

TEACHING READING COMPREHENSION IN ESP: THE CASE OF COMPUTER SCIENCES IN ALGERIA

FARIDA DJAILEB

Abstract

Teaching English for Computer Sciences is necessary in the Algerian universities today since the students aim to attend seminars and conferences all over the world; however, their main deficiencies are related to reading, grammar and vocabulary. We as teachers can help students to overcome their drawbacks by designing adequate syllabuses based on the communicative approach to language teaching. In our case, we have chosen the task based syllabus since it is based on tasks that can be performed in the classroom (the interpretation of charts and tables, etc.). In this article, we tried to shed light on some of the strategies of reading comprehension for effective learning.

Keywords: english for specific purposes (ESP), reading, syllabus, computer science

Abstrakt

Na dnešných alžírskych univerzitách je vyučovanie anglického jazyka pre počítačové vedy nevyhnutné, keďže sa študenti mienia zúčastňovať na seminároch a konferenciách na celom svete, majú však hlavné nedostatky v čítaní, gramatike a v slovnej zásobe. My ako učitelia môžeme študentom pomôcť prekonať tieto nedostatky vytvorením vhodných sylabov, ktorých základom je komunikatívny prístup k výučbe jazyka. V našom prípade sme si vybrali syllabus založený na učebných úlohách (task based syllabus), pretože spočíva v úlohách, ktoré v priamej výučbe možno realizovať (interpretácia grafov a tabuliek atď.). V príspevku sme sa pokúsili objasniť niektoré stratégie čítania s porozumením, podporujúce efektívne učenie.

Kľúčové slová: odborná angličtina (angličtina pre špecifické účely), čítanie, syllabus, počítačové vedy

Introduction

The primary purpose of language teaching was communication in real situations, using up-to-date materials in order to fulfil the communicative needs of the learners. Therefore, specification of needs is an important development in the area of ESP. In this case, materials development will take new directions based on certain parameters such as data from authentic situations. Moreover, authenticity of the materials based on the needs of the learners plays an important role in the process of teaching/learning, and helps the learners to communicate in realistic situations. It seems necessary to examine the existing ESP materials in order to evaluate their correspondence to the proposed model. Both Master students and teachers noticed that the teaching programmes were not satisfactory, and did not fit the criteria set by ESP models in general. We suggest that the current practice in ESP materials should be redesigned.

The Situation of ESP in Algeria

The situation in Algeria is a little bit complicated since there is not a real difference between English for Specific Purposes (ESP) and English for General Purposes (EGP) when it comes to syllabus design and methodology; moreover, teachers neglect needs analysis, which is crucial in a design of an ESP course. ESP today receives much attention due to the dominance of English in many fields such as Biology, Medicine, Computer Sciences and Economy, and with the emergence of the LMD system, English is more required. In many Algerian workplaces, academic and professional ones, a certain level of the understanding of the English

language is required. It is almost impossible to be engaged in any work in Algeria without some competence in the language use. Many workplaces have placed greater emphasis on effective communication as a requirement in their staff requirement and retention on the job. The ability to communicate orally in seminars is a skill relevant to the majority of occupations. As the purpose of language education in Algeria have to date never been systematically formulated, it is important that they are defined in an explicit way so that all parties concerned (students, teachers) are aware of the relevance of the language program to the expectations of those who participate in it. This concept of purpose is to be effective if it takes place in a context where all those who are concerned to revise their attitudes and reconsider their understanding of the rationale behind teaching and learning ESP. Another way of encouraging the effectiveness of teaching ESP in Algeria is to value the role of ESP practitioners involved in teaching ESP to students whose needs can be specified in advance and in a more systematic way than is the case of General English. Most countries all over the world are trying to raise the ability of their people to use English effectively. Algeria, like many countries where English is not the native language, has been facing problems related to the quality of ESP teaching in the faculties of Science and Technology. Students are not motivated to learn English, and they attend the module for the mark; on the other hand, teachers who are the majority of the time part-timers are not well-trained in teaching. Many English language assessments and evaluations of the average level of Algerian students have yielded very unsatisfactory results. Research investigations have identified the main causes of the low performance in English of Algerian students of Science and Technology as follows:

- Most students do not prefer to learn English because they find the subject matter boring (not familiar).
- Teaching methods are not attractive (based only on grammar or reading comprehension, neglecting the other important skills).
- There are not enough textbooks which can engage the student's interest in self-initiated learning.
- There is not enough technology support, such as ICT's as well as laboratories.

In language teaching, the material presented to the students is not motivating since it does not reflect the real world. It is high time to reconsider our view in designing a syllabus, and to see what the main principles of language abilities are. In the next discussion, we will see the abilities of the students at the reading skill, and some of the techniques to overcome their deficiencies.

