An ESP Curriculum for Greek EFL Students of Computing:
A New Approach

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ABSTRACT

This study develops a curriculum and course design targeted to students of Computing in Institutes of Vocational Training in Greece.

The study is based on a needs analysis of the target group, development of a course on Computing and a course evaluation.

The needs analysis revealed that almost all students felt comfortable both with General English and ESP, while their predominant needs were grammar, syntax, speaking, as well as vocabulary related to computing, so that they would be able to comprehend specific computing texts and be better qualified for their careers.

The course evaluation validated the successful choice of topics, relevant to the target group's interests, the good course organisation and quality, stressed discussions and team work as the most preferred teaching methods and gave some suggestions for future topics to be incorporated into the syllabus design.

ESP in the Institutes of Vocational Training in Greece

ESP in Institutes of Vocational Training in Greece is considered a secondary course. This is proven by the fact that curriculum developers gave no particular attention to English for Specific Purposes and did not provide specifications for the course content, methodology, etc.

All taught subjects but English have a curriculum and the only suggestions given to the EFL teachers are certain commercial books to consult or use. These books do not cover all specialities but rather the most common ones, such as English for Finance, English for Electronics, etc.

Thus, the teacher who is expected to teach a not common speciality such as "Construction and development of CNN machines" has difficulty even to understand what this speciality is about.

The simplest option for the EFL teacher is to consult and use similar books, on general engineering or mechanics for the speciality mentioned above, under the thought that they might include some useful things for the students, but never for sure. Another option is to teach grammar and syntax and possibly conduct certain discussions of general interest under the thought of improving students' structural and communicative needs.

The end product of these procedures is boring lessons, frustrated and sometimes provocative students, showing disruptive or challenging behaviour by talking to each other during the course or not paying attention to the teacher.

The teacher, on the other hand feels stressed and helpless whenever he/she has a lesson, his/her self esteem as a professional and as a human being is diminished and most of the times he/she quits the job, since it is a part time one and not on a permanent basis.

The teacher must also fight the following attitudes and beliefs towards EFL learning:

- English cannot be learned in state schools and only private institutions can provide qualitative education. Since students grew up with such a belief, cultivated by families for years, how can they change now?
- English is a secondary course, not examined in the Accreditation process after the end of the four semesters' courses in the Institutes of Vocational Training. Why should I spend time on such a course?
- The teachers are not properly qualified to teach ESP and are not interested in my needs. Why should I pay attention to them?
- ·The ESP course is fun time. I have a good command in English. I can get the passing mark in the final exam. Why bother attending the course?
- Administration also considers ESP as a secondary course. Thus, there is a tendency to spend the budget on books and facilities necessary for other subjects but not for English. The projector for example, which is supposed to be shared, is used primarily by other subject teachers and never by the English ones, under the mutual agreement that the other subjects are the primary ones.
- How can the ESP teacher solve these problems?
- The researcher's experience, being an EFL teacher in the Institutes of Vocational Training, from the first time they were created proved the following:
- Careful design and course preparation
- Extensive informal discussions with the students regarding needs and interests
- Study of the whole curriculum of a specific speciality
- Cooperation with other subject teachers and administration

CURRICULUM AND COURSE DESIGN OF ENGLISH FOR COMPUTING

Synoptically, the course development process, which will be analyzed, consists of the following stages, based on Graves' (1996) suggestions:

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

First step

Needs assessment

Curriculum design specialists believe that the breaking down of curriculum into components and subprocesses is of vital importance since it simplifies and organizes such a complex process as the curriculum design is (Hutchinson & Waters, 1987, Nunan, 1985). The first component in such a procedure is the needs assessment-that is obtaining of data- followed by a needs analysis- that is assigning value to those data (Graves, 1996). Therefore, the first issue to elaborate on is the students' needs and ways of assessing and addressing them effectively.

If needs are clear, the learning aims can be expressed more easily and the language course can become motivating. If the learners' needs are not taken into account, the course will be based on unsuitable or irrelevant material, will disillusion the students with the value of instruction or their capacity to learn the language and lead to a low motivation (Mackay & Mountford, 1978). To put it simply, the needs assessment provides the teacher with the basis on which to construct the new knowledge. By using what the students know, he/she will explain, exemplify, and conceptualize the knowledge to be conveyed (Swales, 1985).

