşmada** yaşadığınız problemler nelerdir?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- ( ) Gramer kurallarına uygun konuşamamak.  
 ( ) Akıcı konuşamamak.  
 ( ) Konuya uygun terim deyim ve ifadeler kullanamamak.  
 ( ) Kelimeleri doğru telaffuz edememek.  
 ( ) Diğer. Lütfen belirtiniz:.....  
 ( ) Konuşmada zorluk çekmiyorum.

24-) Aşağıdaki konuşma becerilerinden hangilerini SOBE’de pratik yapmak istersiniz?

(Birden fazla şıkka işaretleyebilirsiniz).

- Kendi alanımla ilgili terimleri kullanabilmek.
- Bağlaçları doğru kullanmak.
- Bir konuşmayı başlatıp sona erdirebilmek.
- İngilizce’deki vurguları doğru kullanabilmek.
- Kısa cevaplar vermek.
- Verilen bir konu hakkında tartışmalar yapmak.
- Diğer. Lütfen belirtiniz:.....
- Hiçbiri.

25-) SOBE’de kendi alanımla ilgili konular üzerine konuşma yapmak istiyorum.

a) kesinlikle istiyorum b) istiyorum c)kararsızım d)istemiyorum e) kesinlikle istemiyorum

26-) İngilizce grameri anlamakta karşılaştığınız zorluklar nelerdir?

(Lütfen sizin için uygun olan 3 maddeyi en önemlisi (1) olmak üzere 1, 2, 3 şeklinde önem sırasına koyunuz).

- Gramer kurallarını ezberlememizin istenmesi.
- Gramerin pratik yapılmaksızın direkt kurallarından başlayarak öğretilmesi.
- Türkçe’de olmayan gramer yapılarını öğrenmek.
- Diğer. Lütfen belirtiniz:.....
- Grameri anlamakta zorluk çekmiyorum.

27-) SOBE’den beklentileriniz nelerdir?

28-) Şimdiye kadar program beklentilerinizi karşıladı mı? Lütfen açıklayınız.

29-) SOBE’de verilen İngilizce eğitimin daha iyi olması için önerileriniz nelerdir?

THANKS

## Appendix 2. Questionnaire for the students in the departments

Dear student,

I work at the School of Basic English (SOBE) at Karadeniz Technical University as a lecturer. As an MA student in Applied Linguistics Department at Karadeniz Technical University, I am analysing the needs of students in the School of Basic English so as to prepare an appropriate curriculum to meet students' needs and expectations. Your answers to this questionnaire will contribute to my research and your answers will be kept confidential.

Thank you very much for your corporation.

Cengiz Koray SAKA

### QUESTIONS

**1-) Which language skill do you think is the most important at your department?**

*( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Reading
- Writing
- Listening
- Speaking
- Grammar

**2-) Which of the following reading skills do you think are the most essential in your department?**

*( Please put the following in order of importance assigning number (1) to the most important, number (8) to the least important )*

- Reading to do well in tests.
- Reading professional literature.
- Reading to find the general idea.
- Reading to get detailed information.
- Making inferences.
- Skimming and scanning .
- Guessing vocabulary.
- Rapid reading.
- Others. Please specify:.....

**3-) Do you have any difficulty in reading in English?**

- a) Yes, very much      b) Yes, much      c) Little      d) Not at all

4-) If your answer to **question 3** is '**a**' or '**b**', what are the sources of your difficulty in reading English?

( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )

- ( ) Lack of vocabulary.
- ( ) Not being able to guess unknown vocabulary correctly.
- ( ) Understanding the main ideas of passages.
- ( ) Lack of grammar knowledge.
- ( ) Reading too slowly.
- ( ) Others. Please specify:.....

5-) Which of the following writing skills do you think are the most important for your department?

( Please put the following in order of importance assigning number (1) to the most important, number (6) to the least important )

- ( ) Writing in English in exams.
- ( ) Taking notes.
- ( ) Writing departmental assignments, project works.
- ( ) Writing academic papers.
- ( ) Summarising.
- ( ) Analysing what you have read.
- ( ) Others. Please specify:.....

6-) Do you have any difficulty in writing in English?

- a) Yes, very much      b) Yes, much      c) Little      d) Not at all

7-) If your answer to **question 6** is '**a**' or '**b**', what are the sources of your difficulty in writing in English?

( Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )

- ( ) Lack of vocabulary.
- ( ) Lack of grammar knowledge.
- ( ) Expressing my ideas clearly in writing in English.
- ( ) Organizing information well.
- ( ) Others. Please specify:.....

8-) Which of the following listening skills do you think are the most important in your department?

( Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )

- ( ) Understanding lectures.
- ( ) Understanding one to one conversations with instructors.
- ( ) Understanding recorded speech.
- ( ) Listening to take notes.
- ( ) Others. Please specify:.....



9-) Do you have any difficulty in listening in English?

- a) Yes, very much      b) Yes, much      c) Little      d) Not at all

10-) If your answer to **question 9** is '**a**' or '**b**', what are the sources of your difficulty in listening in English?

*(Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )*

- Fast speech of the teachers.  
 Unfamiliar subject matter.  
 Lack of vocabulary.  
 Listening from the tape recorder, video or TV.  
 Others. Please specify:.....

11-) Which of the following speaking skills do you think are the most important in your own department?

*(Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Participating in class discussions.  
 Asking and answering questions in lectures.  
 Preparing and presenting oral reports.  
 Presenting papers in conferences.  
 Presenting papers in class.  
 Others. Please specify:.....

12-) Do you have any difficulty in speaking English?

- a) Yes, very much      b) Yes, much      c) Little      d) Not at all

13-) If your answer to **question 12** is '**a**' or '**b**', what are the sources of your difficulty in listening in English?

*(Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )*

- Speaking grammatically.  
 Speaking fluently.  
 Using vocabulary or phrases relevant to the given topic.  
 Pronouncing words correctly.  
 Others. Please specify:.....

14-) Do you agree that English knowledge you have gained in SOBE is useful in your department?

- (a) Yes, I strongly agree (b) Yes, I agree (c) No, I disagree (d) No, I strongly disagree

15-) If your answer to **question 14** is '**c**' or '**d**', what are the reasons ?

*(You may tick more than one item)*

- The lecturers in SOBE are not successful in teaching English.  
 The syllabus prepared for me was too difficult to cover in such a short time.  
 I was taught only basic English, so I was unprepared for lectures in my department.  
 I was not presented any subject related texts or vocabulary at SOBE.  
 I did not study English at SOBE.

**16-) Which language skills do you think the students at SOBE should practice more often?**

*(You may tick more than one item)*

- Reading to find the general idea.
- Using correct sentences.
- Organizing paragraphs, essays, papers.
- Asking and answering questions in lectures.
- Preparing and presenting oral reports.
- Speaking grammatically and fluently.
- Pronouncing words correctly.
- Using appropriate register related to their field of study ( fertilization, gravity, test tubes, calcium...etc).
- Using cohesive devices ( however, therefore, hence by the way...etc).

**17-) Do you agree that you should have studied texts related to your own field of study at SOBE?**

- Yes, I strongly agree  Yes, I agree  No, I disagree  No, I strongly disagree

**18-) Do you think that student assessment and evaluation done in SOBE is successful?**

- Yes  No

**19- If your answer to question 18 is 'No', what do you think are the reasons?**

*( You may tick more than one )*

- Higher level questions in the exams.
- Lack of student project work assigned to observe their language performance.
- Too many questions in the exams.
- Other ( Please specify):.....

**20-) Did the English course you were taught at SOBE attract your interest?**

- Yes  No

**21-) If your answer to question 20 is 'No', what do you think are the reasons?**

*( You may tick more than one )*

- I think English is not essential for me.
- I found the syllabus inadequate to meet my language needs.
- I do not like learning a language.
- The topics in the books studied at SOBE were out of my interest.
- Other ( Please specify):.....

**22-) If your answer to question 20 is 'No', what do you think should be done to attract students' interest to the course?**

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**23-) If given oppurtunity, what changes would you do in the program of SOBE?**

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*Thank you very much for your assistance.*



### Appendix 3. Questionnaire for the lecturers in SOBE

Dear Colleage,

The aim of this questionnaire is to collect data to identify the English needs of the students at School of Basic English (SOBE) at Karadeniz Technical University. Your answers to the the questions will be of great help for me to design a curriculum for the program that will meet the students' needs and expectations.

Please answer the questions completely. Your answers will be kept confidential and will not be used for any other purpose. Thank you very much for your corporation.

Cengiz Koray SAKA

### QUESTIONS

#### 1-) Which departments are your students going to study after they graduated from SOBE?

- Physics, Chemistry, Biology
- Medicine
- Computer, Electric, Electronic Engineerings
- Civil, Mechanical Engineerings
- International Affairs, Public Administration, Deck Departments
- Forestry, Geodesy and Geology Engineerings
- Post-Graduates

#### 2-) What are your teaching aims in SOBE?

*( Please put the following in order of importance assigning number (1) to the most important, number (7) to the least important )*

- To make students speak English fluently with a good pronunciation.
- To make students understand what they read generally and in detailed.
- To make students write a carefully designed writing on a given subject.
- To make students understand the language when they are exposed to it.
- To make students understand and use the vocabulary related to their fields.
- To make students translate a passage about their field of study into Turkish easily.
- Other (please specify):.....

#### 3-) Which language skills or components do you think are important for your students? *( Please put the following in order of importance assigning number (1) to the most important, number (6) to the least important)*

- Listening
- Speaking
- Reading
- Writing
- A sound knowledge of grammar
- Translation

**4-) Do you think that adequate importance is given to the language skills you find important in the program at SOBE ?**

- Yes, very much    Yes, much    No, little    No, not at all

**Could you please explain your answer briefly?**

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**5-) Which listening skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Understanding spoken English.  
 Understanding radio or TV programs.  
 Following oral instruction.  
 Understanding the lecture in English in their departments.  
 Taking notes in lectures.  
 Other (Please specify):.....

**6-) Which speaking skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )*

- Opening and closing conversation with people speaking English.  
 Participating in class discussions.  
 Asking and answering questions in lectures in their departments.  
 Presenting papers in class.  
 Other (Please specify):.....

**7-) Which reading skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (6) to the least important )*

- Reading for pleasure.  
 Understanding the main point of the text.  
 Understanding the detailed information in the text.  
 Reading to summarize and take notes.  
 Understanding journals, reports, papers related to their own field of study.  
 Reading graphs, charts, tables.  
 Other (Please specify):.....

**8-) Which writing skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (7) to the least important )*

- Writing formal or informal letters.  
 Taking notes.  
 Organising writing.  
 Writing compositions ( paragraphs, essays ) on a given topic.  
 Answering the questions in English in examinations.  
 Preparing assignments and project work in their own field of study.  
 Writing papers, reports in their field of study.  
 Other (Please specify):.....

9-) Do you think that the materials you use are adequate to reach your teaching aims?

( ) Yes, very much ( ) Yes, much ( ) No, little ( ) No, not at all

Could you please explain your answer briefly?

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10-) Do you think that academic English (such as texts including technical vocabulary, writing and presenting papers) relevant to the students' fields of study should also be presented at SOBE?

( ) Yes ( ) No

Could you please explain your answer briefly?

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11-) Which language skill do you think will be important for your students when they start to study in their department?

( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )

- ( ) Listening
- ( ) Speaking
- ( ) Reading
- ( ) Writing
- ( ) Translation
- ( ) A sound knowledge of grammar

12-) Which English language skills do you think your students will be utilizing in their studies in their departments?

( Please tick the option for each item below )

Reading journals, magazines, papers, reports in their field of interest.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Attending lectures and taking notes.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Writing reports, papers, and research projects.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Translating materials written in their field of interest.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Understanding the lectures in English.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Asking and answering questions in lectures.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Presenting papers in class.

( ) Very much ( ) Much ( ) Little ( ) Not at all

Other ( Please specify):.....

13-) Do you agree that the materials you use for your lessons should aim at fostering your students' academic English language skills?

Strongly agree     Agree     Disagree     Strongly disagree

Could you please explain your answer briefly?

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14-) Do you think that student assessment and evaluation done in SOBE is successful?

Yes     No

15- If your answer to 14 is No, what do you think are the reasons?

*( You may circle more than one )*

- Higher level questions in the exams.  
 Lack of student project work assigned to observe their language performance.  
 Too many questions in the exams.  
 Other ( Please specify):.....

16-) Do you experience any problem in teaching at SOBE ?

Yes     No

17-) If your answer to 16 is 'Yes', what are resources of the problems you have?

*( You may circle more than one )*

- Too many students in classes.  
 Too many course hours in a week.  
 Inadequate time to follow the syllabus.  
 Inadequate material.  
 Learners' proficiency.  
 Learners' lack of motivation  
 Lack of coordination among the lecturers.  
 Uncertain goals and objectives of the program.  
 Other ( Please specify):.....

18-) If given opportunity, what changes would you do in the present curriculum?

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#### Appendix 4. Questionnaire for the subject specialists in the departments

Dear Professor,

I work at the School of Basic English (SOBE) at Karadeniz Technical University as a lecturer. As an MA student in Applied Linguistics Department at Karadeniz Technical University, I am analysing the language needs of students in the School of Basic English to prepare an appropriate curriculum for the students who will attend your course after graduation.

Your answers to this questionnaire will greatly contribute to my research and your answers will be kept confidential.

**Thank you very much for your cooperation.**

**Cengiz Koray SAKA**

- Department where you teach :  Physics  
 Chemistry  
 Biology

1-) Course(s) you teach: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2-) Which **language skills** do you think will be the most important for your students when they start to study in their department?

*( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Listening
- Speaking
- Reading
- Writing
- Translation

3-) Which **listening skills** do you think are important for your students to acquire?

*( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Understanding the lecture in English.
- Understanding spoken English.
- Taking notes in lectures.
- Understanding radio or TV programs.
- Following oral instruction.
- Other (Please specify):.....



**4-) Which speaking skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )*

- Opening and closing conversation with English speaking people.
- Asking and answering questions in lectures.
- Presenting papers in class.
- Participating in class discussions.

Other (Please specify):.....

**5-) Which reading skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (5) to the least important )*

- Understanding the main point of the text.
- Understanding journals, reports and papers related to their own field of study.
- Reading to summarize and take notes.
- Understanding the detailed information in the text.
- Reading graphs, charts, tables.

Other (Please specify):.....

**6-) Which writing skills do you think are important for your students to acquire?**

*( Please put the following in order of importance assigning number (1) to the most important, number (6) to the least important )*

- Answering the questions in English in examinations.
- Preparing assignments and project work in their own field of study.
- Writing papers and reports in their field of study.
- Organising writing.
- Taking notes.
- Writing letters.

Other (Please specify):.....

**7-) Which English language skills do you think your students will be utilizing most in their studies?**

*( Please put the following in order of importance assigning number (1) to the most important, number (4) to the least important )*

- Reading journals, magazines, papers and reports in their field of interest.
- Attending lectures and taking notes.
- Writing reports, papers, and research projects.
- Translating materials written in their field of interest.
- Having a good amount of register ( academic vocabulary )

Other ( Please specify):.....

8-) Can your students understand and participate the lectures presented in English?  
(Please tick the option that fits you best)

Yes, very well     Yes, well     Not well     Not well at all

Could you please explain your answer briefly?

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9-) How would you evaluate your students' proficiency levels who graduated from SOBE?  
(Please tick the option that fits you best for each skill)

- a-) Listening :  Very good  Good  Not good  Poor  Very poor  
 b-) Speaking :  Very good  Good  Not good  Poor  Very poor  
 c-) Reading :  Very good  Good  Not good  Poor  Very poor  
 d-) Writing :  Very good  Good  Not good  Poor  Very poor  
 e-) Translation:  Very good  Good  Not good  Poor  Very poor

10-) Is there any cooperation between your department and SOBE (School of Basic English) in terms of language teaching?

(Please tick the option that fits you best)

Yes, very much     Yes, much     No, little     No, not at all

11-) If you are asked for your assistance, would you be willing to cooperate?  
(Please tick the option that fits you best)

Yes, of course     No, I cannot

12-) How do you think the cooperation between your department and SOBE should be?

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13-) Do you think that **academic English** (such as texts including technical vocabulary, writing and presenting papers) relevant to the students' fields of study should also be presented at SOBE?

Yes     No

Could you please explain your answer briefly?

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**14-) If you are asked, could you provide materials to be used at SOBE?**

*(Please tick the option that fits you best)*

Yes

No

**15-) What do you think would improve the program at SOBE?**

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**16-) What are your expectations from SOBE for the success of your students?**

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*Thank you very much for your assistance.*



## Appendix 5. Questionnaire for Thematic Units

Dear Students,

The aim of this questionnaire is to have a general idea about your perceptions about the **Thematic Units** 'The Cell' and 'Nuclear Energy' we have studied together in our classroom and their effect on your language learning. Your answers to this questionnaire will contribute to my research and your answers will be kept confidential.

Thank you very much for your cooperation.

Cengiz Koray SAKA

### QUESTIONS

*Please answer the following questions.*

**1. Do you agree that these thematic units have increased your motivation of language learning?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**2. Do you agree that such thematic units will certainly be useful for your future studies in your departments?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**3. I would like to learn English via**

- (a) such kind of units.
- (b) coursebook units I have been taught.
- (c) both.

*Could you please explain your answer briefly?*

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**4. When do you think such thematic units should be taught to you from the very beginning of the year to the end or later in the second semester?**

- ( ) From the very beginning of the year to the end
- ( ) In the second semester
- ( ) Towards the end of the second semester
- ( ) Other (Please specify):.....

*Could you please explain your answer briefly?*

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**5. Has the application of these thematic units increased your interest in language learning?**

- ( ) Yes                      ( ) No

*Could you please explain your answer briefly?*

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**6. Did you find the subjects of the thematic units interesting and motivating?**

- ( ) Yes, very much    ( ) Yes, much    ( ) No, not much    ( ) Not at all

**7. If your answer to the question 6 is 'Yes', could you please explain what makes these units interesting for you ?**

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8. **What other subjects** would you like to study in your classroom? (Please specify)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

9. Do you agree that the **reading activities** in these units were useful to develop your reading skills?

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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10. Do you agree that the **writing activities** in these units were useful to develop your writing skills?

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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11. Do you agree that such kind of thematic units would improve **your vocabulary** to meet your needs when you go to your department?

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**12. Do you agree that listening and speaking activities in the units were useful to develop your listening and speaking skills?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**13. Do you agree that the thematic units triggered your background knowledge?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**14. Do you agree that grammar would be easier to learn since you have some background knowledge about the subject studied in the units?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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**15. Do you think that the culminating activities are effective for you to produce language for different purposes such as preparing for a debate or preparing presentations?**

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

*Could you please explain your answer briefly?*

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*Thank you very much.*

## **Appendix 6. PILOT WORK OF THE QUESTIONNAIRE**

This questionnaire I prepared for the students who are studying at School of Basic English (SOBE) was administered as pilot work on 10<sup>th</sup> December, 2003. This questionnaire is designed to gather information from the students in SOBE about their current needs and expectations. The questionnaire aims to find out students' both current needs and the things they will need when they start studying at their departments. In this questionnaire is a question for demographical information, 25 questions about language skills and 3 open-ended questions. The questionnaire was administered to 5 Biology, 2 Chemistry and 3 Physics students six of whom are male and the rest 4 of whom are female students. The students were selected randomly. I asked a student to distribute the questionnaire to the ones who want to contribute and then they answered the questions.

When I started to distribute the questionnaire, the first reaction of the students was this "Is it in English?" I explained that I wanted them to do as it was and I would guide them when they had a problem in understanding. Unfortunately, I had to explain each question and each item in the questionnaire. The students said that they could not understand the questions and they could not express themselves in English for open-ended questions. Therefore, I told them they might write in Turkish when necessary and they all wrote in Turkish. That's why, I think it will be a good idea to administer this questionnaire in Turkish.

Then, I explained the students that this was a pilot work of the questionnaire that would be administered after necessary correction, deletions or additions and asked them to give me their ideas about each question, each item, question wording, sequence of the questions, whether they thought any question, any item should be added or deleted, layout of the questionnaire, anything they had in their mind about the questionnaire. I asked them to criticize the questionnaire and answer the questions at the same time.

They gave their ideas about the questions and instructions. For example, for the 3<sup>rd</sup> question, they argued that there were too many items to put in order. They offered that instead of putting all the items in order, they could choose some of them and put them in order of importance. They also argued that the item "none above" should be deleted because the items cover all the things and also said that even if anyone has no aims to learn English, if he is at SOBE he has to learn because it is compulsory. They also argued that the first item should be changed to "because it is compulsory in my department".



For the 6<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup> questions, they found the instructions were mistaken because in the instruction for each question, they are asked to put the items in order of importance assigning number (1) to the most important and number (n)(the number of items including “none above” item) to the least important. They noticed the mistake and said if they choose the “none above” item, they do not have to put the items in order. That’s why the number (n) should be changed.

For the 7<sup>th</sup> question, they argued that the first item should be placed as the last item.

For the 15<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, 25<sup>th</sup> questions, they suggested changing the places of the last two items.

For the 11<sup>th</sup> question, they suggested changing the “none above” item into “ I write nothing” and placing it as the last item and changing the 3<sup>rd</sup> item as “Writing messages, e-mails or chatting on the internet”.

For the 11<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup> questions, they argued that the last items should be deleted because it is unnecessary, and the first item should be placed as the last item.

For the 13<sup>th</sup> question, they suggested changing item 3 as “understanding daily conversations between English speaking people” and item 4 as “understanding recorded speech such as cassettes and videos”.

For the 20<sup>th</sup>, 21<sup>st</sup>, 22<sup>nd</sup>, and 23<sup>rd</sup> questions, they suggested that there should be one more option for midway.

**Appendix 7. Interview with the Subject Professors**

Dear Specialist,

The aim of this interview is to take your ideas about your students' language needs, your expectations from students and the School of Basic English (SOBE), Karadeniz Technical University. Your answers to the following questions will be very useful for me to prepare an appropriate program for the students in SOBE . I assure you that your answers will be kept confidential.

Thank you very much for your cooperation.

Cengiz Koray SAKA

**QUESTIONS**

**1-) Which language skills do you think are important for your students?**

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*Could you please elaborate your answer?*

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**2-) Do you think that your students' language skills such as listening, speaking, reading and writing are good enough?**

Yes

No

3-) If your answer to the 2<sup>nd</sup> question is 'No', what are the factors that you think cause low level of language proficiency?

