

THE ROLE OF ENGLISH MEDIUM INSTRUCTION IN ENGINEERING
AND ARCHITECTURE COURSES
AT ANADOLU UNIVERSITY

A THESIS PRESENTED BY

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ABSTRACT

Title: The role of English Medium Instruction in Engineering And Architecture Courses at Anadolu University

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This quantitative study was designed to investigate the attitudes of engineering and architecture faculty members in Anadolu University toward engineering and architecture content teaching in English. The study aimed at revealing whether the faculty members preferred English or Turkish, and whether and how they used English or Turkish in their classes. It was also intended to exhibit the problems that faculty members who teach in English encountered in class.

The research questions of this study are as follows:

1- What are the beliefs of engineering and architecture content teachers about whether engineering and architecture students need to learn English, why and where they need to learn English?

2- What are the attitudes of engineering and architecture content teachers in Anadolu University toward English medium education in content classes?

a) What are their language preferences in their classes and what are the reasons for their language preferences?

3- How the engineering and architecture faculty members report that they use English in their courses and why?

The participants were 33 engineering and architecture faculty members of Anadolu University. An attitude questionnaire was developed and administered to teachers in order to collect data. Data was analysed by calculating the means and percentages.

Some of the results of the study as follows:

(1) All the participants believe that engineering and architecture students need to learn English in order to be able to read materials written in English.

(2) According to the participants English language education should start as early as possible and it should be an ongoing process that should be at required level of proficiency before content education in English.

(3) While designing preparatory school curricula, focus should be on speaking, listening and writing skills, as these are the most problematic skills. Reading should also be emphasised since participants assign students to read in English.

(4) The largest group of faculty members teaches both in English and in Turkish because students do not have adequate English proficiency and have comprehension problems.

(5) Participants who teach content in English do so because they support that most of the instructional materials and main sources are in English.

(6) Participants who teach in Turkish do so mainly for educational and political reasons. The students' difficulty in comprehending the content and protecting the Turkish language are the reasons for teaching in Turkish.

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To my husband and future children

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CHAPTER1: INTRODUCTION

Background of the study

The purpose of this study was to investigate the role of English medium instruction in engineering and architecture courses at Anadolu University. The English language has become an international language in today's global work life. In the globalisation process, any country that wants to be an active part of that global community needs to internationalise its education. Since English is the language for many scientific and technological written information sources, to meet the needs of students who will take their place by working in the global market, institutions need to internationalise their education systems. Knowing a foreign language has an impact on deciding job qualifications of engineers. This requirement leads to innovations in higher education curriculum and course design, which have been made in many universities of some parts of the world such as Czechoslovakia (Hlavicka & Pekarek, 1995), Poland (Chojnacka & Macukow, 1995), Hong Kong (Flowerdew, Li, & Miller, 1998; Evans, 2000), and Denmark (Jensen & Johennesson, 1995). One of the significant innovations is the increase in the number of faculties and faculty members that teach engineering content courses in English, and this is a debateable concern for both institutions and instructors that work in those institutions.

In Turkish education system, there is no common policy for both education in English and foreign language education (Ertay, 1980; Öztürk, 1980). Some of the Anadolu secondary schools gave up the system that requires teaching all the content in English (Özden & Çağatay, 1993). For university education, until 1981, foreign

language education was treated differently in various universities of Turkey (Sözer, 1986). But, with directive 2547 which YÖK (Yüksek Öğrenim Kurumu, which is the organisation that all of the universities are dependent on) instituted in 1981, foreign language classes became obligatory in all universities since 1983. However, this parallelism does not ensure education quality across the universities (Köksoy, 2000; Sözer, 1986). Moreover, there is no common policy among the universities in Turkey (Ertay, 1980). Some universities teach totally in English, or some of them provide content courses in English in some departments whereas some universities use only Turkish as an instructional language. “Among, 72 universities of Turkey, 28 of them educate in English totally or partially” (Köksoy, 2000). However, the application of English medium instruction represents a low quality education in most of the universities (Köksoy, 2000). Besides, this cause a social indifference between the students graduated from these universities.

With respect to these arguments, this study focuses on the role of English medium instruction. The beliefs of engineering and architecture faculty members in Anadolu University on whether students need to learn English or not, when and why the students need to learn English is intended to reveal. It is also aimed to investigate the faculty members’ classroom language preferences and the parts that the faculty members use English or Turkish in engineering and architecture content courses. The language areas that students have problems with English is also one of the concerns of this study.

Statement of the problem

This will be a study in which the role of English medium instruction in engineering and architecture departments of Anadolu University is focused on. In the

engineering and architecture departments of Anadolu University, some or all of the courses are supposed to be taught in English. However, problems occur in the application of English medium instruction because there are some contradictory ideas among faculty members. Based on informal discussions with faculty members, although instructors and administrators believe that students should know English, faculty members have some complaints about content teaching in English and believe that content should be taught in Turkish not in target language. The underlying reason for their argument is that comprehension problems occur if the content is presented in target language as they mentioned.

However, some engineering and architecture faculty members said that they do not deal with the content in English because they are aware that the proficiency of their students is not adequate to listen to the lectures in English. Some of the faculty members may not use English in engineering and architecture courses as an instructional language since they are not competent enough to use English in their courses. There are also some faculty members who claim that they teach their content in Turkish although they have adequate English because they think that teaching in English would create indifference between engineers who know English and who do not.

Faculty members who teach in English said that they experience problems because students' English is not enough to understand the topic in English. Students are unmotivated since they do not understand the content. Some faculty members who teach in English complain about the faculty members who do not teach in English. They said that students have adaptation problems to the course that is taught in English if a teacher in the previous class teaches in Turkish.

Comprehension of content and being competent enough for a specific field of study are important aims of university education. However, there are many reasons for university students to be exposed to English language. Engineering students who want to have an MA degree or a Ph. D. degree must be able to read the course materials in English because most of them are written in English. And the majority of them are not translated into Turkish. Even when translated, the translation work is haphazard. Moreover, for a Ph. D. degree in Turkey, students must score at least 50 on the KPDS exam (a proficiency exam) at the application stage and 60 to receive the degree.

When students complete their university education, they need to follow new developments by mostly reading sources related with their subject of study and reading documents (eg. books, articles, journals, research reports) written in English. In particular, if they find a job in a big company as well as small ones that work with foreign countries, they need to communicate with foreign engineers and managers. Their efficiency as an engineer depends on their ability to communicate their ideas in English written or orally as well as their knowledge of their study area.

The discussion between the supporters of English medium instruction and supporters of Turkish as an instructional language still goes on. Therefore, this study focuses on the role of English medium instruction in engineering and architecture departments of Anadolu University.

Purpose of the study

Although the legitimacy of English medium instruction is often discussed in Turkey, there are few studies focused on the role of English medium instruction. This study investigated engineering and architecture faculty members' attitudes toward

content education in English; that is, whether faculty members supported content education in English or in Turkish. The beliefs of engineering and architecture faculty members on whether engineering and architecture students need to learn English, when or why they need to learn English was also focus. How the faculty members used English in their classes was also examined; that is, in which parts of their courses they used English and what they wanted their students to do in English. It also intended to explore their opinions about the language areas in which the students had problems.

The engineering and architecture students take engineering content courses in English, therefore, it is important to investigate the attitudes of engineering faculty members in Anadolu University, particularly because Anadolu University has been increasing the number of faculties that teach in English.

Significance of the problem

This study attempted to reveal engineering and architecture faculty members' attitudes toward English medium instruction. This study was conducted in Anadolu University since in this university some courses are taught in English in all of the engineering and architecture departments. By the help of this study, we will have an understanding of whether the faculty members approve of content teaching in English or not, as well as whether they prefer English as a classroom language in their own classes or not.

The study aimed at revealing how and in which parts of the courses English was used in the engineering and architecture faculties. By revealing how English is used in the content classes and what the students are required to do in English, the study will provide insights for preparation classes and curriculum developers to

develop their curricula in terms of considering the demand of faculty members in content classes. Preparatory education can develop curricula to meet the needs of students considering the faculty members' suggestions by the help of this study.

It was also intended to find out the problems that the faculty members in an English medium university experiences in their classes as well as the areas that students have problems with English. By exploring these problems, the results of the study will be beneficial in providing information for the preparation classes to review their course design to prepare the students for their university education. In addition to these, the research might be a source for administrators to consider the problems and make regulations in Basic English classes and in the preparation classes, as well.

In different parts of Turkey, year-by-year, new universities are opening. However, the education quality in such universities is questionable. By focusing on the content education in English, this study is significant for curriculum development. It will provide insights for curriculum developers in the universities of Turkey as well as the universities that administrations plan to open.

The importance of the study that is mentioned above is its local significance. The study has also international significance. The results of this study have contributions for the curriculum developers in some other institutions in some other countries in terms of providing information on the attitudes of instructors toward English medium instruction and their beliefs about the problems that they and their students experience in English medium departments.

This study has scholarly significance. There are few studies on the role of English medium instruction in Turkey whereas there are several studies in the European context and former colonial context on the role of English medium

instruction. This study is a basic reference study that will provide information for scholars who search on the role of English medium instruction. This study also provides research data on larger issues such a linguistic imperialism, rather than speculation on these issues.

Research Questions

For the purpose of this research, these research questions are formulated:

1- What are the beliefs of engineering and architecture faculty members about whether engineering and architecture students need to learn English, why and where they need to learn English?

2- What are the attitudes of engineering and architecture faculty members in Anadolu University toward English medium education in content classes?

What are their language preferences in their classes and what are the reasons for their language preferences?

3- How do engineering and architecture faculty members use English in content courses?

Overview of the study

In this chapter, background of the study, the research problem, the purpose of the study, the significance of the study, research questions were briefly explained. In Chapter 2, the relevant literature will be reviewed. In Chapter 3, the location of the study, the participants and demographic information on participants, materials used to collect data, procedures, and how data is analysed will be explained. In Chapter 4, collected data will be analysed by using frequencies and means. In chapter 5, the results of the study will be discussed.

CHAPTER 2: LITERATURE REVIEW

Introduction: English as a widespread language

English is considered to be the lingua franca as the most widespread language in the world. “English is far by the most widely used language of wider communication in the world” (Conrad, 1996, p. 16). While talking about the spread of English, the first thing that should be mentioned is the extent that English is widespread. A survey, was conducted with 16,000 European Union citizens aimed at finding out the number of people in the European Union who speak English as a mother tongue or as a second language and who believe that everyone in the EU should be able to speak English (English is still on the march, 2000). The main and interesting result of this survey published in is that more non-British Europeans than British Europeans supported the idea that all Europeans should learn English. Furthermore, 40% of the participants, who know English, are non-native speakers and 16% of them are native English speakers. In addition to this survey, statistics on the use of English as provided in the Cambridge Encyclopedia estimates that English is official or semiofficial language in over 60 countries (Crystal, 1987). “It is the main language of books, newspapers, airports, and air-traffic control, international business and academic conferences, science, technology, medicine, diplomacy, sports, international competitions, pop music and advertising” (Crystal, 1987, p. 358).

The Spread of English

Examining how English is widespread can help us to understand the effects of English spread. The term ‘language spread’ should be defined first. Cooper (as cited in Phillipson, 1992) defines the spread of English as “an increase, over time, in the

proportion of a communication network that adopts a given language or language variety for a given communicative function”. According to Phillipson (1992) three aspects of language spread, ‘form, function, pervasiveness’ are the main concerns of spread analysis studies.

By looking at its domains, we can find information on how widespread English is. In this way, we can have background information to be able to discuss whether English has bad or good effects on domains. Domain refers to specific crucial areas in which the English language operates. The economy, education, literature, culture, and technology are some specific domains that may be looked at.

The use of English in the educational domain has long-term effects, which will be discussed later on in this chapter. Education domain is very widespread throughout the world.

Over 50 million children study English as an additional language at primary level; over 80 million study it at secondary level (these figures exclude China). In one year, the British Council helps a quarter of a million foreign students to learn English, in various parts of the world. In the USA alone, 337,000 foreign students were registered in 1983 (Crystal, 1987, p. 358).

As Crystal (1987) suggests English education is widespread in China. In some countries like Denmark, Poland, Turkey, Czechoslovakia, former colonies such as Hong Kong, India, Nigeria, and Malaysia, English is used as an instructional language.

The next domain of English is communication. As English became the most common language in the international relations and of international work communication, it functions as communication language of business, science and technology. “English clearly dominates in the world today and, because English is the acknowledged lingua franca of science, technology and business” (Master, 1998,

p. 716). Dominance of English provides international access for communication as being lingua franca and English is clearly accepted as the language of science (Master, 1998).

In addition, English is the language of scientific and technological papers. “Most of the specialised and learned journals established in the recent years are in English, regardless of discipline, though this is especially true of sciences and medicine” (Quirk & Stein, 1990, p. 589). There has been a constant increase in the studies and periodicals published in English throughout the world (Master, 1998; Quirk & Stein, 1990; Swales, 1990).

English is a widespread language in education and it is an international communication language of business, science and technology. In order to be able to discuss on the issue of English as a medium of education, the effects of spread of English should be dealt with.