For the needs assessment in this study the semi-structured interview technique was selected, as it would present clear, unbiased and true information. Another reason for selecting the interview technique was the advantage of having no unanswered questions, as this frequently happens in questionnaires and the opportunity for clarification of misunderstandings (Mackay, 1978).

Before designing the interview questions, the researcher reviewed the literature on how to construct and design questions in needs assessment studies (Jordan, 1997, Mackay & Bosquet, 1981). The interview questions of this particular study were designed by the researcher according to the needs literature mentioned above and divided into the following categories:

1. General information: Students' age, sex, type of graduation school, E.F.L. certificates obtained.

2. Difficulties in E.F.L. and strategies used to overcome them

3. Definition of terminology, course needs and expectations, feelings towards E.F.L. and terminology.

Class Profile

In the needs assessment interview, twelve students participated. They were all adults, with ages ranging from 18 to 30 and Senior High School graduates. They were in their first semester of computing studies in an Institute of Vocational Training in Greece. Before attending the researcher's class they took a compulsory placement test, the score of which rated them in the intermediate level that is good speakers of English.

Setting

The English for Computing course took place once a week and it lasted three hours, of 45 minutes each. The specific course took place every Tuesday afternoon, from 16.15 till 19.40 (All the courses in the Institutes of Vocational Training in Greece take place in afternoon and evening hours, since the majority of students work in the morning). There was a 10-minute break between the second and the third hour. The course started at the beginning of October and finished at the end of January, covering 14 weeks of teaching. The attendance was compulsory and missing of more than 8 hours meant a drop out at the specific course.

Procedures

To collect the data for this study, the researcher interviewed the students on the first meeting they had, in order to design the course, since the ESP curriculum in the Institutes of Vocational Training in Greece is vague and gives full freedom to the teacher to do whatever he/she wants. In the effort to see the curriculum for the English for Computing course, as dictated by the administration, the researcher found few recommended books to consult in order to design the course. So, a needs analysis, for the reasons mentioned above, seemed a proper way to provide the researcher with the relevant information to design an English for computing course.

Analysis of the interview data

Twelve students participated in the interview, three women and nine men. It was expected to have a minority of women represented in the sample, since research shows that women are usually under-represented in technological fields (Sidiropoulou, 1991). It also shows a tendency of women to earn degrees in technological fields (Costello & Krimgold, 1996), making a notable gain in reversing the gender gap in higher education.

Their ages ranged between 18 and 30, with the majority being 25 and above. This shows a tendency towards long life education as a characteristic of our era, as well as the need for specialization in technology, as a prerequisite for getting or keeping a good job. Taking into account that all three women in the sample were in their late twenties, we can probably infer the following:

Women started to return to school, rejecting the stereotypical burden of maintaining in the family environment and bearing family needs and child rearing as their primary responsibilities. Although they face barriers (e.g. family commitments) to re-entry, they continue to pursue college studies, becoming the norm than the exception.

The majority of students were General High School graduates (nine students) while there were two Technical School graduates and one Comprehensive School graduate. We can deduce here that General Education does not provide the specialization, necessary to get a specialized job, that is why, more general school graduates pursue specialization in technological fields. Taking into account that the majority of the general school graduates were over 25, we can infer that general education did not provide them with the skills, necessary to get a good job or the employees consider computing skills a prerequisite to hire personnel.

Another thing, which should be taken into account, is that all students were adults. Adult literature describes them as being in a state of transition, seeking change to alter their established identities (Conrad, 1993). Furthermore, adults are conscious of the use of language they are going to study. This use is usually associated with occupational or academic purposes and they know beforehand that, without the knowledge of the particular language their work can be restricted or adversely affected. Therefore, the choice of materials, methodology etc. should accommodate their particular cognitive skills and learning ability and should be cognisant to their maturity and social role (Mackay & Mountford, 1978).

Literature also argues that adult learners demand a consistent level of quality, an extensive and diverse curriculum, flexibility, accessibility, and prompt efficient delivery of knowledge (Boyett & Snyder, 1998).

All these things become crucial when the teacher tries to design a course for adult students, as the case was in the Institute of Vocational Training in Greece.

