FORWARD IN TEACHING ENGLISH FOR MEDICAL PURPOSES

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Summary. *It is essential that language for specific purpose courses be based on insights into learners' actual language learning needs, which can be gained through qualitative needs analysis. Medical English is taught from the perspective of medicine and health care first and foremost while reinforcing vocabulary acquisition, grammar and structure secondly. Teachers can help students deploy background knowledge and integrate new knowledge. The students at the Faculty of Medicine, University of Nis are undergraduate and practicing medical doctors. Their demand for English is very specific. They want to communicate in English with certain groups of people about fairly specific topics. In analyzing their needs we have come to the conclusion that their demand is more specific than English for Medical Purposes (EMP). They have a desire to publish medical articles in respected journals, they want to participate in international conferences. Students are more motivated to learn, acquire and use language when the entire context of the learning is within the field of their interest.*

Key words: *English, medicine, teaching*

English for special purposes

The overall development has created a 'global' society where people from various linguistic backgrounds are connected with the aim of further progress and specialization. Society is now at a stage at which it is possible to obtain information about almost anything within a very short period of time. Such a situation requires the usage of one language for mutual understanding and communication of scientific, technological and academic information among different linguistic groups within a multi-linguistic community. Due to its influence and widespread usage, English has become the common language of international experts in a wide range of subjects, such as medicine, the natural sciences and the social sciences. Consequently, the language teaching profession has seen the emergence of language teaching for specific purposes. As technological and transportation advances have created a "global" society, that globalization has brought many professions and vocations into the international domain. The sub-field of English for Specific Purposes has emerged out of the field of English as a Second Language to meet the specific academic and professional needs of learners. Courses in ESP focus on the specific vocabulary and the unique language skills those in a given field are likely to require.

English for specific purposes is closely connected to language for professional purposes, where speakers of English as a foreign or second language have to learn how to use language in areas where they are going to work. A major interest in this approach is to create knowledge about the specific needs to be covered in specialized language classrooms, in order to make this kind of language teaching as efficient as possible. The general effect of all this development was to exert pressure on the language teaching profession to deliver the required goods. Whereas English had previously decided its own destiny, it now became subject to the wishes, needs and demands of people other than language teachers (Hutchinson & Waters, 1987).

The study of languages for specific purposes represents a synthesis of linguistics and methodology of teaching foreign languages. The study of languages for specific purposes (LSP) is highly student – centered, focused on learners' professional linguistic needs, as well as teaching materials production.

In learner – centered approaches, course design and teaching often become negotiated, dynamic processes, since needs, expectations and student resources vary with each group. This suggests that LSP teachers must take into account student learning styles, strategies and language processing approaches. LSP teachers should assist students in becoming more flexible and more aware of their own learning styles and approaches.

Need analysis

English for Specific Purposes focuses on the learner and one of the greatest contributions of teaching English for Specific Purposes is the emphasis it puts on the thorough analysis of the students' needs when designing the course. The analysis includes an assessment of the current level of knowledge students possess and determining the target situation, what the student wants to achieve. The teaching staff and students of the Faculty of Medicine, University of Nis agree that knowledge of both General English and English for medical purposes are necessary for progress and development in science

and workplace. For this reason, knowledge of General English at an intermediate level is mandatory for a successful participation in the course. An overall needs analysis shows that students need training in specialized language which includes not only vocabulary but also specific grammatical structures, phrases, styles and principles of oral and written communication which are characteristic for medical profession. The information obtained from needs analysis can be used to help define program goals. These goals can then be stated as specific teaching objectives, which in turn will function as the foundation on which to develop lesson plans, materials, tests, assignments and activities. Basically, a need analysis will help to clarify the purposes of the teaching program.

Authenticity – ESP and real world work situations

In ESP, the authentic world must be brought to the students, and they must learn to interact with the language as it is spoken and written in target situation. Thus ESP teachers must be willing to negotiate with both experts in the target situation and with the students. Even though there are many textbooks believed to be appropriate for ESP courses, Johns (1981) claims that no textbook can fulfill all demands of a specific situation. For this reason, the teacher must rely on his/her own knowledge when assessing the appropriateness of the material to be used for developing students' skills. The material which is used at English for Medical Purposes course includes authentic texts, parts of General English and ESP textbooks, materials prepared by the teacher and topics and tasks related to the field of medicine. Good material contains interesting texts, thought – provoking activities, enables students to use knowledge and skills they possess. A clear and coherent material structure will help the teacher in designing the course and it will also help the students in achieving the sense of progress and accomplishment. The course designed in accordance with the modern ESP methodology will enhance peer work and team work and it will enable shared learning. Various authors have suggested conducting ESP courses as close to the workplace as possible. Crandall (1984) suggested making the classroom into a simulated workplace in order to integrate the language and the "specific purposes." The workplace context also helps keep the focus more on the specific purposes and less on the language.

