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MOTIVATION VS. NEED OF ESP OF ENGINEERING STUDENTS

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Abstract

This article gives a detailed description of a needs analysis carried out with/on some groups of food engineering students. The method of questionnaire was used for all undergraduates (from 1st to 4th year) attending English courses. The findings highlight both their difficulties in listening, writing, communicating in a foreign language, and their wish to improve their competence in these skills. At the same time, we noticed an increasing interest in understanding English in oral communication and acquiring specialized technical vocabulary in order to be more competitive on the more demanding labour market when they finish the studies. We came to the conclusion that more courses of English for specific purposes are needed in this university programme and also a redesign of the ESP materials is necessary so as to more efficiently satisfy the learners' needs.

Keywords: Food Engineering Students, Needs Analysis, English for Specific Purposes, Language Needs.

Introduction

The status of nowadays English and the growing demand for English for Specific purposes (ESP) courses in Romania have made us carry out this study.

Over the last twenty years, ESP has gained considerable ground in the Technical Universities in Romania. In 1989, it had a marginal status in comparison with Russian and French, which were taught extensively. The former due to the political situation of that time, the latter for a long tradition with Romania that started in the 19th century.

At the beginning of the 1990's, English had to catch up with the trends in the domain, as till then there had been published no more than ten courses of technical English, which were more or less appropriate for the students. The knowledge of English was limited, the access to specialized literature was censored, allowing the information to come only via the Russian language. In this context, the classes of English used to be mainly focused on reading and translation of highly specialized texts.

Although there have appeared new specializations in each technical university and more than fifteen courses of English for Specific Purposes have been published, teaching EAP still has no clear guidance from the institutions or from the Romanian Ministry of Education, Research, Youth and Sport.

At present English is taught in Primary and Secondary Education on a large scale, sometimes even starting in kindergarten. However, the students enrolled at the University of Agricultural Sciences, and Veterinary Medicine of Iasi have different levels of English, varying from beginner to advanced. This is a consequence of different systems of teaching foreign languages in secondary education and ranging from 4 years to 12 years of study.

It is necessary to mention that English is taught under the umbrella of foreign languages, in parallel with French, German, Italian and Spanish at UASVM. The undergraduates have to choose the language they want to study during the four years of the tertiary education. The study of English and French is considered to be of intermediate level.

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The students who, for diverse reasons, varying from the eagerness to learn a new language to not having studied the two languages before, or, apparently, the new information being easier to assimilate, can choose to learn one of the other three languages at a beginner level. German, Italian and Spanish are taught as Languages for General Purpose while English and French as Languages for Specific Purposes. During the four years of university studies, the students are asked not to switch one language for another, as, at the end of the courses, they are to be given a certificate of attendance of only one foreign language.

As the academic education is undergoing continuous changes, seeking to keep up with the new requirements on the labour market, new specializations at the UASVMI have evolved, such as Landscape design, Environmental Engineering, Technology of Processing Agricultural Products and Food Expertise. The ESP courses have to be designed to support the need for professional English, and it stands to reason that an update of the courses should be completed.

Moreover, even though in Romania, at an academic level, several textbooks have been published so far. No studies have been carried out in order to see the real needs of the undergraduates and graduates of the university in terms of language learning.

Needs assessment is viewed as an integral part of planning the second language curriculum, and, in fact, "is the foundation on which all other decisions are, or should be, made" (Belcher, p.135). We agree with Balint's consideration that "determining the needs of a particular institution's students are seen as a direct way to inform the curriculum developers of the possible goals and objectives necessary to create the curriculum" (p.26).

In fact researchers have found a variety of terms to define "needs", ranging from perceived and felt needs (Berwick, 1989), necessities, wants and lacks (Hutchinson and Waters, 1987), goal oriented needs and learning needs (Brindley, 1989) and the objective and subjective needs (Richterich, 1980; Brindley, 1989). Nunan (1988 as cited in Mayo 1995) uses a more general perspective, considering that all "techniques and procedures for collecting information to be used in syllabus design" should be referred as needs analysis. (p.13).

In the view of Rajabi (2011) the needs analysis is probably the best to "include information about the students' background, their proficiency in different language skills and their needs as far as the language use outside the class is concerned" (p. 21). It is based on this statement that we will embark on analysing the needs analysis of Romanian students in order to have appropriate learning materials and strategies (Robinson, 1991; Jordan, 1997; Basturkmen, 2006, Johns, 1991; Chien, 2010; Benesch, 1996) thus remaining elemental to ESP (Brinton et al., 1989; Dudley-Evans, 1998; Jordan, 1997, Eslami, 2010).

Method

The need analysis was carried out within the Faculty of Agriculture, specialization – Technology of Processing Agricultural Products. The questionnaire used was as a method.

