DESIGNING A CORPUS BASED ENGLISH READING COURSE FOR ACADEMIC PURPOSES

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Abstract

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This paper illustrates compiling a corpus of academic texts from the disciplines of economics and business administration, as the basis for designing a lexical component of the English for Academic Purposes (EAP) reading course and developing teaching materials for students intending to follow their university courses. The course is based on data-driven learning, and it is structured around a task-based approach with a particular emphasis on constructivism, which aims at getting students actively involved in the learning process. The development of the course and its classroom application are described. Students' perceptions of this innovative experience are discussed in relation to the benefits of this approach, both academically and in providing orientation for study in students' respective English-medium department.

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Introduction

Effective classroom practices require that teachers and material writers take students' future lexical needs into consideration as they design courses and develop teaching materials in order to make the learning experiences relevant to students' target needs. In designing English for Academic Purposes (EAP) reading course, therefore, course specification needs to accurately reflect the lexis and concepts used in a given academic discipline to ensure consistency between what students of an academic discipline are expected to read and what they are offered in language courses. An objective way to obtain lexical needs of learners is through the use of computerized corpora.

The article begins with an overview of using corpus in language classes and presents a brief description of the teaching context. Secondly, the rationale for integrating computer findings in designing a new EAP Reading Course is presented followed by the design procedures of a specialized corpus of academic texts. Then, classroom application of the course is given while the final section focuses on evaluating the course, discussing data on the benefits perceived by participants. The article concludes with comments on the pedagogical potential of utilizing corpus facilities in course design

Using Corpus in Language Classes

Developments in the use of computers have made it possible to compile a corpus, a collection of written or spoken texts, as a valuable source of information for the empirical study of language use instead of relying on intuition (Biber, Conrad, & Reppen, 1998;

Conrad, 2000; Hunston, 2002; Renouf, 1987; Sinclair, 1991). Corpus has become increasingly used in the L2 classroom, particularly in the development of language teaching materials (Johns & King, 1991; Tribble, 1991; Tribble, 1997; Willis, 1990), and in identifying the lexical needs of learners (Coxhead, 2000; Kırkgöz, 1993; Kırkgöz, 1999), which can never be adequately and rapidly dealt with manually. It has been suggested by Tribble and Jones (1990) that corpus-based learning materials favor learning by 'discovery,' rather than spoon feeding or rote learning. The usefulness of small and a very specific corpus as a useful resource in the language learning/teaching project has been pointed out by experts in corpus research (Sinclair, 1991; Tribble, 1997; Willis, 1990).

Method

The University of Çukurova, where the present study has been conducted, is one of the most prestigious universities in Turkey. In 1983, English-medium instruction at the undergraduate level was initiated in the Department of Economics and the Business Administration (DECOBA) following the decision taken by the university senate (Çukurova University Prospectus, 1998, p. 267). Since then, 40% of the subject courses are taught in English in this academic community. The English language, through which subject courses are taught, fulfills a "transactional function" (Brown & Yule, 1983, p.1). It is used to convey content or factual information, that is, it acts as a vehicle for the transmission of specialist knowledge. Thus, the acquisition of domain-specific knowledge and concepts through English are of crucial importance for success in the academic classes.

The English language requirements of the university is catered by the Center for Foreign Languages (CFL), which offers a one-year EAP curriculum to prepare the students who are prospective members of their future English-medium academic discourse community. The ultimate goal of the reading course is stated in the *Curriculum Document* (2001) as "to enable the students to read technical texts about students' subject matter, familiarize them with technical terms and develop an awareness of the process of reading" (p. 2).

Problem

As stated in the curriculum document above, the students' familiarity with subject-specific lexical items is highlighted. However, in the course of time, complaints coming from the graduate students and the faculty lecturers showed that the course was not meeting the students' academic needs. Therefore, there was a need to develop a new EAP reading course.

Needs analysis is the first stage in a course design (Berwick, 1989; Hutchinson & Waters, 1987). At the initial stage of developing the new EAP course, needs assessment was carried out in DECOBA to identify the first-year undergraduate learners' problems in accessing academic texts. The findings showed that the students' major problem was related to their lack of familiarity with subject-specific concepts, which prevented them from accessing academic texts in English efficiently (see Kırkgöz, 1999 for details). Students who had attended the CFL and started taking their first-year undergraduate courses expressed difficulty, particularly in the use of specialist lexis. Both students, as well as the subject lecturers, made a request that new students to this academic community be familiarized with basic concepts prior to their entry into their academic community. Since the lexical knowledge was identified as playing a crucial role in gaining information from the written sources, the next issue to consider was how to identify students' lexical requirements in an objective and systematic manner.

