ICT and English for Informatics Students[*]

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Abstract:
The question whether to teach General English or English for Specific Purposes (ESP) in universities remains unanswered. Most teachers would rather teach General English because they have been trained for it. Some, though, would choose ESP. In our university, English is compulsory for at least four semesters. Students of Informatics study English for two years. Since most of them possess sufficient English knowledge when they enrol in the university, we have chosen to teach them ESP. The difficulty lies in the fact that there are no or few materials for teaching English to Informatics students. Therefore, teachers have to design their own curriculum, prepare their own teaching and assessment materials. We have performed an experiment on these students and the results have revealed that they enjoy English lectures if taught with ICT, if they are allowed to use computers and their Informatics knowledge. Moreover, their lecture attendance has significantly improved.
Keywords: communication technology, English Teaching, interactive methods, skills, ESP

Introduction

The paper is based on a research and experiment performed on the Informatics students from "Aurel Vlaicu" University of Arad. We have decided that students have enough General English knowledge to be able to face daily communication and that ESP would help them more in their future career. Since English is the language used in Informatics, we have designed our own material to teach students vocabulary and develop skills connected to their field of study. They were asked to use their knowledge of English and Informatics during English lectures and develop blogs in English, chat in English, design leaflets and even a draft of the website of their faculty. Results proved that students prefer ICT to traditional teaching, especially those who work with computers. Their attendance has improved and so have their English skills: communication, reading, speaking and specific vocabulary.

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Why teach ESP

English for Specific Purposes (ISP) refers to teaching and studying English for a particular career, i.e. a specific purpose for studying English. Informatics students should learn English for their own career development, especially because English is the language used in technology and informatics. Teachers prefer teaching General English to ESP because there are many materials available for General English teaching, while ESP is still short on teaching materials. They either don't exist or they are very expensive for the students' budget. There are books for teaching English for Informatics, but they become fast outdated, so that teachers prefer to blend different materials. One shortage of ESP is that teachers should be trained to teach that particular field. In pre-service training, students of English, future teachers, are taught how to teach General English. Therefore, to be able to teach ESP they either need to attend a course for teaching English for Special Purposes, or they can prepare themselves for it. At university level, teachers mostly deal with ESP. We have faculties of Economics, Informatics, Engineering, Public Administration, Education Sciences, etc. A good idea would be to appoint an English teacher for each faculty who should learn the vocabulary and skills connected to the faculty s/he teaches at. Still, it is very likely that students will know more about the subject than the teacher. Sometimes, even if the teacher knows the translation of a word into the students' mother tongue, s/he may not fully understand its meaning. Students might find the translation useful as they already have knowledge in their field of study. The teacher's task is to teach them how to blend General English knowledge with ESP and teach them the skills required for a successful use of English in their career. Teachers of ESP should make use of three key strategies if they want to have a successful lecture: honesty, preparation and confidence (Day and Krzanowski, 2011: 7). In terms of *honesty*, teachers shouldn't pretend that they know everything. They should tell their students that there are concepts which they are unfamiliar with. This way, students would get more confidence, considering the lecture as a teacher-student partnership: teachers know English, students know concepts. *Preparation* is also mandatory for teachers. They should do some research before the lecture, plan their teaching strategies, anticipate problems and, of course, prepare the materials.

Confidence is the third key concept. Teachers should be confident that they have the necessary skills to teach their students how to use the vocabulary in their future careers and how to motivate their learners. Sometimes, methodology is more important than knowledge and that is

what teachers should take into consideration. Tony Dudley-Evans and Maggie Jo St John (1998: 140–144) propose two types of features for ESP: *absolute* and *variable* attributes.

Absolute features tell us that:
✓ ESP should meet the learners' needs;
✓ ESP should use underlying methodology and activities;
✓ ESP is centred on language, skills and discourse.

Variable features suggest that:
✓ ESP may use the methodology developed for General English;
✓ ESP learners are mostly adults who need English for their professional development;
✓ ESP learners are mostly upper-intermediate or advanced students;
✓ sometimes even beginners can learn ESP.