The purpose of the questionnaire was to gather both quantitative and qualitative information about those participating in the ESP course. It was administered to all the undergraduate students that attend the English course along the four years of diploma studies. There are 32 students in the 1st year, 22 in the 2nd, 33 in the 3rd and 37 in the 4th.

The 20-item questionnaire includes, in one way, or another, a combination of goal-oriented and process oriented analyses. It was developed by the researcher based on the existing specialized literature (Nunan, 1988; Lopez, 1997; Richards, 2001; Balint, 2005; Long, 2005; Miyake, 2005, Dar, 2010; Wozniak, 2010; Khan, 2011).

The data was gathered both through open-ended and close-ended questions, where "the range of possible responses is determined by the researcher" (Nunan, 1988, p. 143). The questionnaire has two parts. The former part has to do with seven issues tackling personal information such as gender and the years they have previously studied English and the self-assessment of their abilities in the English language. The second part, which consisted in 13 items, was meant to reveal the participants' ideas of their future communication needs in their field of study, as well as their problems regarding the English language.

The questionnaire, which was written in English, was given during the first week of the second semester, February 2012. The participants were offered clarifications regarding the purposes and the importance of the study before receiving the questionnaire. They received oral instructions about how to fill in the questionnaire. The researcher collected in the hand-outs 20 minutes after they were given out.

For the analysis of the survey we used the Gaussian distribution, various graphics and tables.

Results and discussions

The 1st year students enrolled at the Technology of Processing Agricultural Products come from different types of high schools and having different curricula, where the number of hours of English varied. In addition to this, we must mention the geographical position of the high school they attended (rural or urban area), level of qualification of the teaching staff from the secondary education, which show significant differences from a school to another, as well as the aptitude and interest of the high school graduate for the study of English.

Firstly, we aimed at analysing the students at the start of the university courses regarding the English language.

1. Self-assessment of students regarding their knowledge of the language

At the start of the academic year, prior to the evaluation the teacher made in order to test the students' level of English knowledge, the students were asked to self-assess on: a) their level of English; b) level of understanding English in different contexts.

1.1. Self-assessment regarding the level of knowledge of English

We took into consideration five possibilities: beginner, pre-intermediate, intermediate, upper-intermediate and advanced. The results are presented in Figure 1.

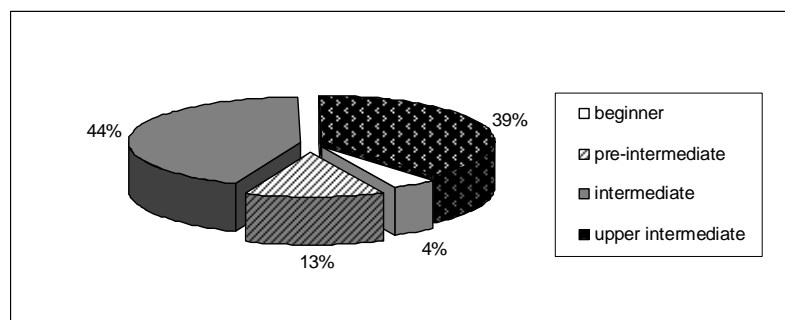


Figure1. Self-assessment regarding the level of knowledge of English

The data presented in figure 1 show that 82.7% of the students assessed their level of knowledge of English to be intermediate and upper-intermediate. Only the ones that studied English for two years declared themselves beginners. There are respondents who evaluated their level of English to be pre-intermediate, close to a beginner, even if they studied English during secondary education, for four years. After further investigation, we found that the causes are related to continuous skipping (non-attendance) of the classes, inadequate method of the teachers, and lack of motivation or low-ability in learning English.

None of the students considered themselves to have an advanced level of English.

In parallel with the self-assessment process, we also performed an evaluation test on the level of acquisition of the English language, at the beginning of the university courses.

We used the classic methodology with its four types of tests referring to: reading, writing, listening and speaking. The students were grouped in 6 categories according to the level of acquisition of English: A1 - beginner (basic English); A2 - pre-intermediate; B1 - intermediate; B2 - upper-intermediate; C1 - advanced; C2 - proficiency.

The results obtained after testing the students made it possible to group them in 5 categories. The presentation of the results follows a Gaussian distribution (Figure 2).