Procedures for Designing the Corpus Based EAP Course

Taking advantage of the potentials of the corpus for identifying the lexical needs of the learners, computerized corpus facilities were used to identify the most important and significant lexical items in a corpus of academic texts students must read in their academic communities. These items were used to form the basis for designing the lexical component of the EAP Reading Course, and to develop teaching materials.

This section will be described in three parts. While the first part deals with compiling a specialized corpus of economics and business texts to identify lexical requirements of learners, the next part describes classroom application of the course, and the final section focuses on evaluating the course.

Compiling a Specialized Corpus

In the present course design, the computer-processing package used in the corpus establishment was Aston Text Analyzer (ATA), an extension of the UNIX suite program. Using computer facilities, a specialized corpus (*spec.corp.*) of texts containing 202,400 words was compiled. These academic texts were taken from textbook chapters and journal articles (see Kırkgöz, 1999). The first-year university undergraduates were required to read this in DECOBA

The first stage in processing the corpus involved producing lexical-frequency lists for the entire data creating a lexical profile. In view of the high number of words, it is highly unrealistic to expect learners to learn all the lexis, thus, an objective selection needs to be made. To identify the lexis, which occurs most frequently in target academic texts, the importance of selection is highlighted (West, as cited in Kennedy, 1987). Kennedy (1987) points out that the frequency of occurrences gives us more reliable information upon which course materials can be developed to expose learners to important words and phrases. Thus, it is essential to give learners the repeated exposure necessary for learning important lexical items.

As the purpose of the present EAP Reading Course was to introduce the students to the fundamental lexical items of their future discipline, the statistically-significant content words from the non-grammar frequency list were selected to examine their collocational environments. To keep the vocabulary load manageable for the students, 74 content words were selected, based on the frequency of the occurrence in the whole corpus to offer learners "only things worth learning" (Sinclair & Renouf, 1988, p. 25) according to the researcher's own perception from having taught economics for students of EFL/ESL during the last 10 years and in consultation with subject instructors in the department of the extent to which their acquisition would be useful to students. The selection included subject-specific vocabulary (monopoly, oligopoly), which is vital to the content topic itself because these words support students' content learning, performance of academic tasks, and use of learning strategies. Also included in the selection was academic vocabulary even more crucial to students' development of language proficiency, which consists of words that are common across academic disciplines (Coxhead, 2000), such as *substitute,* which acquires a specialized meaning in this discipline.

Concordance Analysis

The computer can locate all the occurrences of a particular word, and provides its concordances, that is, the words that collocate on either side of the key word rapidly and reliably with the key word appearing in the center of the computer screen (Sinclair & Renouf,

1988). Since concordancing programs have become available, they have offered new directions in language teaching (Johns, 1986), enabling students themselves to make direct discoveries about language (Johns, 1991; Tribble & Jones, 1990), as an aid to course design (Flowerdew, 1993), and in teaching vocabulary of academic English (Thurston & Candlin, 1998).

As the basis for selecting concordances for the lexical component of the course, *collocates* of the 74 key words, significantly co-occurring with these key words, were examined using a *synoptic profile* in the concordancing package of the computer program. In the synoptic profile, the individual lexical items are accompanied with four words on either side of the key word according to their frequency of occurrence. For instance, in the synoptic profile presented in Table 1, cost is represented by the symbol '*' and the significant left-hand collocate of *cost* is opportunity, with 30 occurrences, thus forming the concept *opportunity cost*. It was therefore decided that the words appearing with noticeable frequency needed to be brought to the attention of the students.

Table 1. A Synoptic Profile of Cost

Cost

5 and	7 the	17 its	30 opportunity	*	38 of	10 capital	6 is	5 and
7 to	9 of	17 its	25 average	*	39 curve	12 the	9 the	10 the
4 but	5 it	6 and	22 the	*	15 curves	8 of	6 is	5 capital
2 been	3 point	2 assign	2 firms	*	2 equals	3 upward	3 to	2 given

From the long lists of concordances of each concept, examples were selected to produce a concordance list containing domain-specific collocates of the key words.