In terms of learning style, specialists do not identify any significant differences between learning General English and ESP (Hutchinson and Waters, 1992: 18). When planning an ESP course, teachers should remember that the word "specific" in ESP refers to the specific purpose for which English is studied. Therefore, they have to take into account the students' age, level of English and field of study. Teachers should select authentic and interesting texts with activities that activate various skills: reading, listening, speaking, vocabulary, etc. Texts can also be modified according to the learners' needs. In terms of materials, Wallace (Wallace, 1992: 9.1) suggests that they should meet certain criteria:
✓ adequacy: they should take into account the students' age and level of English;
✓ motivation: they should be interesting;
✓ sequence: the selected material should have a logical sequence;
✓ diversity: it should involve various types of activities;

After selecting the material, teachers should carefully plan their lecture deciding on:
✓ class profile: the number of students, their age and preferred learning style. For Informatics students it is obvious that they would prefer learning English using ICT, rather than pen and paper;
✓ aims of the course: each lecture should have well set aims;
✓ learning outcomes: the teacher must decide the purpose of all activities and what students will accomplish by doing them;
✓ anticipated problems: teachers should focus also on problems that might occur during the lecture. For Informatics students, the Internet may not be accessible, or students might ask specialized questions that teachers cannot answer. Therefore, the language teacher can ask for the help of a specialist;

✓ materials: a careful selection of materials should be made before the lecture.

A logical course of ESP contains the following stages: warm-up activities, receptive activities, productive and interactive activities and follow-up activities. Warm-ups involve class discussions, puzzles, grids, questionnaires used to awake the students' interest and increase their motivation in the subject. For receptive activities, teachers may work with texts (hard copy or online) and use various reading strategies (reading aloud, skimming, scanning, etc). The activities may involve jigsaw gap-filling/A, etc.). For productive and interactive/communicative activities, students in groups/pairs or individually are asked to perform various tasks: express their opinions on various subjects, discuss solutions, create brochures, blogs, websites, etc. Follow-up activities involve practice or discussions. Teachers with students can discuss the outcome of productive activities. The role of the teacher in ESP classes should also be discussed. Hutchinson and Waters (1992: 157) state that ESP teachers have to deal with more things than General English teachers. They must perform needs analysis, syllabus design, write their own materials, adapt existing ones and prepare the evaluation. According to this approach, the ESP teacher is a student interested in the subject matter rather than a teacher of the subject matter (Hutchinson and Waters, 1992: 163). This is the consequence of the English teachers' low knowledge of the specific field they teach English for, i.e. medicine, law, engineering, informatics, etc. ESP evaluation should be a little different from General English evaluation. It can be either end-of course evaluation or continuous evaluation. Modern techniques involve projects, role-play, writing assignments, questionnaires, interviews, discussions, but also traditional evaluation like test-papers or written exams with objective testing items. For Informatics students we recommend some practical project, e.g. a website, a leaflet, or a blog.

ESP and ICT for Informatics Students

Teachers of English for Informatics face difficulties in preparing the material. There are certain textbooks which can be used but, from experience, students find them outdated, boring and dull. They don't like reading long texts about topics they are already familiar with, such as software, computing, creating website, Steve Jobs, etc. They know enough about these topics, therefore they find them boring. The vocabulary is familiar to them, so they lack motivation for attending English classes. We believe that English combined with ICT and research and project work motivates students, makes them interested in

attending English classes and working with their group. Teachers should revise vocabulary and explain certain unknown words, but otherwise let students work with computers on their own. As new items are introduced, teachers explain them. The advantage of these procedures is that students make actual use of their language and informatics knowledge, are forced to use them in order to solve their tasks, and also improve their skills. Some students understand a text if they read it but when it comes to using English in professional situations, they fail. The course in English with ICT helps them overcome their fears and anxieties because they work with what they already know. We suggest the following tools and activities for English with ICT: text editors, blogs, webpages, smart boards, projects, emails, chats, etc. Teacher often lay too little emphasis on long-term tasks that students should perform independently. Nevertheless, the importance and efficiency of such tasks should not be underestimated: they involve and activate the students physically, intellectually and emotionally, develop their independence and creativity, and ultimately lead to the development of an individual working style. The students enjoy the task, although they must often work really hard for it, because they feel they are doing something worthwhile (Vizental, 2014: 104). With text editors, students can easily develop their writing and reading skills. The most common text editor is Microsoft Office. *Track changes* is an activity which involves creating a text by using the tool "track document." It allows the initial writer to see changes made by other writers, with the possibility of accepting or declining them. Another useful program is the spelling checker. Students can correct their own mistakes, or teachers can ask the students to exchange their texts and correct the other's mistakes.

Publisher, provided by Microsoft Office, allows students to create various materials such as: invitations, brochures, leaflets, newspapers, etc. It is very much appreciated by Informatics students because it allows them to use their software knowledge and imagination. The level of English is not too high, therefore they don't experience any problems.