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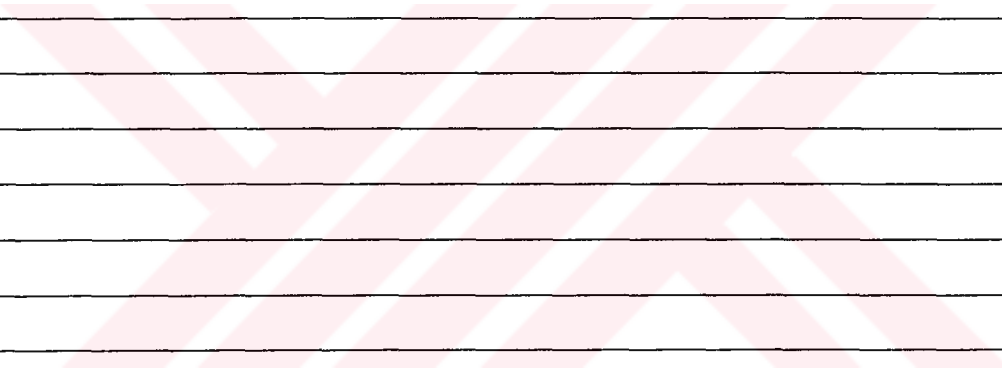
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4-) How do you think the cooperation between the departments and SOBE should be?



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5-) Do you think that academic English (such as text including technical vocabulary, writing academic papers) relevant to students' field of study should also be taught in SOBE?

Yes

No

*Could you please elaborate your answer?*

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**6-) What subjects and texts do you think the students at SOBE should be taught to be able to cope with the academic demands of the departments?**

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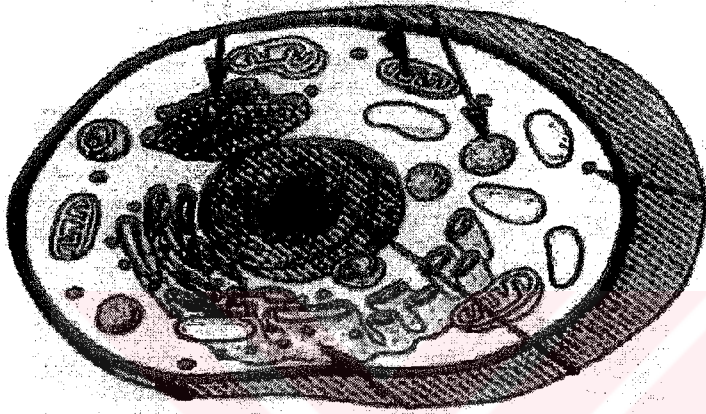
Could I contact you later to get more information especially about the materials you think would be useful for the students?

Appendix 8. The first thematic unit studied in the classroom

## THE CELL

1. Warm up:

Look at the following pictures. What do you think they are?



You are going to learn about the cell.

*WHAT DO YOU KNOW ABOUT THE CELL?*

Write down everything you know about the cell in the first column of the chart below and compare your notes with your friends.

KNOW	WANT TO LEARN	LEARNED

*WHAT DO YOU WANT TO KNOW ABOUT THE CELL?*

**2. Pre-reading:**

Get into groups and discuss what else you want to learn about the cell.

In pairs fill in the second column of the chart and discuss what you want to learn about the cell with the rest of the class.

**3. Reading for gist:**

Read the following text about the cell. Look at the headings below and match them to the paragraph numbers.

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***The Cells***

In 1665 an English naturalist called Robert Hooke made a chance **observation** while using a **microscope** which he had designed. When examining a thin slice of cork, a **substance** which comes from the bark of a tree, he saw that it looked 'much like a honeycomb' consisting of 'a great many little boxes'. Hooke called these boxes **cells**, from Latin for 'a little room'.

This seemingly trivial incident is important because it was the first time anyone had noticed that living things are not necessarily made up of continuous material, but sometimes appear to consist of separate units. Furthermore, Hooke's use of the word 'cell' to **describe** these units has survived to this day and has become a fundamental part of the language of biology.

Two of the most interesting ways of describing cells are to call them 'the units of life', or 'the building blocks of which living things are made'. These descriptions are useful because they emphasize that cells are the structural units of life. In simple terms cells are like the bricks which make up a wall. But bricks are dead, identical in shape, and quite large; cells are living, of many different shapes, and microscopic in size.

The human body is made up of several million million cells. These are **invisible** except under high **magnification** because they measure on average between 0.005 mm and 0.02 mm in **diameter**. If it were possible to increase the size of a man to two hundred times his volume his cells would then be the size of a cricket ball and it might be possible to see a little of their **structure** with the naked eye.

One of the most astonishing things about cells is that they nearly always have the same basic structure, no matter what their **function** is or what **organism** they are found in. The single cell which forms the body of an amoeba, a brain cell of a frog, and a leaf cell of a buttercup all have certain features in common. All cells contain a round or oval object called a **nucleus**, surrounded by a jelly-like substance called **cytoplasm**, both of which are enclosed within a very thin skin known as the **cell membrane**.

The cell membrane is 0.00001 mm thick and forms the outer boundary of the cell. It is here that all exchanges take place between a cell and its surrounding environment. In a way which is not yet fully understood this membrane allows certain **chemicals** to pass in and out of the cell, but prevents the passage of others. Hence, cell membrane are said to be semi-permeable, or, to be more accurate, **selectively permeable**.

The term cytoplasm refers to all the living substances of a cell except the nucleus. Cytoplasm is a jelly-like material containing a large number of important substances. These include the many different enzymes concerned with metabolism, oil droplets, glycogen granules in animal cells, starch grains in plant cells, and crystals of excretory substances. The cytoplasm also contains tiny living structures called **organelles**. Cytoplasmic organelles are "little organs" that are suspended in the cytoplasm of the cell. Each type of

organelle has a definite structure and a specific role in the function of the cell. For example, **mitochondrion** is any of various round or long cellular organelles of most eukaryotes that are found outside the nucleus, produce energy for the cell through cellular respiration, and are rich in fats, proteins, and enzymes. Another important cellular organelle is **ribosome**. Ribosomes participate in protein synthesis. **Lysosomes** are organelles that contain enzymes that aid in the digestion of nutrient molecules and other materials. **Endoplasmic Reticulum** is a system of interconnected vesicular and lamellar cytoplasmic membranes that functions especially in the transport of materials within the cell and that is studded with ribosomes in some places.

At least one nucleus is found in the cells of all organisms. The nucleus of a cell contains rod-shaped objects called **chromosomes**. These are only visible when a cell is about to divide into two. Chromosomes contain a complex chemical called **deoxyribonucleic acid**, or **DNA**. DNA controls the development of the features that an organism **inherits** from its parents. In other words it contains the 'instructions', in chemical code, for making an organism. These **hereditary** instructions are 'obeyed' as a **fertilized egg cell** grows into an adult organism.

<u>Paragraph number</u>	<u>Headings</u>
_____	Size of a Cell
_____	Cell Membrane
_____	Nucleus
_____	Cytoplasm and Substances in it
_____	Discovery of the Cell
_____	Descriptions of the Cell
_____	Cell Structure
_____	The Importance of the Discovery and the Name Cell

#### 4. Detailed Reading:

Read the text again and demonstrate your understanding using the following chart.

Paragraph 1: \_\_\_\_\_ was discovered by \_\_\_\_\_ in \_\_\_\_\_ by \_\_\_\_\_ . He \_\_\_\_\_ a substance that \_\_\_\_\_ called \_\_\_\_\_ .

Paragraph 2: At first sight, it \_\_\_\_\_ a \_\_\_\_\_ discovery but it was the first time \_\_\_\_\_ .

The term ' \_\_\_\_\_ ' \_\_\_\_\_ today.

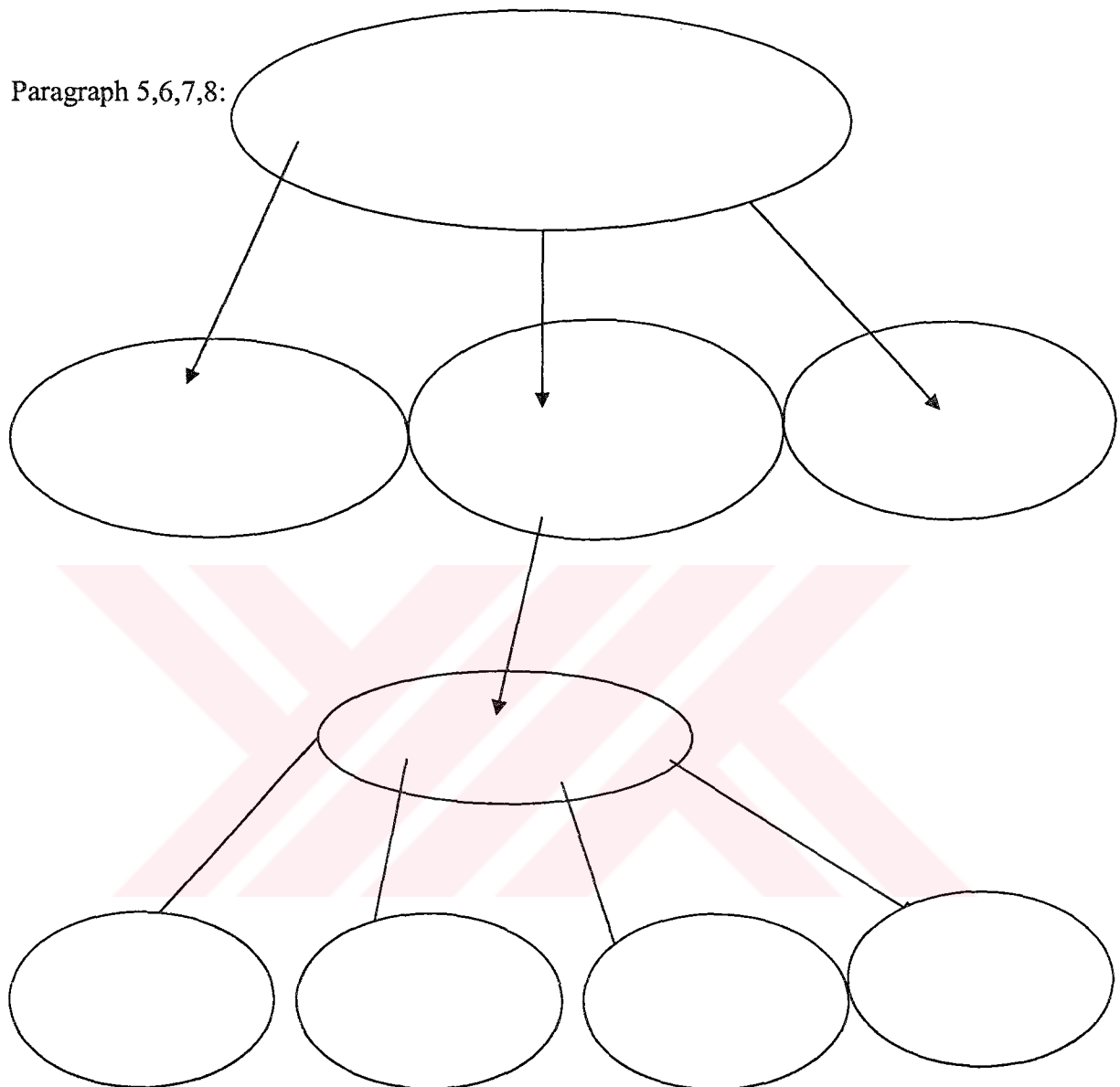
Paragraph 3: In simple words \_\_\_\_\_ are like \_\_\_\_\_ , but

1.