Some effects of the spread of English

English has been viewed as an indicator of modernisation and, internationalisation. Due to the status of English in the world, there is an increasing demand for acquiring English in some parts of the world such as India (Kachru, 1986). English internationalises countries that speak it and brings power (Kachru, 1986; Pennycook, 1994)

In comparison with other languages of wider communication, knowing English is like possessing the fabled Alladdin’s lamp, which permits one to open, as it were, the linguistic gates to international business, technology, science, and travel. In short, English provides linguistic power (Kachru, 1986, p. 1).

English language is viewed as a symbol of power, and elitism. Therefore, the idea that English language should be learned in order to get access to the power provided

by English language is very common. “With English taking up such an important position in many educational systems around the world, it has become one of the most powerful means of inclusion into or exclusion from further education, employment, or social positions” (Pennycook, 1994, p. 14). The increasing demand for learning English maintained its popularity, even after past-colonial time ended. When we look at the situation in former colonies such as Hong Kong (Evans, 2000), India, Africa and South Asia (Kachru, 1986), it is clear that English is a dominant official language in these communities.

Some Terms

Besides the spread of English, the issue involved here is the role of dominance of English. Before discussing the positive and negative effects of the dominance of English, we should try to understand some terminology or as Conrad (1996) calls them ‘metaphors’ associated with the status of English. The term language power is one of the concepts that should be considered first.

There is that assumption of language power referring to one language that is dominant over some other language(s). However, the argument is more than this assumption. Phillipson (1992, p. 27) refers to former colonial times when discussing the concept of ‘powerful language’. From a different point of view, Conrad (1996) emphasises the importance of examining the power concept together with what it associates with; that is, context should be looked at first. Does the word ‘power’ connote political power, economic power, and social power in a specific context?

The second term is ‘nationalism’ and another term that is directly related with this term is ‘internationalism’. According to Conrad (1996), it is now impossible to talk about English language as a national language. It is more an international

language. “It cannot now be tied exclusively (or even primarily) to any shared cultural past, any “ethnic” identity, any religion (as Arabic to Islam), any racial group, or any ideology” (Conrad, 1996, p. 21). Conrad (1996) accepts the idea that English is the national language of the people in Britain and “United States, New Zealand, Australia, and much of Canada, all former colonies of England no doubt” (Conrad, 1996, p. 21). He suggests that English language should be considered as an international language since English is the first language of many people who are not related to Britain culturally or historically such as the people from Uganda, Nigeria, India (Conrad, 1996) and speak it without losing their cultural identity. Learning English do not mean losing ones’ cultural identity as English is not associated with any religious groups or any political ideas. Phillipson (1992) starts his definition of national language with the Unesco report and tries to present the difference between two terms, official and national.

The Unesco report also has useful definitions of two terms which are often confused. A national language is ‘the language of a political, social, and cultural entity’, and an official language is ‘ a language used in the business of government- legislative, executive, and judicial’ (Phillipson, 1992, p. 41).

The third term that should be defined is imperialism. “A working definition of English linguistic imperialism is that the dominance of English is asserted and maintained by the establishment and continuous reconstitution of structural and cultural inequalities between English and other languages” (Phillipson, 1992, p. 47). Phillipson (1992) also suggests that English language imperialism is a sub-type of linguistic imperialism. “English linguistic imperialism is one example of linguistic imperialism, which is defined as ideologies, structures, and practices which are used to legitimate, effectuate, and reproduce an unequal division of power and resources (both material

and immaterial) between groups which are defined on the basis of language” (Phillipson, 1992, p. 47). According to Conrad (1996) viewing English as imperialistic is not a good idea at best and not logical since considering English as an imperialist language also means considering local languages as inferior. And, Conrad (1996) criticises the English language imperialism definition of Phillipson (1992).

This is a standard logical fallacy; the argument assumes what is sets out to prove. Or, perhaps, more understandably if equally objectionable, the theory of social change on which it is built anticipates that explanations will take a form which requires the division of languages, like the societies languages are associated with, into exploited and exploiter (Conrad, 1996, p. 24).

Conrad (1996) warns that considering English language as an imperialistic language causes unreasonable judgements. English language is not an imperialistic language at the expense of the other languages according to Conrad (1996).

The negative and positive effects of dominance of English

Inevitably, there are both positive and negative effects of dominance of the English language for societies, especially for the ones affected obviously. It is helpful to look at both the positive part and negative part in order to understand the effects of English. Conrad (1996) warns about the idea of learning “the language is to become dominated by it”. “Such a framework almost guarantees that study will make empirical errors” (Conrad, 1996, p. 20). Because there are some views supporting the idea that the spread of English language has positive effects, some believe that the dominance of English has negative effects and some others consider the effect as neutral. Each of these views should be looked at for the sake of objectivity.

Pennycook (1994) is one of them who considers the effect of spread of English as neutral. English is a beneficial language alongside being dangerous for local languages since it brings superiority to the societies that chose to speak it. “It

nevertheless seems that English is seen as beneficial to the world (which has freely chosen the language), and that the major danger may be to the language itself rather than to other people's languages or cultures" (Pennycook, 1994, p. 8). Kachru (1986) in terms of his own point of view discusses the issue. According to him, the effect of English language depends on the power it brings to the individuals as well as society as a whole. Dominance of power is not related the number of people who speaks the language (Kachru,1986).

The people who know English are generally regarded as prestigious people. Hence, society values English as the language of prestigious part of the society. As a result of this point of view, then there arises a linguistic and social gap between the people who are able to speak the prestigious language and the ones who speak the local language.

The negative aspect of the dominance of English lies in the extent to which it denies access, guarding the status quo and maintaining existing power structures. The meaning of the term power depends on the number of people it affects...At the level of linguistic dominance; the power to advance is contrasted with the power hold back. The latter has come to be described as linguistic imperialism (Master, 1998, p. 717).

The negative effect of dominance becomes more crucial if dominant language over local languages creates inequalities among people in society. Moreover, the effect of linguistic imperialism is vital, if the countries are unconscious about the effect of the dominant language. Another consequence of linguistic imperialism, according to Phillipson (1992), is considering only the positive things about the dominant language and none of the negative things, which is very dangerous for local languages.

Another negative effect of linguistic imperialism is that it creates indifference, division and elitism in the society (Master, 1998; Evans, 2000). For instance, there will be social and linguistic difference between engineer and worker, doctor and patient, student and parent if one does not know English as a common scientific and academic lingua franca.

The other negative effect of the need and tendency toward acquiring English is in terms of native languages. “The enthusiasm for English is not unanimous, or even widespread. The disadvantages of using it are obvious: Cultural and social implications accompany the use of an external language. But the native languages are losing in this competition” (Kachru, 1986, p. 8). The idea of English dominance is a threat for local languages is supported by scholars who are against the dominance of English such as Phillipson (1992), Kachru (1986), Master (1998), and K ksoy (2000).

Scholars who are in favour of dominance of English support that English as being one common language for everyone has positive effects. The most important benefit of dominance of one language is that it makes it easy to reach information for the ones who know that language. If English was not dominant, it would be difficult to be able to read the resources written in a variety of foreign languages.

However, it is believed that dominance of English will decrease in the future by some researchers (Master, 1998; Swales, 1990). The situation in Hong Kong, which was an English colony between 1842-1941, is given as one example. In colonial time, English was the education language in Hong Kong, but now Cantonese is used instead of English in tertiary education. There are some other countries that tries to give up English use in some domains.

Montreal began banning English on street and shop signs with the ascendancy of the Francophone Parti Quebecois, and Indonesia (the world's fifth most populous country) has banned foreign languages in public places, signs, and road maps in favor of its Malay-based national language, Bahasa Indonesia (Shelby, 1996). Furthermore, in 1996 the Chinese government stopped giving its weekly press briefings in both Chinese and English (Master, 1998, p. 723).

The reason why some believe that the dominance of English will diminish is that countries where dominance of English language is apparent will develop and be strong enough to continue their progress with their own language (Master, 1998).

When dominance is over, the countries that were affected by the language dominance and continued their progress with the language dominance will be affected more.

In conclusion, it is not easy to be clear about the position of English as a lingua franca around the world; that is, whether the dominance will gain momentum or diminish in the future. The result depends primarily on the demand or refusal of English. For this study, the demand for English or refusal is concerned in terms of education domain.

English as a medium of instruction

There is an increase in the use of English as a medium of instruction in some countries (Evans, 2000). On the one hand, some people completely disapprove this (Köksoy, 2000; Zeybek, 1999) and advise that the language of education should be students' native language (Lucas & Katz, 1994; Master 1998). On the contrary, there are some other countries that try to increase the number of faculties especially engineering faculties that educate in English (Chojnacka & Macukow, 1995; Hlavicka & Pekarek, 1995; Jensen & Johannesson, 1995).

There are many underlying reasons behind the discussion of English as the language of instruction. In terms of linguistic imperialism, the opposition that denies

English as a language of instruction supports the idea that there is a linguistic imperialism of English language and there is a danger of putting ones' own language in an inferior position (Köksoy, 2000; Zeybek, 1999).

There are also some ideas related to language of instruction. Some supports the idea that one can best learn the content if it is presented in the native language (Master, 1998) or at least with the support of native language for bilingual students (Lucas & Katz, 1994; Zorlu, 1991). However, there is the idea that countries' education system should be internationalised to reach a certain level of quality in education (Hlavicka & Pekarek, 1995), especially by student exchange programs that require English medium of instruction (Chojnacka & Macukow, 1995; Jensen & Johannesson, 1995). There is an increasing demand for the schools that educate in English and governments are unable to prevent the English language to increase as a medium of instruction because of this demand (Evans, 2000; Flowerdew, Li, & Miller, 1998). The parental pressure for learning English is not uncommon to the countries where English is considered as prestigious such as Hong Kong (Evans, 2000; Flowerdew, Li, & Miller, 1998).

The issue remains unsolved because of the increasing demand of education in English and a need for knowing English in today's world as a result of economic, social and technological developments. However, there are problems in application of education in English rather than in local languages. Some studies, which are discussed in the next section, represent some important educational issues on English dominance.

Some Studies

There are some studies related with English medium instruction in bilingual contexts as well as in foreign language contexts. One of them that was conducted in foreign language context, in Hong Kong, by Flowerdew, Li, and Miller (1998), who examined the attitudes of 20 lecturers in Hong Kong University toward English medium instruction in the university. Questionnaires, in-depth interviews and further conversations examined their attitudes. In the former English colony Hong Kong, which is now part of the Republic of China, the common spoken language is Cantonese, while English is the official language of business and education. English is an important language in Hong Kong since the city is international in terms of its economic relations (Flowerdew, Li, & Miller, 1998). Parental influence play important role in English medium instruction policy (Evans, 2000; Flowerdew, Li, & Miller, 1998). But there are some problems in applying this policy since there is a mixed mode of instruction; that is, some teachers use English for textbooks, exams and assignments but Cantonese for oral exposition as revealed in the study. However, the governments suggest that one language, either English or Cantonese, should be used but do not support the mixture of two (Flowerdew, Li, & Miller, 1998).

The results of this study showed that nearly half of 20 lecturers whose teaching experience ranges from 1 to 30 years had teaching experience outside Hong Kong. Lecturers, except one, agreed that English language has significance in terms of maintaining ones' professional career and Hong Kong's status in international relations and English medium instruction should be applied. The lecturers in this study have supported the use of mixed mode since they said that they faced some problems related to the low proficiency level of students and students' resistance to

the use English in the class. On the contrary, all of them reported some use of Cantonese to make the students ask more questions and participate in lesson. There is difference between lecturers' attitudes and actual application because the lecturers are educated in English (most of them were educated and had careers in English speaking countries). The study also concluded that lecturing totally in English is extremely difficult since there are problems for students in application such as their avoiding asking questions in English and forcing their teachers to explain the content in Cantonese. But teaching in Cantonese is not an effective solution since English has importance for society. The study suggests as a solution that students should be required to achieve English proficiency and they should be offered intensive English courses before they start their content studies. The study concluded that English education requires time and financial resources for this city.

The study has some limitations since the results showed what the lecturers said about their own behaviour but not the actual behaviour itself. Moreover, the lecturers may seem to support the mixed mode of instruction because of governmental policy. The results of this study are beneficial since it provides information about attitudes towards English medium instruction in non-English universities. The situation in terms of instruction language in universities is similar to the situation in Turkey. In Turkey, as a result of recent economic, technological and political developments, learning a foreign language has been gaining importance in terms of maintaining communication in business and political life. It is possible to see examples in developing countries that English has been using as a medium of instruction in higher education such as Prague (Hlavicka & Pekarek, 1995) and Poland (Chojnacka & Macukow, 1995).