Chat. Students love chatting. They use Yahoo Messenger, Skype Google Talk and, recently, Facebook to communicate with friends. Many programmes offer the possibility of seeing and hearing one's interlocutor, not just writing to him. Teachers can ask students to chat on a given topic during the lecture or at home as homework. Then, the exchanges should be listed and given for correction. Informatics students can be asked to create *blogs*. They can work in groups and develop a blog for different topics. Teachers can ask them to post their opinion on a given subject, to design exercises and activities or to approach a subject of interest. The other groups should make comments

on the posts. Web pages are a bit more complicated, but by second year students should be able to handle such tasks. The class can be divided into four groups and each group is assigned a task: common for everyone or different tasks for each group. A common task could be the development of the faculty's web page. Differentiated tasks involve creating web pages for different purposes. I would assign all groups the same task and in this way the best ideas from each group can be used for the actual website of the faculty. Teachers can use various online tools in their ESP course:

Dictionaries. Online dictionaries are widely used today. Many contain audio registration for a proper pronunciation or pictures. Printed dictionaries contain a CD with the electronic dictionary and also certain activities.

Translators. Translators are still being developed as they are not very professional and not fully reliable. However, students can be taught to use them, adapting their own translations according to the context. In the assessment stage, the online end result will be checked by the teacher.

Encyclopaedias. Students can use electronic encyclopaedias instead of printed ones, which need more place for storage. The most common is Microsoft Encarta. Another advantage of online encyclopaedias is that they are constantly updated and improved (Wikipedia), but sometimes their reliability is questionable.

CDs and DVDs. CDs and DVDs should be used during teaching because they contain texts, pictures, audio or video materials. There are also exercises on CDs which can be solved. Teachers use them because students get the chance to listen to authentic texts and genuine language. Some are very good because they have the option of adding or deleting subtitles. Thus, teachers can check the students' understanding of English (listening or reading skills), or can even train their translation skills by posting subtitles without sound and asking students to try and translate into English what they read.

Electronic testing. Informatics students prefer electronic testing to traditional pen and paper testing. Their work consists of using computers and sometimes they type faster than they write. Some of them don't have very good writing skills, so that they prefer not to be judged by the way they write (spell or produce written texts). Teachers also find electronic writing more appropriate for this type of students. Evaluation can cover reading, listening, grammar, vocabulary and even pronunciation. If teachers want to test speaking or writing, they need oral examinations. Quick Placement Tests are available on CDs. Some electronic tests even adjust their level according to the students' answer to questions.

Electronic portfolios. Electronic or digital portfolios can contain a wide range of materials. Teachers can assess their students based on a portfolio. It can contain texts, videos, blogs, webpages, exercises and other information.

Students can use Google Docs to create and share their ideas and then include them in the portfolio. Ellg (http://ellg.org./) is a platform which allows students to upload documents and create their own digital portfolios.

Research

We wanted to see whether theory matches practice, namely if ICT motivates students and encourages them in attending lectures. We have applied our experiment on the first and second year Informatics students. The hypothesis of the experiment is the following: *interactive and motivating ICT learning stimulates students' attendance to English lectures.* The experiment was conducted on a sample of 90 students in the second semester of the academic year 2013/2014 at "Aurel Vlaicu" University of Arad, Romania. A number of 45 students are enrolled in each year of study. In the first semester they have studied General English with certain activities applied for their field of study. The second semester of the 1ˢᵗ year of study continued with General English but the in 2ⁿᵈ year the teacher has taught ESP using ICT. Our experimental group was the 2ⁿᵈ year of study. We have started our experiment with a questionnaire applied to all 90 students which revealed the following data:
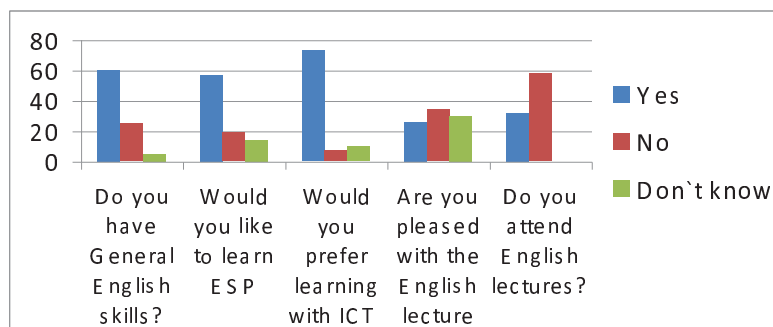

Figure 1.1 – The answers provided by the sample to the initial questionnaire

We can see from the answers provided by the sample that the attendance is low because they find English boring. Most of them consider that their General English skills are good enough; therefore they find no motivation in attending the lecture. They would probably attend it if they studied English for Informatics using ICT. Therefore, the experiment tried to see whether our assumptions are true or not. The first year continued with General English throughout the entire second semester while the second year started a new type of lecture: English for

Informatics using ICT. We are not going to make a syllabus description in our research paper but we will highlight the main activities and procedures used throughout the second semester.