Sequencing

The final stage involved sequencing the lexical items. The order in which the concepts were sequenced was by increasing order of conceptual difficulty and complexity, essential criteria in sequencing language input (Dubin & Olshtain, 1986). Appendix A shows the 74 content words, which provided basis for the development of the EAP course, the order in which lexical items are introduced, and their distribution according to different levels of language proficiency in the EAP syllabus (lower-intermediate to upper-intermediate). As can be seen, the conceptual difficulty of the lexical items increases gradually as the students make progress in the program. For example, *household* and *scarcity* were relatively easier concepts to learn, so they occupied the first orders in the EAP course whereas *opportunity cost* and *collective bargaining* were more complex concepts, thus they were offered in higher levels to the students.

Framework of the EAP Course

The EAP course was set up to familiarize the learners with the fundamental lexical items corresponding to main concepts of the students' future academic discipline. It was based on "data-driven" learning (Johns, 1991, p. 64) in that the corpus was used as a resource, from which all tasks and examples were derived. The idea of organizing a syllabus around lexis is supported by many researchers (Lewis, 1993; Willis, 1990). Willis (1990) argues that

the word may be a better unit of syllabus design than the structure. To Lewis (1993) "more meaning is carried by lexis than grammatical structure" (p. 33).

Since it was found that the need to access economics English texts acts as the major obstacle that the students may be required to overcome in their academic studies, the main issue to consider was how to provide the students with access to such texts as efficiently as possible before being initiated into their department. The purpose of the present course was therefore to help the students gradually build-up of the content schemata starting from the lexical dimension of economics discourse. Students were pedagogically guided to build-up new formal schemata contributing to economics facts and concepts starting from the lower-level (bottom-up) processing mode focusing on lexis. They were also guided to gradually reach the higher-level (top-down) processing stage because it is these key words, which unfold the essential meaning of the textual message which underline the purpose of the reading. In this way, it is expected that the students will gain initial schema in relation to their field of specialty, and gradually build-up subject specific knowledge. As confirmed by Carrell (1989), guiding learners from the lexical dimension will help reach a stage when bottom-up and top-down processing modes can converge leading to the development of background knowledge. It is subsequently hoped that this will enable students to access easily the written texts in their academic context.

Establishing a Constructivist Environment

The course was designed following the principles of the Constructivist Theory to learning, which is based on student-directed learning and places the direct responsibility on the learners' active construction of meaning (Jonassen, 1991, 1994). It is posited that knowledge is the result of a construction of reality, which comes about either individually or through the collaborative construction, through discussion, negotiation, and shared meaning (Ernest, 1995). Authentic activities, which are inherently interesting, are emphasized in a constructivist classroom. One useful example of such activities proposed by Tribble (1997) is using corpora as a useful resource in the language teaching/learning experience. The role of the teacher in a constructivist classroom becomes one of the facilitator, coordinator and the guider. The justification for promoting the knowledge acquisition process in a classroom setting by adopting perspectives of the constructivism is based on the premise that the learners will better understand, acquire, and retain knowledge when they are given opportunities to manipulate and build upon their experiences.

Johns (1991), who investigated the possibility of data-driven learning in relation to grammar, promotes the idea of "the teacher abandoning the role of expert and taking on that of organizer" (p. 27), allowing students access to a computer equipped with a concordancing program and a relevant corpus as the primary source of information. Similarly, Leech and Candlin (1986) advocate a classroom with online links to a corpus resource suggesting that we need input tailored to our learners' needs and abilities, and we need classroom access to language databases displayed in terms that learners can understand. In relation to the tasks to be made available to learners, they suggest two characteristics of tasks: tasks that will have to involve learners in solving problems and experimenting with language learning, and that will need to be differentiated in terms of offering alternative routes, varying levels of demand and attainment, and alternative possibilities of solution.