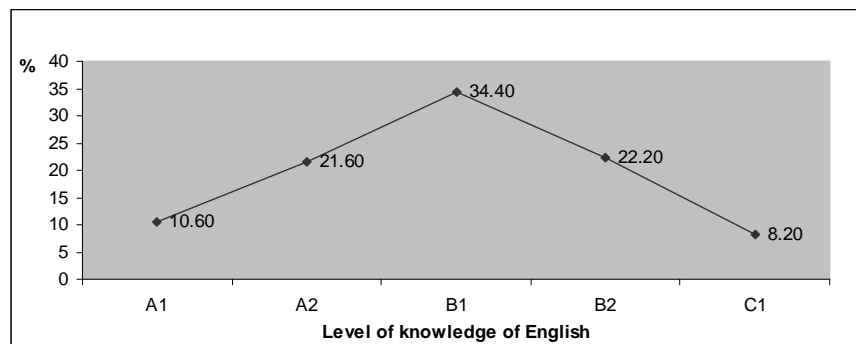


Figure 2. Grouping students in categories according to the acquisition of the English language

Of the five categories that refer to the knowledge of English, the largest number of students (34.4%) were in the B1 group (intermediate level). The categories of A2 – pre-intermediate and B2 – upper-intermediate closely follow with about 22%. Only 8.2% of the students fall in the advanced category, a percentage near to that of the A1 category.

We further present (Table 1) the results obtained by the students in the four types of tests on which helped us make the differentiation of students in the six categories showing their acquisition of English.

Table 1: Situation of level of acquisition of English at the beginning of university courses

Level of acquisition	Reading	Writing	Listening	Speaking
A1	10.0%	24.9%	8.6%	21.4%
A2	20.0%	10.4%	22.2%	24.6%
B1	36.8%	36.6%	28.6%	21.2%
B2	24.8%	23.9%	30.2%	29.6%
C1	8.4%	4.2%	10.4%	12.2%
C2	0%	0%	0%	0%

A general view of the results in Table 1 shows us that the students of the intermediate categories, B1 and B2, present approximately equal abilities of reading, writing, listening and speaking. For the other categories, A1, A2, and C1, the situation is different. The highest difficulties are encountered in writing. Only 4.2% of the students could be placed in the advanced group, in comparison with 8.2 of the average rate of this category. A quarter of the students (27.9%) are of A1 level when writing, even if the average percentage of this group is 10.6.

Making a comparison between the results obtained by the students after the self-assessment and the ones that result from the tests handed-in by the teacher, it is interesting to notice that the students overestimated themselves for the categories B1 – intermediate (43.5%), in comparison with 34.4%, rate resulted from the test; and B2 – upper-intermediate (39.2%), in comparison with 22.2% - the test result.

None of the students considered themselves to be in the C1 category – advanced, although the test showed that 8.2% of them can be placed in this category. We also could notice that some of the students belonging to the A1- beginner group overestimated themselves. i.e. 4.3 % considered to be of this level, while, the tests showed that the real rate for this class is 10.6.

A similar situation could be observed for the following category, A2 – pre-intermediate, where only 13.0% of the students considered themselves to be part of this group, when, in fact, the test revealed that their number is much higher, 21.6%.

1.2. Understanding of English in different contexts

Going deeper into the problem, we started with the cases in which the student is in contact with English: a) oral communication; b) documentaries and videos; c) reading books and magazines; d) reading professional texts. For each of these situations, we took into consideration three possibilities: a) understanding every word; b) understanding most of the words; c) understanding the general idea.

1.2.1. Situation in which the student takes part in an oral communication

The results led to the following results (Figure 3).

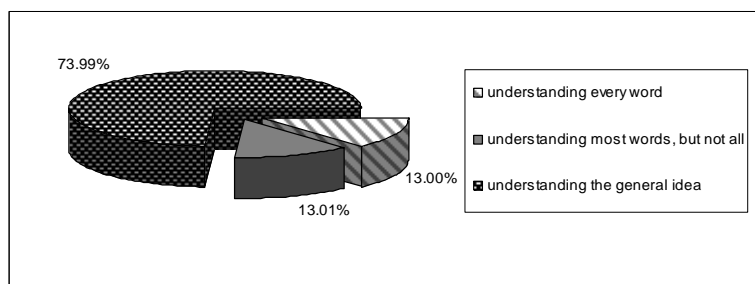


Figure 3. The chart of understanding English in oral communication

In the case whereby the students participate in an oral communication, most of them (74.0%) declared that they understand most of the words, being able to dialogue acceptably. A percentage of 13 do not understand all the words but can get a general idea. The same percentage (13%) registered as understanding all the words. Regarding the last rate, there are some doubts, taking into account that even those who are proficient in English do not know the entire vocabulary of this language.

1.2.2. Contact with English through documentaries and videos

To this question, more than half of the students (61%) answered that they understand most of the words and the general meaning of the text (Figure 4).

