

ISSUES IN TEACHING ENGLISH IN AN ESP CONTEXT: THE CASE OF COMPUTER SCIENCE

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Abstract

Teaching English for Computer Science is a must in the Algerian Universities today since the students aim to attend seminars and conferences in all over the world; however, their main deficiencies are related to both 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 the students are supposed to select tasks that can be performed in the classroom (the interpretation of charts and tables.....)

Key words: ESP- needs analysis- syllabus- tasks-authenticity

1.Introduction

It is necessary to understand what the ESP courses are. ESP courses are essentially determined by the analysis of the communication needs of the learners rather than by non-learners-centered criteria. The aims of ESP courses are to prepare learners in accordance with the specific skills and vocabulary needed in their own field; for example, the case of Computer Science students who need to be familiar with the high technical terms, such as “data processing, algorithm, batch...etc, or medical students who need to be knowledgeable with lexical items, such as “coronary heart disease, vena cava, carcinoma, ventricular dysfunction...etc.”Therefore, the foundation of all ESP is related to why the learners need to learn a language. Again, the syllabus that results from an NA analysis may be produced with emphasis on authenticity. Moreover, producing a course syllabus based on NA for a specific group of learners will be a success with identifiable language needs. The main objective of this research work is to present a proposal for the evaluation of the current courses and to suggest a syllabus based on new approaches and methods for language learning in ESP and how to tailor an ESP course to disciplinary needs at university level. As authenticity is the interaction between the outside world and the classroom, the student contribution in the adaptation and elaboration of the material is important even if the teaching material has linguistic objectives. In this article, we will try to demonstrate the importance of authenticity in a design of a syllabus.

2.Some key issues in teaching ESP

Generally speaking, materials control the instruction. Materials appropriate for a specific class need to have an instructional approach, methods and techniques which suit the students’ needs. There are components which are important for the process of teaching a language: Students, teachers, materials, teaching methods and evaluation. ESP teachers can modify, delete or add lessons according to the student’s expectations. In other words, they can teach without a specific textbook. In fact, what is important is to evaluate the suggested material. Therefore, testing the student’s abilities in the four skills is a must in ESP. ESP is not only a teaching approach, but it is also a branch of Applied Linguistics since it is concerned with effective teaching, testing methods, analysis of the learners’ needs and analysis of the linguistic and discorsal structures of texts. For Dudley-Evans (2001), the key defining features for ESP is its teaching and materials development on the basis of the results of needs analysis. In ESP, most materials are prepared by the teachers according to a specific setting. Two approaches are crucial in materials development: Language in use and formal linguistic syllabus based on grammar, pronunciation and vocabulary. One of the main goals of ESP is to develop the reading skills for specialist texts. The course development process, which will be analyzed, consists of the following steps:

- Needs assessment
- Determination of goals and objectives
- Content conceptualization
- Selection and development of materials and activities
- Evaluation

After a care review of English for Specific Purposes, we have prepared a course programme for Computer Science students. We used two guiding questions: What form should effective materials take for the preparation of an ESP course? How effective were these materials?

During this study, we noticed that lesson plans, time and teaching methodology did not enhance language skills. Therefore, our material went through a refining process.

- To teach an effective ESP course, an expert in the field is required.
- Materials developed for ESP courses must come from a variety of sources.

It is very important to understand the concept of ESP first, and how it is different from English for General Purposes. How does one define ESP then? Dudley-Evans and Johns (1991) describe ESP as what follows:

'The careful research and design of pedagogical materials and activities for an identifiable group of adult learners within a specific learning context'.

Dudley-Evans & Johns (1991:298)

ESP may be described as simply being the teaching of English for any purpose that could be specified. Others are more precise, describing it as the teaching of English used in Academic studies or the teaching of English for Vocational or Professional Purposes. As we have seen previously in the preliminaries, ESP is defined to absolute and variable characteristics. The definition of Dudley-Evans is influenced by that of Strevens (1988). For Strevens, ESP is in contrast with General English and has included more variable characteristics. According to these views, ESP is not only concerned with a specific discipline, but should be seen as an 'Approach' to teaching or an 'attitude of mind' as stated by Dudley-Evans (1998).