Taking these points into consideration, the present reading course was structured around the task-based approach with a particular emphasis on constructivism, aimed at getting students actively involved in the learning process.
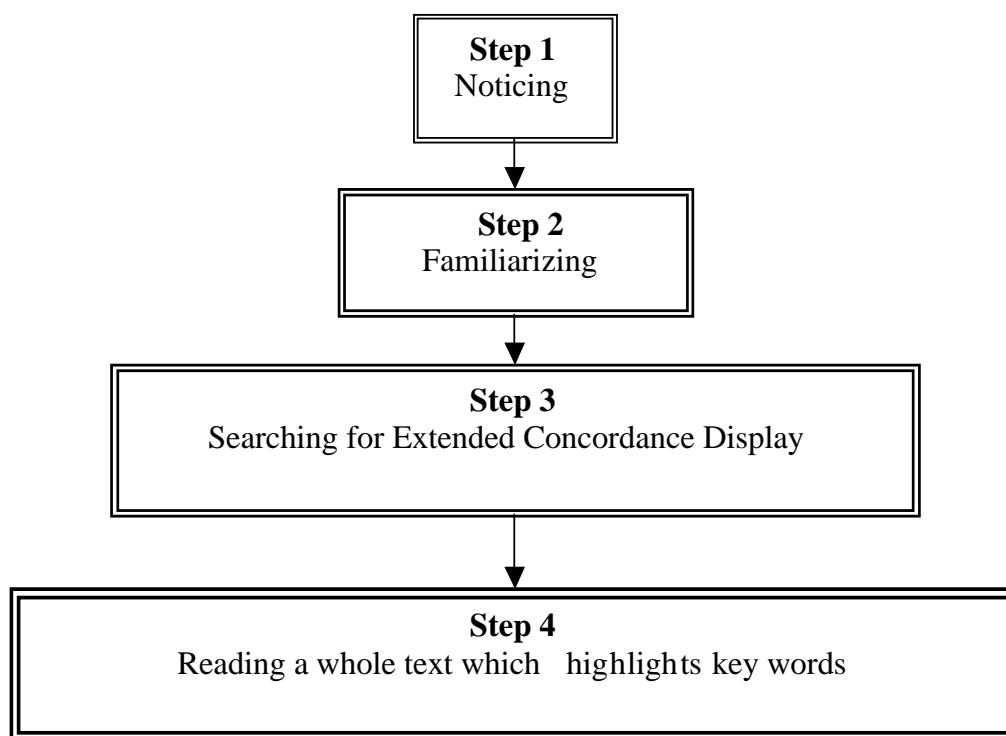
Participants

Participants of the present course were 24 prospective students of DECOBA between the ages 18-20 (8 male and 16 female). They were receiving a one-year EAP program at the CFL. The EAP reading course designed for these students lasted two-semesters (30 weeks). At the beginning of the course, the students' level of proficiency in English corresponded to lower-intermediate.

Implementing the Course Based on the Task-based Learning

In data-driven learning, the students are guided to gradually build-up the 'content schemata,' subject specific knowledge, starting from the lexical dimension of economics discourse by a chain of "pedagogic tasks" (Breen, 1987, p. 24) or activities in which completion of each task leads on to the succeeding activity, thus providing what Nunan (1991) calls "task continuity" (p. 36). The chain of tasks, repeated for each key word, consisted of four components (see Figure 1).

Figure 1. Components of the Tasks

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          ┌─────────────────────────┐
          │        Step 1           │
          │       Noticing          │
          └────────────┬────────────┘
                       │
                       ▼
       ┌──────────────────────────────┐
       │           Step 2             │
       │        Familiarizing         │
       └───────────────┬──────────────┘
                       │
                       ▼
   ┌──────────────────────────────────────┐
   │                Step 3                 │
   │ Searching for Extended Concordance    │
   │              Display                  │
   └───────────────────┬───────────────────┘
                       │
                       ▼
 ┌────────────────────────────────────────────┐
 │                  Step 4                     │
 │ Reading a whole text which  highlights      │
 │               key words                     │
 └────────────────────────────────────────────┘
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Considering the innovative nature of this approach, before giving the concordance-based pedagogic tasks for the first time, the students were informed that the corpus was made up of authentic texts they would be studying in their academic context the following year. In addition, the students were guided by a series of questions to help uncover the appropriate sense of the lexical items. Therefore, prior to the start of each task, the students were asked to express what they already knew about the meaning of a given word. In other words, they were

guided by a series of questions to help activate their existing knowledge related to a particular key word in terms of what that particular word would mean in general and what it would mean in relation to economics, as illustrated in the example below:

> Now, you are going to perform a series of tasks. Before you start, can you define what 'opportunity goods' means to you?