2.

Paragraph 4: 1.

2.



***Answer the following questions:***

- 1-) How did Hooke discover the cell?
- 2-) Why is Hooke's discovery so important?
- 3-) What are the functions of organelles?
- 4-) Where are the chromosomes?
- 5-) Is a cell visible? If yes, How can it be seen?
- 6-) What are the basic components of a cell?
- 7-) What is the function of DNA?



*Read the following statements and decide whether they are **True or False**. If False, why?*

- \_\_\_\_\_ 1. Cells in different organisms have different structures.
- \_\_\_\_\_ 2. Cell membrane allows all kinds of chemicals to pass in and out of the cell.
- \_\_\_\_\_ 3. Organelles are the living structures in cytoplasm.
- \_\_\_\_\_ 4. Energy is produced by mitochondrion for the cell through cellular respiration.
- \_\_\_\_\_ 5. Lysosomes take active role in protein synthesis.
- \_\_\_\_\_ 6. It is possible that we can see cromosomes when a cell is about to divide into two.
- \_\_\_\_\_ 7. It is impossible to be able to see a cell.

**5. Post-reading:**

Fill in the last column of the chart with your partner by writing down everything you have learned from the text about the cell.

Indicate whether your questions in column 2 are answered or not.

**6. Vocabulary building:**

Fill in the following sentences with the words given below.

**carried out, gel-like fluid, functions, enzymes, cytoplasm, cell, organelles, measured, reactions, cell membrane**

1. The \_\_\_\_\_ is one of the most basic units of life.
2. All cells have unique \_\_\_\_\_ and features.
3. The \_\_\_\_\_ regulates the movement of water, nutrients and wastes into and out of the cell.
4. In addition to the nucleus, there are many \_\_\_\_\_ inside of the cell – small structures that help carry out the day-to-day operations of the cell.
5. All of the functions for cell expansion, growth and replication are \_\_\_\_\_ in the cytoplasm of a cell.
6. Mitochondria (many mitochondrion) are often refered to as the power plants of the cell because many of the \_\_\_\_\_ that produce energy take place in mitochondria.
7. The cytoplasm is the \_\_\_\_\_ inside the cell.
8. The \_\_\_\_\_ provides a platform upon which other organelles can operate in within the cell.
9. The sizes of microscopic things are \_\_\_\_\_ in micrometres.
10. The chemical reactions of metabolism would go very slowly, or not at all, if it were not \_\_\_\_\_.

➡ **Make sentences using the words in bold in the reading text.**

➡ **You may study the vocabulary at the end of the unit just to learn more about cell structure.**

## 7. Grammar:

### **RELATIVE (ADJECTIVE) CLAUSES**

Relative clauses are used to combine two simple sentences in which there are two identical noun phrases. To understand relative clauses, we must recognize relative pronouns. Study the following table to understand the types and functions of relative pronouns.

Function	For	Relative Pronouns	
		Defining	Non-defining
Subjective	People	who/that	, who...,
	Things or Animals	which/that	, which...,
Objective	People	[who(m)/that]*	, who(m)...
	Things or Animals	[which/that]*	, which...,
Possessive	People	whose	, whose...,
	Things or Animals	whose	, of which..., , whose...,

\*Note: if the relative pronoun is the object of a defining clause, it may be omitted.

### Relative Adverbs

Relative adverb for	place	where + (Subject+Verb+...)
	time	when + (Subject+Verb+...)
	reason	why + (Subject+Verb+...)

#### 1. Defining Relative Clauses

These describe the preceding noun in such a way as to distinguish it from the nouns of the same class. A clause of this kind is essential to clear understanding of the noun.

- a) An architect is a person *who designs buildings*.
- b) A hospital is a place *where people are given medical care*.

#### Formation of Relative Clauses:

- a) I know *the hospital*. He works in *the hospital*.

I know the hospital {

- which he works in.* \*
- that he works in.*
- he works in.*
- in which he works.* \*
- where he works.*

Notes: 1: In prepositional relative clauses, prepositions is placed either at the end of the relative clause or before the relative pronoun.

2: *Where, when or why* may be used instead of *preposition+relative pronoun* in order to show place, time and reason respectively.

- b) *The hotel* was very expensive. I stayed at *the hotel*.

The hotel	$\left. \begin{array}{l} \textit{which I stayed at} \\ \textit{that I stayed at} \\ \textit{I stayed at} \\ \textit{at which I stayed} \\ \textit{where I stayed} \end{array} \right\}$	was very expensive.
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- c) I know *the girl*. He danced with *her* at the party last Saturday.

I know <i>the girl</i>	$\left. \begin{array}{l} \textit{with whom he danced} \\ \textit{whom he danced with} \\ \textit{who he danced with} \\ \textit{that he danced with} \\ \textit{he danced with} \end{array} \right\}$	at the party last Saturday.
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- d) I don't know *the reason*. He left early for *that reason*.

I don't know *the reason for which he left early*.  
*why he left early*.

- e) *The woman* thanked me. I helped *her* daughter.

The woman *whose daughter I helped* thanked me.

- f) *The town* is very beautiful. I was born *there*.

The town *where I was born* is very beautiful.

- g) 1975 is *the year*. I was born in *that year*.

1975 is the year *in which I was born*.  
*when I was born*.

## 2. *Non-Defining Relative Clauses:*

Basically, non defining relative clauses give additional or extra information and are seperated from the main clause by commas (,...).

- c) The sun, which gives us light, is abig star.
- d) The students, who didn't study, failed. (All the students failed.)
- e) The students who didn't study failed. (Only those students who didn't study failed ;the others passed.)
- f) My uncle ,who is a doctor, works in Istanbul. ( I have one uncle.)

- g) My uncle who is a doctor works in Istanbul. ( I have more than one uncle.)

### 3. Reduction of Relative Clauses:

#### a) Active Constructions:

Active constructions in relative clauses are replaced by **-ing participles**:

Those **who want** to join the trip should contact Mrs. Smith.  
Those **wanting** to join the trip should contact Mrs. Smith.

The woman **who is talking** to my friend is my teacher.  
The woman **talking** to my friend is my teacher.

The system **which had** serious problems drawbacks had to be changed.  
The system **having** serious problems drawbacks had to be changed.

#### b) Passive Constructions:

Passive constructions are reduced by **-ed participles**:

The passive forms of the simple present / the present perfect / the simple past and the past perfect tenses in relative clauses:

The method **which is used** in India.....  
The method **which was used** in India.....  
The method **which has been used** in India...  
The method **which had been used** in India....  
The method **used** in India....

Letters **which are sent** by air mail cost more money.  
Letters **sent** by air mail cost more money.

It was unsafe to enter the building **which was damaged** by the fire.  
It was unsafe to enter the building **damaged** by the fire.

The car **which is being washed** .....  
The car **which was being washed** .....

The car **being washed**.....

The patient **who is being examined** by the doctors is very ill.  
The patient **being examined** by the doctors is very ill.

#### c) 'To'-Infinitive for Active or Passive Constructions:

Relative clauses containing the following structures are replaced by infinitive phrases.

1) **Ordinal numbers:** the first, the second/the next, ... , the last  
*The first* athlete **who finishes** the race gets the prize.  
*The first* athlete **to finish** the race gets the prize.  
 Ali was *the last* person **who arrived**.  
 Ali was *the last* person **to arrive**.

2) **the only**  
 Madam Cruie is *the only* woman scientist **who won** the Noble Prize  
 twice.  
 Madam Cruie is *the only* woman scientist **to win** the Noble Prize twice.  
 Ali was *the only* civilian **who was allowed** access to the military camp.  
 Ali was *the only* civilian **(to be) allowed** access to the military camp.

3) **the superlative form**  
 She was *the oldest* person **who underwent** a heart transplant operation.  
 She was *the oldest* person **to undergo** a heart transplant operation.

This is *the largest* ship **which was built** here last year.  
 This is *the largest* ship **(to be) built** here last year.

4) **relative clauses containing modal auxiliaries**  
 He has a lot of responsibilities that he **must fulfill**.  
 He has a lot of responsibilities **to fulfill**.

There are many obstacles **which must be overcome** before the campaign can  
 start.  
 There are many obstacles **to be overcome** before the campaign can start.

**d) Verb To be in Relative Clauses:**

The man *who was in the car* looked suspicious to me.  
 The man *in the car* looked suspicious to me.

The hospital *which is near our house* is equiped with modern devices.  
 The hospital *near our house* is equiped with modern devices.

**Exercise 1: Combine the following pairs of sentences, using appropriate relative pronouns.**

1. The politicians were arrested. They were involved in financial scandal.  
 .....
2. The ship was carrying 300 passengers. It sank.  
 .....
3. The books have not arrived yet. They were ordered a month ago.  
 .....

4. the students had to wear uniforms. They attended that school.  
.....
5. I like to study in the morning. It is usually quiet then.  
.....
6. The story is quite unusual. It was written by Jack.  
.....
7. People need a lot of energy. They work in the mines.  
.....
8. The hotel used to be a palace. Betty is staying at it.  
.....
9. The hotel will have 600 rooms. It is being built by a foreign investor.  
.....
10. A man wanted to see you. I can't remember his name.  
.....

**Exercise 2:** *Choose the alternative that best completes each sentence.*

1. This is the address to \_\_\_\_\_ I want this package sent.  
a) it                      b) where                      c) which                      d) that
2. Pablo Picasso, \_\_\_\_\_ works are admired all over the world, was a great Spanish painter.  
a) who                      b) whose                      c) whom                      d) of whom
3. A higher crime rate exists in cities \_\_\_\_\_ a large percentage of unemployed.  
a) that they have      b) have                      c) that have                      d) where it has
4. The Democrats hope to win an overwhelming majority in parliament in the elections \_\_\_\_\_ next October.  
a) to hold                      b) to be held                      c) holding                      d) will be held
5. The president refused to accept the decision \_\_\_\_\_ .  
a) which proposed the committee                      c) which the committee proposed  
b) who the committee proposed                      d) proposed the committee
6. I met the woman \_\_\_\_\_ husband is the president of the corporation.  
a) whose                      b) who                      c) whom her                      d) whom
7. Geomorphology is the study of changes that \_\_\_\_\_ on the surface of the earth.  
a) taking place                      b) takes place                      c) take place                      d) they take place
8. Theories \_\_\_\_\_ the nature of universe are constantly revised by scientists.  
a) describing                      b) that they describe                      c) are described                      d) described
9. One problem \_\_\_\_\_ immediately is drug abuse.  
a) is that we must tackle                      c) which must tackle  
b) that we must tackle                      d) that we must tackle it
10. A political campaign \_\_\_\_\_ will be costly.

- a) which last for months
- b) lasting for months

- c) lasts for months
- d) will last for months

**Exercise 3:** *Identify the relative clauses in the text and analyze them.*

**8. Writing**

Look at the diagram 1 below. What do you think it is about?

