Journal of Translation and Languages مجلة الترجمة واللغات
ISSN : 1112-3974

Teaching Speaking to Computer Science Students in the Algerian Context

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Abstract: *This paper is an attempt to shed the light on the teaching of the oral skill to ESP students in general, and more particularly to Computer Science students at a university level. In fact, what is mostly important is to understand to what extent oral proficiency is relevant for ESP students who are supposed to interact orally in seminars and conferences and be able to suggest some oral activities which could be of interest for an ESP teacher at the department of Computer Sciences.*
In this humble work, we have tried to demonstrate briefly the importance of teaching the oral skill through various activities and tasks in an ESP context and more particularly in English for Computer Sciences. Students are more motivated when they are asked to communicate orally in the classroom. In an ESP context, teachers are supposed to set the terrain for discussing different topics and subject matters using technical words. What is crucial in fact is to enhance learning and ESP oral proficiency through tasks and authentic topics.
Keywords : *ESP, Oral Interaction, Computer Science Students.*
Résumé *: Cet article est une tentative de mettre la lumière sur l'enseignement de la compétence orale aux étudiants de l'ASP en général, et plus particulièrement aux étudiants en informatique au niveau universitaire. En fait, ce qui est important, c'est de comprendre dans quelle mesure la maîtrise de l'oral est pertinente pour les étudiants ASP qui sont censés interagir oralement lors de séminaires et de conférences et être en mesure de proposer des activités orales qui pourraient intéresser un enseignant ASP du département. d'informatique.*
Dans cet humble travail, nous avons essayé de démontrer brièvement l'importance d'enseigner la compétence orale à travers diverses activités et tâches dans un contexte ASP et plus particulièrement en anglais pour les sciences informatiques. Les élèves sont plus motivés lorsqu'on leur demande de communiquer oralement en classe. Dans un contexte ASP, les enseignants sont censés préparer le terrain pour discuter de différents sujets et matières en utilisant des mots techniques. Ce qui est crucial en fait, c'est d'améliorer l'apprentissage et la compétence orale ASP à travers des tâches et des sujets authentiques.
Mots-clés *: ASP, Interaction orale, Étudiants en informatique.*

1. Introduction

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, on the other hand, can modify, delete or add lessons according to the student's expectations. In other words, they can teach without a specific textbook

and move from the teaching of one skill to another using material which has to approximate students' needs. However, ESP teachers are strongly aware of the importance of evaluating the suggested material for the sake of setting future objectives. In fact, testing the student's abilities in the four skills is a must and a need in an ESP teaching/learning environment. In the following discussion; we will shed the light on the importance of the oral skill in an ESP context and suggest some activities for learning reinforcement.

2. The Oral Skill

We shall take this skill to mean the ability of the students to express themselves orally without hesitation and fear. They have to be able to organize information into coherent structures, operating with greater fluency and achieving greater phonological, grammatical and lexical accuracy. However, it is essential to pinpoint that this study is more concerned with speaking for academic purposes referring to a situation where the ESP student is able to ask questions and participate in seminars by making oral presentations and answering questions.

Lynch & Anderson (1991) note some of the difficulties students meet in seminars such as the need to present logically ordered arguments. In the analysis of turn-taking and how a move in discourse is realized, Johns &Johns (1977) argue that the permission to speak may take a special form such as a worried facial expression.

In seminars, students will be asked to give a short talk, so they may start by a general introduction, information in detail and a conclusion. For Hewings (1988), some scheme for speech improvement is needed in ESP courses. He states that there are two main areas of difficulty: Word pronunciation and stress. In our case, we share this view since the main difficulties of the students are pronunciation, stress, intonation and rhythm apart of their difficulties in constructing correct grammatical sentences.

In general, students should be encouraged to communicate orally. Fluency and confidence are important goals and are seen as one of the main objectives for the conversation class. Usually, students know rules of vocabulary items, but they unable to use language to communicate. One of the strategies that help learners activate knowledge is to put them in 'a safe situation' (Scrivener, 2005). The followings are some of the activities that may lead to fluency and confidence:

-Ask the students to speak about their experience in Computer Science
-Engage the students in dialogues and role-plays
-Use different and up-to date materials
-Read aloud texts so that they can see how the words are pronounced
-Give instructions so that someone can use a machine (computer)
-Prepare a list of items, and ask the students to discuss about a specific topic
-Prepare special cards that contain much information about a specific topic
-Involve students with projects in their field of study

As stated lately, the main objective of speaking is to enable ESP learners to ask questions, participate in seminars, make oral presentations and give oral instructions. It is crucial then to take into account how a move in discourse is realized (turn-taking), in the sense that speaking may take a specific form such as facial expressions and a break intake (Johns and Johns, 1977). Moreover, there are different conventions such as interrupting and the use of appropriate utterances. Students should learn how to use language functions: disagreeing, agreeing, expressing opinions, introducing and giving examples.