Student autonomy and the new role of the teacher

Both learners and teachers are accustomed to a high degree of teacher control and they cannot imagine what a class may look like without it. Teachers may find it difficult to motivate the learners to work independently – young people do not feel truly responsible for their own learning. Students may have deeply rooted beliefs about the roles of teachers and students, which may slow down the process of achieving independent learning. It is crucial to show students the range of autonomous options and raise their awareness of the different learning strategies that are open to them. Students need to take responsibility for their own language development, which would in turn prove useful when the students have to use English in their professional lives.

Reasons for autonomy at the Faculty of Medicine

- Students have different individual needs for their professional lives.
- The majority have learnt to over – rely on teachers in their language learning careers.
- There is a need to prepare the students for self – directed learning outside the classroom to acquire the habit of learning continuously.
- The English teachers at the Faculty of Medicine usually have less medical knowledge that learners therefore are perceived as lay people as opposed to 'expert' students.

Since students usually transfer their knowledge of medical subjects onto the English course, they can help in planning the course itself which enables the development of student autonomy. Autonomy presents a necessity in society which puts great emphasis on lifelong learning. Since teachers cannot provide the students with all the skills and knowledge they would like to have, the best way to help students is by providing them with strategies on how to learn by themselves. The first step towards autonomy is encouraging the students to take responsibility for their own learning. The concept of student autonomy and successful learning are closely connected. Teachers of ESP teach both language and content and the relationship between the teacher and the student is different from that in General English. In ESP students are experts in the field in which the teacher has very little knowledge. This specific relationship affects the methodology of teaching which is no longer teacher – based and this is one of the hardest things teachers have to learn. Another characteristic of ESP methodology is interdisciplinary team teaching. Cooperation between language teachers and expert subject teachers is essential if the ESP course is to be of any success.

The role of the teacher has changed in recent years in the light of current trends in education, technological advances, information explosion and communications revolution. The teacher is no longer viewed as the only source of information or imparter of knowledge. He/she is a facilitator of learning, an organizer and a coordinator rather than a director of the learners' activities. S/he is an advisor and a consultant on the learner's problems. S/he has to create the most favorable conditions under which learning may take place.

Aspects of learner independence in EMP

The following aspects of learner autonomy are being developed in EMP classes at the Faculty of Medicine.

- Developing awareness of the learning process.
- Teacher gradually releases control.
- Learners are given more responsibility for their studies.
- Learners acting as teachers in designing and checking through activities.
- Oral presentations by learners.
- Learner – produced materials.
- Feedback sessions.
- Self and peer evaluation.
- Use of authentic materials.
- Building of positive attitudes for learner autonomy.
- Accepting different degrees of autonomy in learners.
- Teacher and peer support.

ESP courses present a challenge for teachers because they have to learn how to share their power with the students, to cooperate in decision – making and constantly adjust to changes. Autonomy is based on contact, mutual learning and interactions with the aim of creating a syllabus appropriate for the students of medicine. In this context, the teacher should take on the role of an organizer whose task is creating conditions and opportunities for learning, whose responsibility is to help the students in acquiring knowledge and skills necessary for fulfilling their goals. The teacher of ESP must be flexible and open to new approaches and methods. It takes a lot of effort and research in the field of specialized studies of their students, but turning to new environments is always an enriching experience.

Research work – Students' additional needs

The construction of knowledge is both an individual and a social task. It is a continuous dialectical process that has been taking place for generations. This process has adopted different forms of communication, namely, oral (conferences, conversations, dialogues, among other spoken genres) and written (research articles, letters, peer reviews, case studies).

Writing medical research works represents students' additional needs which appear during the course. As medical science became internationally widespread, the need to keep in touch for the sake of the development of the science has become increasingly important. Apart from honesty in reporting the results of the study, the most important element in medical scientific writing is clarity: the reader should be told why the study was performed, what the research question is, what was done, what was found and what the results mean. When writing medical research works, students and even doctors have doubts concerning the use of appropriate tenses. Teaching grammar focuses on its remedial function because it is taught not a goal but as a tool. The emphasis is not on grammar point without medical relevance. In other word, the teaching of grammar is based on the minimum necessary for understanding academic texts. Generally, the tenses used in medical research works include: present simple, past simple and rarely the past perfect tense when writing about the history of the disease. Another characteristic of medical discourse is the frequent use of the passive voice because the form is impersonal and objective. Authors should deal with their topics in a fair, objective and responsible manner, keeping personal feeling out of their writing. Impersonal style is used to put a certain distance between the writer and the arguments proposed.