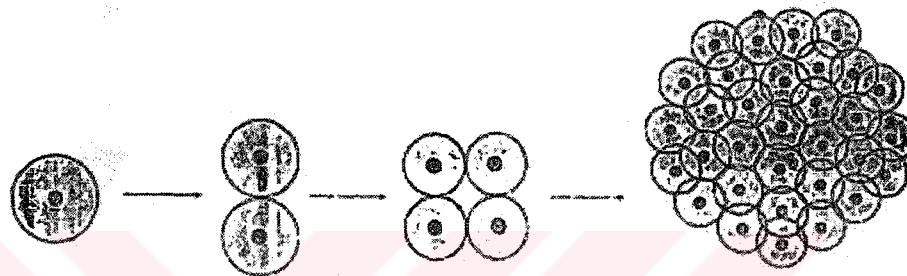


Diagram 1

**Mitosis**

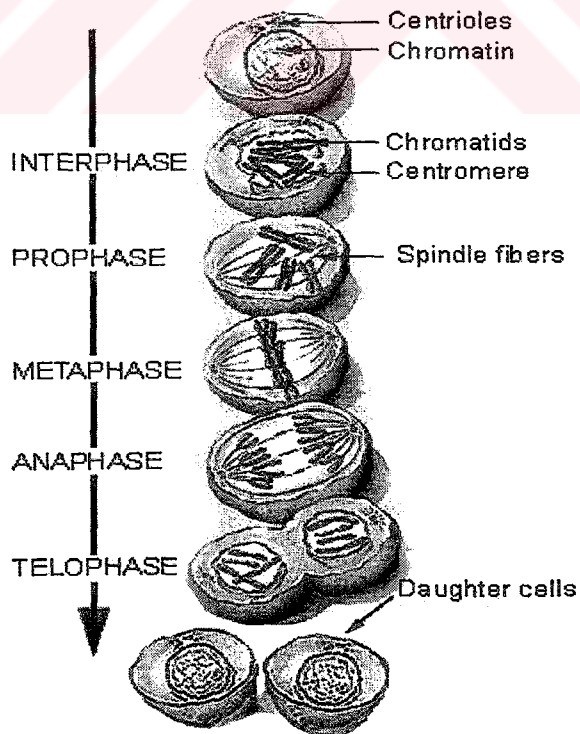


Diagram 2

**9. Pre-Writing**

Examine the diagram that describes how a cell division occurs.

➔ In pairs write the process based on the diagram.

**10. Post-writing:**

Compare your writing with your friends and then read the **original text below** from which the diagram was taken and compare your description of the process with that of the text.

**Cell division**

Cell division is the process by which new cells are formed for growth, repair, and replacement in the body. This process includes division of the nuclear material and division of the cytoplasm. All cells in the body (somatic cells), except those that give rise to the eggs and sperm (gametes), reproduce by mitosis. Egg and sperm cells are produced by a special type of nuclear division called meiosis in which the number of chromosomes is halved. Division of the cytoplasm is called cytokinesis.

Somatic cells reproduce by mitosis, which results in two cells identical to the one parent cell. Interphase is the period between successive cell divisions. It is the longest part of the cell cycle. The successive stages of mitosis are prophase, metaphase, anaphase, and telophase. Cytokinesis, division of the cytoplasm, occurs during telophase.

Meiosis is a special type of cell division that occurs in the production of the gametes, or eggs and sperm. These cells have only 23 chromosomes, one-half the number found in somatic cells, so that when fertilization takes place the resulting cell will again have 46 chromosomes, 23 from the egg and 23 from the sperm.

**11. Speaking:**

Read the extra information about cell division below and then talk about the stages of it.

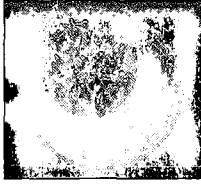
**What is (and is not) mitosis?**

Mitosis is nuclear division plus cytokinesis, and produces two identical daughter cells during prophase, prometaphase, metaphase, anaphase, and telophase. Interphase is often included in discussions of mitosis, but interphase is technically not part of mitosis, but rather encompasses stages G<sub>1</sub>, S, and G<sub>2</sub> of the cell cycle.

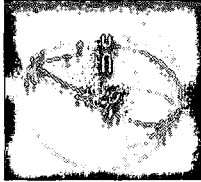
**Interphase & mitosis****Interphase**

The cell is engaged in metabolic activity and performing its prepare for mitosis (the next four phases that lead up to and include nuclear division). Chromosomes are not clearly discerned in the nucleus, although a dark spot called the nucleolus may be visible. The cell may contain a pair of centrioles (or microtubule organizing centers in plants) both of which are organizational sites for microtubules.



**Prophase**

Chromatin in the nucleus begins to condense and becomes visible in the light microscope as chromosomes. The nucleolus disappears. Centrioles begin moving to opposite ends of the cell and fibers extend from the centromeres. Some fibers cross the cell to form the mitotic spindle.

**Prometaphase**

The nuclear membrane dissolves, marking the beginning of prometaphase. Proteins attach to the centromeres creating the kinetochores. Microtubules attach at the kinetochores and the chromosomes begin moving.

**Metaphase**

Spindle fibers align the chromosomes along the middle of the cell nucleus. This line is referred to as the metaphase plate. This organization helps to ensure that in the next phase, when the chromosomes are separated, each new nucleus will receive one copy of each chromosome.

**Anaphase**

The paired chromosomes separate at the kinetochores and move to opposite sides of the cell. Motion results from a combination of kinetochore movement along the spindle microtubules and through the physical interaction of polar microtubules.

**Telophase**

Chromatids arrive at opposite poles of cell, and new membranes form around the daughter nuclei. The chromosomes disperse and are no longer visible under the light microscope. The spindle fibers disperse, and cytokinesis or the partitioning of the cell may also begin during this stage.

**Cytokinesis**

In animal cells, cytokinesis results when a fiber ring composed of a protein called actin around the center of the cell contracts pinching the cell into two daughter cells, each with one nucleus. In plant cells, the rigid wall requires that a cell plate be synthesized between the two daughter cells.

**12. Reading, Listening and Speaking:**

→ Get into two groups as A and B. Group A reads Text A and group B reads Text B.

→ While reading, make a note of the main ideas to talk about the text to your friend.

Text A**Tissues**

Cells group together in the body to form tissues - a collection of similar cells that group together to perform a specialized function. There are 4 primary tissue types in the human body: epithelial tissue, connective tissue, muscle tissue and nerve tissue.

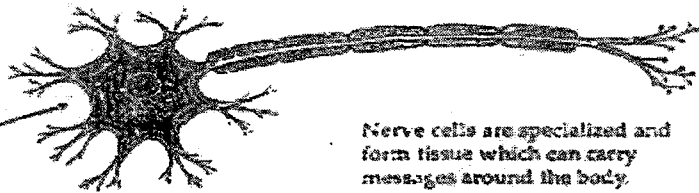
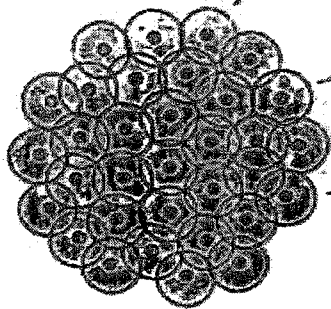
1. Epithelial Tissue - The cells of epithelial tissue pack tightly together and form continuous sheets that serve as linings in different parts of the body. Epithelial tissue serve as membranes lining organs and helping to keep the body's organs separate, in place and protected. Some examples of epithelial tissue are the outer layer of the skin, the inside of the mouth and stomach, and the tissue surrounding the body's organs.
2. Connective Tissue - There are many types of connective tissue in the body. Generally speaking, connective tissue adds support and structure to the body. Most types of connective tissue contain fibrous strands of the protein collagen that add strength to connective tissue. Some examples of connective tissue include the inner layers of skin, tendons, ligaments, cartilage, bone and fat tissue. In addition to these more recognizable forms of connective tissue, blood is also considered a form of connective tissue.
3. Muscle Tissue - Muscle tissue is a specialized tissue that can contract. Muscle tissue contains the specialized proteins actin and myosin that slide past one another and allow movement. Examples of muscle tissue are contained in the muscles throughout your body.
4. Nerve Tissue - Nerve tissue contains two types of cells: neurons and glial cells. Nerve tissue has the ability to generate and conduct electrical signals in the body. These electrical messages are managed by nerve tissue in the brain and transmitted down the spinal cord to the body.

**Tissues**

Some cells in the ball grow and change shape to do a particular job - they become specialized. Cells that do the same job group together to form tissues.



Some cells become specialized muscle cells. These form tissue which can tighten up and relax.



Nerve cells are specialized and form tissue which can carry messages around the body.



Red and white blood cells form tissue which can carry oxygen and kill germs. This tissue is called blood.

Text B**Organs**

a)

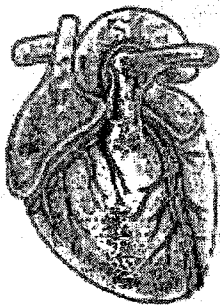
Organs are the next level of organization in the body. An **organ** is a structure that contains at least two different types of tissue functioning together for a common purpose. There are many different organs in the body: the liver, kidneys, heart, even your skin is an organ. In fact, the skin is the largest organ in the human body and provides us with an excellent example for explanation purposes. The skin is composed of three layers: the epidermis, dermis and subcutaneous layer. The **epidermis** is the outermost layer of skin. It consists of epithelial tissue in which the cells are tightly packed together providing a barrier between the inside of the body and the outside world. Below the epidermis lies a layer of connective tissue called the **dermis**. In addition to providing support for the skin, the dermis has many other purposes. The dermis contains blood vessels that nourish skin cells. It contains nerve tissue that provides feeling in the skin. And it contains muscle tissue that is responsible for giving you 'goosebumps' when you get cold or frightened. The **subcutaneous layer** is beneath the dermis and consists mainly of a type of connective tissue called adipose tissue. Adipose tissue is more commonly known as fat and it helps cushion the skin and provide protection from cold temperatures.

b)

The body's functions are conducted by organs. Each organ is a recognizable structure--for example, the heart, lungs, liver, eyes, and stomach--that performs specific functions. An organ is made of several types of tissue and therefore several types of cells. For example, the heart contains muscle tissue that contracts to pump blood, fibrous tissue that makes up the heart valves, and special cells that maintain the rate and rhythm of heartbeats. The eye contains muscle cells that open and close the pupil, clear cells that make up the lens and cornea, cells that produce the fluid within the eye, cells that sense light, and nerve cells that conduct impulses to the brain. Even an organ as apparently simple as the gallbladder contains different types of cells, such as those that form a lining resistant to the irritative effects of bile, muscle cells that contract to expel bile, and cells that form the fibrous outer wall holding the sac together.

**Organs**

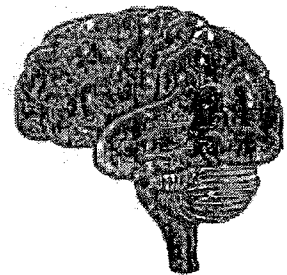
Different tissues combine to make organs.



The heart is an organ which pumps blood around the body.



The stomach is an organ which digests food.



The brain is an organ which controls parts of the body.