In this concern, it is interesting to evoke the work of Wilkins (1976). He suggests categories of argument like exposition and suasion. As far as this research is concerned, we suggest that the task of the teacher is to provide ESP learners with authentic data (to describe the computer or to discuss a topic related to Computer Science). In this situation, they will concentrate on the meaning and not on the form. The teacher then is supposed to correct some of the mistakes at the end of the discussion. The main objective of the teacher then is to create real debates and motivate the students to learn how to communicate in their subject matter. Dialogues, role-plays, oral discussions are all ways of teaching conversation. The main role of the teacher is to intervene in case of grammatical mistakes at the end. The focus will be on the message rather than form since we will construct our syllabus on the task –based approach that we will discuss in a late discussion. Generally, the dialogues may take the following form:

- **Interviewer**: can you tell me what kind of project you're working on at the moment?
- **Programmer**: we're working with a group of blind workers, and we are studying each person needs and abilities, and we 're going to design and produce equipment for them.
- **Interviewer**: what is the configuration that you will need to adapt a desk top computer for a blind person?
- **Programmer**: both PCs and Macs need processors with a power of 25 MH2 to run applications. The amount of RAM is also important.
- **Interviewer**: what can you install?
- **Programmer**: you can install an optical scanner, video and speech synthesizer.
- **Interviewer**: what kind of equipment do blind users need?
- **Programmer**: a blind person needs to interact with the computer and Braille devices.

The above dialogue is based on a project for the blind computer users. We will see further examples in practice. Moreover, we can ask the students to discuss topics such as mainframes. They may start as follow: 'mainframes are large computers. They are computer systems found in computer installations processing immense amount of data.' Asking questions seems very motivating. We can simply ask the students the followings: 'what is the nerve centre of a microcomputer? The answer

may be as follow: 'The nerve centre of a microcomputer is the central processing unit.' Or, 'what are the main parts of the CPU? The student may say 'The control unit, the arithmetic logical unit and the registers.' It is up to the teachers to suggest tasks. What is important is to allow them to interact in a natural way; in addition, we can rely on the multimedia laboratory. Teachers may use the computer to assist the students and control their activities. This technique is applied today in some of the universities in Algeria. Moreover, teachers can ask the students to exchange their experiences and ideas through online exchanges with other Computer Science students.

Furthermore, speakers need to self-monitor so that they can identify the main problems of a real conversational exchange; therefore, the success of an interaction depends on the quality of production, thus speaking requires fluency and accuracy. Within the Communicative and Task-based Approaches to teaching, various methods have been suggested; for example, designed tasks can enhance the development of several aspects of oral production such as debates and problem-solving tasks. We should note that speaking is a productive skill which involves both accuracy and fluency. We shall take the term accuracy to mean the use of correct vocabulary, grammar and pronunciation. Correction is appropriate during accuracy activities. The teacher may help the students to produce appropriate sentences and encourage them to use the language to communicate; on the other hand, fluency is '*the ability to keep going when speaking spontaneously.*' (Rogers Gower, Diane Phillip and Steve Walters, 2005:100). During fluency activities, students are not corrected.

3. Pedagogical Implications

It is interesting to ask the students to use incomplete sentences such as 'when did you go?' and the student may answer 'on Monday' and not I went on Monday. It is also important to teach them how to use hesitation devices such as 'well, let's see; anyway, really'. Students at lower level can have a difficulty to cope with language, so we can present pictures or ask them to perform dialogues and role-plays from the context of a chosen reading text. It is very motivating to prepare cards. The students may rely on the information found in the cards, and try to form sentences in order to perform the role-play. This task is useful, in the sense that the students may have a clear idea since there is much knowledge as well as vocabulary. In practice we will show some of the examples based on cards. Furthermore, professional oral communication tasks seem to be very interesting. Consider the followings:

Example1: Every pair of students is asked to make their presentation on personal experience. Presenters will be asked further questions by the students and the teacher. The time allowed for the presentation is 10 minutes.

Example 2: Case study: divide the class into groups of four students and discuss what you would say to the system analyst (Computer Science). After the discussion, every group should present their ideas to the class. Discuss the suggestions given by every group and decide what suggestions were the best.

In this case, students do their activities in cooperation in pairs and small groups, thus they may learn from each other. Further activities and tasks will be presented in a late discussion.