All of the students had a good command of general English since they were Cambridge First Certificate holders and one was also a Cambridge Proficiency holder. Half students had been studying EFL for six years, while three of them for seven years, two for more than eight and one for four years. Moreover, the placement test, required placing them in a beginner, intermediate or

advanced level showed that they were all intermediate level students, being in accordance with the language certificate they had obtained.

Although new approaches (e.g. communicative, competency based etc.) have changed the focus on language teaching, many private language schools, which almost all Greek students attend, parallel to the English course taught compulsorily in state schools from the third grade of the primary school, up to the third grade of the Senior High School, still overemphasize the structural method which is based on learning grammatical structures and memorising vocabulary. Taking into account that the students in this study were approximately over 25 years old, we can understand that they were taught with the old structural method, an incident that was clear in their answers.

Regarding difficulties in EFL, half students rated grammar as a problem, while one of them spoke specifically about phrasal verbs. Syntax, writing and speaking were mentioned by four students, while two others mentioned limited vocabulary as a significant difficulty.

Rare use of language in everyday life and at work and lack of exposure to EFL for many years, especially for the older students, were mentioned as causes of difficulties in the above-mentioned areas. One student also mentioned the habit of thinking in Greek and his attempt to make a word-by-word translation into English, which sometimes produced funny results. Another one spoke about the limited time for EFL study, since as adults, they had work and family commitments. It seemed that the students, as adults had a clear idea about the reasons for EFL difficulties and they asked for specific input to overcome them. It is also worth noticing that pronunciation and listening were not mentioned at all. Regarding pronunciation, we can infer that the students either paid little attention to pronunciation and considered it of minor importance in the understanding and use of English, or thought it was an easy part of EFL learning. Regarding listening which is considered an important receptive skill, students are rarely taught listening comprehension in private or state schools, as the general notion is that listening is "a waste of time" and more important things are to be taught. Since the students' experience in listening is very limited and their attitude negative it was expected that listening would not be mentioned. Another possibility is that listening was thought to be relevant to speaking (in order to speak, I need to listen to something first), that is why it was not mentioned.

Reading of texts and magazines was mentioned by four students as a way to overcome difficulties. Other ways to surmount difficulties involved course exercises, revisions in free time, study of grammar rules, looking up the words in a dictionary.

A traditional attitude towards EFL learning seemed to prevail here. Grammar rules, vocabulary memorisation and revision were mentioned by the students. Watching films, or TV, listening to radio, using the Internet to interact with people of the target language were not mentioned at all.

All students gave similar definitions regarding the concept of computer terminology. They all agreed that it involved acquisition of specific computer vocabulary

In reference to their expectations from the course, all of them agreed that the main objective would be acquisition of computer terminology. Opportunity to remember things in EFL and improvement of language skills were also mentioned, while one student regarded the course as a way to be more qualified in this field. Thus, computer terminology was the major need for almost all of them, while grammar and syntax were also mentioned by some students.

In asking how the course could possibly meet their needs, the answers varied: Course attendance, speaking, reading, assignments, revision of grammar and syntax, plethora of exercises, learning of specific vocabulary were mentioned among the answers. Again, a traditional view of language learning, probably because of the way English is taught in schools.

In reference to reasons for studying the course, almost all students agreed that it would help them in their job later on and it would assist them in the comprehension of computer books. Refreshment of English and better understanding of relevant courses were also mentioned.

Roe (1977) as cited by Kennedy & Bolitho (1984) proposes three levels of motivation, two of which, were mentioned by the students in the needs assessment interview:

Level one, the highest level, where English is required for getting a desirable job or a promotion, level two to influence positive career prospects and level three to increase student's status or widen his/her knowledge or interests. The students mentioned the last two options when asked, "how do you think the specific course will help you?"

Finally, the students' feelings towards general English and terminology varied: The majority felt comfortable with both general English and terminology while a small minority felt uncomfortable with either terminology or general English. We must take into account here that students were never exposed to terminology before, so their answers were based on their perceptions about terminology.

The needs assessment described here, did not finish with the information gathering and analysis. During the course, the students mentioned new needs, which were taken into account. For example, a student said that he would like help in writing a CV for a job on computing and this was found interesting and important by other students, too.