**13. Post reading:**

*Pair with a student from the other group and tell them about what you have read. Listen to your friends from the other group and take notes.*

**14. Culminating Activity:**

*Get into seven groups of two or three. Prepare a presentation that discusses the importance of cell in our bodies and expand your presentation in order to present the roles of tissues, organs and seven types of organ systems in our body.*

*Support your presentation with illustrations.*

*Each group does its presentation in the class and other students ask questions in order to have more insights about the subject.*

*While each group is doing its presentation, other students take notes in order to give feedback at the end of the presentations.*

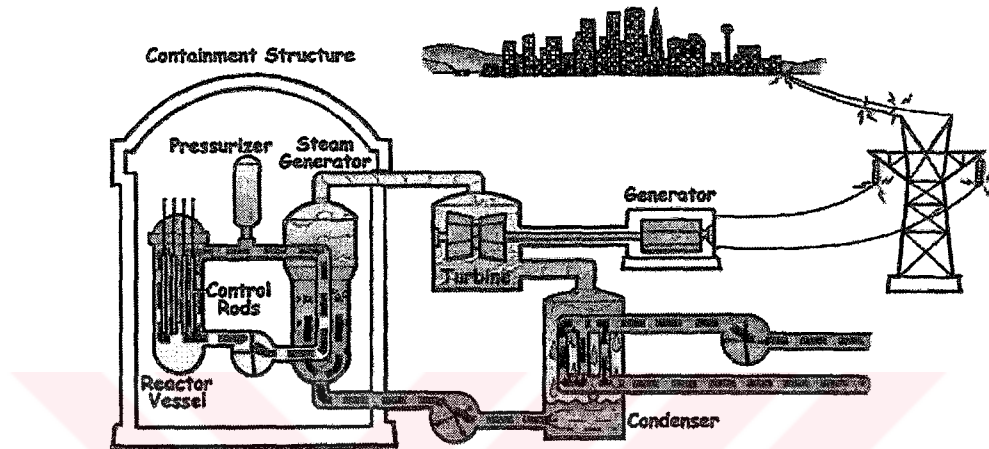


Appendix 9. The second thematic unit studied in the classroom

## NUCLEAR ENERGY

Lead in:

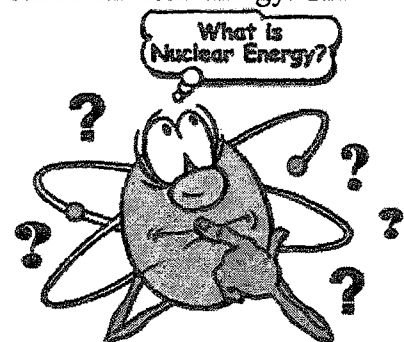
Look at the picture below. What do you think it is?



Reading: Read the following text and match the paragraphs to the headings below the text.

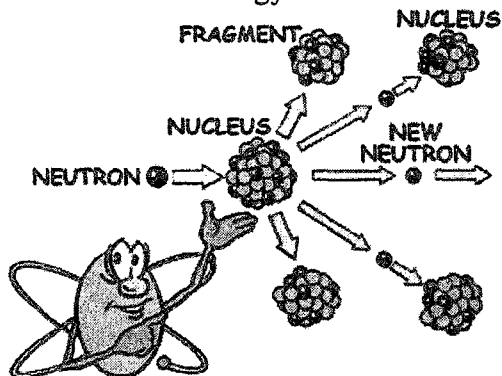
### How nuclear energy works and what it's used for

1. When uranium atoms are split, the heat produced is called nuclear energy. This



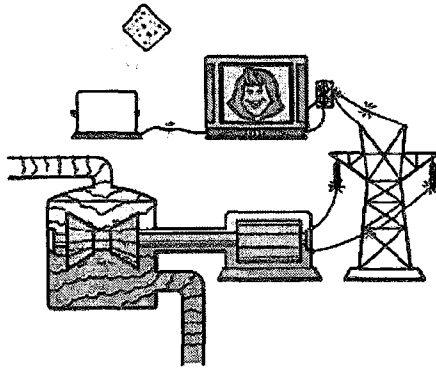
energy is converted to electricity by a nuclear power plant.

2. Nuclear energy results from fission—or the splitting of atoms.



An atom consists of a center, or nucleus, with particles called electrons orbiting the nucleus. There are several kinds of uranium atoms, each called an isotope of uranium. Most of the uranium atoms in uranium ore are the uranium-238 isotope; less than 1 percent is the uranium-235 isotope. The difference is that U-235 fissions easily and U-238 does not.

3. In a U-235 atom, the nucleus—which is composed of protons and neutrons—is unstable, and the nuclei break up, releasing neutrons. When the neutrons hit other uranium atoms, those atoms split—or fission—releasing neutrons of their own, along with heat. These neutrons strike other atoms, splitting them. One fission triggers others, which trigger still more until there is a chain reaction. When that happens, fission becomes self-sustaining.
4. Fission releases large amounts of energy (heat), which is called nuclear energy because it comes from a reaction in the nucleus of the uranium-235 atom. For uranium to be used as a fuel, its U-235 content must be increased from less than 1 percent to between 3 and 5 percent.
5. The fuel that produces energy in a nuclear power plant comes in the form of ceramic pellets about the size of the end of your finger. The pellets are inserted into long, vertical tubes, which are bundled together and placed inside the plant's reactor—where the fission takes place.
6. A huge number of fission events can take place every second in the reactor—as many as 10,000,000,000,000,000 or 10 quintillion. And the neutrons are traveling extremely fast—about 40 million miles an hour. In fact, they're traveling too fast for fission to be efficient. So they are slowed down—to about 7,500 miles an hour—by immersing the uranium fuel bundles in water. The fuel rods are then separated from each other by about one-eighth inch of water. The water serves another purpose, too. It carries away the heat produced by the fissioning atoms, and is turned into steam. As the water turns to steam, its volume expands about 1,000 times.
7. The steam makes electricity by spinning the turbine that drives an electric generator. Inside the generator, coils of wire and magnetic fields interact—and electricity



is created.

The electricity can then be carried to your home, so you can do your homework on your computer, watch television, play video games, have a snack from your refrigerator, and make toast.

8. Nuclear materials are used for many other things besides nuclear power
- In nuclear medicine to detect and treat certain illnesses
  - To perform research at universities
  - In industry, to locate cracks in steel and eliminate dust from film and compact discs
  - To measure the amount of glue on a postage stamp and the amount of air whipped into ice cream, and for many other things.

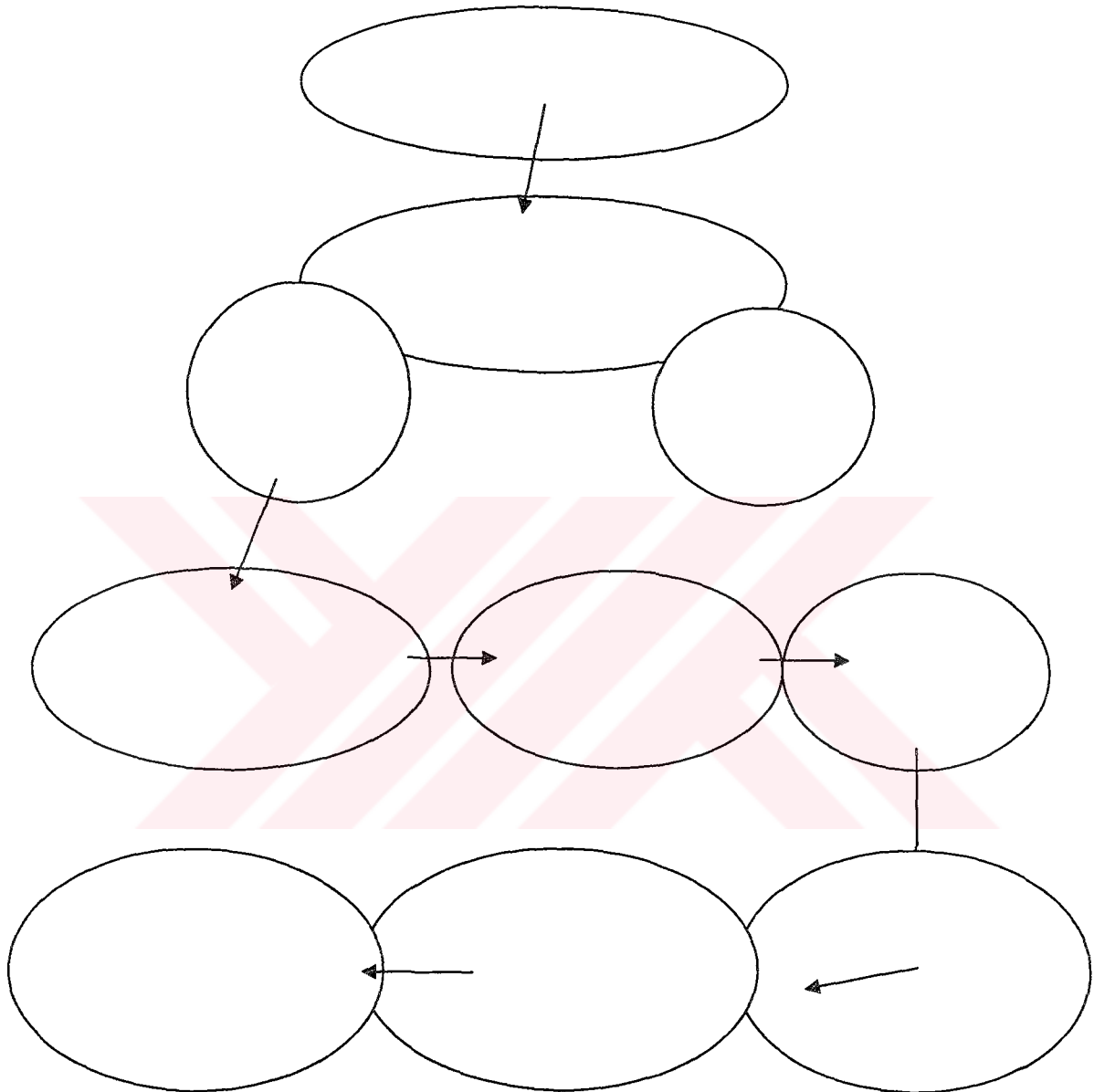
### Paragraph

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_
- 7 \_\_\_\_\_
- 8 \_\_\_\_\_

### Heading

- a) The process of self-sustainability
- b) The form of the fuel
- c) What is nuclear energy?
- d) Applications of nuclear materials
- e) The process in reactor
- f) Creation of electricity
- g) How uranium can be used as a fuel?
- h) Atoms in uranium

⇒ Read the text again and demonstrate your understanding using the following chart.



⇒ Answer the following questions.

1-) By what is nuclear energy turned into electricity?

.....

2-) What is the difference between U-235 and U-238?

.....

3-) What is the nucleus composed of?

.....

4-) How does fission become self-sustaining?

.....

5-) What should be done for uranium to be used as a fuel?



.....  
 6-) What is the function of water in the production of electricity?  
 .....

.....  
 7-) Whereelse can we use nuclear materials?  
 .....



**Read the text again and mark the following statements True or False.**

- \_\_\_ 1. It is fusion that makes the production of nuclear energy possible.  
 \_\_\_ 2. Water's volume expands when it is converted into steam.  
 \_\_\_ 3. U-238 fissions easily whereas U-235 does not.  
 \_\_\_ 4. When the protons hit other uranium atoms, those atoms split, releasing neutrons of their own.  
 \_\_\_ 5. Nuclear materials can be used for measurement and research.  
 \_\_\_ 6. Neutrons travel fast enough for fission to be efficient.  
 \_\_\_ 7. Neutrons should be slowed down for fission to be efficient.