Reading Comprehension in English for Computer Sciences

Finding authentic material may not be difficult, but finding appropriate materials according to the level of the learner is difficult. We should consider what background knowledge is necessary for a full comprehension. The task of the teacher is to build both formal and content schemata for his/her readers in order to facilitate the act of comprehension; for example, students should be familiar about the rhetorical organization of the text. In addition, language teachers have to be able to use authentic texts for reading instructions, and point out the features which can be incorporated into exercises, and here we refer to the authentic text (genuine text). In ESP, the reading skill is of primary significance since the main objective of ESP students is to extract information for research. Moreover, a high degree of background knowledge can overcome linguistic deficiencies. In our case, students of English for Computing Science can rely on their background knowledge to facilitate the task of comprehension even if they do not master the language. We can help them by asking the following question: 'What is the main idea of the text? Therefore, deficiencies of grammar for ESP students can be solved when they rely on their background knowledge to achieve convergence (at least the negotiation of meaning of the text). In this case, the specificity of the text requires knowledge of the

subject. In fact, to master a language (decoding meaning) requires both knowledge of the language and the ability to use it for communication. Furthermore, in order to guess the meaning from discourse, we do not need to focus on form. This does not imply to neglect grammar since knowing the rules of language may help students how to build correct sentences. Consider the following example: 'When the metallic film is magnetized, it produces bubbles; the presence or absence of these bubbles represents bits.' A Computer Science student can understand this sentence since he is familiar with the subject; whereas, an EGP student may encounter difficulties since he is not familiar with the register of this sentence, but he/she can rely on his systemic knowledge (grammar) to achieve comprehension if he/she can reach the underlying system. At least, he/she can recognize the grammatical elements (subject, verb). It is crucial to understand that the topic of the text has a reference, and when you read, you find a vacuum that you will fill with facts from the real world, and the text is supposed to obey the four maxims of Grice (Grice, 1975). Therefore, the readers can give sense to the text because of their pragmatic meaning, or their background knowledge.

ESP teachers in Computing Science face an audience (Master students particularly) with a practical and conceptual knowledge of their field of speciality; however, these students may encounter difficulties in exploiting authentic texts. It is important to note that bottom-up reading should require word recognition, spelling and phonological processing as well as morphosyntax and lexical recognition. In this case, readers should grasp information from the written texts, and identify the meaning of words, and then go to the meaning of larger units such as phrases and sentences. Grammar is usually ignored in the process of teaching reading to ESP students.

According to Dudley-Evans (1998), the weaknesses of grammar interfere with the comprehension of meaning, and the main problem of the readers is the transfer between L1 and L2, but training students in learning reading strategies can facilitate such transfer. The majority of ESP readers in any questionnaire-based survey cite that reading is not difficult as the other skills; however, the main problem encountered is an ability to read at adequate speed. Another important drawback is the understanding of the meaning of both general and specific terms. Generally, ESP students read for a purpose in order to obtain information. This aspect involves comprehension. The following are the main strategies of reading according to Jordan (1997, p. 143): 1. Prediction. 2. Skimming. 3. Scanning. 4. Drawing inferences and conclusions. 5. Deducing unknown words. 6. Understanding graphic information. 7. Understanding text organization. These strategies are the basis of material development in ESP. In our case, the most important points to take into consideration are the followings: 1. Reading for the main idea (the general idea of the text). 2. Reading for grasping information (to understand the details). 3. Understanding the meaning of words according to their context without the need of using dictionaries. 4. Understanding graphics, charts, tables, pictures and diagrams, and to be able to convert them into written texts without reproducing the text. 5. Summarizing using simple and complex sentences.

In the case of Computer Science, the selected texts should be authentic and related to the subject matter of the students, and the comprehension of texts requires relevant vocabulary practice, grammar focus and tasks based on the comprehension of the selected passages (articles from academic journals). It is necessary to focus on the psychological approach first (Bloor, 1985). This approach will focus on 'what takes place in the mind of the individual reader'. This may be possible at word recognition. ESP students meet unknown words and phrases in a text. In this case, the role of the teacher is to ask them to scan first headings and sub-headings. This fact allows them to set the scene; moreover, using contextual clues is a good technique for deciphering the meaning of the difficult words in a text.

In addition, the linguistic approach seems to be very important (Glendinning and Holmstrom, 1992). This focuses on the level of the words and sentences of the text. The ability to read effectively may be achieved when the students can handle the linguistic features of a

given text. We can rely on grammatical exercises such as to ask students to summarize a text using their own style or to transfer a chart from the text to a written passage.