Noticing

The purpose of this stage was to have the students notice key lexical items. Research on Second Language Acquisition (SLA) suggests that 'noticing,' or paying attention to language forms, is a necessary prerequisite for acquisition to take place (Lynch, 2001; Schmidt, 1990). Harmer (2003) notes that noticing has another characteristic, that of 'salience.' It is claimed that language items that stand out more, are more noticeable, will have "a greater chance of impinging on consciousness" (Shehan, 1998, p. 49). Willis (1996), one of the pioneers of task-based learning, also supports the view that "activities aimed at promoting awareness of language forms, making students conscious of particular language features and encouraging them to think about them are likely to be more beneficial" (p. 16).

Therefore, many instances of a target word or phrase were brought to the learners' attention by giving the students one-page computer printouts of concordance citations to enable them to notice the key word. In the concordance list, the key word appeared in boldface in the center of the page, with several words on either side, making it salient and noticeable to draw learners' attention to the main lexical focus (see Figure 2). This stage of the task also served to raise their awareness of the lexical items (Willis, 1998). In other words, the students became aware of the fact that the word *cost* collocates with *opportunity*, thus forming a concept in their specific domain.

Figure 2. Noticing

LOOK

In your groups, look at concordances for the key term **opportunity goods** and words surrounding it, thinking of meaning. Do not worry that these are cut-off sentences.

production of tape by 3 inches. Tom's **opportunity cost** of producing 1 case is 3 lengths of tape
production of cases by 3000. Nancy's **opportunity cost** of producing 1 length of tape is 3 cases,
questions we now study. A firm's   **opportunity cost** of producing a good is the best alternative
sources it employs to produce a good**. Opportunity cost** is a real alternative forgone. But we can
units of money. We often express **opportunity cost** in units of money. Even though we express
money value of alternative. A firm's **opportunity cost** of production has two components.
several years. We need to calculate the **opportunity cost** of using capital over its entire life.
this forgone interest is part of the **opportunity cost** of using the capital. It is part of the
airplane during 1996. It is part of the **opportunity cost** of using the airplane during 1996**.**
The interest forgone is part of the **opportunity cost** of using the capital. To measure the

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The students worked in small groups of three in carrying out each task, discussing the meaning of these lexical items. At this stage, the students mainly picked on the compound ideas, such as *opportunity cost*, and did not make full use of the context available to them in the environment of the key word as they did in later stages.

Familiarizing

The students were exposed to the same list of concordance citations as they were in the noticing stage. This time, students were looking for familiarization with the key lexical item and to develop awareness of the appropriate collocates of the key word. It was also expected that repeated exposure to the same words would help the students gradually develop a sense of the word's meaning and its use.

The students, after observing the central and typical meaning of words, were asked to discover subject-specific meaning, the sense that a word carries in addition to its real meaning, when interpreting concordance lines. Secondly, from these citations students were to induce the meaning of the words (Robinson, 1994; Todd, 2001; Wichmann, 1995). In the instructions for students, the term meaning is used to describe lexical and contextual significance, and the term patterns of language to describe collocations (Thursdan & Candlin, 1998). They were encouraged to develop strategies to derive information from the data about a lexical item they did not recognize, or that they recognized as part of their general knowledge of English but which takes on a specialized meaning when collocated with other lexical items, as in the example of opportunity cost or inferior goods. They were also encouraged to become sensitive to the patterns of language frequently surrounding the key word, as in the following instruction:

> Familiarize yourself with the words surrounding the key word by referring to the concordances. What is your definition of *opportunity cost*?

Corpus data provided the learners with motivation for participating in discourse through spoken interaction. Different learners often noticed different things in concordances and drew different conclusions. By comparing their interpretations, they were engaged in negotiating the subject-specific meaning of the lexical items. After verbalizing the meaning in their groups, the students were asked to write down their initial inferences about the lexical item.

At the initial stage of the task *opportunity cost*, almost all groups had stated that *cost is the value of goods* but they admitted that they did not know anything about the meaning of this particular lexical item. However, after being exposed to concordance citations, the sense attributed by most group members, is:

> The word opportunity comes before cost. Therefore, these two words together must have a specific meaning. Opportunity cost is probably an advantage, but we are not sure what kind of advantage it is.