### Vocabulary Building

Fill in the blanks with the following words:

*converts, magnetic field, produced, generator, protons and neutrons, uranium, nuclear energy, Matter, neutrons, spins, splitting, generate*

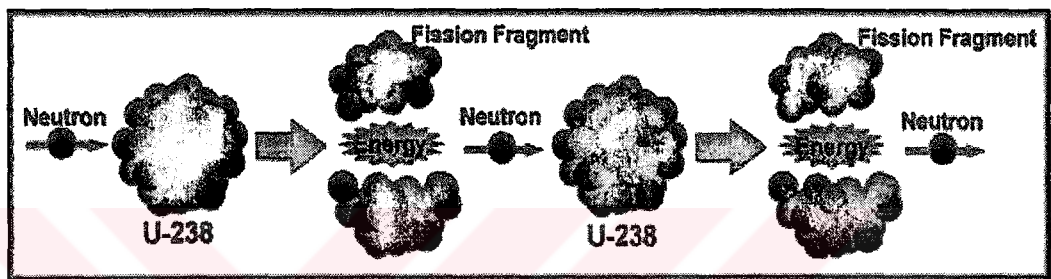
1. \_\_\_\_\_ is made up of billions of tiny particles called atoms.
2. Each atom has a center, or nucleus, consisting of \_\_\_\_\_ .
3. When the \_\_\_\_\_ hit other atoms, these atoms also split—a process known as fission—releasing more neutrons along with heat.
4. When atoms split—or fission—they produce large amounts of energy, which is called \_\_\_\_\_ .
5. Nuclear power plants run on \_\_\_\_\_ fuel.
6. The heat boils water, creating steam. The steam turns a turbine, which \_\_\_\_\_ the shaft of a generator.
7. Inside the \_\_\_\_\_, coils of wire spin in a magnetic field and electricity is produced.
8. A nuclear power plant \_\_\_\_\_ the heat into electricity.
9. The main difference between a nuclear power plant and other kinds of power plants (coal, oil, gas) is that at a nuclear power plant, the heat used to make the steam is \_\_\_\_\_ by fissioning atoms.
10. Fission is the \_\_\_\_\_ of atoms into smaller pieces, caused by neutrons hitting each other.
11. As the turbine spins, the generator turns, and its \_\_\_\_\_ produces electricity.
12. Nuclear energy is a way to \_\_\_\_\_ heat using the fission process of atoms.

Choose three of the words in bold in the text and make sentences.

1. ....
2. ....
3. ....

**Writing:**

Look at the diagram below and write the fission process and what can it be used for. Then, first compare your writing with your friends' and then with the original one.



Fission of uranium 235 nucleus. Adapted from *Nuclear Energy. Nuclear Waste\**.

**Original text:**

**Nuclear Fission:** In nuclear fission, the nuclei of atoms are split, causing energy to be released. The atomic bomb and nuclear reactors work by fission. The element uranium is the main fuel used to undergo nuclear fission to produce energy since it has many favorable properties. Uranium nuclei can be easily split by shooting neutrons at them. Also, once a uranium nucleus is split, multiple neutrons are released which are used to split other uranium nuclei. This phenomenon is known as a **chain reaction**.

**Grammar :**

**The Passive Voice**

Passive constructions are derived from active constructios. Follow the examples:

<b>The Active Voice</b>	<b>Active Subject</b>	<b>Active Verb</b>	<b>Active Object</b>
	A Nuclear Power Plant	produces	electricity.
<b>The Passive Voice</b>	<b>Passive Subject</b>	<b>To be + V3</b>	<b>Optional Agent</b>
	Electricity	is produced	by a Nuclear Power Plant.

<b>Tense</b>	<b>The Active Voice</b>	<b>The Passive Voice</b>
<b>The Simple Present</b>	A Nuclear Power Plant <i>produces</i> electricity everyday.	Electricity <i>is produced</i> everyday.
<b>The Simple Past</b>	The Nuclear Power Plant <i>produced</i> electricity last year.	Electricity <i>was produced</i> last year.
<b>The Simple Future and Modals</b>	The Nuclear Power Plant <i>will can produce</i> electricity next year.	Electricity <i>will can be produced</i> next year.
<b>The Present Continuous</b>	The Nuclear Power Plant <i>is producing</i> electricity now.	Electricity <i>is being produced</i> now.
<b>The Past Continuous</b>	The Nuclear Power Plant <i>was producing</i> electricity last year.	Electricity <i>was being produced</i> last year.
<b>The Present Perfect</b>	The Nuclear Power Plant <i>has just produced</i> electricity.	Electricity <i>has just been produced</i> .
<b>The Past Perfect</b>	The city had electricity because the Nuclear Power Plant <i>had just produced</i> electricity.	The city had electricity because electricity <i>had just been produced</i> .
<b>The Future Perfect</b>	The Nuclear Power Plant <i>will have produced</i> electricity by the next week.	Electricity <i>will have been produced</i> by next week.
<b>Perfect Infinitives</b>	The Nuclear Power Plant <i>should have produced</i> electricity last year. The Nuclear Power Plant <i>could have produced</i> electricity last year.	Electricity <i>should have been produced</i> last year. Electricity <i>could have been produced</i> last year.
<b>Questions</b>	<i>Does</i> the Nuclear Power Plant <i>produce</i> electricity every day? <i>Did</i> the Nuclear Power Plant <i>produce</i> electricity last year? What <i>produced</i> electricity? When <i>did</i> the Nuclear Power Plant <i>produce</i> electricity?	<i>Is</i> electricity <i>produced</i> everyday? <i>Was</i> electricity <i>produced</i> last year? What <i>was</i> electricity produced by? When <i>was</i> electricity <i>produced</i> ?

<b>Form</b>	<b>The Active Voice</b>	<b>The Passive Voice</b>
<b>Negative</b>	He <i>hasn't painted</i> the house yet.	The house <i>hasn't been painted</i> yet.
<b>Reduced Clauses</b>	When they <i>paint</i> the house , it looks beautiful. The house (which) he <i>painted</i> last year looked beautiful.	When ( it is ) <i>painted</i> , the house looks beautiful. The house ( which was ) <i>painted</i> last year looked beautiful.
<b>The Subjunctive Form</b>	They demand that he ( should ) <i>paint</i> the house.	They demand that the house ( should ) <i>be painted</i> .

#### a. Passive of the Gerund

1. He dislikes being called by his first name.
2. Film stars enjoy being admired.
3. He was afraid of being recognized.
4. She acknowledges having been offered a bribe.
5. He remembers having been invited to Jane's birthday party.

#### b. Passive of the Infinitive

6. He wants us to finish the work today.--- he wants the work to be finished today.

7. She expects to be selected for the scholarship.
8. He claims to have been tortured.
9. He deserves to be punished.

**c. Passive of Participles**

10. I saw three men beating him.---- I saw him being beaten by three men.
11. The police man simply watched the cars being turned upside down.

**d. Passive of the verbs which take bare infinitive**

- 12a. They made him clean the house.
- 12b. He was made to clean the house.

- 13a. We saw him enter the building.
- 13b. He was seen to enter the building.

- 14a. The teacher let us know that he wouldn't tolerate any misbehavior.
- 14b. The teacher let it be known that he wouldn't tolerate any misbehavior.

**e. Passive of the verbs that take two objects**

- 15a. They gave him a lot of presents.
- 15b. He was given a lot of presents.
- 15c. A lot of presents were given to him.

**f. Verbs that have two passive forms**

The following verbs, which take that clauses, have two passive forms:

acknowledge	believe	declare	fear	know	report	suspect
allege	claim	estimate	feel	project	say	think
assume	consider	expect	find	prove	suppose	
understand						

**Examples**

16. People say that he is very rich.
  - a. It is said that he is very rich.
  - b. He is said to be very rich.
17. People believe that he is innocent.
  - a. It is believed that he is innocent.
  - b. He is believed to be innocent.
18. People believed that he was innocent.
  - a. It was believed that he was innocent.
  - b. He was believed to be innocent.
19. People expect that the ruling Labor Party will win the elections.
  - a. It is expected that the ruling Labor Party will win the elections.
  - b. The ruling Labor Party is expected to win the elections.

- 20. Newspapers report that fierce fighting is continuing along the southern front.
  - a. It is reported that fierce fighting is continuing along the southern front.
  - b. Fierce fighting is reported to be continuing along the southern front.
  
- 21. Newspapers report that more than one hundred people were killed in the violent clashes between the two rival groups.
  - a. It is reported that more than one hundred people were killed in the violent clashes between the two rival groups.
  - b. More than one hundred people are reported to have been killed in the violent clashes between the two rival groups.
  
- 22. People say that he was very rich before he went bankrupt.
  - a. It is said that he was very rich before he went bankrupt.
  - b. He is said to have been very rich before he went bankrupt.

**g. Passive of the Subjunctive**

- 23. It is vital that natural resources of the country (should) be conserved.
- 24. It is crucial that the endangered species of animals and plants be preserved.
- 25. The guerrillas demand that their friends be released.

**h. Passive Voice in Reduced Clauses**

- 26. The doctor (who was) involved was nowhere to be found.
- 27. The man accused of murder and robbery denied the charges.
- 28. Although supported by some influential politicians, he wasn't elected.

**i. Passive Constructions with GET**


Get + past participle passive may be used instead of be+ past participle with some event verbs:

- 29. Several people got injured in an accident yesterday.
- 30. He got burned in the fire that broke out in the hotel.




**Change the following sentences as in the examples.**


- 1. It is considered that he is an expert on birds.  
*He is considered to be an expert on birds.*
- 2. It is known that John Lennon was interested in oriental religions.  
*John Lennon is known to have been interested in oriental religions.*
- 3. It is acknowledged that Pablo Picasso was a phenomenal artist.  
.....
- 4. It was expected that a majority of the MP's would vote in favor of the proposal.  
.....
- 5. It was reported that two of the missing sailors had been rescued.  
.....
- 6. It is believed that economic stability is necessary for political stability.  
.....
- 7. It was said that he was against any changes whatsoever.  
.....

 **Change to the passive voice.**

1. The experts will assess the damage which the flooding caused.  
.....
2. The University Council is likely to extend the academic calendar.  
.....
3. The police cannot maintain law and order without the cooperation of all citizens.  
.....
4. We must preserve biodiversity.  
.....
5. How can we achieve these objectives?  
.....

 **Choose the word or phrase that best completes each sentence.**

1. All aspects of man's behavior \_\_\_\_\_ by social factors.  
a) are affecting    b) is being affected    c) are affected    d) have affected
2. Great care should \_\_\_\_\_ when attempting to interpret the meaning and significance of a correlation.  
a) observe    b) have observed    c) be observed    d) be observing
3. Glass \_\_\_\_\_ extensively in many modern buildings.  
a) being used    b) is used    c) uses    d) used
4. The needs of the learner must \_\_\_\_\_ when specifying relevant goals.  
a) be considered    b) have considered    c) be considering    d) considered
5. Adolescence \_\_\_\_\_ as a transition from childhood to adulthood.  
a) views    b) is viewing    c) is viewed    d) viewed
6. Many demonstrations \_\_\_\_\_ in recent years in protest against the level of pollution.  
a) are held    b) have held    c) have been held    d) held
7. He \_\_\_\_\_ to withdraw his resignation.  
a) persuaded    b) had persuaded    c) was persuading    d) was persuaded
8. We were made \_\_\_\_\_ the boxes.  
a) to carry    b) carrying    c) to be carried    d) being carried
9. Helium \_\_\_\_\_ to be the major constituent of the stars.  
a) is believed that    c) believes  
b) is believed    d) that it is believed
10. Galileo \_\_\_\_\_ to as the father of modern science.  
a) often refers    c) often referred  
b) has often referred    d) is often referred

 **Identify the passive constructions in the text and classify them.**

### Reading, Speaking and Listening

Look at the following chart and with a tick whether you agree or disagree with the statement before reading. If you are not sure, mark unsure.