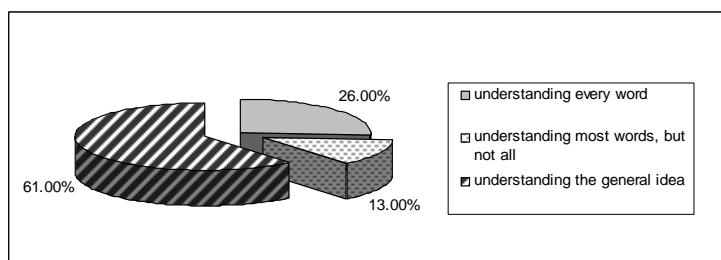


Figure 4. Situation of understanding English in documentaries and videos

This time, the number of students who do not understand all the words doubled, but they understand the main ideas of the documentaries presented. Even in such circumstances, 13% of the students consider they understand the meaning of all the words of mass media.

1.2.3. Understanding English when reading books and magazines about general topics

The results of the questionnaire do not differ a great deal from the previous situation (Figure 5).

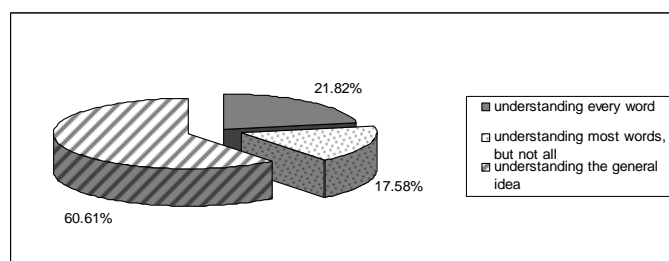


Figure 5. Understanding English when reading books and magazines

Analysing the results, 60% of the students stated that they know the meaning of most written words. We concluded that a fifth of them (21.6%) have only a general idea on the subject presented in the text, and 17.4% appreciate they understand the meaning of all the words.

1.2.4. Reading and understanding the specialized texts in the chosen domain

The data connected to this question are presented in figure 6.

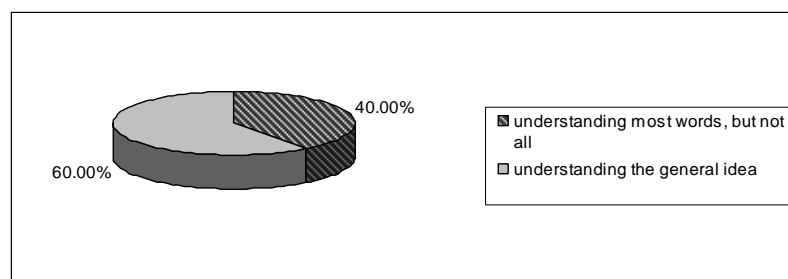


Figure 6. Reading and understanding specialized texts

The situation is identical to the one presented previously referring to the understanding of most words, especially the usual ones. 60% of the students are part of this category. The rest of them think they understand the ideas presented in the text, without fully knowing the entire range of the specialized terms belonging to their domain of interest.

2. Considerations regarding the choice of attending English courses

The question started from the fact that the students may choose to study English, the other options being French, German, Italian and Spanish, with some restrictions regarding the number of students in a group.

The results of the questionnaire show that 95.6% of the students attending the English course had chosen English. Only 4.4% of the students would have liked to study another language, but because of administrative reasons they were selected English.

3. Motivation for their choice to study English

All the students stated that the study of English is useful for passing exams during the academic years, but especially the exam for getting the Bachelor/Licence Diploma. 82.6% of the students are motivated by the fact that, the professors recommended bibliography in English as supplementary reading.

A second reason for learning English would be the need to get a good job. The answers to this question are presented in Figure 7.

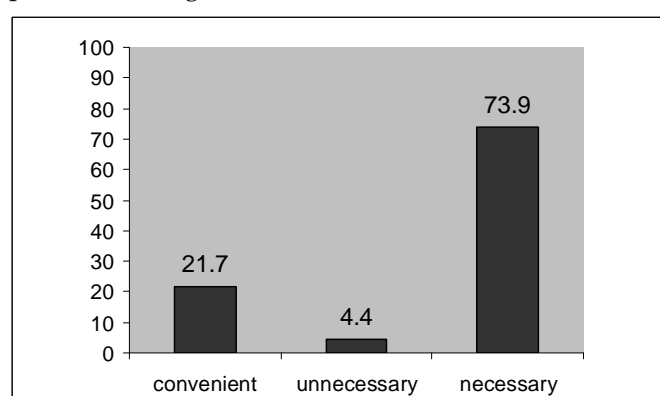


Figure 7. The need to learn English in order to get a job

A large majority of the students (73.9%) consider that learning English is highly necessary, facilitating their getting employed. Many of the employment offers require knowledge of English as a condition of acceptance for a recruitment interview.

4. Content of English courses

The students were questioned about the necessity of acquiring and practising the technical vocabulary during the English classes. The results are displayed in Figure 8.