Modal verbs and adjectives are also frequently used. The use of modal verbs is significant for hedging which represents the expression of tentativeness and possibility and plays a critical role by allowing writers to present statements with appropriate accuracy, caution and humility, expressing possibility rather than certainty and prudence rather than overconfidence (Hyland, 1998a, 1998b, 2000). Hedging is used for expressing uncertainty, skepticism and open – mindedness and it plays a major role in medical discourses (Skelton, 1997; Adams Smith, 1984).

Example:

- direct sentence: These findings suggest the following interpretation …
- hedged sentence: These findings would/might/could suggest the following interpretation

Medical research papers are basically organized following the IMRAD structure (Introduction, Materials and Methods, Results and Conclusion/Discussion). The IMRAD pattern has been said to obstruct creativity and personality of the author. Yet it allows readers to answer the fundamental questions.

Titles

In medical research work, the title is a precise description of the contents. It should include specific words to indicate:

- the topic; the main, general subject of writing
- the focus; a detailed narrowing down of the topic into the particular, limited area of research
- the purpose of writing

Example:

A description of adjuvant chemotherapy in the treatment of endometrial cancer
purpose: A description of
topic: adjuvant chemotherapy
focus: in the treatment of endometrial cancer

Abstract

An abstract normally appears at the top of the page in front of the actual paper it outlines. The purpose is to inform readers as concisely as possible what is in the

article so that they can decide whether to read it in detail. An abstract must communicate ideas effectively, preferably in direct, active statements in short, simple sentences.

There is a distinction between abstracts and summaries in that summary restates the main findings and conclusions and is written for people who have already read the whole paper. On the other hand, an abstract is a shortened version of the paper written for people who may never read the full version. Since abstracts are often reprinted in abstracting journals separated from the original paper, they need to be self – explanatory.

Abstracts are immediately followed by keywords which represent the most important words in the paper that are specifically related to the topic.

There are two kinds of abstract:

- **descriptive abstract**: provides a kind of list of what will be in the paper; what the writer will deal with or attempt to prove. Descriptive abstracts contain general statements.
- **informative abstrac**t: does not simply describe what will be in the paper but also gives a summary of the main factual information, such as methods and materials, results and conclusions.

Example:

DETERMINATION OF ENVIRONMENTAL TO-
BACCO SMOKING IN SCHOOLCHILDREN
WITH URINE COTININE MEASUREMENTS

Environmental tobacco smoke has been regarded as one of the most important public health issues. It has been estimated that approximately 700 millions of children worldwide are exposed to environmental tobacco smoke (ETS). This study determines parental smoking habits and examines the relationship between parent – reported estimates of children's exposure to ETS at home and children's urinary cotinine levels. Urinary cotinine levels were significantly higher in the exposed group than in the unexposed group. These data show that ETS exposure was prevalent and a combination of a parent – report and biological measures are suggested as the most informative estimates of ETS exposure in children.

Key words: schoolchildren, urine cotinine, ETS

A special kind of abstract that accompanies medical papers is **structured abstract** (Salager – Meyer, 1990) which describes a study using specified content headings rather than pure paragraph format. It follows the IMRAD formula but its writing often presents a problem to students. The most common mistakes concern lack of a fundamental move (e.g., the objective, the methods, the results, the conclusions of the study), illogical structuring (methods precede the statement of purpose, objective presented after the results). The format of the medical structured abstract is the following:

1. *Objective:* states the question addressed in the paper;
2. *Design:* indicates the basic design of the study;
3. *Setting:* mentions the place where the research was carried out;
4. *Patients or participants:* indicates the number of patients who were enrolled in the study, how they were selected and how they were distributed per group;
5. *Main outcome measures:* explains the treatment
6. *Results:* mentions the study end – points;
7. *Conclusions:* refers to the main conclusions, including direct clinical applications.