Second step

Determination of goals and objectives

After the needs assessment, the second step in the course development process is the determination of goals and objectives. The first step to follow was the definition of goals and objectives, since most of the times they are used as synonyms. The second was to choose the appropriate goals and objectives for the English for Computing course.

A goal is something we want to achieve and in the case of language learning, goals are "*general statements of the overall, long term purposes of the course*" (Graves, 1996:17). Thus, they are related to the acquisition of a job in the future or the communication with the members of the target language community (Harmer, 1991). They should aim not only at the acquisition of certain knowledge and skills but also at the development of a positive attitude towards language and culture.

On the other hand, objectives are defined as "*the specific ways in which the goals will be achieved*" (Graves, 1996:17). They may refer "*to activities, skills, language type or a combination of them all*"(Harmer, 1991:269).

Another issue to take into account was that the goals should be realistic, otherwise the students would be de-motivated.

Objectives should be congruent to the goals and relevant to how the teacher conceptualizes the content of the course (Nunan, 1988). For example, the teacher should state that "the students will know, the students will, learn, the students will develop an attitude towards, etc."

Based on the literature, the needs analysis and the overall curriculum for the computing courses, taught in the Institute of Vocational Training, the researcher identified the goals and objectives of the English for Computing course:

GOALS: The goal of the course will be to familiarize the students with the terminology used in the operation of a computer. After the end of the course the learner must be able to comprehend basic computer terminology and produce relevant material in English, from simple letter writing to more complicated texts. He/she must also be able to understand, analyse and present quantitative data. He/she must be able to communicate effectively in job related situations, establish, and maintain relationships with members of the target community.

OBJECTIVES:

The researcher decided to divide the objectives in conjunction with the five skills (translation being the fifth one), for better comprehension.

Listening:

- To understand native speakers and professionals, speaking about their job.
- To understand experts talking about aspects of computing science

Speaking:

- To communicate about computing topics

Reading:

- To understand a wide variety of texts, using computer terminology, job advertisements, and quantitative data.

Writing:

- To write descriptions and explanations of components and processes
- To write study and work related letters.

Translation:

- The students will be able to translate from English to Greek and vice versa texts on computing, from simple to more complicated ones.

Third step

Content conceptualization

The next issue to be addressed is the content of the course. In other words, what the syllabus should include.

Reilly (1988) also gives some practical guidelines to syllabus choice and design:

Define what students should be able to do as exactly and realistically as possible, as the result of the instruction
Rank the syllabi in order of importance according to the desired outcomes
Evaluate available resources match them with the syllabi
Designate one or two syllabi as dominant
Review how combination and integration of syllabus types can be achieved and in what proportion
Translate decisions into actual teaching units

In practice, the development of a course follows the same procedure as the development of a curriculum. The only difference is that the curriculum is designed by specialists in the field, while the course, by the teachers. Decision-making plays an important role for both curriculum and course development, the process of which is illustrated in the following figure:

Stage 1

- Planning the course

Stage 2

- Teaching the course

Stage 3

- Modifying / Replanning the course

Stage 4

- Reteaching the course

During the whole process, decision-making and assessment is continuously taking place, so that modifications can be applied.

Proliferation of new teaching methods, new concepts and models provide the teacher with many options to choose from.

For the English for Computing course, a combination of context conceptualization processes was used: The traditional approach was closely related to the students' needs. For example, grammar was identified as a problem by half of the students according to the needs analysis. However, general grammar might not be helpful, as special attention must be given to the function the structure has in the text it was taken from. For example the sentence: «Aluminium is a metal which is light and resistant to corrosion" grammatically can be analysed as a sentence composed by a main and a subordinate clause, but from a functional point, it performs the act of a definition. A scientist uses a plethora of definitions, classifications and so on. The student must not only be able to recognise the functions but also to produce the appropriate grammatical form to express the function ((Kennedy & Bolitho, 1984).

Further more, not all grammatical issues are so frequent in ESP. For example, in ESP there is a tendency for more passives and more nominal groups to occur, so the teacher must pay more attention to the teaching of these grammatical phenomena.