The Course Outline

The proposed courses ensure knowledge and skills required for communicative competence of the students in real-life situations. The English syllabus we are offering to the students of Computer Science was produced to meet their needs first. In terms of grammatical structures and functions, an emphasis on grammatical accuracy and the repetition of the structures is necessary. We do believe that correct knowledge of grammar is an essential part of communicative competence, and we have adopted the task-based approach in order to enable the students to use English adequately in context, thus to shift from usage to use. Form should not be neglected as such, in the sense that both form and meaning are two important notions in the process of learning the language. With respect to vocabulary, an emphasis on controlled activities should be taken into consideration. In this case, students are required to decipher meaning from context and should avoid learning a list of vocabulary even if this may serve the purpose sometimes. According to White (1997), frequency (the number of occurrences of an item in a given language); coverage (things which can be expressed in a given item); range (the amount of time); vocabulary (the readiness with which a word is remembered in certain contexts), and learnability, which can play an important role in vocabulary selection, are all important in the design of a syllabus. It is essential to produce materials that cover certain aspects of English, and to expose students to real-life language use. In addition, our objective is to enable students to read fluently and accurately a written passage. Readers should be able to decode words and group them into meaningful phrases. Reading with good phrasing and expressions is very motivating. It is obvious that there is a combination between reading quickly (reading speed) and reading proficiency. Thus, the act of comprehension is part of fluency. In fact, there are ways to make students fluent in reading; for example, we can ask the learners to practice reading certain passages, and we have to read for them so that they develop an idea of what expressive and meaningful reading is about. This allows students to develop automaticity. Thus, we can choose authentic texts and tasks for the students. The selected texts are usually illustrated with graphs, charts or pictures in order to facilitate the task of comprehension. We add questions of comprehension to make the students to speak orally, and to create debates in the classroom. The first question we ask is to find the main idea of the selected passage. This is done to test the oral skill, and if the students are able to produce correct grammatical sentences. Moreover, the courses will cover technical and semi-technical vocabulary. The terms will be defined in context. The students will be asked to pronounce the words correctly, and they will be asked too to transcribe them phonetically. The majority of the time, we translate them to the students into French. We have sum up some of the strategies that an ESP student can use before and during the reading process for effective comprehension: 1. The teacher should motivate his or her students through activities that may increase their interest, making the text relevant to the students in some way. 2. They have to activate students' background knowledge important to the content of the text by discussing what students will read and what they already know about its topic and about the text organization. 3. The teacher should create a purpose for reading, and identify and discuss difficult words, phrases, and concepts in the text. 4. They have to remind students to use comprehension strategies as they read and to monitor their understanding. 5. Ask questions that keep students on track and focus their attention on main ideas and important points in the text. 6. Focus attention on parts in a text that require students to make inferences, and ask the students to summarize some of the key sections.

Thus, our more recent empirical data has shown that text comprehension can be improved after specific training on the executive functions of working memory (e.g., focusing, switching, connecting and updating mental representations). Therefore, what is essential is to

practise really some of the tasks suggested above, and teach the learners how to use strategies in the classroom, and to use up-to-date materials such the overhead projectors, the internet if possible, the laboratories and podcasts in order to develop the four skills. As a rule, the time allocated to the English courses should be four hours a week and not one hour and a half per week. The students should be divided in groups of no more than 30 students in a classroom. The semester is ended with a two-hour exam, which consists with a text, followed by questions of comprehension, a grammatical exercise, vocabulary and a translation exercise. In what follows, an example in context is suggested to the students.

Task one

A) Insert an appropriate word from the list below in the blanks. Rely on your previous technical knowledge)

Basic – the – some – plan – programme – set – code – before – after – must – processing

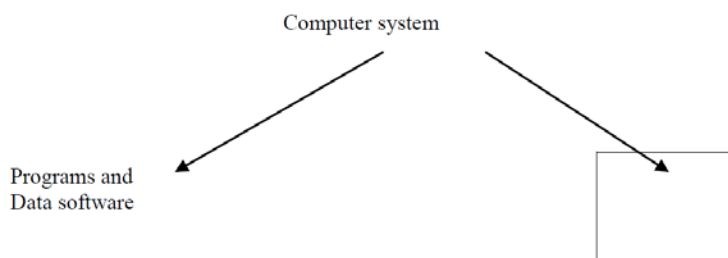
A programme is aof instructions that tells the computer what to do..... beginning to write a, a good programmer will and design the programme.....exact input and output.....be specified, and the..... way of producing output from the given input must be decided upon. the flowchart is drawn, programmer is ready to the programme. There are important points to remember when coding in.....

B) What is the main idea of this passage?

Task two

A) Complete the following diagram using the words from the list below (The components of the computer)

Co-processor / programs and data software / RAM / ROM / peripherals / mainmemory / CPU
mechanical and electronic equipment / hardware



B) Transfer this diagram into a suitable passage

Conclusion

In this article, we have tried to demonstrate the importance of teaching reading comprehension to computer science students in Algeria, and some of the techniques that can be used in the design of a syllabus. Our own experience of using authentic materials in the classroom (Computer Science students, Master) was when given the task of designing an English programme. The students were exposed to real language being used in a real context. Other aspects which proved positive when using authentic materials were that they are highly motivating. The suggested courses also reflect changes in the use of language.

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Kontakt
Farida Djaileb
University of Science and Technology
Oran, Algeria
Email: fdjaileb@yahoo.fr