In the first lectures students were asked to solve some vocabulary exercises. Thus, the teacher checked their level of Informatics vocabulary. Then, they worked with the computer for solving text-related tasks such as blank completion or Q/A. The written assignments were corrected with the spelling checker and edited using the text editor. The students' written production was exchanged via email with other classmates, who corrected what they considered wrong. In the end, all documents were proofread by the teacher who used the "track changes" programme to highlight their mistakes. Students were also asked to create invitations, leaflets and brochures of their study programme. They were all exhibited at the annual academic fair, which has the purpose of attracting high school students to enroll in this university. The students' mid-term assignments were also delivered using ICT. They had to elaborate a portfolio with different worksheets, a blog with various topics and the classmates' comments. They also had to present an active correspondence via messenger with Informatics students from other universities. They had to find out how those students learn English, what their student life looks like and whether they find employment after graduation. The language used for message exchanges was English. Another type of activity was the translation of the faculty's web page into English. In groups, students were asked to translate the web site using their own knowledge and online translators. Students showed great pleasure in working and were very pleased when they had the opportunity to be teachers themselves. They taught their English teacher how to create a blog, how webpages are designed, how to use Excel or other Microsoft Word programmes. They showed their teacher how to design her own business card, invitations for various events, and a cover for her book. All worked together and it was mutual teaching activity. The final assignment, at the end of second semester was the development of a new web page for the Faculty of Exact Sciences. Students were divided into seven groups. Each group got the same assignment. They worked together at the university or at home, met at weekends to put the information together, corresponded via email or messenger. The results were encouraging. Firstly, each group got a website for revision. They had to correct the mistakes in terms of English. After the students' correction, the teacher double-checked their work. When the websites were language proof, the English teacher and two other teachers selected the best and most useful information from all seven web pages. One representative from each group met with the other

representatives and together they developed the final version of the new web page. It was a successful activity both in terms of English and Informatics. In the end, students were asked to assess the English language lecture. All found it challenging and better than in the previous semester and stated that they improved their communication vocabulary but also their interaction skills. The experiment ended with a final test taken by all 90 students consisting of English for Informatics tasks. The test was electronic and the results were generated immediately after finishing the test.
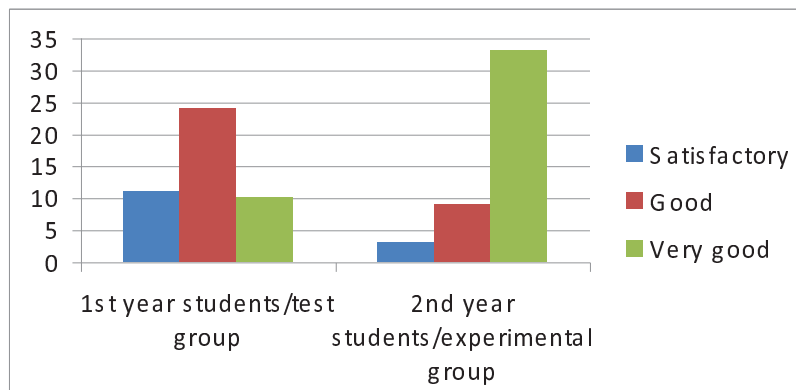

Figure 1.2. Comparative results in final testing

As revealed by the comparative results, students who worked using ICT and English for specific purposes have improved their results considerably. They have better communication skills, know a wide range of informatics vocabulary and can use it to perform tasks in their field of study.

Year of study	Attendance 1st semester	Attendance 2nd semester
1st	45	33
2nd	27	68

Table 1.1 – Students' attendance at English lectures on % – comparative results

Table 1.1. shows that attendance decreases from semester to semester. Students probably get bored with grammar exercises and traditional English teaching and they no longer consider their attendance at English lectures useful. But Table 1.1. also reveals the fact that the 2nd year of study improved its attendance rate due to the usage of ICT in teaching, thus validating our hypothesis. They must have heard from

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their classmates that the teaching style has changed and decided to attend the lecture.

Conclusions

The study reveals that students in various fields of study should be taught English for specific purposes. Teachers should not repeat what has already been taught in high school, but rather try to add new vocabulary, information and skills. ICT is a must nowadays, especially with Informatics students. They have chosen this field of study because they like computers and therefore they should learn English using one. Their attendance and results improve because they feel motivated and engaged in interesting activities.

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