Introduction

In research papers, the introduction should be direct and concise. It should tell the reader what the paper is about and explain why the research is important and worth reading. The introduction presents the topic in general and makes a clear thesis statement. The thesis statement expresses the central idea of the paper which has to be proved through evidence and examples. It needs to be clear, and concisely and precisely stated. Some of the sample phrases that can be used in introductions include:

- *In this paper, it will be shown that ...*
- *In this paper, ... will be discussed/are considered.*
- *The present paper examines/presents ...*
- *In this article, we report on ...*
- *Our/My intention here is to highlight ...*
- *This article will concentrate/focus on the arguments ...*
- *The issue of ... has become controversial recently.*
- *The question of ... has been thoroughly researched over the last few years.*

Example:

Environmental tobacco smoke (ETS) is a material released into indoor air by smoking tobacco products, which consist of a complex mixture of thousands compounds (gasses, uncondensed vapors, tar and particle). Most of these chemical species are known as toxic or carcinogenic agents.
Exposures to ETS have been associated with a variety of adverse health effects in children and non – smoking adults. (…) Authors from Boston have established association between exposure to ETS and higher prevalence of tooth caries at children (OR = 3.38; P = 0.01).. (…) Cotinine measurements in biological samples have been analyzed by radio immunoassay, high performance liquid chromatography, gas chromatography or nitrogen – phosphors detectors. The most frequently used method for biological samples is gas chromatography – mass spectrometry (GS – MS).
The aim of this paper was to establish the relationship between parent – reported estimates of children's exposure to ETS at home and children's urinary cotinine levels.

Methods and materials

In this section the researcher cites all the specifics of the work done. Every detail needs to be included. Variables are important and need to be detailed. The failure to list relevant particulars will throw all of the research and conclusions into question. Methods and materials answer the following questions:

Where? – Location of the work, if relevant.

What? – What equipment and other materials were used in the research. They need to be thoroughly specifies.

How? – The procedures and methods used in the research. Every detail should be included.

Example:

The study sample consisted of 1074 children aged 7 to 11 from Nis (Serbia). Investigation was carried out within six months (from January to June 2004). (…)

All children were divided in a group of exposed to ETS and a group of unexposed. Interview data were analyzed using programs Epiinfo 6 and Microsoft Excel. Statistical significance of the differences was established by Pearson Chi-Squared test.

Out of the total sample of children, two groups of 15 were made: children with respiratory symptoms and respiratory diseases exposed to environmental tobacco smoke and children with respiratory symptoms and respiratory diseases not exposed to environmental tobacco smoke. Cotinine was examined in urine of children. Samples of morning urine were collected from the children and read on the same day.

'Rapid Signal COT Cassette' immunochromatographic test was used. (…)

Statistical significance of difference was established by Fischer test of exact probability.

Results

This section follows Methods and Materials and presents the precise data and findings from the research. Data may be effectively presented in charts, tables, graphs, diagrams. These should be accompanied by explanatory text to highlight and interpret significant facts.

Example:

The investigation was composed of 554 (51.60%) boys and 520 (48.40%) girls. The greatest number of children were at the age of ten (Table 1).

Many studies have shown that great number of children are exposed to passive smoking at home. This investigation also shows a high degree (69.65%) of exposure to this health risk factor (Figure 1).

This study proves that ETS is significantly associated with high prevalence of wheezing (odds ratio 1.48 and 95% confidence interval 1.09 to 2.01), as well as the prevalence of bronchitis (OR 1.66; 95% CI 1.23 to 2.23) in children (Table 2). (…)

Discussion

In this section the author writes about his/her interpretation of the findings and an evaluation of the research. The author gives his/her opinion as to whether the work supported and proved the hypothesis.

Example:

Environmental tobacco smoke represents a serious health risk in children whose respiratory system is still in development. The results of this study show a strong exposure – response associations between ETS and health problems. It has been determined that children exposed to this risk factor have bronchitis and wheezing more frequently than unexposed children. (…)

The results of the study prove that cotinine level depends on the degree of ETS exposure.

Conclusion

The conclusion is the last part of the research paper where the author presents a summary of the main points. It contains an evaluation of the main topic, an amplification or extension of the thesis statement, a solution to the problem which the work discusses, results of the research and suggestions for further investigations into the topic or issue.

Some of the phrases which can be used in conclusions are:

- *In conclusion, we can say that…*
- *In this paper, we have seen that…*
- *This research paper has clearly shown that …*
- *The discussion in this article has given an overview of*
- *This paper has provided a systematic study of …*
- *Finally, it is worth pointing out that …*
- *Clearly, further studies are needed to understand/prove…*
- *In order to validate the work we have carried out, a more in – depth investigation into … is needed.*

Example:

In conclusion, it can be said that ETS is a very important risk factor for health of exposed children. Parent education can protect children. Cotinine determination is very important and monitoring of this biomarker can give proof to parents that the health of their children is imperiled by exposure to ETS.