The students were able to get the meaning of the lexical items for which the concordance citations provided sufficient clue. Included in this category were words such as *household goods*, *domestic policy*, and *substitutes*. However, for the lexical items such as *opportunity cost* and *fiscal policy*, for which the concordance citations provided limited information, the students ended up with some hypothetical information, as illustrated in the above extract recorded from the students' group discussion.

The students used various clues in the concordance citations to make sense of the word by employing various strategies: inferencing, forming and testing a hypothesis, predicting, questioning, and negotiating the meaning. In addition, analogical reasoning is employed as a useful strategy in the acquisition of lexical knowledge. The students accessed much of the analogies from familiar domains such as food, school, and nation, to act as a bridge in understanding the target concept. For example, in working out the meaning of *inferior goods,*

inferiority complex was used as an analogy, in the case of *substitute goods* in economics, *substitute teacher* from the students' everyday knowledge served as a helpful analogy.

Searching for Extended Concordance Display

After the stages of noticing and familiarization, the students were able to get more information on the same lexical item via the extended concordance display. Concordances have been used to present the students with the opportunity to condense and intensify the process of learning through the exposure to multiple examples of the same target vocabulary item in context, and to promote awareness of collocational relationships.

At this stage, the students were given access to *spec.corp*. For this purpose, using various facilities of the computer programming, the students had the opportunity to explore a particular word through its context by highlighting the concordance line of any key word and using the computer's search menu in order to further explore the meaning of that word in a larger context, such as in paragraph and the whole authentic texts (see Figure 3). This component of the task was essential so that the students could gain more detailed information and capture more co-textual patterns, thereby increasing their "lexical access skills" (Grabe, 1991, p. 380), and an opportunity to check the appropriacy of the hypothesis on the meaning of the word.

The learners were able to find out much more about a particular lexical item from the concordance citations, and considerably more from the corpus, to test their initial inferences and gradually arrive at the subject-specific meaning. The search in the corpus data for the meaning of the lexical item also helped the learners to become a critical analyst of the corpus. Discussing their findings raised the learners' awareness of broader lexical issues, thus developing their lexical access skills.

Figure 3. Extended Concordance Display

A firm's **opportunity cost** of producing a good is the best alternative action that the firm forgoes to produce it. Equivalently, it is the firm's best alternative use for the productive resources it employs to produce a good. **Opportunity cost** is a real alternative forgone. We can compare the **opportunity cost** of one action with that of another action. We often express **opportunity cost** in units of money. Even though we express **opportunity cost** in money units, it is the real alternative forgone and not the money value of that alternative. A firm's **opportunity cost** has two components: Explicit cost and implicit cost. For example, if a pizza restaurant hires a waiter, the wages paid are both the money cost and the **opportunity cost** of hiring the waiter.

Having discussed their findings, this particular group concluded that:

Opportunity cost is a kind of alternative. There are two things here. It is the benefit that we think about in choosing something. Opportunity cost is the reason that effects on you to choose useful things. If I were to give some money to a charity, I would give it to Mehmetcik society (The Turkish soldiers Association) because they protect our country.

Though at the initial stage, *cost* was considered in terms of money, in a later stage of conceptualization it can be seen how this has changed to abstract terms. As seen from the

students' interpretation above, the students collectively added the reality of their own experience to the reality of the corpus by giving an example from their own cultural knowledge.

Reading a Whole Text which Highlights Key Words

In this final stage of the task, the students were provided with sample texts from the corpus. These samples highlighted lexical items and collocations to increase the learners' exposure to the most essential lexical items, and to develop the students' lexical competence by promoting discovery of meaning and inferencing skills. They were encouraged to read for lexical items and expressions that they had studied in previous stages of the task. Actual texts were sometimes adapted to make it appropriate to the level of the students.

In addition, the students were asked to compare their own initial definitions of the *opportunity cost*, based on the uses of the target word in the concordance lines, with the one that appeared in the reading text in order to ensure that they arrived at a reasonable understanding of the word's meaning. Appendix B provides a sample reading text.

This component of the task was optional; if the students reached a reasonable level of understanding in working out the sense of a given word, this stage was omitted. However, for most lexical items, it was incorporated into the course.

The presentation of concordances and these guided tasks enabled the students to learn the sense of the item appropriately and collectively in groups, without the interference of a teacher. From the 74 concordances, in 45 cases the sense induced from the concordance citations matched the meanings in the final text given, whereas in the remaining cases they did not match. However, after reading the texts, the students were able to acquire the domain-specific meaning of concepts.