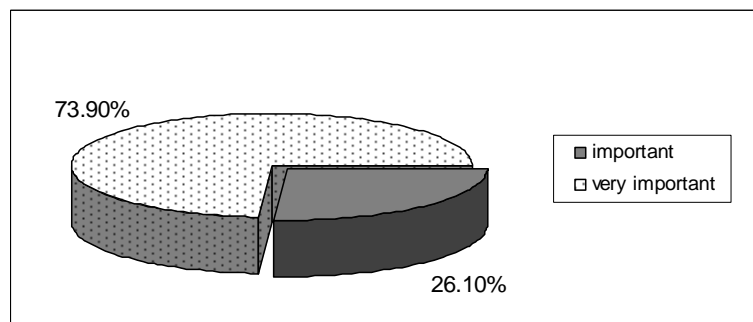


Figure 8. Necessity of acquiring the specialized technical vocabulary

Of the 4 options – unimportant, slightly important, important and very important – 73.9% of the students consider this matter to be important. 26.1% are even more aware of the importance of acquiring specialized vocabulary as they chose the option “very important”.

5. Importance of practising English grammar

Our knowledge that the vocabulary and communication in a language are closely connected is also strengthened in the questionnaire.

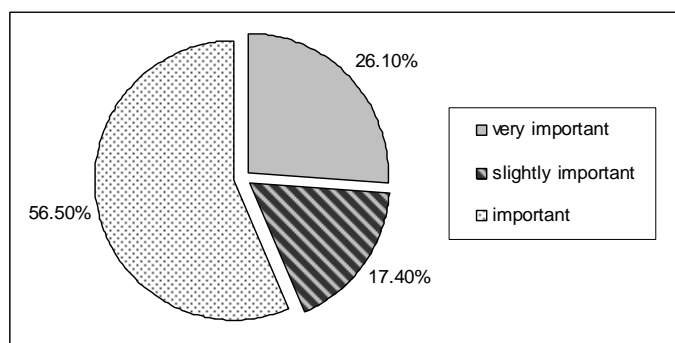


Figure 9. Importance of practicing English grammar

More than half of the students considered grammar to be important (56.5%) and approximately a quarter of them even very important (26.1%) for understanding, but especially for speaking better English.

The employment in certain positions and coming into contact with English speakers are facilitated by speaking accurately, without serious grammar mistakes.

6. Short-term motivation for learning English

Both at the beginning of the university studies and along the years, the motivations for acquiring English vary according to a series of factors, such as: the already acquired knowledge, the marks that are required to pass an exam or getting a scholarship, professional career etc.

Our intention was to see how important it is for them to understand specialized texts, write better technical English, improve their reading of scientific journals, form grammatically correct sentences while speaking and pass the exam.

They had to give a percentage for the situation that seemed interesting to them, and the sum had to be 100%.

Not quite to our surprise, 40% of the 1st year students attached 40-50% importance to the need to pass the exam, and only 18% of them gave from 5% to 15% for this need, as many of them want to compete for getting a scholarship. They studied English during their secondary education, and this makes them consider it easier to get a higher mark at the exam.

As they are at the beginning of their university studies, they are not fully aware of the importance of understanding specialized texts and approximately a third of them (37%) gave a small percentage (5-15%) for this need; only 13% considered it much more important (40-50%). Half of the students appreciated this need as being of medium importance.

Even more surprisingly were the results regarding the need to write better technical English. 49% of the students did not consider this need to be of much importance (5-15%), and only 10% of them thought the acquisition of English compulsory for improving their technical writing.

Undoubtedly, the 1st year respondents pay low or medium attention to form grammatically correct sentences while speaking as none of them considered it of much importance (40-50%). Conversely, 40.91% perceive it as quite insignificant (5-15%), and 59.09% of them placed this need rightfully.

In the students' opinion, their need for improving reading scientific journals seems to be quite low, the 93.75% of them giving percentages between 5% and 25%. It can be inferred that they did not come in contact with many scientific studies, or the other professors did not offer them supplementary bibliography from specialized reviews and journals. All the data are presented in Table 2.

Table 2: Options of students regarding their immediate needs in the English courses

No. crt	Specification	Percentage given by student to each need			
		5-15%	20-25%	30%	40-50%
1.	a. need to pass the exam	18%	28%	14%	40%
2.	b. need to understand specialized texts	37%	25%	25%	13%
3.	c. need to write better technical English	49%	41%	5%	5%
4.	d. need to form grammatically correct sentences while speaking	40.91%	45.46%	13.63%	0%
5.	e. improve their reading of scientific journals	62.50%	31.25%	6.25%	0%

For this question (13th question) it seemed worth analyzing the answers given by the 4-year students of the same specialization, Technology of Processing Agricultural Products.