The grammatical structure inventory produced for the English for Computing course took the following form:

- · Derivatives
- · Prefixes and suffixes
- · Comparisons
- · Cause and effect sentences
- · Put the verbs in the correct tense (emphasis on passive voice)
- · Substitution tables (make up sentences using the table and selecting the correct grammatical form)
- · Gap filling with words from the text
- · Make up your own sentences, using the constructions given
- · Synonyms/opposites

- · Join the phrases to form sentences

To introduce the functional and communicative notion in the procedure described above, the following inventory was developed:

- Decide what the underlined pronouns refer to
- Re – write the sentences in logical order
- Decide on the correct sequence of the following statements
- Re-write the paragraph, using the notes given to you
- Use linking words to form a logical connection and paragraph structure

Communicative situations were involved, since they gave a different dimension to language learning. Introduction of simulation games and problem solving techniques seemed appropriate and of interest to the students. For example:

The four skills approach was also used, as well as tasks and activities, related to computing (e.g. asking for information on computer operation). More specifically, tasks aimed at activities, which would enable students to deal with situations related to their future employment.

Fourth step

Selection and development of materials and activities

As it has been previously mentioned, there is lack of materials for English for Computing in the Institutes of Vocational Training in Greece. This provides the teacher with either a challenge or an opportunity. Choosing materials may mean development of new material, collection of various materials or adaptation of existing ones.

According to Graves (1996), in order to select materials the following issues should be taken into account:

- Effectiveness in achieving the course purposes
- Appropriateness of the material, so that the students will feel comfortable. This means that the material will be relevant to their interests and language level.
- Feasibility, so that the material will be in accordance with the students' capabilities and the course will not prove too difficult for them.

The source of materials can be, according to McDonough (1984):

- From published materials (textbooks, journals, magazines)
- From real speech (lectures, broadcasts, seminars, conversations)
- Specially written
- Simplified and adapted from public materials or instances of real speech

The researcher, being an experienced teacher of ESP had already collected a set of core materials and activities from teaching in the Institutes of Vocational Training in Greece, which she used to adapt to the course requirements every semester. The source of materials was predominantly the Internet, as well as newspaper or magazine articles, subject books on computing, which could be used for developing reading skills, expanding vocabulary or discussing current issues on the Computing science.

The commercial book of "English for Computing" by Oxford University Press also provided some interesting ideas on material and activities organization. Since the emphasis was on terminology, authentic material seemed to be the foundation. By using material designed for native speakers, the students would be acquainted with "real texts", since their main need was the ability

to read books and magazines on computers and acquire the specific vocabulary, required for being effective in their job. On the other hand, their language level (all students were First Certificate holders and were approximately exposed to EFL for about six years) seemed appropriate to the use of authentic material.

The activities should be interesting in order to be motivating. Here, the researcher took into account the fact that all students were adults, so she had to be very careful with the selection of the appropriate ones, which would be relevant to the students' interests and language level. Another issue was the balance of activities in the period of the course time and the provision of a variety of activities, so that the lesson would not be boring and repetitive.

Fifth step

Organization of content and activities

Course organization, either on the lesson level or on the overall organisation of the course is very important, since it provides the teacher and the students with a clear idea of what will be taught. A thorough examination of the overall curriculum in the 1st year of the computer science course in the Institute provided great help in the development and organization of the content areas.

Thus, the course was organized into the following content areas:

· Equipment, machines and materials (e.g. parts of the computer, peripheral equipment, multimedia). Knowing parts of the computer and peripheral equipment or multimedia names is basic to job related situations and comprehension of relevant books and articles.

· Measurements and maths (computation and measurement using spreadsheets). Spreadsheets are a common way to compute and make graphs. Knowing the specific terminology helps to the comprehension, analysis and presentation of tables and graphs and the procedure followed in the implementation of spreadsheets at work.

· Procedures and processes. They are essential since students need to verbalize the steps of a procedure in proper sequence in various situations (e.g. when something goes wrong)

Two principles underlie the concept of sequencing material: Building and recycling. Building can follow the process of the simple to the more complex, from concrete to more open-ended etc. while recycling means that students deal with taught materials in a new way (Graves, 1996).

Another way to consider course organization is as a cycle or as a matrix. In a cyclical approach, the teacher introduces a cycle of activities following a consistent sequence. In a matrix approach, the teacher works with some activities and as time passes, decides with which ones to continue. (Graves, 1996)

For the English for Computer course, the researcher used elements of both, since this process would provide the adult students with the flexibility they wanted and increase their interest and motivation.