The medium of instruction language is a debatable issue in U.S., as well. “The use of languages other than English in schooling is a subject of great controversy in the US. Educators, politicians, and others hotly debate whether, when, how, and to what extent students’ native languages should be a part of their formal education” (Lucas & Katz, 1994, pp. 537-538). The US government has moved between either supporting or rejecting the use of native languages other than English in education. “ In the 1980s, approaches that used only English were again accepted, alongside approaches that used students’ native languages” (Lucas & Katz, 1994, p. 540). It is difficult for monolingual teachers to use the native languages of students from various backgrounds. However, a study conducted by Lucas and Katz (1994) concluded that “Teachers who are monolingual English speakers or who do not speak the languages of all their students can incorporate students’ native languages into instruction in many ways to serve a variety of educationally desirable functions” (Lucas & Katz, 1994, p. 537).

This study, which was conducted in six states in the U.S. in order to reveal how students’ native languages were used in classrooms through teacher interviews and classroom observations showed the use of native languages both in English classes and content classes. Thirteen percent of the students were bilingual and the other students were multilingual. The study observed that teachers encouraged the use of bilingual dictionaries, gave instructions in students’ native languages, gave explanations in their native languages to ensure comprehension, designed activities for students to use their own language with each other, and engaged in social talk with students. Related with content knowledge, the study concluded that teachers

taught art, mathematics, social studies and some other content areas in students' native languages.

In another study conducted with bilingual students provided results with important implications for education in English. The study by Zorlu (1991) compared the instruction in German as a second language for Turkish learners living in Germany and the instruction given in both German and Turkish. A control group and a test group that were selected randomly consisted of 12 Turkish and 16 German students in vocational school. Two groups were analysed and compared in terms of equality. The topics of the 40 hours of lessons were technical. The same instructor who knew Turkish very well, taught both groups. For the test group, terms were explained and translated in Turkish. One month later, a test was given in order to determine to what extent the students remembered or forgot the items taught.

The results of the study revealed that students who were given both Turkish and German instruction represented better results. The study concluded that instruction produced by native language provides greater success for foreign students. This study is significant in terms of providing information for faculties that teach content in any foreign language. It implies that in order to ensure comprehension of the content that is taught in a foreign language, supporting the instruction with the native language is helpful.

There are some studies related with the problems in English medium instruction. For instance, a study by Santons (1988) aimed at finding the reactions of 178 professors, 90 from humanities and social sciences and 82 from physical sciences to two compositions, one written by Chinese student and one written by Korean student. The professors were asked to grade each paper considering the

content and language. The professors age ranged from 27 to 77, 144 were native speakers of English, 34 were not. The participants were divided into four groups, 10 professors read, rated and corrected the compositions written by the Chinese student. 10 professors performed the same tasks on the composition written by the Korean student. 80 professors read and rated corrected version of composition written by Chinese student. 78 professors performed the same tasks on the Korean students' composition. Professors were asked to complete a questionnaire that requested information on their department, sex, age, native language, proficiency in speaking other languages, number of non-native students in their classes, whether their students were undergraduates or graduates, and whether the professors had a policy in dealing with the writing papers of non-native students. The two compositions were selected from 100 papers. There were various selection criteria such as passing intermediate composition level, containing representative errors, representing two linguistic (length, organisation, development) and cultural backgrounds of students. Students were asked to write about their own culture.

The results of this study (Santons, 1988) revealed that content of papers were considered more problematic than language. Errors were found comprehensible, but 'academically unacceptable'. Lexical errors were regarded as more serious, older professors regarded errors less irritating than young professors. It is also concluded that non-native professors rated the papers more harshly than native speakers. The study has important pedagogical result implying that lexical errors are considered more serious, which means vocabulary should be the important part of academic writing. Since professors consider content errors and language errors, the study

implies that non-native students should be helped to develop writing skills related to content such as organisation of ideas and development.

The study by Chrinston and Krahnke (1986) aimed at determining “how non-native English speakers studying in U.S. colleges and universities perceive their language learning experiences and how they use English in academic settings” (Chrinston, & Krahnke, 1986, p. 61). 80 non-native speakers of English with various language backgrounds (Arabic, Spanish, French, Chinese, Thai, Portuguese and Bengali) who were studying at five different universities had completed intensive (4-6 hours a day) English courses. The participants had been in the U.S. from 6 to 32 months and the length of time they had studied English ranged from 2 to 12 months. Both undergraduate and graduate students whose major fields were engineering, mathematics, business, sciences, social sciences, humanities and computer science and those who had not yet chosen their majors were included in this study.

The participants were interviewed using a questionnaire asking questions about students’ language activity preferences. This interview was structured but students were not given the options in order to make them free to give their own answers. The interview questions were open-ended and the students were encouraged to clarify their answers.

The study concluded that student’ attitudes and opinions on language are helpful in providing valuable information when designing an ESL curriculum for preparing students for academic settings. In this study, students appreciated designing intensive language teaching programs. Student opinions about the properties of a good teacher revealed that they believed instruction that based on interaction was more important, and they thought that teachers’ personality was more

important than teachers' technical qualities. The results of this study also showed that students believed in the importance of receptive skills in academic settings. This study showed that if English was to be the medium of instruction, a teacher was important as a mediator between the student and English language. The study suggested that interaction that would decrease the students' anxiety will foster learning where the learners' native language was not the education language.

Another important issue related with English medium instruction is designing ESP courses. While designing ESP courses, students' future needs should be considered. The study conducted by Frank (2000), presented some problems which students who are educated in English experience in communicating with native speakers of English when they work in native English speaking country. The study examined communication problems between 123 student patients coming from different countries and 100 Student Health Program members. These two groups were given two different questionnaires and small group interviews as well as on-site observations were applied. "The native English speaker staff members were questioned about their attitudes toward communicating with international students, their at work communication styles, and their perceptions of the communication/language deficiencies of the international students" (Frank, 2000, p. 33). The students were also asked their opinions about communication problems because of speaking style of staff. Questionnaire includes open-ended and scales type of questions that the participants asked to rank considering the importance and frequency of items in the questionnaire.

The results of this study showed that most of the students (one-third) have some problems in understanding the staff members because of their speed of talking

and pronunciation. Students lack technical knowledge, medical vocabulary both in writing and speaking, and they lack pragmatic competence (for example they do not know how to disagree politely). However, students believed that the staff members understand them although the staff members said that they have difficulty in understanding the students. Staff said that students do not provide enough feedback to show that they understood what staff said and students have deficiencies in providing accurate or sufficient answer to yes/no type of questions. The results of this study provide information for ESP course design. It showed that pragmatic and communication discourse and related technical vocabulary should be taught.

Some studies in Turkey

There are very few studies on attitudes toward English medium instruction in Turkey context. Çekiç (1992) conducted a study on 41 Turkish students on the attitudes of Turkish youth speakers of English language. The purpose was to reveal whether the students who are interested in learning English have positive attitudes toward English. The first group of 24 participants was final year university students of ELT department and 17 of the total were prep-class students of an English medium private secondary school. The study concluded that both groups had positive attitudes toward English. Interestingly, the second group had even more positive attitudes than the group that had more interest to learn English. The study also concluded that attitude depends on gender differences. However, the rationale behind these results was not clearly defined in the article.

In Turkey, foreign language education in universities continued in various applications until 1981. In 1981, YÖK (The institution that issued that regulates the university administration in Turkey) issued directive 2547, which regulated the

university administration in Turkey, and beginning from 1983, foreign language education was obligatory in higher education (Sözer, 1986). As a result of the increasing demand for learning a foreign language, today, among 76 universities, 28 universities provide content education fully or partly in English (Köksoy, 2000). In addition, it can be said that foreign language education that is programmed to meet the specific language needs of students is not given importance. (Sözer, 1985). A study conducted by Sözer (1985) aimed at evaluating the foreign language education in universities of Turkey. The study also aimed at providing suggestions for ESP (English for Specific Purposes) curriculum design, and revealing the attitudes of foreign language instructors and students learning English toward English education for specific purposes. In the study, the universities that had preparatory classes and teach content in English were excluded. The study was conducted in Hacettepe, Anadolu and Istanbul Universities. The faculties of Hacettepe that educate in English were excluded. Nevertheless, there was no information about which departments of these universities and the number of the students as well as the instructors were not mentioned in the article. The students who participated in this study were 10 percent of the fourth year students of these universities, who took obligatory German, French or English courses. A questionnaire and interviews collected data, and a scale was developed for both the students and instructors whereas the content of the scale and the scale itself was not provided. Data was analyzed statistically by finding the frequencies and percentages.

The results of study showed that both the students and the instructors agreed that ESP program failed in determining and meeting the specific needs of students. Another point both the students and instructors agreed on is that reading skills were

given more importance in ESP programs. Listening was rated the second and writing was third. Speaking was considered the least important one for ESP programs according to teachers. Students suggested that speaking should be before writing, but the underlying reasons that explain this preference was not clear in the research article. It was found that materials written by native speakers were used in ESP education and it was difficult to find materials appropriate for the purpose.

It was concluded in this study that foreign language education should be in two levels, Basic English and English for Specific Purposes. For Basic English education, speaking and listening comprehension should be focused on more alongside grammar. In ESP courses, reading comprehension skills and writing skills should be developed. While developing ESP programs, the importance of cooperation between language teachers and content teachers was emphasised.

The implication of this study is significant in terms of designing ESP courses as well as Basic English courses. However, analysing needs for ESP course design can not be based only on students' and teachers' opinions. Students need English in their job career and in their university education. In order to determine the specific needs of students in their careers, examining job settings in terms of English language use is needed.

A study conducted by Erdem (1990), in four secondary schools (one private and four state schools) in Turkey aimed at evaluating science education in foreign languages (German, French, English). Forty-eight teachers were given a questionnaire that asked teachers' own language proficiency, students' proficiency, the extent that the aims of schools, preparatory classes and language courses were met. Secondary schools students (123) were also given a questionnaire that asked

about their own language proficiency, sufficiency of language textbooks. These students were also given a science test to evaluate their science content knowledge. The study concluded that the number of teachers in these schools who used target languages sufficiently to teach science content was very low. It revealed that largest group of students have problems in listening comprehension. According to teachers students did not learn foreign languages and to teach the content in foreign languages decreases students' success and therefore, discourage students. Education in English also prevents students to learn the Turkish science terminology according to both students and teachers in this study. The largest group of teachers in this study rarely, sometimes, or always used foreign languages to teach science content. However, there are also some teachers (12.5 %) who had never used foreign languages to teach science content due to students' pressure to use Turkish, teachers' inadequacy in using foreign languages and students' inadequacy in using foreign languages.

Educational changes in the world

It is possible to see examples of an English medium education policy in various countries that are not primarily English speaking countries. The Czech republic, Poland, Hong Kong, Denmark, and Turkey are some of these countries. In some universities of these countries, some of the content courses are taught in English or in some of the universities there are content programs taught in English.

Prague is the capital city of Czech Republic, which was ruled under Russian regime and became a free republic in 1989. Then, in 1991, Czech Republic became a European Community member. In 1993, Czechoslovakia divided into two republics. The introduction of engineering courses in English is considered as a reflection of economical and political changes that have taken place in the Czech Republic and

Europe. In 1994, after an agreement, a free market and mobility of workers in Czech Republic required developmental changes in education. After 1994, in the faculty of Electrical Engineering in Czech Technical University in Prague, all the engineering courses began to be taught only in English. If students of this faculty pass an entrance exam in English, they enter the Electrical Engineering faculty (Hlavicka & Pekarek, 1995).

In Poland, economic and political changes resulted in improvements in the quality of education. In order to make the education reach European standards, in 1994, in six Polish technical universities courses have begun to be taught in English, German or French.

There are some underlying reasons why English is the language of instruction in engineering faculties of Poland. Firstly, the main reason is to internationalise engineering education in order to internationalise the country (Chojnacka & Macukow, 1995). Secondly, there are foreign students in Polish universities who are taught in English and providing foreign students opportunity to be taught in foreign languages makes Polish universities attractive for foreign students. "In our opinion, the higher education schools with English (or German or French) as the language of instruction are of highest importance for the reason that they can bring foreign students from all over the world" (Chojnacka & Macukow, 1995, p. 46). Through student exchange programs, education in Poland becomes more internationalised. The underlying reason is also economical. Providing education in foreign language for foreign students will contribute to finance of universities. Thirdly, free-market economy requires both qualified engineers in engineering knowledge and competent user of English.

The previous system of engineering education in Poland was adjusted to meet the needs of big state-owned factories and companies. The free-market economy needs engineers for both big and small companies, so the aim is to educate professional engineers who will not only have engineering knowledge but also high managerial and commercial skill (Chojnacka & Macukow, 1995, p. 46).

Denmark is another country that makes some innovations in the past 10 years in order to internationalise its education by student exchange programs and by internationalising university campuses. “The new concept of international education focuses on internationalising the student in order to prepare him/her to meet the increasing demands for international job qualifications, professional as well as linguistic, cultural, social, etc.” (Jensen & Johannesson, 1995, p.20). There are some educational exchange programs such as ERASMUS/ LINGUA, and COMETT and TEMPUS, which send out 20% of the students in Danish universities to some other countries. However, the number of the students who are being sent out is bigger than that of students who are coming into the country. Therefore, the education policy in Denmark is to increase the number of faculties that provide opportunity to study in English for foreign students since the foreign students in the exchange program is considered to be important for Danish higher education (Jensen & Johannesson, 1995).