Statement	Before Reading			After Reading		
	Agree	Disagree	Unsure	Agree	Disagree	Unsure
1. The use of nuclear energy must be increased as it affects the environment one million times less than coal or oil.						
2. No other energy source could possibly balance our growing energy needs.						
3. Radioactive waste disintegrates slowly in the nature.						
4. People living close to a nuclear power plant suffer from cancer more often than other people.						
5. Nuclear power plants do not emit carbon dioxide and thus help to save our earth.						
6. We don't have another solution to produce so much electricity, so cheaply and with so little pollution.						
7. The problem of disposing of the radioactive waste which continues to emit radioactive ray has been solved.						
8. Solar, wind and tidal energy cannot compete with traditional forms of energy now.						
9. Nuclear power plants are one of the most economical forms of energy production.						
10. Nuclear energy is actually the cleanest energy source but can become the most polluting on if there is an accident.						

Get into two groups as A and B. Group A reads Text A and group B reads Text B. While reading, make a note of the main ideas to talk about the text to your friend.

## Text A

### The benefits of nuclear energy

Every type of electricity generating plant has advantages and disadvantages. One of the major benefits of nuclear energy is the fact that it produces about 20 percent of America's electricity without polluting the environment. Nuclear plants don't produce any carbon dioxide—the major greenhouse gas—or any sulfur dioxide, any nitrogen oxides or any particulates (tiny bits of matter, suspended in the air, that are produced by burning fossil fuels).

And by taking the place of fossil-fueled plants, U.S. nuclear power plants reduced carbon dioxide emissions by 167 million metric tons of carbon in 1999. Since 1973, nuclear energy has reduced utility carbon dioxide emissions by more than 90 percent. Nuclear power plants also produce radioactive waste. This waste—most of which is used fuel—must be handled with care. Used fuel is always handled by remote control, with lots of shielding to contain the radiation. After the used fuel is removed from the nuclear reactor, it is stored in steel-lined, concrete pools filled with water. The water cools the fuel and acts as a shield, to protect workers from radiation.

In some cases, after the used fuel is cooled for 10 years, it is stored above ground in huge concrete or steel containers. Above-ground storage systems—like used fuel pools—incorporate a number of safeguards to protect public health and safety. All storage containers are built to withstand natural disasters such as tornadoes and earthquakes. The Nuclear Regulatory Commission has determined that used fuel can be stored safely and with minimal environmental impact for at least 30 years after a nuclear power plant shuts down.

Turning to other ways of generating electricity, the advantages of solar, for instance, are its inexhaustible supply and the fact that it doesn't pollute. On the other hand, large-scale solar projects require a lot of land and expensive photovoltaic cells. Natural gas prices are unpredictable, and natural gas does produce air pollution (although less than some other sources). Hydropower is pollution-free, but it can require the modification or destruction of ecosystems, and virtually all potential large hydro locations in the United States have already been developed. Coal's advantages include low generating costs, plentiful U.S. supplies, and the ability of "baseload" coal plants to run around the clock. Coal supplies a little more than half of the electricity in the United States. On the other hand, coal plants create air pollution and produce ash that must be disposed of.

Energy experts recommend having a broad mix of electricity generating sources. By diversifying, if one energy source temporarily becomes unavailable or too expensive, there are others to fall back on.



## Text B

### Disadvantages of Nuclear Energy

The nations of the world now have more than enough nuclear bombs to kill every person on Earth. The two most powerful nations -- Russia and the United States -- have about 50,000 nuclear weapons between them. What if there were to be a nuclear war? What if terrorists got their hands on nuclear weapons? Or what if nuclear weapons were launched by accident?

Nuclear explosions produce radiation. The nuclear radiation harms the cells of the body which can make people sick or even kill them. Illness can strike people years after their exposure to nuclear radiation.

One possible type of reactor disaster is known as a **meltdown**. In such an accident, the fission reaction goes out of control, leading to a nuclear explosion and the emission of great amounts of radiation.

In 1979, the cooling system failed at the Three Mile Island nuclear reactor near Harrisburg, Pennsylvania. Radiation leaked, forcing tens of thousands of people to flee. The problem was solved minutes before a total meltdown would have occurred. Fortunately, there were no deaths.

In 1986, a much worse disaster struck Russia's Chernobyl nuclear power plant. In this incident, a large amount of radiation escaped from the reactor. Hundreds of thousands of people were exposed to the radiation. Several dozen died within a few days. In the years to come, thousands more may die of cancers induced by the radiation.

Nuclear reactors also have waste disposal problems. Reactors produce nuclear waste products which emit dangerous radiation. Because they could kill people who touch them, they cannot be thrown away like ordinary garbage. Currently, many nuclear wastes are stored in special cooling pools at the nuclear reactors.

The United States plans to move its nuclear waste to a remote underground dump by the year 2010.

In 1957, at a dump site in Russia's Ural Mountains, several hundred miles from Moscow, buried nuclear wastes mysteriously exploded, killing dozens of people. Nuclear reactors only last for about forty to fifty years.

➡ Pair with a friend from the other tell them about what you have read. Listen to  
➡ your friend from the other group and then prepare a T graph listing the pros and  
cons of nuclear energy together.

➡ Discuss with the class some of the pros and cons of Nuclear Energy in relation  
to what you have read and listened to.

Tell the class if there are any changes to your views about the issues surrounding  
Nuclear Energy.

**Culminating Activity:**

Get into groups and prepare to support your ideas about nuclear energy in a  
classroom debate.

Do the debate in class and get feedback.



Appendix 10. Responses of the students for Thematic units

1. Do you agree that these thematic units have increased your motivation of language learning?

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

Benar sekali. Materi ini sangat membantu dalam meningkatkan motivasi belajar bahasa Inggris. Materi ini sangat menarik dan mudah dipahami. Dengan adanya materi ini, saya merasa lebih semangat dalam belajar bahasa Inggris.

Sangat membantu dalam meningkatkan motivasi belajar bahasa Inggris. Materi ini sangat menarik dan mudah dipahami. Dengan adanya materi ini, saya merasa lebih semangat dalam belajar bahasa Inggris.

Sangat membantu dalam meningkatkan motivasi belajar bahasa Inggris. Materi ini sangat menarik dan mudah dipahami. Dengan adanya materi ini, saya merasa lebih semangat dalam belajar bahasa Inggris.

Sangat membantu dalam meningkatkan motivasi belajar bahasa Inggris. Materi ini sangat menarik dan mudah dipahami. Dengan adanya materi ini, saya merasa lebih semangat dalam belajar bahasa Inggris.

2. Do you agree that such thematic units will certainly be useful for your future studies in your departments?

( ) Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

Could you please explain your answer briefly?

Believe me that I know already this subject and  
in other words I have already done my assignment  
on this subject.

Yes, I strongly agree because I have already done  
this subject and I have already done my assignment  
on this subject.

Because I have already done this subject and I have  
already done my assignment on this subject.  
I have already done this subject and I have  
already done my assignment on this subject.

I believe that I know already this subject and  
in other words I have already done my assignment  
on this subject.

Yes, I strongly agree because I have already done  
this subject and I have already done my assignment  
on this subject.

4. When do you think such thematic units should be taught to you from the very beginning of the year to the end or later in the second semester?

- From the very beginning of the year to the end
- In the second semester
- Towards the end of the second semester
- Other (Please specify) .....

Could you please explain your answer briefly?

~~Dönemler boyunca bu konuları öğrenmek daha güzel olur çünkü dersler  
 sürekli olarak devam eder ve bu şekilde öğrenmek daha kolaydır.  
 Ayrıca bu şekilde öğrenmek daha fazla zaman alır ve daha fazla  
 bilgi ediniriz.~~

~~Bu konuları öğrenmek daha fazla zaman alır ve daha fazla  
 bilgi ediniriz.~~

~~Bu konuları öğrenmek daha fazla zaman alır ve daha fazla  
 bilgi ediniriz.~~

6. Did you find the subjects of the thematic units interesting and motivating?

Yes, very much    ( ) Yes, much    ( ) No, not much    ( ) Not at all

7. If your answer to the question 6 is 'Yes', could you please explain what makes these units interesting for you?

Teknik inggris di rumah saya dan juga  
kegiatan-kegiatan yang akan dilakukan  
di situ

Demikianlah ini bisa juga sebagai bahan  
untuk kegiatan yang akan dilakukan di  
sana. Bisa saja juga sebagai bahan untuk  
berhal.

Untuk itu, sebaiknya kita bisa  
menjadi bahan untuk kegiatan yang akan  
dilakukan di situ. Bisa juga sebagai  
bahan untuk kegiatan yang akan dilakukan  
di situ.

Hal-hal yang berkaitan dengan  
kegiatan yang akan dilakukan di situ  
juga bisa menjadi bahan untuk kegiatan  
yang akan dilakukan di situ.

Secara keseluruhan, kegiatan ini  
sangatlah menarik dan bisa  
menjadi bahan untuk kegiatan yang  
akan dilakukan di situ.



13. Do you agree that the traumatic events triggered your background knowledge?

Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

Could you please explain your answer briefly?

Ya, saya setuju karena trauma yang dialami dapat mempengaruhi pengetahuan yang sudah ada di pikiran.

Ya, karena trauma yang dialami dapat mempengaruhi pengetahuan yang sudah ada di pikiran.

Eri hipotesis bahwa trauma yang dialami dapat mempengaruhi pengetahuan yang sudah ada di pikiran.

Dalam artikel yang saya baca, disebutkan bahwa trauma yang dialami dapat mempengaruhi pengetahuan yang sudah ada di pikiran. Hal ini dapat terjadi karena trauma dapat mempengaruhi memori dan kemampuan untuk menyerap informasi baru.



14. Do you agree that grammar would be easier to learn since you have some background knowledge about the subject studied in the units?

() Yes, I strongly agree ( ) Yes, I agree ( ) No, I disagree ( ) No, I strongly disagree

Could you please explain your answer briefly?

Konuyu bildiğim için daha kolay oluyor biliyorsunuz. Daha çok pratik olur.

Bununla birlikte gramer öğrenmek zor olabilir çünkü bazı konuların anlaşılması için pratik yapmak gerekir.

Çünkü ben de bu konuyu biliyorum çünkü ben de gramer öğrenmişimdir.

Bununla birlikte gramer öğrenmek daha kolaydır çünkü ben de gramer öğrenmişimdir.

**CURRICULUM VITAE**

Cengiz Koray SAKA was born in Akçaabat in 1979. After his secondary education, he attended the Department of English Language Teaching, Dokuz Eylül University, İzmir. He graduated in 2001. After working in Araklı Anatolian Teacher Training High School for one and a half year, he started to work for the Department of Foreign Languages at Karadeniz Technical University, Trabzon in 2002. He is still teaching in the preparatory program of the university.