3.Usage and use in ESP

The distinction between 'usage' and 'use' was introduced in Widdowson (1989). Accordingly, language is used to perform communicative acts rather than to construct correct sentences. Usage is separated from context and it allows us to judge whether a sentence is correct in English or not. Usage is related to the appropriateness of a sentence or an utterance. Knowledge of language is prerequisite for a competent use of a given language. However, this fact does not necessarily imply that the ability to produce a foreign language is solely based on knowledge of its usage, i.e. its grammar and vocabulary. Sometimes sentences are grammatically acceptable, but they sound unnatural. In recent days, the focus has been on language use rather than language usage. The distinction between 'usage' and 'use' was introduced in Widdowson (1989). In addition, much importance is given to the actual use of language produced by speakers. We should be aware of the fact that the use of utterances in communication determines the representation of grammar, and can be constituted by appropriate usage, use, grammatical elements, register, genre and situation.

4.The Register of Computer Science English

There are textual patterns that constitute a Computing Science text. These kinds of texts may contain more nouns than verbs, and more particularly compound nouns such as (word processing, index cards, object oriented, bubble memory ...etc.) or words such as (batch, stack, algorithm, data...etc). Another important feature that characterize the Computing Science text is the use of discourse markers in order to clarify ideas, to generalize or to contradict (however, moreover, as a rule), and the use of phrases such as to analyze, to focus on, to be organized in, to compare with, etc.

It is very important to bear in mind that Computing Science English is a matter of semantics rather than form since we are concerned with true statement. However, can we assume that these texts are only a matter of semantics? How about the form of the sentences? Therefore, it is crucial to teach the students the structures of language. The majority of the students of computing science English are familiar with some of the technical terms in English, but their major problem is that they are unable to build correct grammatical sentences. Meanwhile, it is of paramount importance to think about testing the students' knowledge of the mentioned points and evaluate their difficulties in order to come up with courses that may help them to comprehend the way they are supposed to understand and write adequately in their speciality. Furthermore, the typical linguistic features manifested by Computing Science texts are their appropriate stylistic variety characterized by its degree of formality, modality and the density and composition of Computing Science vocabulary. The stylistic variety of English textbooks, technical reports, articles in scientific journals and conferences is the style of Science and Technology. This variety is characterized by abundant use of descriptions. The style of Science and Technology in Computing Science texts shows degrees of formality (formal, informal and colloquial). Modality, in the sense that the texts can meet the objectives for the form of technical report and scientific articles published in scientific journals. Moreover, the majority of the texts contain a high proportion of specific terms. The terms are either general Computing Science expressions such as 'data processing, computer program, databases, semi conductor' or specific terms such as 'hub, reel, block, parity'.

5. Research methodology

Previous research in the field of Computer Science showed that English language is of paramount importance in the academic and professional lives of Computer Science students. Bastukam (1998) pointed out that English is an essential tool in education; moreover, English is of particular importance for Computer Science students because it is the principle international language of science, and is an effective means that may enable the students to become familiar with texts written in English, and to be able to communicate effectively. However, Computer Science students at university of Science and Technology (USTOMB) have been low-competent in the English language. The design of the study was based on Hutchinson and Waters' (1987) target needs approach to NA. It is crucial to note too that among the variables that NA of ESP will identify a list of relevant skills that learners must master in order to accomplish the specific academic purposes for which they need specialized training. In addition, in order to investigate Computer Science students' English necessities, we tried to find out their perceptions of the frequency of their use of the English language skills and the importance of these skills to them. Thus, the research project was conducted by designing the questionnaire as the instrument for data collection.

6. Respondents and Research Methods

The respondents were students (Master1) who study Computer Science. There were 60 participants altogether. The subjects were both males and females at an intermediate level. The sample refers to the year 2010. Research employed two questionnaires as we have mentioned before: the teachers' questionnaire and the students' questionnaire. The students' questionnaire employed for the students was used to analyze the needs and assessments of the usefulness of various activities, and learners' reflections on their performance in various tasks as well as their perceptions on teaching materials. Based on the feedback received from the pilot group we put together a final version of the questionnaire which is presented in the appendix. The students submitted signed replies. After the administration of the questionnaire, item analysis was conducted. The length of time to complete the questionnaire did not exceed 15 minutes. Questionnaire return rate of both the students and the teachers was good-all sheets were returned.

7. The Interpretation of the Students' Questionnaire

According to Boshier and Smalkowski,(2002); Chaudron, Doughty, Long, Rivers and Urano (2005), needs analysis can best be implemented in curriculum development. Chaudron & all, (2005) conducted a task-based needs analysis for Korean students as a foreign language program at university of Hawai. They focused on target needs to develop authentic tasks. As we have seen in the previous chapters, needs analysis in language program and curriculum development is very important. One of the most important phenomena of language learning/teaching process is to make students reach the intended level in a shorter time. In order to be able to achieve this goal, programmes should be designed with great care. Considering the importance of programme design and development, evaluation has received much attention in research. In addition, needs analysis is a means that may help the evaluator.