The presence of foreign students is essential for two main reasons. First of all, it is an important condition for the participation in the EU exchange programs to balance the number of incoming and outgoing students. Secondly, the international students on campus play an important role in the process of internationalising the university campus and programs, for the benefit of native students not given or wishing the possibility of a study period abroad’ (Jensen & Johannesson, 1995, p. 20).

As a result of student exchange programs, the courses offered in foreign language especially in English and the use of materials in English increased in Danish

universities. Hence, attracting foreign students and internationalising the Danish campus and student are two main reasons for teaching in English. Quality of teachers is also considered to be the most important for success in education in English. “Our experience has shown that the crucial condition for success is the commitment of university teachers” (Jensen & Johannesson, 1995, p. 24). As suggested here, teachers who are committed to what they are doing is a key term for success of foreign language medium education, which is a beneficial comment for evaluating the English medium programs. The first thing that should be learned the attitudes of teachers toward English medium instruction in order to learn in their commitment to programs.

Education in Hong Kong is a good example to understand the effects of English medium instruction on education quality. The history of English as the language of education in Hong Kong is informative and interesting while discussing English medium instruction programs. At the British colonial time, a British inspector of schools, Edmund Burney (Evans, 2000) recommended that education language should shift from English to local languages in Hong Kong and Hong Kong government supported that Chinese should be the medium of instruction in all government schools (Evans, 2000). Between 1840s and 1970s government’s educational policy was a mixed mode (Flowerdew, Li & Miller, 1998).

However, as mentioned in the Evans (2000)’ article, although the colonial government supported the idea that native language should be the teaching language, Chinese government failed in maintaining a stable language policy because parents wanted their children to be educated in English (Flowerdew, Li & Miller, 1998; Evans, 2000).

In the 1980s and 1990s, the number of universities increased because of increased demand for professionals in the economy and “Of the six universities, four are officially English medium and two allow instruction in either English or Chinese (Although even when lectures and tutorials are in Chinese, the textbooks are invariably in English)” (Flowerdew, Li & Miller, 1998, p. 206). Besides, there different opinions on the teaching language in Hong Kong’s schools such as the ones who support the use of Chinese as a medium of instruction and the ones who believe the English medium of instruction should be maintained.

However, those who support the continued use of English argue that English can only be learned well by English medium of instruction. Also, English medium instruction is essential for maintaining Hong Kong’s international status for who are in favour of English medium instruction. After the communist take-over in 1949, great number of secondary schools educated in English rather than Chinese. So (as cited in Evans, 2000) supported that this is because of socio-economic reasons rather than governmental policy of education. English was considered as having a great importance in government, business and education. Besides this, society considered English as a determinant of belonging to high society (Evans, 2000).

However, while English is the medium of instruction officially, the classroom language consisted of mixed mode, the use of English and Cantonese (Johnson, 1998). Moreover governmental reports showed that many of the teachers were not consistent and proficient enough to use English according to the reports of the Education Commission (Evans, 2000) as well as the students are unable to cope with English medium of instruction (Evans, 2000). In conclusion, mixed mode of instruction language and the decline in the use of English in the English medium

schools in Hong Kong has resulted in the problem of poor English in schools. However, English is still desired as an instruction language, which causes “elitism, discrimination and social division” (Evans, 2000, p. 200). Although both learning content and developing language skills are not maintained by English medium instruction, because of the power that English brings, it is difficult to shift to local languages.

The situation in Hong Kong has some similarities with the situation in Turkey in terms of English medium instruction. The controversial issue of education in English goes on being a debateable concern among administrators, educationers and teachers.

Education changes in Turkey

In Turkey, English language has been dominant in many parts of life such as education. In order to be accepted for a job, especially in large companies, a prerequisite is to know English. Working adults, if they are not capable of using English, feel a need to learn English and register in private courses. Government officers are paid extra money if they know another foreign language, and English is generally preferred. Parents prefer private secondary schools and private universities for their children, if they can afford it, because most of these schools teach in English. Anadolu secondary schools, which accept students based on a test that includes Turkish, mathematics, science, history and geography knowledge educates in English.

There is no common policy for both education in English language and foreign language education although it is an important issue for Turkish education system (Ertay, 1980; Öztürk, 1980). Some of the Anadolu secondary schools gave

up the system that requires teaching all the content in English for the sake of increasing students' comprehension of content. Since there is lack of teachers that can teach content in foreign languages, in some of Anadolu secondary schools, courses are generally taught in Turkish (Erdem, 1993; Özden & Çağatay, 1993). In addition, there is a contradiction that the students in Anadolu secondary schools are taught content in foreign languages whereas university exam is in Turkish. Şişli Terakki High school is one of the schools that changed language of instruction to Turkish from English. The director of this school (Özden & Çağatay, 1993) suggested that both parents and students are happy with Turkish medium instruction since the success of school increased 80 %.

For university education, until the directive 2547 that came into force in 1981, foreign language education applied differently in various universities of Turkey (Sözer, 1986). But, with that law that is brought in application by YÖK, the language classes became obligatory in all universities since 1983. However, this parallelism does not ensure education quality across the universities (Köksoy, 2000; Sözer, 1986). Moreover, there is no common policy among the universities in Turkey in terms of foreign language education (Ertay, 1980). Some universities teach totally in English, or some of them provide content courses in English in some departments whereas some universities use only Turkish as an instructional language. "Among, 72 universities of Turkey, 28 of them educate in English totally or partially. Half of the universities that teach in English are foundation universities and half of them are government universities. There is only one foundation university that does not teach in English"(Köksoy, 2000). Across the country, approximately 15% of students in higher education are educated in English.

According to directive 5 (Kitapçı, 1998, p. 531) of the YÖK guidelines related with English education, the students who register in a university program must take a foreign language proficiency exam prepared by the rectorate at the beginning of the semester. If students pass, they are freed from the obligatory foreign language classes. If students who are registered in a program that do not require preparation class education do not take proficiency test or fail in that test, they must take obligatory foreign language classes. These obligatory classes should total 60 hours and be at least two semesters long according to the YÖK guidelines in directive 6, (Kitapçı, 1998, p. 531). Nonetheless, higher education institutions are permitted to open obligatory or optional foreign language preparation classes with the approval of YÖK and by decision of university senate and by the suggestion of the rectorate provided that the conditions described in YÖK guidelines, directive 7, (Kitapçı, 1998, p. 531) are met. These conditions require a maximum of 25 students for each teacher, program development and testing office, and enough audio and visual materials for language practice, enough books and materials as per directive 8, (Kitapçı, 1998, p. 532). If the universities do not maintain the conditions related with English education set by YÖK, the YÖK has a right to close these departments. YÖK also decided to prevent the opening of new universities that would educate in foreign languages even though some urban state universities that have not had opportunities to teach in a foreign language are eager to educate in foreign languages due to the prestige that foreign language education brings (Özden & Çağatay, 1993). However, the application of the control mechanism is questionable.

Universities provide preparation classes to prepare students for the content courses that may be presented in English. Whereas, students sometimes do not

actually have a chance to access content courses taught in English, even though they have a chance to make a choice between taking preparation classes in the first year of their education and taking English courses throughout the university education.

Because most of the content course teachers in most of the universities or in some of the faculties of some universities are not able to lecture in English, students have no chance to learn their content courses in English.

Although there is a considerable number of universities that educate in English in Turkey, the application of English medium instruction represents a low quality education in most of the universities (Köksoy, 2000).

The discussion of education in foreign languages is still a controversial issue in Turkey. There are some ideas that support education in foreign languages whereas some ideas emphasise the disadvantages of foreign language medium of instruction.

There are some opposition ideas considering the protection of Turkish language and the inadequacy of education in English medium schools. The underlying idea of the opposition is that education in foreign languages is not necessary to teach foreign languages. A member of the academic in İstanbul University, Ozil (Özden & Çağatay, 1993) suggests that foreign language is not taught well; therefore, content education in foreign languages is not adequate. Content education in another language rather than Turkish creates an artificial classroom environment since the language of instructor and students is Turkish as a member of the academic in Marmara University, Tevrüz mentioned (Özden & Çağatay, 1993). Education in foreign languages makes students passive in participation and decreases students' comprehension of content. Students do not develop ability to judge and comment on content if presented in another language no

matter how well the foreign language is taught as rectorate of Bilkent university suggests Çoruh, (Özden & Çağatay, 1993). According to director of ÖSYM (exam for selecting and placing students to university), Özmen, schools that educate in foreign languages are unsuccessful when compared to students in other schools although foreign language medium schools select more successful students(Özden & Çağatay, 1993). He also suggests that in foreign language medium instruction schools, less content information is taught to students.

There are also some ideas suggesting that education in foreign languages is a threat to Turkish national identity and Turkish language. Education in foreign languages prevents Turkish from developing as a scientific language and education in foreign languages damages Turkish national identity as Ozil and Başkan mentioned (Özden & Çağatay, 1993).

Some support the idea that education in foreign languages causes some communication problems in society. Ozil (Özden & Çağatay, 1993) suggests that education in English will inevitably create communication problems between people who know a foreign language and who do not. Students who are taught their content in foreign languages have difficulty while they start to work as mentioned by Demircan, (Özden & Çağatay, 1993).

There are also some views supporting English medium instruction. The ideas that are in favour foreign language medium instruction support that it helps Turkey to internationalise. The schools that educate in English foreign languages help Turkey to become a member of the Common Market as suggested by Çamoğlu, the director of Robert High School (Özden & Çağatay, 1993).

Some educationers suggest that education in foreign languages is more practical and more qualified. Students who graduate from universities that educate in foreign languages have a chance to follow the sources written in foreign languages (Çoruh, 1993, the rectorate of Bilkent University). Schools that educate in foreign languages have limited number of students and more facilities for students according to Ozil, (Özden & Çağatay, 1993). Education in foreign languages is time saving since students learn both language and content.

It is not clear how this discussion on foreign language medium instruction will result. There are various applications in different universities; therefore, there should be common agreement on education policy of foreign language medium of instruction.

CHAPTER 3: METHODOLOGY

This study investigates the attitudes of faculty members in the engineering and architecture departments of Anadolu University toward English medium education in engineering and architecture courses. Some courses are required to be in English and some of them are supposed to be taught in Turkish in the departments of engineering and architecture faculty of Anadolu University, and in some departments all of the courses are taught in English. This study assumes that the attitudes of instructors in the engineering and architecture faculty toward the use of English as an instructional language will vary with what they mean by English as an instructional language. It is likely that there will be many underlying reasons behind the choice of English or Turkish as an educational language. It is also intended to find out what faculty members think about English education before content education in English. Moreover, the reasons for preferring one of these two languages may differ for different activities; that is, instructors may prefer assigning homework in English whereas they give the instructions in Turkish. The underlying reasons for various applications may differ.

The location of the study

The engineering and architecture departments of Anadolu University were founded between 1993 and 2000 (Pütün, 2000). There are seven engineering faculties (ceramic engineering, computer engineering, industry engineering, electrical and electronic engineering, chemical engineering, environmental engineering and civil engineering) and an architecture department. In the course description pages on the web page of Anadolu University for the engineering and architecture faculties, it is noted that the course names that are in English are taught in English and the ones that

are written in Turkish are taught in Turkish. By looking at the class description, as noted, some of the classes are taught in English and some of them are in Turkish.

Participants

There is a total of 114 faculty members in the engineering and architecture departments including professors, associate professors, assistant professors, education officers and research assistants. Some of the research assistants are not necessarily teaching. Only faculty members who were teaching were given the questionnaire. The piloted final version of the questionnaire was distributed to seventy engineering and architecture faculty members of Anadolu University. Thirty-three faculty members returned the questionnaire.

Demographic data

The first part of the questionnaire covering demographic data was designed to get information on the department that the participants work in and sex (Table 1), title, and number of the publications they had had in English in last five years (Table 2). It also contained information on where they had their degrees from (Table 3).

Table 1

Participants' and Faculty Members' Departments and Sex (Ranked by total participants)

Departments	Whole faculty					Participants				
	Male	%	Female	%	Total	Male	%	Female	%	Total
1 Ceramic Engineering	16	14%	8	7%	24	7	21%	2	6%	9
2 Architecture	8	7%	9	8%	17	3	9%	5	15%	8
3 Electrical and Electronic	14	12%	5	4%	19	4	12%	0	0%	4
4 Civil Engineering	16	14%	1	1%	17	3	9%	0	0%	3
5 Computer Engineering	6	5%	0	0%	6	3	9%	0	0%	3
6 Environmental	5	4%	7	6%	12	1	3%	2	6%	3
7 Chemistry Engineering	9	8%	3	3%	12	2	6%	0	0%	2
8 Industry Engineering	5	4%	2	2%	7	1	3%	0	0%	1
Total	79	69%	35	31%	114	24	73%	9	27%	33

As can be seen from Table 1, the largest group of participants is working in Ceramic Engineering Department. Then, Architecture Department is the second department in terms of the number of participants. Although Civil Engineering department has the same number of faculty members as Ceramic Engineering, the number of participants from Civil Engineering is very low. The reason is that the number of available faculty members in this department was very low while collecting data. There are very few participants from the other six departments.