Significant differences of options could be noticed at the percentage related to their need for specialized texts. If only 13% of the students from the 1st year considered the acquisition of English to be highly important for their improvement of understanding specialized texts, the number increased along the years, reaching 31.25% with the 4th year respondents. The trend along all the academic years is presented in Figure 10.

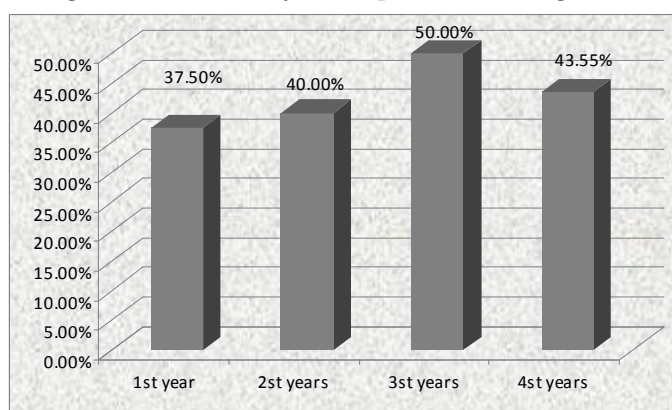


Figure 10. The percentage of students from 1st to 4th year who considered their need to understand specialized texts highly important (40-50%)

Another point where the percentage augmented was the one regarding the students' need to form grammatically correct sentences while speaking, from 45.46% in the first year to 53% in the last one.

A highly significant drop in the options of the respondents was on the low interest in their need to write better technical English. 49% of the 1st year students thought it to be of little importance while only 20% had the same opinion in the 4th year. The results revealed that, along the academic years, many undergraduates come to realize that it is essential to have knowledge of terms related to their field of study.

9. What do future graduates consider to be important in their future career?

For this question, there were four options studied: a) listening; b) speaking; c) reading; d) writing. The results are shown in Figure 11.

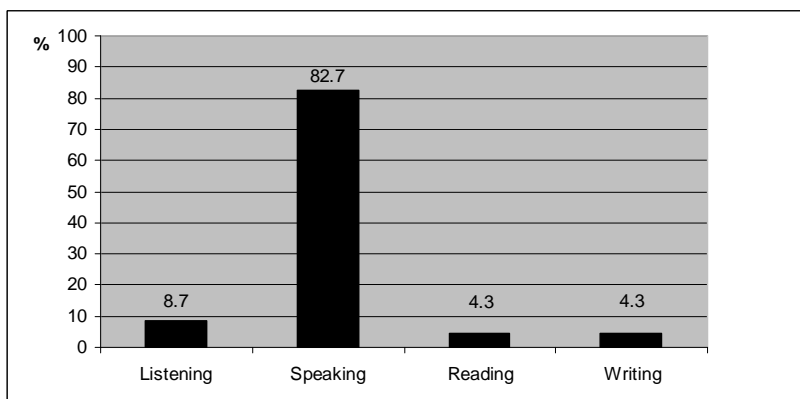


Figure 11. Opinions about knowing English in their future career

Most of the students (82.7%) considered speaking to be their most important need for their future career. The other options were of 8.7% for listening and 4.3% for reading and writing in English. Taking into consideration the practical character of their professions, these percentages are in the normal (average) limits. Few graduates choose to continue with research activities or education, jobs where reading and writing are of high importance.

8. Preference for learning methods

The variety of teaching methods of a language, and especially of English, must be adapted to the specific of the chosen profession, but also to the peculiarities of the group of students studying the language.

These characteristics refer to the methods used in teaching the language in primary and secondary education, the level of language acquisition, auxiliary means of teaching, etc.

The students were asked to choose from different ways of teaching that one is their favorite to learn English. The data are presented in Figure 12.

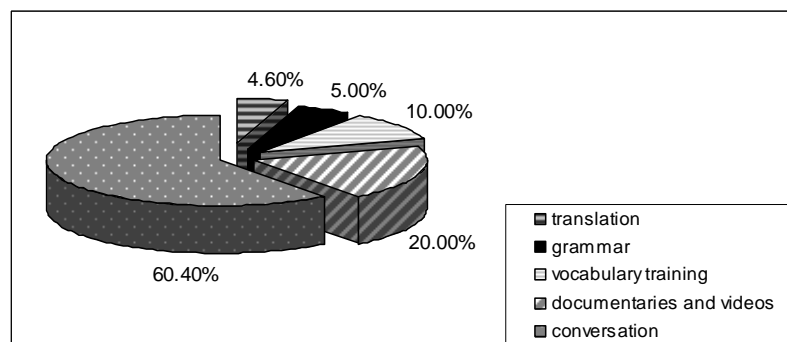


Figure 12. Preference for certain learning methods

Of all the methods of teaching/ learning over 60% of the students expressed their preference for improving English through conversation. The other methods range between 4.6% - translation and 20% - documentaries, videos.