4. The Most Exciting Pedagogical Activities in an ESP Classroom

As shown in the table and the graph below, the majority of the subjects stated that the oral skill was the most exciting (100%), followed by reading comprehension. (98%) among them said that reading was the most exciting skill too. Not surprisingly, their previous English studies made them better at this skill and more familiar with it than writing.88% of the study sample enjoyed the writing activities since writing is a productive skill, and the students want to develop it for their future research. However, vocabulary was less motivating. These results are to a great extent consistent with those of Basturkman (1998). He found that ten skills and tasks were perceived by the students and their teachers as the most important skill for engineering students such as reading, writing and note-taking. In the table below, we have tried to show that the speaking skill is the most exciting skill in an ESP classroom.

Answer	**Number**	**%**
Oral Expression Activities	60	100%
Reading Comprehension Activities	59	98%
Writing Activities	53	88%
Vocabulary	17	28%

5. Communicative Tasks for Speaking (A Model in Context)

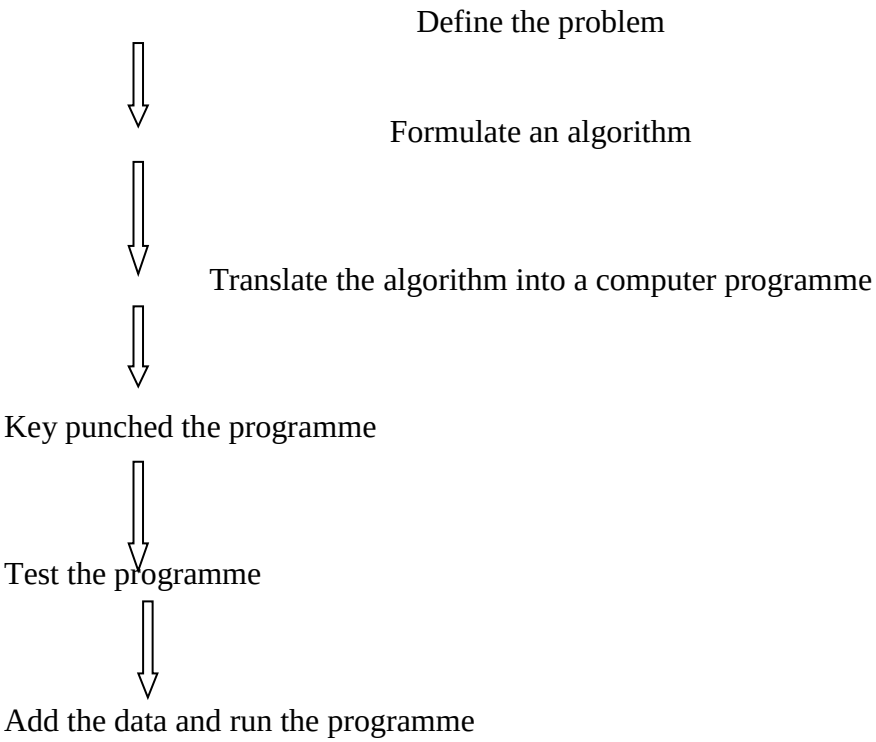
Task 1: Rely on the information below, and try to discuss the topic orally

How an ideal computer works?

Algorithm information theory (how easily a computer can answer a question)
Complexity theory (how much time and memory does a computer need to answer a question)
Computability theory (can a computer do something)
Information theory (math that looks at data and how to process data)
Graph theory (math that looks for directions from one point to another)

Task 2: Interpret the chart below orally, using correct sentences

'Steps in Problem solving'



Task 3: Answer to the Quiz below orally

1-What are the main parts of the CPU?
2- What is the typical unit used to measure RAM memory and storage memory?
3-What is megahertz?
4-What is ALU?
5-How can we store data and programmes?
6-What are the parts of the operating system?
7-What is the function of the operating system?

Task 4: Complete the following dialogue: This dialogue is between a journalist and a computer programmer. The topic is about a project for the blind. You can play the role with your classmate

The Journalist: Can you tell me what kind of project are you working on it?
Computer programmer:
The Journalist: What is the minimum configuration that you need to adapt a desk top computer for a blind person?

Computer programmer:
The Journalist: How many expansions slots would be needed?
Computer programmer:
The Journalist: What sort of equipment do blind users find useful?
Computer programmer:

6. Conclusion

In this humble work, we have tried to demonstrate briefly the importance of teaching the oral skill through various activities and tasks in an ESP context and more particularly in English for Computer Sciences. Students are more motivated when they are asked to communicate orally in the classroom. In an ESP context, teachers are supposed to set the terrain for discussing different topics and subject matters using technical words. What is crucial in fact is to enhance learning and ESP oral proficiency through tasks and authentic topics.

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