The reason why the largest group is from ceramic engineering department is that the research assistant who was helping while contacting the participants was working in the Ceramic Engineering department. Therefore, access to this department was much easier. There are some possible reasons for why there are very few participants from the other departments. One reason is that faculty members are not only teaching content courses but also they do research or experiments for factories. Hence, they spend most of their time after their courses in the laboratories or in factories, especially Chemistry and Environmental Engineering departments. For instance, Environmental Engineering department has a research centre. The other reason why there are only a few participants from Computer and Industry departments is that these departments are very new departments and there are very few members in each of these two departments.

As can be clearly seen from Table 1 that the largest group is male. The participants are a representative sample of the distribution in the university in terms of sex. There are 79 males and 35 females in the engineering and architecture departments, including research assistants and education officers.

Table 2

Publications in Last 5 Years by Academic Rank

Titles	f	Publications					
		0	1-5	6-10	11-15	16-20	20<
Professor	8	3	2	1	1	0	1
Associate Professor	6	1	1	0	1	0	3
Assistant professor	15	3	7	2	0	2	1
Research assistant	3	0	3	0	0	0	0
Education officer	1	0	1	0	0	0	0
Total	33	7	14	3	2	2	5

Note. Number of participants =33

First of all, it is necessary to define some titles here in order to understand the distribution. Research assistants are usually responsible for conducting research and pursuing an MA or a Ph. D. degree and usually do not teach. Education officers do not necessarily have an MA or a Ph. D. degree but are in charge of teaching content courses.

As can be seen from Table 2, the largest group of the participants is assistant professors. The next largest group is professors followed by associate professors. There are very few research assistants and they are not generally allowed to be course instructors. But, the research assistants and education officers included in this study are the ones who are course instructors.

Most of the instructors are assistant professors that have just got their degrees and titles. The reason that most of the faculty members are assistant professors lies in the history of the faculty. The assistant professors are at the beginning of their teaching. The experience of assistant professors in teaching ranges between 1-5 years. Overall most respondents who have received a degree (at least a Ph. D.) are at the beginning of their teaching. The reason is that most of them have just finished their degrees in the UK or US. Generally, the policy of the engineering and

architecture faculty is that the instructors are not allowed to teach unless they are at least assistant professors.

Another data in the demographic part is the number of the publications in English in last five years. In Table 2, the publications are grouped in terms of number. Publications that are mentioned here include conference papers, research articles, and research summaries. As can be seen from Table 2, more than half of number of the publications is less than five or five. If we combine the number of instructors who have publications between 16 and 20 and more than 20, we have 7 instructors who have a considerable number of publications. However, the number of participants who do not have any publications in English is 7, which is equal to the number of instructors who have 16-20 and more than 20 publications in English. It means that some instructors publish many things in English, whereas some instructors do not produce much work in English. Nevertheless, the largest group of instructors does not produce one or more publications in English per year.

In Table 3, whether the participants pursued their degree abroad or in Turkey was examined.

Table 3

Where the Participants Got Their Degrees

	n	%
Both in Turkey	16	49%
Both in the US or the UK	11	33%
MA in Turkey, Ph. D. in the US or the UK	4	12%
MA in the US or the UK, Ph. D. in Turkey	1	3%
MA or Ph. D., in Turkey, post doctoral research in US	1	3%

Note. Number of participants =33

All of the participants have an MA degree. Except one, they all pursued a Ph. D. degree. In addition, three have done postdoctoral research. As can be seen from

Table 3, the largest group of instructors pursued both MA and Ph. D. degrees in Turkey. The second largest group pursued both of their degrees in the UK or the US. If we group the participants that pursued their MA, Ph. D. and postdoctoral research in the UK, or the US we can create another group of instructors who pursued some or all of their degrees in The US or the UK. We can see the number of instructors who had been only in Turkey and the number of instructors who pursued their degrees in UK or US. We have 17 participants in this last group, which is more than the number of the instructors who had been only in Turkey to pursue their degrees.

Materials

In order to investigate the attitudes of engineering and architecture faculty members toward English medium instruction, a questionnaire (Appendices A and B) was given to instructors of all six engineering departments and the Architecture Department of Anadolu University. The questionnaire that was developed for this study consists of Yes/No, rank order, multiple choice and open-ended type of questions.

The questionnaire was translated into Turkish, as it was expected that there are instructors whose English may not be adequate to answer an English questionnaire. The questionnaire was back translated into English in order to ensure that there was a match between the English version and the Turkish translation. In order to check the correspondence, six instructors (two English instructors and two engineers and two engineering instructors) were asked to read the Turkish translation of the questionnaire and make comments on the questionnaire. These instructors were asked just to read the questionnaire not to complete it.

Since both the form and content of the questionnaire was crucial for collecting the appropriate data for the purpose of this study, it was piloted two times. The first pilot study, with 10 engineering faculty members (including research assistants) from the ceramic engineering faculty of Anadolu University provided ideas on the items in the questionnaire. These instructors in the pilot study were asked to answer the questionnaire and two of them were interviewed about the questionnaire. After the piloting, the questionnaire was revised. Those who participated in pilot studies were not included in the final questionnaire. The second version of the questionnaire was piloted with three engineering instructors from Electronic and Electrical engineering department from Osmangazi University. The questionnaire was revised again after this piloting.

The questions in the questionnaire are categorised into five groups. The first group of questions seeks demographic data in order to provide a context for interpretation. This group asks for information on the place of birth, the titles of the participants, their years of experience in teaching, and the department that they are teaching in, the schools that the participant graduated from (secondary through university), where the participants get MA or Ph. D. degrees (whether in the US or the UK or in Turkey), if they have them, the number of the articles that they have published, and the schools that they worked in before coming to Anadolu University

The second group of questions focuses on attitudes towards English language learning. The three questions in this section search for whether engineers need English (Question 6) and why they need it (Question 7) and when engineers need to learn English during their education (Question 8), starting from primary school to university.

The third part of the questionnaire focuses on the attitudes toward English medium instruction. The first question of this part (Question 9) asks whether the engineering faculty members prefer using English, Turkish or both to teach the content. The next two questions ask for the reasons for their language preference as to educational language in their classes (Questions 10 and 11).

The fourth part of the questionnaire focuses on how the engineering faculty members use English and what they want their students to do in English. In which phases of their class (readings, assignments, instruction, discussions, and testing) they use English (Question 12) and what sort of work they assign students to do in English (Question 13) is asked. The reasons why they prefer English in these parts of their courses and why they ask their students to do some work in English are asked in the open ended parts of these two questions (Questions 12 and 13).

The fifth part asks for what their students lack in terms of English (Question 14) and the problems that instructors themselves have because of English medium instruction (Question 15).

Procedures

An appointment with the dean of the faculty was scheduled in order to take the necessary permission. The appointment turned into an informal interview on the English medium policy of the faculty and his ideas on the English medium policy in Turkey in general.

With the help of a research assistant, the questionnaires were distributed to each faculty member. The research assistant suggested increasing the number of returns by personally approaching the members of the faculty. Each of the faculty members was informed about the study and asked whether they wanted to participate

in this study or not. The ones who wanted to participate in this study were given one week to complete the questionnaire. While distributing the questionnaires, some of the instructors were eager to talk about the problems that they experience because of English medium instruction. One of the professors even gave a letter that she wrote about the problems that she has in her classes because of language policy to the director of the faculty. This letter was also used in the data analysis since it is essentially a response to the 15th question of the questionnaire.

Data analysis

For each item in the questionnaire, percentages and averages were calculated and data was shown in tables. These tables contained the items for each question, the number of the participants who responded to the item and the percentages for the number of the participants who responded to each item.

CHAPTER 4: DATA ANALYSIS

Overview of the study

The study aimed at finding the attitudes of Engineering and Architecture faculty members in Anadolu University toward English medium education in engineering and architecture content classes. Secondly, it aimed at revealing the classroom language preferences in their classes and the reasons for their language preferences. Thirdly, it was intended to reveal how the faculty members use English in content courses. Lastly, the language areas that engineering and architecture faculty members think that students have problems with English were examined.

In order to collect data, an attitude questionnaire that was developed for this study was distributed to the 70 Engineering and Architecture faculty members of Anadolu University. Thirty-three of the distributed questionnaires were returned. For the data analysis, frequencies, means and percentages were calculated for each of the items in the questionnaire and presented in tables.

Beliefs about English language learning: NEED, WHY, WHERE

The attitudes of engineering and architecture faculty members towards English language learning may be related to their attitudes towards English medium instruction. This section concerns opinions about English language learning by means of asking whether engineering and architecture students need English or not. If they do need to learn English, what are the reasons for a need to learn English? Another point discussed here is when the engineering and architecture students need to learn English.

Participants were asked opinions about whether engineering and architecture students need to know English or not. All of the participants believe that students need to know English.

Table 4 shows the percentages for the engineering participants' opinions about why engineers need English. Participants were asked to circle the choices provided in the questionnaire and add other possible reasons for learning English if they want.

Table 4

Why Do students Need English? (Rank order)

Reasons for Knowing English	f	%
1 Read materials written in English to follow new developments in their subject matter.	33	100%
2 Be able to attend conferences in English	22	67%
3 Help to globalise Turkey	16	48%
4 Be the part of global market	15	45%
5 Be considered as professional in their subject matter.	14	42%
6 Be able to pursue an MA or Ph D. degree	14	42%
7 Be accepted for a job in companies that require knowing a foreign language	13	39%
8 Help to modernise Turkey	11	33%
9 Help Turkey to become part of the European community	8	24%
10 Other	3	9%

Note. Number of participants = 33

The reasons were grouped into three types; professional and educational reasons, reasons related to globalisation process, and modernisation process. As can be seen from the Table 4, the main reason for students to learn English is to be able to read materials written in English (100%). The next largest group of participants believes that students need to learn English in order to be able to attend conferences in English (67%). These two largest groups of reasons for learning English are related with professionalism. To be considered as a professional in their subject

matter (42%) and to be able to pursue an MA or a Ph D. degree (42%) are the other reasons related to professionalism.

Although being able to read materials written in English and being able to attend conferences (67%) are the most important reasons for the participants, being considered as professional in their subject matter (42%), and being able to pursue MA or Ph D degrees (42%) is less important. The underlying reason might be that the participants do not expect their students to get degrees. Or, they just simply may not know their students' future plans. However, it is obligatory to get a certain degree from the KPDS, a proficiency exam for all the state officers in order to get extra payment or to pursue MA or Ph. D. degree. But, they might think that it is not necessarily the case that knowing English is essential to get a degree from KPDS. KPDS is administrated by state, which allows both private and public employee to get extra money if they get the required score.

'To help to globalise Turkey' and 'Be the part of global market' are related with the globalisation process of Turkey. Helping to globalise Turkey (48%) as a reason for learning English is the third important reason, which is followed by the other reason that is related with the globalisation process, 'to be part of global market' (45%). It means that half of the participants see a relationship between learning English and helping to globalise Turkey.

'To help Turkey to become part of European community' as a reason for knowing English, which can be considered as a reason related to globalisation process, is the least important reason for the participants (24%). The reason might be that most of the participants do not believe that Turkey should be part of the

European community as Turkey can be the part of European community without knowing English.

Although helping to globalise Turkey (48%), and being part of global market (45%) are the largest groups of reasons, helping to modernise Turkey (33%) is less important reason for participants. It may mean that the participants believe that in order to help to modernise Turkey, there is no need to learn English. Participants may also believe that Turkey is already a modernised country.

In the open-ended part of this question, three participants provided some reasons for why engineers need to learn English. These three reasons suggest that these participants accept that the language of science and technology and terminology is English, therefore engineers must know English.

Another issue related to the attitudes toward learning English is when students should learn English. Table 5 shows the percentages for when students need to learn English.

Table 5

Where Do Engineering Students Need to Learn English?

	f	%
Primary	18	55%
High	16	48%
Prep	15	45%
Others	5	15%
Secondary	4	12%
University	4	12%
Technical	3	9%

Note. Number of participants = 33

Secondary school option was not included in the questionnaire. However, four participants added 'secondary school' in the open-ended part of this question. The underlying reason is the changes in the middle education system in Turkey. A

few years ago, secondary schools were combined with the primary schools and obligatory education became eight years. Some people still use the term ‘secondary school’, but others do not. So, we can combine secondary education either with primary education or with high school education to understand the data. However, both ways shows that most of the participants believe that English should be learned before preparatory school.

The third largest group of participants believes that English should be learned in preparatory schools. It shows that largest group of participants believes that education before prep classes and prep class education is vital in learning English process. Since the primary and high school education are the major phases in the learning process for the participants, it means that they believe that learning English should be an ongoing process and completed before preparatory classes in university.

Very few respondents believe that students should learn English in technical English classes. It means that they believe that English education should be completed before university education.

In the ‘other’ option, two participants suggested that learning English should start as early as possible and learning English should be an ongoing process.

Attitudes toward English medium instruction

The data in this section focuses on the classroom language preferences of participants, the reasons for their preferences, and the parts of the class that they prefer to teach in English or Turkish, and the assignments that they give to their students. Table 6 shows the percentages for language preference of engineering and architecture content participants as a classroom language.