Thurstun and Candlin (1998) point out that "over-exposure to concordance lines can considerably tire students if teaching of this type depends solely on deduction from concordances" (p. 278). The students were, therefore, provided with a variety of different extension activities, extracted from the *spec.corp*, but demanding different problem-solving skills from the students (see Appendix C). As the course progressed, these tasks became cumulative and included all the lexical items studied.

The EAP reading course is designed to be cyclical in that the same concepts introduced during the earlier stages in the course will recur at a greater level of sophistication as the course progresses. For example, *inferior goods* was acquired at an earlier time in the course, and several weeks later when the concept *demand* was being introduced, *inferior* collocated as *demand for inferior goods*. This collocational feature helped the students to recall the previously learned lexical items, integrate them into their current knowledge, and consolidate better. Also, the students were given revision tasks to increase the recycling effect of the lexical items studied, and to allow the introduction of more innovative exercises using concordances. By the end of the course, the students had already become familiar with the fundamental concepts of their future discipline.

Evaluating the EAP Course

In order to find out the students' perceptions of this innovative experience, the EAP course was evaluated in two phases. One was at the end of the course, and the other during the post-course period. The latter period was the following year, after the students had entered their English-medium department.

In the first phase of the evaluation, the students were asked to keep diaries and they were interviewed at the end of the course. Content analysis of the diaries and interview data

revealed that, initially, the students found the concordances quite puzzling, particularly by the cut-off sentences, as illustrated in the following extract taken from student diaries:

> At first we could not figure out much about each line of concordances. We were puzzled because we had not studied concordances before. This is a completely new method for us. We think it is like a problem solving activity.

However, eventually, the students became accustomed to concordances. One student pointed out that:

> Concordances are short. They give us summary and concentrated information. You can learn, I mean a general understanding of the words. If you want to learn more detailed knowledge, you need to consult the computer because the corpus provides more detailed information.

Since this style of learning was quite new to the students, they were informed about what concordance is and how concordances are obtained. In the case of the authentic subject-specific texts, the students were also told that they were not expected to understand every word they encountered, but that the texts were intended to familiarize them with the meaning of the key words, mainly highlighted on the concordance lines, thus helping them to develop insights into the collocational patterns with which the key words are associated.

In the second phase of the evaluation, students' reflections of their experiences of the EAP course were obtained by interviewing them. Analysis of the interview data revealed that data-driven approach has given the students a firm foundation, familiarizing them with subject-specific lexical items, and promoting the students' lexical competence upon which they were able to build in the following year's more advanced course. It has also been found that the course enabled the students to have easy access to the written academic texts in their department the following year.

In addition, the students commented that the course provided a 'bridge' between the language center and students' real world context, as expressed in the following extract by the students:

> This study has been a good bridge between the reading course and courses in our departments. Learning major concepts of our discipline beforehand has been particularly helpful in preparing us for our future studies. Otherwise, we would have had great difficulty in understanding the written texts.

Students, referring to the EAP course, commented that the words chosen were those that they needed as basic tools for academic reading. The summary of what the students stated with regard to comprehending the specialist texts is given below:

> Our previous studies helped us to understand the economics texts and increased our knowledge of vocabulary thus prepared us more effectively for this year's study. In fact we have been reading economics journals regularly with no difficulty now.

As revealed from the overall analysis of the interviews, the reading course designed based on the corpus findings had formed a good bridge between the language center and the students' academic community, familiarized the learners with the fundamental concepts of their discipline, and made a positive contribution to performing many academic tasks required from them in their academic context.

Conclusion

The main aim of this paper was to describe developing a new EAP reading course based on a corpus of academic texts, which the first-year undergraduate students in an English-medium university are required to read as part of their course requirement. The corpus consisted of 202,400 running words, and it has been helpful in setting out goals for the lexical component of the reading course. The course was established to familiarize learners with the fundamental lexical items corresponding to concepts of the students' future academic discipline prior to their entry into their academic community. The course content was based on the computer printouts of concordance citations of the lexical items and partly conducted in a computer-medium environment in line with the principles of the constructivist theory to learning in which the students were given the responsibility to explore the data and to take ownership in the learning process.