Basturkmen (1996) carried out a study to evaluate the communicative language needs of the students. Basically, questionnaires that were incorporated to collect data revealed that there was a difference between students' and teachers' perceptions concerning the importance and difficulty level of the basic language skills. Hutchinson and Waters' approach to NA offers a useful classification of needs. They provide a suitable framework for analyzing the target situation and also a framework for analyzing learning needs.

8. Findings and Discussions

The results of the present study serve as a main guide for evaluating and redesigning the current courses presented to Computer Science students during the previous years, and to suggest our own syllabus based on the needs of the learners, and our experience in teaching English for Computer Science. The concept of a language syllabus has been fundamental in the development of language teaching practices according to Richards (2001). Hutchinson and Waters (1987:80) claim that a syllabus is '*a document which says what will be learnt.*' Moreover, considering the students' learning needs identified by teachers and students on the perceptions in terms of the importance of the four skills, the important language teaching methodologies based on the concept of authenticity defined elsewhere in this research work, the following suggestions should be taken into consideration:

- *The reading and writing activities should be based on tasks that can be performed by the students
- *Authentic tasks should emphasize on developing students' accuracy and fluency in English
- *The students should be involved in research (projects) and interactive tasks

Moreover, the findings have important implications for English teaching at the department of Computer Science. First, it is important to take into account the target learners' level of proficiency in English before starting to design the ESP program. This significantly helps in determining the study needs of the students; second the selection of the language materials should be relevant to their future work and to further research. The inclusion of materials from the subject matter of the students will motivate them to learn English effectively. The results showed that language materials should be in line with the discourse of Computer Science, and should have content suitable to their level and their target situations of English use. As a rule, this section attempts to discuss the findings of the present study. The results of the students' English language needs and the perceptions of the English language course, the results in terms of necessities, lacks and wants of Hutchinson and Waters' (1987) target needs framework, are discussed briefly. Firstly, regarding the Computer Science students' English language necessities in general; students have to know that there are many skills in order to function effectively in the target situation. This was evident from the results discussed earlier which present the frequency of English language skill use and the importance of these skills. Interestingly, all the skills have been perceived by the subjects to be important to acquire. Moreover, we have deduced that English plays a significant role in the Computer Science context. In addition, in terms of lacks in the English language, the study showed that the students do not have an adequate level of English ability. We rated their level to be weak in the most important skills. In general, their perceived level of performance was not satisfactory. In terms of wants, the subjects demonstrated interest in receiving training in speaking, listening and writing. This study revealed that the English language courses are highly dissatisfying. Basically, the learners know exactly what they need English for and they know what the ESP course should offer them; for example, the majority of the respondents in the present study had the perception that all the four skills should be given priority when designing an ECS course. Moreover, the students showed that courses should be based on authentic materials and up to dates texts and tasks related to their subject-matter. We have noticed that the students' responses show that the English language course does not meet their language needs, and the time allocated to the course is not enough to enable them to use English efficiently even if the respondents wanted to learn in a very short period of time. Thus, it is necessary to design a new syllabus to meet the students' expectations. It is very important to take the perceived needs into consideration and should base the design of a syllabus on the four skills with emphasis on speaking and writing.

9. The Course Content

In the following, we will propose the organization of the course content:

1-The structures: Computer Science students should be able to use the following structures with accuracy (the tenses, the connectors, the modals, the passive, the conditional, and the relatives); moreover, they should use punctuation adequately in sentences and paragraphs.

2- Vocabulary: 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 time, we translate them to the students into French.

3-Reading Comprehension: 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.

4-Writing: students are asked to interpret a chart in the written form, or to write a summary of a chosen topic.

5-Speaking: We usually ask the students to interpret a chart orally, or to discuss a topic.

6-Listening: Students can listen to tapes, podcasts or simply to the teacher, and then summarize what they have detected through their listening. It is crucial to set up a suitable syllabus for Computer Science students in order to promote learning, encourage and motivate the students to learn English.

Conclusion

It is crucial to set up a suitable syllabus for Computer Science students in order to promote learning, encourage and motivate the students to learn English. Our main focus within this syllabus is to facilitate the task of learning, and enable them to gain access to the work at all levels. As a rule, in this context, authentic materials are a suitable means of exposing students to the use of English for communication. One of the crucial priorities in designing a syllabus is that the material is drawn from the real world, and the students are an integral part of the syllabus. We use authentic materials in different ways, and we integrate other resources such as authentic texts and tasks and more often created activities. Each year brings new topics, ideas and interests, and also brings a new approach to teaching. Therefore, we hope that this investigation will encourage teachers of ESP to explore new trends of teaching.

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