Table 6

Classroom Language Preferences (Rank order)

	f	%
1 Both in English and in Turkish and, I am happy with this.	13	39%
2 Both in English and in Turkish but, I wish I could teach in Turkish.	7	21%
3 Only English, but I wish I could teach in Turkish.	5	15%
4 Only Turkish to teach the content, and happy with this.	4	12%
5 Only English to teach the content, and I am happy with this.	2	6%
6 Only Turkish but I wish I could teach in English.	1	3%
7 Both in English and in Turkish but I wish I could teach in English.	1	3%

Note. Number of participants = 33

As can be from Table 6, the largest group of the participants teaches content both in English and in Turkish and they are happy with it. Then, the next largest group of participants teaches in both languages but prefer Turkish. However, there is only one participant who teaches in both languages but prefers English.

Because of the nature of Table 6, it will be useful to look at the data from a different perspective. As can be seen from Table 6, the largest group of the participants said that they teach in both languages. However, not all of the participants who teach both in English and Turkish are happy with this. There are 16 participants who want to teach in Turkish whereas there are 13 participants who want to teach in both languages. It may mean that since it is obligatory to teach in English, participants feel forced to use English wholly or partly in their courses because there are only 17 participants who want to teach in English wholly or partly whereas there are 29 participants who want to teach in Turkish wholly or partly. As a result of this, instead of teaching only in English, participants teach in both languages. Although the number of participants who teach only in English is 7, which is more than the number of participants who teach only in Turkish (5 participants), the number of the

respondents who want English is 17, which is far less than the number of participants who want Turkish, which is 29.

The data shows that the largest group of participants teaches in both languages instead of teaching only in English although it is obligatory to teach in English. Moreover, most of the participants want to teach in Turkish rather than in both languages or in English. The underlying reasons for using Turkish or English were examined in Tables 7 and 8.

The reasons why instructors teach in Turkish are presented in Table 7.

Table 7

Reasons for Using Turkish to Teach the Content (Rank order)

	f	%
1 To learn the content very well is possible only in Turkish since the language of the teacher and the student is Turkish.	15	75%
2 Turkish language should be the education language in order to protect our language.	13	65%
3 Teaching in English is a social, political and ideological threat to our national identity.	5	25%
4 The students do not have adequate English to understand the content that I'm teaching.	4	20%
5 Students who are taught in English may experience difficulty in communicating with their colleagues who do not know English.	4	20%
6 I do not have adequate English to teach my content in English.	1	5%
7 I do not know English, at all.	0	0%
8 It is obligatory in our department to teach in Turkish.	0	0%
9 The content that I teach should be taught in Turkish.	0	0%

Note. Number of participants = 20

The data in Table 7 explored the educational (1, 3, 5, 6, 7, 8), political (2, 3), and social (4) reasons for a preference for Turkish as the instructional language. The top two choices indicate the complexity of this issue. The largest group believes that education language should be Turkish since both participants' and students' native language is Turkish (75%). This reason can be considered as educational reason. In terms of educational concern, participants are concerned about comprehension.

According to these participants, in order to maintain comprehension, content should be taught in Turkish. A close second is a political reason. The second largest group of participants suggested that Turkish should be the educational language in order to protect Turkish language. They are concerned about the state of Turkish language. The reason why they focus on comprehension more is because of their concern for the Turkish terminology. They want students to learn the Turkish terminology. However, when we look at the remaining choices, we see relatively low figures. The overtly political reason is only 25%, educational reasons 0-20 %, social reason is 20%.

As can be seen from the Table 6, there are 5 participants who teach only in Turkish and 21 participants who teach both Turkish and English. So, 26 participants are likely to answer Question 10 (Appendices A and B) that asks for reasons for using Turkish to teach the content. However, there are 20 participants who answered this question. Among 13 participants who did not answer this question, 11 of them teach both in English and in Turkish and 2 of them teach only in English and happy with this. There are 7 participants who teach only in English, which means they were not supposed to answer Question 10 asking the reasons for using Turkish in the class. However, 5 of these participants suggested reasons for using Turkish to teach the content. The contradiction may mean that there are only 2 participants who actually teach only in English (see Table 6), and 5 participants who said that they are teaching only in English but use Turkish in some parts of their courses. These 5 participants teach only in English but want to teach in Turkish. The participants who teach in English but want to teach in Turkish were not given a place in the questionnaire to

talk about their reasons. It is interesting that these 5 participants wanted to talk about the reasons why they want to teach in their classes in this part of the questionnaire.

The reasons why the participants prefer English as an instruction language are also examined. Table 8 shows the percentages for engineering content participants' reasons for choosing English as a classroom language. One of the options in Table 8, allowed participants to add the reasons that they had chosen for the question that asks the reasons for students need to learn English if they want. Seven participants who provided reasons for using English in their classroom also have the same reasons for students need to learn English.

Table 8

Reasons for Using English to Teach the Content (Rank order)

	f	%
1 Instructional materials in our field are in English	24	86%
2 Most of the valuable sources in our field are in English	22	79%
3 Because it is obligatory to teach in English in our department	9	32%
4 Read materials written in English to follow new developments in their subject matter	7	25%
5 Be able to attend conferences in English	6	21%
6 Help to globalise Turkey	6	21%
7 Be considered as professional in their subject matter	6	21%
8 Turkish language is not developed enough in my discipline	5	18%
9 Be the part of global market	5	18%
10 Be able to pursue an MA or Ph. D. Degree	4	14%
11 Help to modernise Turkey	4	14%
12 Help Turkey to become part of the European community	4	14%
13 Be accepted for a job in companies that require knowing a foreign language	3	11%
14 Other	1	4%

Note. Number of participants = 28

The data in Table 7 explored the reasons related to professionalism (2, 4, 5, 7, 8, 13), globalisation and modernisation of Turkey (9, 11, 12) as well as educational (1, 3, 6, 10) reasons for teaching the engineering content in Turkish.. The largest group of the participants uses English since the course

books in the engineering field are in English (86%), which is an educational reason. The next largest group, which is closely related with the major reason for using English, is that most of the sources are in English (79%), which is a professional reason. Then, there is a sudden drop in the rest of the reasons.

Minority of the participants supports the idea that Turkish language is not developed in their field of study (18%). One of the participants provided another option in this question, which is not directly related with reason for preferring English as an instructional language. He suggested that the English language will destroy Turkish future and language.

There are 28 participants who suggested reasons for using English to teach the engineering and architecture content because there are 21 participants who teach both in English and in Turkish and 7 participants who teach only in English. It means that 5 participants did not answer Question 11 (Appendices A and B). These 5 participants teach only in Turkish as can be seen from the Table 6.

How the Engineering Content Participants Use English

This part of the data mainly focuses on how English is used in the classroom. Table 9 shows the percentages for the parts of the engineering courses that English is used as an instructional language.

Table 9

Parts of the Courses That English is Used (Rank order)

	f	%
1 Other	7	29%
2 I test my students in English	7	29%
3 I explain the subject sometimes in English, and sometimes in Turkish.	6	25%
4 I explain my subject in English, but class discussions are held in Turkish.	4	17%
5 I explain the subject in English first, then I always explain it again in Turkish	3	13%
6 I explain in English but classroom directions are in Turkish.	3	13%

Note. Number of participants = 24

The largest group of participants provided some other statements related with what they do in the class in English or in Turkish (29%). Seven respondents provided different language preferences and reasons for what they do. Five respondents mentioned that they teach the content in English since it is obligatory. As a reason for why using English all the time, one of them suggests that using Turkish in explanations, discussions, and instructions makes the students lazier who already do not communicate. One of the participants said that he never speaks in English during the courses because it is dangerous to use two languages at the same time.

One of the respondents in the open-ended part said that to teach English is not the main reason for the content courses taught in English and added that it is assumed that the students know English, which is an interesting comment to look at because it is contradictory with the findings. When we look at the participants' reasons why they assign some specific work in English, the main reason is related to developing the students' ability to use English whereas the less frequent reason is content related. The same person also suggested that the ones who do not have enough English should be prevented from being educated in English medium programs, which questions the validity of testing before the university content education. .

There are 7 participants who test their students in English. When we look at the number of respondents who teach only in English (Table 6), there are 7 participants who teach only in English. It means that all the participants who teach only in English test in English. Four respondents mentioned that they test students in English in the open-ended option of this question (Question 12, Appendices A and B). Among 7 respondents who test their students English, 3 respondents mentioned that they test in English since the course is taught in English. In addition to these three, one of the participants gave the English course books as a reason for testing in English; that is since course books and questions in these books are in English, tests are in English.

The next largest group of participants said that they explain the subject sometimes in Turkish and sometimes in English (25%) as it was also revealed in Table 6. In Table 6, the data has shown that largest group of participants use both English and Turkish to teach the engineering and architecture content. The fifth group explains the subject in English first, and then always explains it again in Turkish (13%), which is related with the top reason. If we combine the participants who explain the subject sometimes in Turkish and sometimes in English and the participants who explain the content in English and always explain in Turkish again, we have more respondents who teach the content sometimes in English and sometimes in Turkish. Since they are different respondents who circled these two options we can combine them in one group.

In the questionnaire, they were asked to provide reasons for their choice. As a reason for why they first explain the subject in English and then always explain in Turkish, one of the participants suggested that this helps students to learn

terminology in Turkish. The other participant teaches in both languages in order to make the topic understood fully. One participant who circled this option did not provide any reasons.

Four respondents who teach the content in English and sometimes explain in Turkish provided reasons for this pattern. Three reasons were related with students' comprehension. Depending on the students' comprehension of the topic and since the students have some comprehension problems, they prefer to teach in Turkish. One of the participants mentioned that if students require, she teaches in Turkish. One of the participants mentioned that he teaches in English because terminology is in English. In addition to these, one of the participants suggested as a reason why he uses two languages is that students should understand the topic in two languages.

Three of the reasons that the class discussions are in Turkish are related with the students' English. Since the students' ability to comprehend and express their thoughts is weak, Turkish is preferred in discussions. One of the participants who suggested reasons related with students' English added that speaking in Turkish is more comfortable both for him and for his students. He also stated that he has a chance to repeat the topic in Turkish during the discussions. So, using Turkish in discussions is more comfortable and practical for him. The other participant mentioned that the students demand to ask questions in Turkish after the class.

Among three participants who give the classroom directions in Turkish, only one provided an answer. Classroom directions are in Turkish in order to ensure students' comprehension.

When we look at the reasons for using English in some parts of the class, the main reason is that it is obligatory to teach in English. There are also some reasons

related to teaching terminology in English for using English. When we look at the reasons for using Turkish in the content courses, the main reason is students' comprehension of the topic. There is also a demand coming from students to use Turkish.

Table 10 shows the percentages for what the engineering participants assign their students to do in English.

Table 10

What the Participants Assign Their Students to do in English (Rank order)

	f	%
1 To read materials written in English.	27	90%
2 Homework in English.	16	53%
3 To make presentations in English.	16	53%
4 To write projects in English.	12	40%
5 To ask me questions related with the topic in English.	11	37%
6 To translate English materials into Turkish.	6	20%
7 No work in English is required.	0	0%

Note. Number of participants = 30

The largest group of respondents asks students to read materials written in English. We know from Table 4 (p. 48) that the participants main concern is that students should be able to read materials in English, when why students need English was asked. It is also possible to see from Table 8 (p. 55) that the main reason for teaching in English is that instructional and most valuable sources are in English. Therefore, they assign students to read materials.

Among 27 participants who assign students to read materials in English, six participants did not provide any reasons. Nine participants gave reasons that are language related such as developing their English, developing their ability to comprehend, their vocabulary, and their ability to search sources written in English, and develop their engineering English. Six respondents said that they require

students to read materials written in English due to lack of sources in Turkish and because most of the research studies are in English. Four participants provided answers related with content learning and education in general such as in order to make them to read more sources, to make them chose their specific topics and raise their awareness. Among 16 participants who assign homework in English, two respondents did not provide any reasons. The reasons are both languages based and content based. There are four participants who suggested content related reasons. Three of the participants said that they give homework in English in order to make the students practice what is learned in the class. One added that to check whether the students learned the terminology or not, he gives homework.

Nine respondents provided reasons that are language related. One of these participants said ‘in order to develop their engineering English ‘, four of them circled the option ‘to be able to use English’, one said to make the students develop their research skills in English. One said to develop their communication and comprehension skills, and one said that homework is for developing students’ writing skills.

Two respondents mentioned that since it is obligatory to teach in English, homework is in English. One participant suggested that course books and questions in these books are in English; hence assignments are in English, which is related with the materials that are in English.

Among 16 participants who require students to make presentations in English, two of them did not provide a reason. Six reasons are explicitly stated that they are related with developing English language skills. Some of the reasons that are related with developing communication skills mean developing these skills in

English. Six of the participants mentioned such reasons that are about developing presentation and communication skills. One of the reasons for requiring presentations in English is to help them to check learning and gain self-confidence. The other reason is that when they start working, they need to do this.