Sixth step

Assessment and Evaluation

Nunan (1990) states that in language teaching, assessment is related to determination of student's proficiency whereas evaluation to the process of collecting and interpreting information about an educational program. In other words, assessment shows what the learners know and can do in English, whereas evaluation reflects students' reasons for failing or succeeding and ways of

improving their learning.

Both distinctions were taken into account in the course design process, in the way described here.

In the Institutes of Vocational Training in Greece, two formal tests take place during the semester. One between the 8th and 9th week and another one at the end of the semester, that is after 14 weeks of teaching. The tests are compulsory and the average in the two tests gives the semester's grade for the course.

Although, this is the case, the researcher decided to ask the students to take a 5-minute test every time they met. The test would be predominantly based on specific vocabulary taught, since terminology was of primary interest to students, according to the needs analysis. It was explained that the reason for doing so, was to diagnose specific strengths and weaknesses and to assess their achievement in the course. The test would not influence the students' final marks but it would help them to be better prepared for the formal examinations.

The test would be a way to exert a certain pressure on students' studying, since as adults, they had job and family commitments and limited time for study, as one student admitted, during the needs assessment interview. Additionally, it would limit the possibility of developing "gaps" in the foreign language, which would be difficult to fill in the next semesters. Moreover, it would provide feedback on the effectiveness of the course and in general, it would be an on-going part of the entire process.

Following the portfolio approach (Fingeret, 1993), the researcher asked the students to put the tests, as well as all their assignments in a portfolio, so that they would have all their material organised and ready for reference.

Regarding the effectiveness of the course, the researcher decided to administer an after course questionnaire to the students in order to evaluate the course design and content, teaching methods and relevance of needs and topics taught. The main reason for doing so was to promote and improve the course's effectiveness. The questionnaire was anonymous, since the researcher wanted the students to be honest and provide her with true information. She also felt that anonymity would be a motivating factor for the students to be objective and realistic. In the fill in of the questionnaire thirteen students participated, since one was absent during the interview on the needs assessment.

Ten out of thirteen students, that is 77%, found the topics particularly relevant to their needs and interests while three, that is 23%, found the topics not relevant to their particular needs and interests.

Relevance of topics to needs and interests

	Frequency	Percentage
Yes	10	77%
No	3	23%
Total	13	100%

Similarly, the students who were pleased with the course topics, that is 77%, said that they did not like anything else to be included, while the remaining 23% who stated that they were not satisfied with the course content mentioned that they would like more specific computer terminology and suggested the following topics to be included

Multimedia
Computer programming

Regarding the teaching methods, twelve out of thirteen students, that is 92%, stated that discussions were their favourite teaching method, while team or pair work was preferred by eight students, that is by 61%. Individual work was chosen by four students, that is 31%, lectures by one student, that is 8%, while listening and slides were suggested to be used more in the teaching procedure by one student and composition writing by another.

Preferred teaching methods

	Frequency	Percentage
Discussions	12	92%
Team/Pair work	8	61%
Individual work	4	31%
Lectures	1	8%

Suggested teaching methods

	Frequency	Percentage
Listening/Slides	1	8%
Composition writing	1	8%

In reference to the quality of teaching, three students, that is 23% found it excellent, while eight students, that is 61% found it very good and two, that is 15% mentioned that it was good.

Quality of teaching

	Frequency	Percentage
Excellent	3	23%
Very good	8	61%
Good	2	15%
Average/Bad	0	0%
Total	13	100%

It is worth mentioning that no student found the quality of teaching average or bad, while the majority was pleased with it.

Regarding the new things learnt during the course, six students, that is 46% mentioned that they learnt enough, while five students, that is 38% said they learnt a few things and two students, that is 15% claimed that they learnt many things.

No student said that he/she learnt nothing while one who claimed that he/she learnt a few things also said that this was due to the fact that he/she had a good command of the English language and not to the course, which was good, according to his/her opinion.

What was learnt from the course

Very much	2	15%
Enough	6	46%
A few things	5	38%
Nothing	0	0%
Total	13	100%

The researcher also wanted the students to assess their course participation, which would prove whether they were interested in the topics and by extension motivated for the course.