We consider the students to have correctly chosen the most efficient ways of learning, expressing their preference for all the methods, but offering the highest weight to learning

through conversation. We expected a greater number of them to have chosen vocabulary training as they have to acquire specialized vocabulary that sometimes is more difficult to gain through conversation. But, subsequently the results from the questionnaire handed to the four-year respondents, we could note a growth in their interest in technical vocabulary. Thus, 73.33% of them considered it important.

9. Topics to be studied

Our opinion is that, although it is a course with technical characteristics, the insufficient knowledge of English determined the students to consider it necessary to study everyday English (50%) prevalently. The other students split their options, preferring the topics related to meat products, bread and pastry products, with a percentage of 30. The other topics ranged from 10% to 20% (Figure 13).

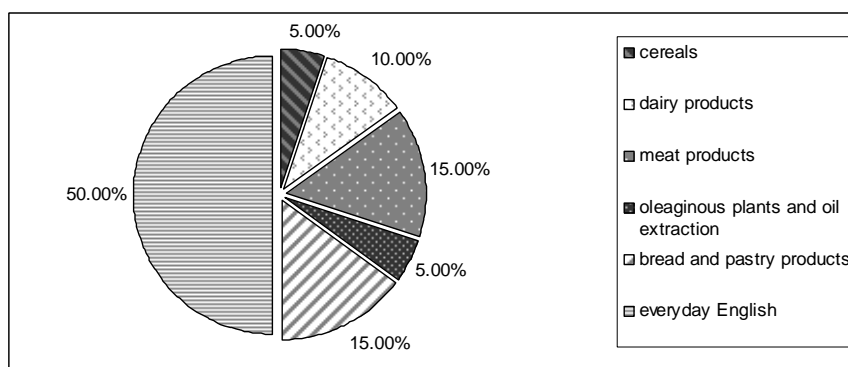


Figure 13. Options of students regarding the topics to be studied

The results made us conclude that it would be necessary to lay the emphasis on spoken English, especially in the 1st year, and to tackle specialized topics in the next three years.

Expectations from this course and way of reacting

Regarding this question, the options were divided according to the students' level of knowledge of English at the moment they started the university courses. Thus, the students with an intermediate, upper-intermediate and advanced level of knowledge stated that they expected to improve their technical vocabulary, improve speaking and writing and have the possibility to interact grammatically-correct with native English speakers during the English courses.

The four-year graduates overwhelmingly expect to acquire technical vocabulary (95%), as they are nearer than ever to their future jobs.

Number of hours allocated for this course

According to the curriculum, the students have one hour of English seminar per week. Most of the students (70.6%) considered that at least two hours per week would be necessary in order to improve their language and keep in touch with English, as they mentioned that one of the weaknesses is insufficient knowledge of technical vocabulary, grammar rules and difficulties in speaking English fluently.

Conclusions

Romania is part of the francophone countries, where French has a considerable weight, especially in primary and secondary education.

After 1990, and especially after Romania's adhesion to the European Union in 2007, when the west-European labour market partially opened, the interest for English increased, the students wanting to improve the technical vocabulary in their domain of study.

The evaluations made on the questionnaire led to the following conclusions:

a. The students that enrol in our university, specialization Technology of Processing Agricultural Products have a different level of English, as there are not unitary standards for learning and assessing the English language in the primary and secondary education. Most of

them (over 80%) have an intermediate and upper-intermediate level. There are students who are beginners (10%) and advanced (8%).

b. Of the teaching-learning methods, the students were receptive to all the methods, being predominant the conversation method (60.4). A significant number of students (20%) were interested in improving their English through documentaries and videos.

c. Regardless the type of situation when the students come in contact with the English language, they stated that they understand most of the words, but it is difficult to express themselves.

d. Choosing English as a foreign language to study has as main motivation the greater possibility of getting of a job, in domains where the specialized language is important. The short-term motivation is getting a better mark in order to have access to a scholarship.

e. The interest of students for specialized vocabulary has evolved during the four years of university courses, reaching 50% (i.e. highly important) in the 3rd year.

f. The different topics of the curriculum have diversified the preferences of the students, choosing texts that are related to processing meat products and bread manufacture.

g. Most of the students stated that one hour of English per week is not sufficient, showing that at least 2 hours would be necessary. Thus, they would fulfill their main expectations from this seminar, i.e. improving their technical vocabulary, writing and speaking in order to express themselves correctly when getting in contact with English speakers.