Among twelve participants who said that they assign students to prepare projects in English, two respondents did not provide any reasons. One of them said that since the courses are taught in English, projects are required to be in English. One of the participants suggested that it is for practising the content. The rest of the participants (8) suggested reasons that are language related. These reasons are related with helping students to develop their communication and speaking skills, comprehension skills, writing skills, engineering terminology and their ability to search sources in English.

Students are required to translate English materials into Turkish by six participants. One of them did not provide any reason for assigning students translation into Turkish. Two of the participants provided reasons related with learning the content better. Three of the reasons are language related, one of these three reported rarely assigning translation in order to make students learn how to do it.

Among 11 participants, three participants did not give any reasons for requiring students to ask questions in English. Five of the reasons are related with developing English language skills such as developing engineering English, researching in English and being able to communicate and comprehend. Three of the reasons are related with developing their ability to comprehend the content.

When we look at the reasons stated here for using English in different parts of the course, it is possible to categorise the reasons into two bases, content comprehension, and developing English language skills. Some reasons are related to that most of the sources are in English. Another reason for why students are required to do the things in English is that it is obligatory to use English. Developing English language skills is the most frequent reason for assigning work in English. Reasons related to content comprehension are less frequent.

In order to learn what the participants perceive as problems in students' English proficiency, rank order type question was asked. Nevertheless, very few of the participants ranked the options and the largest group of participants just circled the language areas that are problematic. Therefore, the data is considered separately. Table 11 shows the answers that were not ranked at all or not ranked properly in terms of frequency. Table 11 presents the percentages for how many of the participants ranked each skill.

Table 11

The Areas That Participants Believe That Students Have Some

Problems (Rank order)

Language areas	f	%
Writing	18	90%
Speaking	18	90%
Listening comprehension	17	85%
Reading comprehension	11	55%
Pronunciation	11	55%
Vocabulary	10	50%
Grammar	6	30%
Translation	4	20%

Note. Number of participants = 20

As can be seen from Table 11 the most frequent problematic skill areas are writing and speaking (90%). Listening comprehension is a close third (85%). There

is a sudden decrease after these three top reasons. Reading comprehension (55%) and pronunciation (55%) are the next problematic areas in students' English. However, reading is the most frequently emphasised skill for the participants if we look at the other previous tables. All the participants suggested that students needed to learn in English in order to read materials written in English in order to follow new developments in their subject matter as shown in Table 4 (p. 48). Participants require students to read materials in written in English as shown in Table 10 (p. 60). Most of the participants teach in English since most of the instructional materials and valuable sources in English (Table 8, p. 55).

Since very few of the participants require them to translate (Table 10, p. 60), translation skill is viewed as the less problematic skill.

Nine participants ranked the items properly as shown in Table 12. Table 12 shows the frequencies of the participants who chose the problematic areas.

Table 12

The Areas That Participants Believe That Students Have Some Problems

	Rank numbers								Average
	1	2	3	4	5	6	7	8	
1 Speaking	3	5	0	0	0	0	0	1	2.3
2 Writing	2	2	3	0	2	0	0	0	2.7
3 Listening Comprehension	3	2	1	0	0	3	0	0	3.1
4 Reading Comprehension	1	0	1	1	1	2	3	0	5.0
5 Grammar	0	0	1	3	2	1	2	0	5.0
6 Vocabulary	0	0	1	4	0	0	2	2	5.4
7 Pronunciation	0	0	2	0	1	2	2	2	5.8
8 Translation	0	0	0	1	3	1	0	4	6.3

Note. Number of participants = 9

As can be from Table 12, the most problematic language skill for the participants is the speaking skill and writing has the secondary importance. Listening skill is the third problematic skill.

By looking at the Table 11 and the Table 12, we can say that speaking, writing and listening comprehension are the most problematic language skills. Since the students have problems with speaking and listening comprehension, students experience comprehension problems of the content that is taught in English. However, the participants focus more on reading skill as mentioned before while discussing Table 11, even though reading is not a problematic skill for the participants.

Summary

All of the participants believed that students should learn English. The main reason for learning English that was suggested by all the participants was to be able to read materials written in English (100%). The next largest group of participants believes that students need to learn English in order to be able to attend conferences in English (67%). These two largest groups of reasons for learning English are related with professionalism.

The participants supported that students need to start learning English in primary school. English should be an ongoing process and learned before university content education according to the participants. The most important phases of English learning process are primary school, high school and preparatory classes. Although the participants believed that students need to learn English, the largest group of respondents wanted to teach in Turkish; that is they did not support English medium instruction in their own classes.

The largest group of participants teaches both in English and in Turkish, but wants to use Turkish although they believe that students should learn English as early as possible. Another contradiction is that most of the participants do not want to teach

in English whereas all of them believe that their students need to know English in order to be able to read materials written in English.

The reasons for teaching the content in Turkish are related to national identity, protecting the Turkish language and educational concerns. Participants' reasons for choosing Turkish as a classroom language was that 'since the native language of both students and participants are Turkish, education language should be in Turkish', which appears to be an educational reason. But, when we see that the second most chosen reason is 'Turkish language should be the education language in order to protect our language', we must wonder whether the educational reason has underlying political motivations.

All of the instructors focus on skills and general English improvement, but specifically reading skills, and content knowledge and comprehension, which leads to the problem with speaking and listening as well as writing. Because the instructors focus on reading, the others become problems.

The largest group of participants teaches sometimes in English and sometimes in Turkish. The reason for teaching in both languages is that students have some comprehension problems in understanding the course content. The secondary reason is that English medium instruction is obligatory.

CHAPTER 5: CONCLUSIONS

In this chapter, the purpose and rationale for the study are summarised, and the data collection and analysis procedure are reviewed. The findings are discussed for each research question and pedagogical implications and implications for further research are also presented. Finally, limitations of the study and implications for further research are discussed.

Summary of the study

The purpose of the study was to investigate the role of English in engineering and architecture courses in engineering and architecture faculties of Anadolu University. For the purpose of finding answers to the research questions of the study, an attitude questionnaire was developed and administered to engineering and architecture content instructors working at Anadolu University in Turkey. A piloted version of the questionnaire was administered by personally approaching each teacher in each of the departments and each teacher was informed about the topic and purpose of the study and was asked for their participation. Questionnaire included Yes/ No type, rank order, multiple choice and open-ended types of questions.

The participants of this study were 33 engineering and architecture content instructors who agreed to participate in this study. Frequencies and percentages were calculated for the data analysis in order to answer the following research questions.

- 1- What are the beliefs of engineering and architecture instructors about whether engineering and architecture students need to learn English, why and where they need to learn English?
- 2- What are the attitudes of engineering and architecture instructors in Anadolu University toward English medium education in content classes?

a) What are their language preferences in their classes and what are the reasons for their language preferences?

3- How the engineering and architecture faculty members report that they use English in their courses?

Summary of the findings

The results of the data are discussed for each of the research questions.

The beliefs about English language learning

All the participants believed that engineering and architecture students need to learn English in order to read professional materials written in English. The literature suggests (Master, 2000; Quirk & Stein, 1990; Swales, 1990) there is an increase in the number of articles, periodicals and research papers published in English. Therefore, participants' main concern was for their students to be able to read those materials published in English in order to follow new developments. Another reason was to be able to attend conferences. However, not all participants believe that students necessarily need to learn English in order to be considered as professional in their field of study. It seems that the priority is to be able to know the content to be considered as a professional. However, the largest group of reasons the content instructors gave for assigning work in English was aimed at developing students' English, suggesting that engineering instructors feel that they are in the position of teaching English instead of focusing on the content.

The participants' support for the idea that English education should be completed before they begin content courses in English supports this suggestion. According to the participants English language education should start as early as possible and it should be an ongoing process that should result in students being at

the required level of proficiency before engineering and architecture content education begins. The language areas that the participants perceived as most important were speaking skills, writing skills, and listening comprehension skills. This is a contrast to reading, which is what they emphasise in terms of work. These language skills are the most essential skills for courses where the content is taught in English.

The language preferences in content classes

There were two main groups of reasons for their preferences, one educational, one political. Although all participants believed that students need to learn English, the largest group of the participants wanted to teach content in Turkish. The largest number of participants teaches both in Turkish and English. For educational reasons, the participants feel a need to repeat the content in Turkish agreeing with Zorlu (1994) that teaching in both languages can decrease the comprehension problems. It may mean that there is a pressure on the content instructors to teach the content in English even though students do not have adequate English proficiency, and they have some comprehension problems. The main reason for teaching the content in English is that most of the instructional materials and valuable sources are written in English. Hence, the participants assign students to read materials in English related to their field of study.

The political reasons that the participants teach content in Turkish is related to national identity and want to protect Turkish language. People who are in favour of Turkish language as an instructional language suggest that there is a danger of losing our language and therefore, our national identity (Köksoy, 2000; Özden & Çağatay, 1993; Zeybek, 1999) if we use English as a language of instruction.

How the instructors use English in their courses

As mentioned in the previous section, the largest group of participants teaches sometimes in English and sometimes in Turkish because of potential comprehension problems. Another reason is that English is the obligatory medium of instruction. Since it is obligatory to teach the content in English, they teach in English but not always in Turkish. Some teach the content in English but hold class discussions in Turkish. All of the instructors who teach the content in English test their students in English.

The largest group of participants requires students to read materials written in English because the participants want their students to develop the reading skills. The most important reason for students to learn English is to be able to read materials written in English according to the participants. The next group of participants assigns homework in English and requires students to make presentations in English.

The reasons for assigning students to do these are related to content comprehension and developing English language skills. The largest group of people assigns some study in English in order to develop English language skills. There are also some instructors who assign some study in English in order to help them to develop their content knowledge. In addition, some instructors suggest that these assignments are done in English since the courses are taught in English.

For the largest group of participants, writing and speaking are the most problematic skills. Listening comprehension is the next major problematic skill. Reading comprehension and vocabulary are the following problematic skill areas, which are equal in terms of percentages.

Pedagogical Implications of the Study

The discussion on whether the content education should be English or in Turkish still goes on. Some people believe that education should be in English whereas some people are in favour of Turkish as an instructional language. Because of this controversial issue, people are undecided about the role of English medium instruction and they have some conflicts. There should be a compromise between these conflicts to teach content better in English.

There is pressure on both the instructors and students. Instructors feel pressure to teach their content in English. This pressure may be administrative pressure because it is obligatory to teach the content in English. There may also be peer pressure. However, there is another type of pressure for instructors, pressure from students who want to use Turkish and want instructors to explain the content in Turkish, ask students questions in Turkish, and allow students to ask questions in Turkish.

With the recognition that students' language abilities are not adequate, instructors force students to use English. The main concern in this discussion is content comprehension. The instruction language shifts from English to Turkish since the English proficiency level of both students and probably instructors is low. In order to address these problems, as participants suggest, English education should start as early as possible. The proficiency level of students should at least meet the demands of content education in English. To ensure that students' proficiency level is adequate, the preparatory school education can be two years. A well-designed English for engineering purpose course, which would continue throughout the university education, would support the education in the preparation classes. There

should be a cooperation between content course instructors and the preparatory school in order to meet the students needs by designing courses that are suitable for the students specific purposes. While designing preparation curricula, there should be a strong focus on the speaking and listening comprehension. Writing is also an important skill that should be focused on since it is one of the most problematic skills. In terms of what students are asked to do, the reading is the frequently assigned skill, which should be focused on.

In order to ensure that students have adequate English proficiency, there should be a valid and reliable testing after preparation class. The participants in this study also complained about the background content knowledge of students and suggested that testing before university education should eliminate the students who are below the requirements.

There should be consistency in English medium instruction application as some of the participants suggest. Some participants believe that students have some motivational problems since the students were taught in English the previous courses and in Turkish in another course. However, some participants who were in favour of Turkish medium instruction suggested that students do not learn the content in the courses that education language is in English. Hence, there should be a common agreement on the medium of instruction language.

Limitations of the Study

Overall, the study is credible. And, adequate number of questionnaires was returned approximately 50%. However, there was not an equal proportion of participants from each department.

Because of the research questions, the questionnaire did not prove all aspects adequately. The study looked at the publications that the participants published in the last five years. However, what the participants meant by “publications in English” is not clear for this study. There are different types of publications in English that the participants might have published in the last five years, such as research summaries, reports, articles and books and these publications could vary in length, audience, and quality in English.

There is only one direct question that asked the participants’ attitudes toward English medium instruction, and the questions designed to explore classroom use of Turkish and English were not sufficiently detailed.

In order to learn the problematic language areas, participants were asked to rank six language areas (writing, speaking, reading comprehension, listening comprehension, grammar, vocabulary, translation, and pronunciation). However, the large group of participants did not rank the areas from one to eight. It may be because of unclear instructions. That a rank order type of questionnaire is not appropriate for this type of data may be another explanation for this limitation. Since participants might not consider all the areas as problematic, they did not want to rank them. They might also treat some areas equal in terms of inadequacy.

Implications for Further Research

As the study did not have equal number of people from each department, a further study can be conducted with approximately equal proportion of instructors representing each department.