Six students, that is 46%, believed that they had good participation, while four students, that is 30% thought they participated enough and only two students, that is 15%, mentioned that their participation was excellent. One student, that is 8%, said his/her participation was very good.

It is worth mentioning that no student felt that he/she had little or no participation in the course.

Course participation

	Frequency	Percentage
Good	6	46%
Average	4	30%
Excellent	2	15%
Very good	1	8%
Bad	0	0%
Total	100	100%

The course organization was found very good by 8 students, that is 62%, while three students, that is 23% fount it excellent and only two students, that is 15% found it good.

It should be noted that no students found the organization average or bad.

Course organization

	Frequency	Percentage
Very good	8	62%
Excellent	3	23%
Good	2	15%
Average/bad	0	0%
Total	13	100%

By asking the students their opinion regarding changes in the course design, teaching methods, assessment etc., the researcher wanted to take into account the students' suggestions for future reference.

One of the students, that is 8%, mentioned that he/she would like the teacher to press him/her more to study by giving extra homework or composition writing. Another one claimed that the course should be more concentrated on grammar while another one would like more speaking, discussions, and more teaching hours. Two students, that is 15% would like different topics to be included in the course content, such as multimedia technology, which might interest the majority of the students. Another three, that is 23% would like more terminology and more terminology oriented texts to enhance their vocabulary and speaking skills.

On the other hand, five students, that is 38% said that they would like no changes giving reasons for their point of view: Excellent lesson, excellent subjects, excellent teacher's specialization, very good teaching method, interesting topics and magnificent students' participation.

Suggested changes

	Frequency	Percentage
No changes	5	38%

Extra homework/composition	1	8%
More grammar/speaking	1	8%
More teaching hours	1	8%
Different topics	2	15%
More terminology	3	23%

Trying to examine what the highlight of the course was, the researcher asked the students what had impressed them more in the course.

Four students, that is 31%, mentioned the teacher's specialization, great effort and interest to transmit knowledge. Two students, that is 15% said that the teaching method was innovative and impressed them most. Written tests at every lesson to test what the students had studied and learnt was mentioned by one student, that is 8%, while composition writing was mentioned by another. Variety of topics was mentioned by two students, that is 15%, while discussions by two other. Finally, grammar exercises and little participation by some students were mentioned by another.

What impressed you more

	Frequency	Percentage
Teacher's specialization and interest	4	31%
Innovative methodology	2	15%
Written tests in every lesson	1	8%
Composition writing	1	8%
Variety of topics	2	15%
Discussions	2	15%
Grammar exercises	1	8%
Little participation by some students	1	8%
Total	13	100%

The final evaluation question asked whether the students would like to add anything. The researcher wanted to give them the opportunity to express their ideas and feelings regarding the course and find out if all subjects were exhausted.

The majority of the students, that is 12 (92%) had nothing to add and only one student, that is 8%, mentioned that he would like a greater participation and involvement by his/her fellow students.

Additional comments

	Frequency	Percentage
No	12	92%
Greater students' involvement	1	8%
Total	13	100%

Discussion & Conclusions

This study was focused on a curriculum development for English for Computing in an Institute of Vocational Training in Greece.

The procedure followed, involved certain stages, with a needs assessment interview as the starting point and an evaluation questionnaire as the final one.

The first step showed that ESP teachers should acquire a scientific approach to language teaching, become experimenters in new techniques or design procedures, based on the learners' language needs and future language uses of the language learners. To do so, liaison with employers, subject teachers, other ESP teachers and institutional administration is important for the provision of necessary resources.

The course design should include the following:

- Needs assessment, including formal and informal instruments
- Learning styles analysis
- Specific, measurable and achievable goals and objectives
- Collecting relevant to the speciality material
- Deciding on the suitable to the learners' needs exercises and topics
- Organising the material according to the students' needs and overall course duration
- Reading on research and development in approaches to course design
- Planning effective classroom strategies to enable adult students to achieve goals and objectives
- Opportunities for independent self study, outside the class
- Administering and writing tests

Evaluation of the course should also be integrated in the teaching process. The teacher should be able to know whether goals and objectives were met, whether the teaching methods were effective, or whether new things and procedures should be involved in the course design process.

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