The students' reflection of their personal points of view about this new experience encountered revealed that corpus-based data helped them become familiar with fundamental lexical items of their future studies. In addition, the students' personal points of view concerning the extent to which learning from the corpus-based data facilitated their access to the academic texts in their target academic context the following year, demonstrated that the reading course provided them with a good foundation in preparing to pursue their English-medium studies.

While the present course has been developed for the students of one academic discipline, it must be noted that its implications go far beyond this particular context to situations where similar needs exist. Since the use of computer facilities has been found particularly beneficial in empirically identifying the lexical items of one discipline, they can be utilized in identifying lexical needs of learners specializing in different domains. In view of the benefits of utilizing computer facilities, different corpora can be established based on the written texts of different domains so that the future members of different domains can be familiarized with the fundamental concepts of their disciplines prior to their becoming initiated to their respective faculties. The steps followed in the present study can be followed or adopted in other teaching contexts facing similar needs.

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Appendix A

The word list, which provided the basis for the EAP reading course

(Lower Intermediate)	*(Intermediate)*	*(Upper Intermediate)*
Economy	Barter	Inflation
Household	Specialization	Retailer
Scarce resources	Opportunity cost	Wholesaler
Land	Trade	Budget deficit
Labor	Comparative advantage	Marginal benefit
Capital	Benefit	Supplementary benefit
Goods	Interest rate	Unemployment benefit
Market	Exchange rate	Privatization
Price	Demand	Nationalization
Inferior goods	Supply	Stock market
Domestic goods	Equilibrium	Bond
Substitutes	Elasticity	Shares
Complementary goods	Discount	Broker
Capital	Income	Return
Cash	Expenditure	Promotion
Price	Management	Taxation
Consumer	Long-term	Trade union
Producer	Short-term	Fiscal policy
Import	Employment	GNP
Export	Employer	Perfect competition
Asset	Investment	Imperfect competition
Purchasing power	Revenue	Monetary policy
Consumption	Input	Nominal
	Output	Monopoly
	Profit	Oligopoly
		Collective bargaining

Appendix B

Sample Reading Text

Read the following text paying attention to lexical items in boldface.

What is Your Opportunity Cost?

Whatever we choose to do, we could have done something else instead. The term **opportunity cost** emphasizes that when we make a choice in the face of scarcity, we give up an opportunity to so something else. The **opportunity cost** of any action is the highest-valued alternative forgone. The action that you choose not to do, the highest-valued alternative forgone, is the cost of the action that you choose to do. It expresses a central idea of economics that every choice involves a cost.

You can quit school right now, or you can remain in school. If you quit and take a job at McDonald's, you might earn enough to buy some CDs, go to the movies, and spend lots of free time with your friends. If you remain in school, you can't afford these things. You will be able to buy these things later, and that is one of the payoffs from being in school. But for now, when you have bought your books, you have nothing left for CDs and movies. The **opportunity cost** of being in school is the alternative things that you would have done if you had quit school.

1. Define *opportunity cost* and compare it with your previous definitions. Is it the same or different? Explain.

2. Read the following situation and answer the question.

You plan to go to summer school this summer. If you do, you won't be able to take your usual job that pays 500 dollars for the whole of the summer and you won't be able to live at home for free. The cost of your tuition in the summer school will be 600 dollars, textbook 50 dollars, and living expenses 200 dollars.

3. What would the opportunity cost of going to summer school be for you?

Appendix C

Sample Tasks

Task 1

What economic good is being defined? Choose the name of the correct goods from the list below.

People buy less as their incomes rise. For example, they may switch away from margarine and buy more butter, which they can afford with as increase in income.
1…………

Goods, which are used instead of one another. Goods such as apples and oranges, which satisfy similar needs or desires, are examples.
2………………

Goods that are used together. Gasoline and automobiles are examples to this type of goods.
3…………….

The goods that we have produced and those we can now use to produce other goods and services.
4…………..

The goods and services that are purchased for further processing and manufacturing.
5……………
Capital,   Intermediate   Substitutes   Complements   Inferior goods

Task 2

List some of the words, which can come after these words.

                Demand…….

                Demand…….

 Supply…….

 Supply……..

             Long-term…….

             Long-term………

 Monetary………

 Monetary………

                Capital……….

                Capital……….

Now choose one collocate you have written above from each group and write a definition about it.