To be able to explore the beliefs of content instructors and the relation between what they do in English, publications may be focused on. Some further

research questions can be asked related with publications in English. The type of publications and the type of genre used in the publications, and who the audience is (native speakers of English or a Turkish audience) can be investigated as well as the quality of papers published

As the data collection procedure, a questionnaire was used. There was also some unstructured talking with the participants. However, in order to explore in more detailed the beliefs of instructors, interviews should be conducted.

The role of English medium instruction is not only a matter of beliefs. In order to understand the role of teaching in English, classrooms should be observed over a long period of time. Students may have some cognitive problems. There need to be some other experimental studies in order to understand what sort of cognitive and affective variables influence the problems. Further research study can be conducted to find the real problems that both the students and instructors experiences in English medium instruction.

In order to be able to present the role of English medium instruction in Turkey, more institutions can be included in a further study. People from different educational groups as well as people from some other social situation can be included in further research, as well. Students, content instructors from social sciences, educators, administrators, parents, and politicians can be included as participants. Including parents may be an interesting idea in order to understand the pressure from parents who want their children to be educated in an English medium school. As Evans (2000) and Flower, Li, and Miller (1991) suggest the common reason for maintaining English medium instruction in Hong Kong is parental pressure.

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APPENDIX A
ANKET

Bilkent Üniversitesi'nde yüksek lisans öğrencisiyim. Anadolu Üniversitesi'nde Öğretim görevlisi olarak çalışmaktayım. İngilizce Eğitimle ilgili yaptığım bu araştırmayla ilgili sizlerin fikirlerinizi öğrenmek istiyorum. İsminizi belirtmek zorunda değilsiniz. Ayrıca aşağıdaki sorulara verdiğiniz kişisel cevabınız gizli kalacaktır. Bu araştırmaya katıldığınız için teşekkür ederim.

Bölüm : _____ **Öğretim deneyimi :** _____ yıl

Cinsiyet: Bayan Erkek

Unvanınız: Okutman Araştırma görevlisi Öğretim görevlisi

Yardımcı Doçent Doçent Profesör Diğer _____

1. Bitirdiğiniz okulların isimlerini yazar mısınız?

Ortaokul _____ Lise _____

Üniversite _____

2. Mastır yada doktora eğitiminiz var mı? Eğitiminizi hangi üniversite de tamamladınız (tamamlamaktasınız)?

Mastır _____ Doktora _____ Diğer _____

3. İngilizce makale yayımlıyor musunuz? _____

4. Son 5 yılda İngilizce yayımladığınız makale sayısı _____

5. Daha önce çalıştığınız okullar _____

6. Öğrencilerin İngilizce'ye ihtiyacı olduğunu düşünüyor musunuz?

Evet _____ Hayır _____

7. Cevabınız "**Evet**" ise, neden mühendislerin/mimarların İngilizce

öğrenmeye ihtiyaçları olduğunu düşünüyorsunuz? (**birden fazla seçeneği**

işaretleyebilirsiniz):

a) Türkiye'nin modernleşmesine yardımcı olmak için.

b) Türkiye'nin globalleşmesine yardımcı olmak için.

- c) Türkiye'nin Avrupa birliğinin bir parçası olmasına yardım etmek için.
- d) Global marketin bir parçası olmak için.
- e) Konularındaki yeni gelişmeleri takip edebilmek amacıyla İngilizce yazılmış materyalleri okumak için.
- f) İngilizce konferanslara katılabilmek için.
- g) Yabancı dil bilmeyi talep eden şirketlerde işe kabul edilebilmek için.
- h) Mastır ve Doktora yapabilmek için.
- i) Konularında profesyonel olarak kabul edilebilmek için.
- j) Yukarıdakilerin hiçbiri.
- k) Diğer (lütfen belirtin) _____

8. Sizce öğrenciler ne zaman İngilizce öğrenmeliler? (birden fazla seçeneği işaretleyebilirsiniz):

- a) İlkokulda
- c) Hazırlıkta
- e) Teknik İngilizce derslerinde
- b) Lisede
- d) Üniversitede
- f) Diğer _____

9. Mühendislik/ mimarlık konularını öğretmek için aşağıdakilerden hangisi uyguluyorsunuz? Yalnız birisini seçiniz.

- a) **Yalnızca Türkçe**'yi kullanırım, ve bundan memnunum.
- b) **Yalnızca Türkçe**'yi kullanırım, ancak İngilizce anlatabilmeyi isterdim.
- c) **Yalnızca İngilizce**'yi kullanırım, ve bundan memnunum.
- d) **Yalnızca İngilizce**'yi kullanırım, ancak Türkçe anlatabilmeyi isterdim.
- e) Hem Türkçe, hem de İngilizce'yi kullanırım ve bundan memnunum.

f) Hem Türkçe, hem de İngilizce' yi kullanırım. Ancak yalnızca İngilizce anlatmayı isterdim.

g) Hem Türkçe, hem de İngilizce' yi kullanırım. Ancak yalnızca Türkçe anlatmayı isterdim.

10. Eğer konuları öğretmek için Türkçe'yi tercih ediyorsanız, sebepleriniz nelerdir? (birden fazla seçeneği işaretleyebilirsiniz):

- a) Türkçe Dili'nin bilim dili olarak gelişmesine yardımcı olmak için,Türkçe eğitim dili olmalıdır.
- b) İngilizce bilgim işlediğim konuları İngilizce anlatacak kadar yeterli değil.
- c) Hiç İngilizce bilmiyorum.
- d) Öğrencilerimin İngilizce bilgisi anlattığım konuları anlayacak kadar yeterli değil.
- e) Bölümümüzde Türkçe zorunlu eğitim dili.
- f) Öğrencinin ve öğretmenin dili Türkçe olduğundan, konuyu çok iyi öğrenmek yalnızca Türkçe'yle mümkündür.
- g) Konuları İngilizce öğrenen Mühendisler, İngilizce bilmeyen kişilerle iletişim problemleri yaşayabilirler.
- h) Eğitim dilinin İngilizce olması, ulusal kimliğimize sosyal, politik, ve ideolojik bir tehdittir.
- i) Benim öğrettiğim konular Türkçe öğretilmeli.
- j) Yukarıdakilerin hiçbirisi.
- k) Diğer (lütfen belirtin)_____

11. Konuyu İngilizce anlatma sebepleriniz hangileridir? (birden fazla seçeneği işaretleyebilirsiniz):

- a) 7. Soruda işaretlediğim sebepler.
- b) Bölümümüzde konuyu İngilizce öğretmek zorunlu.
- c) Alanımızdaki değerli kaynakların çoğu İngilizce.
- d) Alanımızdaki eğitim materyallerinin çoğu İngilizce.
- e) Türkçe bizim konumuzda yeterince gelişmiş bir dil değil.
- f) Diğer (lütfen belirtin)_____

12. Dersin hangi bölümlerinde İngilizce kullanırsınız? (birden fazla seçeneği işaretleyebilirsiniz):

- a) Konuyu önce İngilizce anlatırım, sonra mutlaka bir de Türkçe anlatırım.
Neden ? _____
- b) Konuyu bazen İngilizce bazen de Türkçe anlatırım.
Neden? _____
- c) Konuyu İngilizce anlatırım, ancak tartışmalar Türkçe yapılır.
Neden? _____
- d) Konuyu İngilizce anlatırım, ancak sınıfla ilgili yönergeleri Türkçe veririm.
Neden? _____
- e) Testleri İngilizce yaparım.
Neden ? _____
- f) Diğer (lütfen belirtin)_____
- Neden? _____

13. Öğrencilerden İngilizce ne yapmalarını istersiniz? Sebeplerinizi açıklayınız.

a) İngilizce ev ödevleri.

Sebepler: _____

b) İngilizce proje hazırlamalarını.

Sebepler: _____

c) İngilizce materyalleri okumalarını.

Sebepler: _____

d) İngilizce sunumlar yapmalarını.

Sebepler: _____

e) İngilizce materyalleri Türkçe'ye çevirmelerini.

Sebepler: _____

f) Konuyla ilgili soruları İngilizce sormalarını.

Sebepler: _____

g) İngilizce hiçbir şey yapmalarını talep etmiyorum.

Sebepler: _____

h) Diğer _____

Sebepler: _____

14. Sizce öğrencilerin aşağıdaki hangi becerilerde İngilizce problemleri var?

Seçeneklerden problem olarak gördüklerinizi önem sırasına göre 1 den

başlayarak sıralayınız. **(En önemli probleme 1 yazınız)**

___ yazma ___ konuşma ___ okuduğunu anlama

___ konuşmaları anlama ___ dil bilgisi ___ kelime ___ telaffuz

___ çeviri ___ Diğer ___ Hiçbiri

15. Dersi İngilizce öğrettiğiniz için sorunlar yaşıyor musunuz?

Sorunlarınız nelerdir?

Teşekkür ederim

APPENDIX B
QUESTIONNAIRE

I am an MATEFL graduate student at Bilkent University. I am doing a research project on how English is used in engineering and architecture classes. I am interested in your opinions. You do not have to give your name and no one will know your specific answers to the questions below. I would like to thank you for participating in this research project.

Department:_____ **Years of experience in Teaching :**_____

Title: Lecturer Research assistant Education officer

Assistant professor Associate Professor Professor Other_____

1. Could you please write the names of schools you graduated?

Secondary school_____ High school_____

University_____

2. Do you have a master or Ph. D. degree? In which university you completed (or still completing) your education?

Master_____ Ph. D. degree_____ Other_____

3. Do you publish articles in English?_____

4. The number of articles that you published in English in the last 5 years?_____

5. Schools that you worked before_____

6. Do you think that engineers/ architectures need English ?

Yes_____ No_____

7. If “Yes”, Why do you think that they need to learn English? (**You can circle more than one**):

a) help to modernise Turkey.

b) help to globalise Turkey.

- c) help Turkey become part of the European Community.
- d) be part of the global market.
- e) read materials written in English to follow new developments in their subject matter.
- f) be able to attend conferences in English.
- g) be accepted for a job in companies that require knowing a foreign language.
- h) be able to pursue an MA or Ph. D. degree.
- i) be considered as a professional in their subject matter
- j) None of the above.
- k) Other (please specify) _____

8. When do you think that students need to learn English? (You can circle more than one):

- a) in primary school b) in preparation school
- c) in Technical English classes d) in high school e) at university
- f) other _____

9. Which of the following you apply when you teach engineering/ architecture content? Circle only one of the statements.

- a) I use **only Turkish** to teach the content, and I am happy with this.
- b) I use **only Turkish** but I wish I could teach in English.
- c) I use **only English** to teach content, and I am happy with this.
- d) I use **only English**, but I wish I could teach in Turkish.
- e) I teach both in English and in Turkish and, I am happy with this.

f) I teach both in English and in Turkish, but I wish I could teach in English.

g) I teach both in English and in Turkish, but I wish I could teach in Turkish.

10. If you prefer **Turkish** to teach the content, what are your reasons?

(You can circle more than one)

a) Turkish language should be the education language in order to help Turkish develop as science language.

b) I do not have adequate English to teach my content in English.

c) I do not know English, at all.

d) The students do not have adequate English to understand the content that I'm teaching.

e) It is obligatory in our department to teach in Turkish.

f) To learn the content very well is possible only in Turkish since the language of the teacher and the student is Turkish.

g) Engineers/architectures who are taught in English may experience communication problems with other people who do not know English.

h) That education language is English is a social, political and ideological threat to our national identity.

i) The content that I teach should be taught in Turkish.

j) None of the above.

k) Other(please specify)_____

11. Which of them are your reasons to teach the content in English? **(You can circle more than one):**

- a) Because of the reasons I circled in question 7.
- b) Because it is obligatory to teach in English in our department.
- c) Most of the valuable sources in our field are in English.
- d) Instructional materials in our field are in English.
- e) Turkish language is not developed enough in my discipline.
- f) Other (please specify) _____

12. In which parts of the class do you use English? (You can circle more than one):

- a) I explain the subject in English first, then I always explain it again in Turkish.

Why? _____

- b) I explain the subject sometimes in English, and sometimes in Turkish.

Why? _____

- c) I explain my subject in English, but discussions are held in Turkish.

Why? _____

- d) I explain in English but classroom directions are in Turkish.

Why? _____

- e) I test my students in English.

Why? _____

- f) Other(please specify) _____

Why? _____

13. What do you assign your students to do in English? Explain your reasons for your choices. (You can circle more than one):

a) homework in English.

Reasons: _____

b) to write projects in English.

Reasons: _____

c) to read materials written in English.

Reasons: _____

d) to make presentations in English.

Reasons: _____

e) to translate English materials into Turkish.

Reasons: _____

f) to ask me questions related with the topic in English.

Reasons: _____

g) No work in English is required.

Reasons: _____

h) Others _____

Reasons: _____

14. Which of the areas below do you think that students have problems with English? Rank the ones that you see as problems depending on their importance starting from 1. (Write the most important problem 1).

___ Writing ___ speaking ___ reading comprehension

___ Grammar ___ vocabulary ___ listening comprehension

___ translation ___ pronunciation

___ Other ___ None

15. Do you experience some problems as you teach in English? What are your problems and your suggestions?

THANK YOU