REFERENCES

- BALINT, M. (2005). "Assessing students' perceived language needs in a needs analysis", *Proceeding of the 9th Conference of Pan-Pacific Association of Applied Linguistics*, pp.26-43.
- BASTURKMEN, H. (2006) *Ideas and options in English for specific purposes*. New York: Routledge.
- BELCHER, D. (2006). "English for specific purposes: Teaching to perceived needs and imagined futures in worlds of work, study, and everyday life", *TESOL Quarterly*, 40 (1), pp.133-156.
- BENESCH, S. (1996). "Needs analysis and curriculum development in EAP: An example of a critical approach", *TESOL Quarterly*, volume 30, issue 4, pp.723-738.
- BERWICK, R. (1989) "Needs assessment in language programming: from theory to practice", In R. K. Johnson (Ed.), *The second language curriculum* (pp. 48-62). Cambridge: Cambridge University Press.
- BRINDLEY, G. (1989). "The role of needs analysis in adult ESL design". In R. K. Johnson (Ed.), *The second language curriculum* (pp. 63-79). Cambridge: Cambridge University Press.
- BRINTON, D. M., Snow, M. A., & Wesche, M. B. (1989). *Content-based second language instruction*. New York: Newbury House.
- CHIEN, C., Lee, W., & Kao, L. (2008). "Collaborative teaching in an ESP program", *Asian EFL Journal: Conference Proceedings*, volume 10, issue 4, pp.114-133.
- DAR, M. (2010). "From general to specific English. A case study of NUML", *Journal of NELTA*, 15 (1-2), 28-42.
- DUDLEY-EVANS, T., & St. John, M. J. (1998). *Developments in English for specific purposes: A multidisciplinary approach*. Cambridge: Cambridge University Press.
- ESLAMI, Z. R. (2010). "Teachers' voice vs. students' voice: A needs analysis approach of English for academic purposes (EAP) in Iran", *English Language Teaching*, volume 3, issue 1, pp.3-12.
- HUTCHINSON, T., & Waters, A. (1987). *English for specific purposes*. Cambridge: Cambridge University Press.
- JOHNS, A. & Dudley-Evans, T. (1991). "English for specific purposes; International in scope, specific in purpose", *TESOL Quarterly*, volume 25, issue 2, pp.297-314.
- JOHNS, A.M. (1981). "Necessary English: A faculty survey", *TESOL Quarterly*, volume 15, issue 1, pp. 51-57.
- JORDAN, R. R. (1997). *English for academic purposes: A guide and resource book for teachers*. Cambridge: Cambridge University Press.
- Khan, T. M., Ghulamullah, Mohsin, M.N., Dogar, A. H., & Awan, A.S. (2011). "Needs analysis of English for occupational and specific purposes", *International Journal of Social Sciences and Education*, volume 1, issue 4, pp.632-643.
- LONG, M. (2005). "Methodological issues in learner needs analysis". In M. Long (Ed.), *Second language needs analysis* (pp. 19-76). Cambridge: Cambridge University Press.
- LOPEZ, A. L. (1997). "Using a needs analysis as a means of reflection on ESP syllabus", *Revista de lenguas para fines especificos*, volume 4, pp.116-131.
- MAYO, M. P. G., & Anton, V. N. (1995). "Needs identification of an ESP pharmacy course", *Revista de lenguas para fines especificos*, volume 2, pp. 82-94.
- MIYAKE, M., & Tremarco, J. (2005). "Needs analysis for nursing students utilizing questionnaires and interviews", *Kawasaki Journal of Medical Welfare*, volume 11, issue 1, pp. 23-34.
- MUNBY, J. (1978). *Communicative syllabus design*. Cambridge: Cambridge University Press.
- NUNAN, D. (1988). *The learner centred curriculum*. Cambridge: Cambridge University Press.

- RAJABI, P., & Azarpour, N. (2011). *Academic needs of Iranian business administration students in ESP classes in Contemporary Online Language Education Journal*, volume 1, pp. 20-32.
- RICHARDS, J. C. (2001). *Curriculum development in language teaching*. Cambridge: Cambridge University Press.
- RICHTERICH, R., & Chancerel, J. L. (1980). *Identifying the needs of adults learning a foreign language*. Oxford: Pergamon Press.
- ROBINSON, P.C. (1991). *ESP today: A practitioner's guide*, New York: Prentice Hall.
- SALEHI, M. (2010). "Investigating the English language needs of engineering students", *English for Specific Purposes World*, volume 31, issue 15, pp.1-16.
- WOZNIAK, S. (2010). "Language needs analysis from a perspective of international professional mobility: The case of French mountain guides", *English for Specific Purposes*, volume 29, issue 4, pp.243-252.