Monitoring done in this investigation can help in paying more attention to examining exposure in this way. The aim of some future investigations should be quantitative determination of cotinine levels, es-

pecially when it is known that a great number of children is exposed to ETS.

Research work represents the first phase which is further realized through oral presentations and conference language. Another very important step in teaching is also oral discussion which presents a very complicated area to both students and doctors, because they are extremely unpredictable; students, future doctors, never know what direction an oral discussion will take. Expressions which would be useful include agreeing, disagreeing, expressing and opinion, persuading, stating a criticism, giving an example, introducing, giving a reason, and commenting (Tomlins, 1993; Price, 1977). The analysis of conference presentations has implications for teaching, because students need to be made aware of the conventions of the discourse community they intend to join. Oral discussions, presentations and conferences are taught with the aim of establishing a relationship between written and oral discourse, thus helping students in acquiring all four linguistic skills and strengthening their individuality.

Conclusion

On the basis of student need analysis, the teacher motivates students, designs appropriate curriculums, gives students the opportunity to express themselves and have a sense of achievement. It is important to explore the perspectives of language learners, in an attempt to shed light on ways in which learning contexts might be structured for better learning opportunities, and on ways in which learners might develop more effective strategies.

The idea of work focuses on ways in which autonomy can be fostered within a language curriculum and points to what can be done in order to develop the ability to manage personal learning. The work relies on observation of classrooms and interviews with learners, and adopts a problem – solving framework to discuss the personal task of learning a language in an institutional context.

When they graduate, students want to be able to speak medical language. The best way to build student motivation is to enable them to develop strategies for lifelong learning.

References

1. Adams Smith D. (1984). 'Medical discourse: Aspects of author's comment.' *English for Specific purposes* 3, 25-36.
2. Antić, Z. *English for Medicine, Textbook*. Medicinski Fakultet, Niš, 2005.
3. Antić, Z. *English for Medicine, Workbook*. Medicinski Fakultet, Niš, 2005.
4. Crandall, J. (1984). Adult ESL: The other ESP. *English for Specific Purposes*, 3. 91-96.
5. Hutchison, T., and Waters, A. 1987. *English for Specific Purposes*. Cambridge. Cambridge University Press.
6. Hyland, K. (1998a). *Hedging in scientific research articles*. Amsterdam: Benjamins.
7. Hyland, K. (1998b). '*Boosting, hedging and the negotiation of academic knowledge*.' TEXT 18(3), 349-382.
8. Hyland, K. (2000). *Disciplinary discourses: Social interactions in academic writing*. London: Longman.
9. Johns, T. F., '*Some problems of a worldwide profession*' in ELT Documents nz: The ESP Teacher: Role, Development and Prospects, British Council, 1981.
10. Price, J.E. (19770. 'Study skills – with special reference to seminar strategies and one aspect of academic writing. In S. Holden (Ed.) *English for Specific Purposes*. London: MEP.
11. Salager – Meyer F. (1990). 'Discoursal flaws in medical English abstracts: A genre analysis per research and text – type.' *TEXT 10(4)*, 265-384.
12. Skelton J. (1997). 'The representation of truth in academic medical writing.' *Applied Linguistics* 18(2), 121-140.
13. Tomlins, J. (1993). 'Principles and design of materials for academic discussion. Faculty of Education, University of Manchester.

KORAK NAPRED U PODUČAVANJU ENGLESKOM JEZIKU ZA POTREBE MEDICINE

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Kratak sadržaj: *Veoma je važno da kurs jezika za specijalne namene bude baziran na stvarnim jezičkim potrebama studenata koje se utvrdjuju kvalitativnom analizom potreba. Podučavanje medicinskom engleskom jeziku vrši se prvenstveno iz perspektive medicine dok se vokabular, gramatika i jezičke strukture obradjuju sekundarno. Nastavnici mogu da pomognu studentima u integraciji postojećeg i novog znanja. Potrebe studenata Medicinskog fakulteta, Univerziteta u Nišu su veoma specifične. Žele da komuniciraju na Engleskom jeziku sa odredjenim grupama ljudi o specifičnim temama. Analizirajući njihove potrebe došlo se do zaključka da su njihove potrebe specifičnije od*

Engleskog za potrebe medicine (EMP). Žele da objavljuju medicinske članke u stručnim časopisima, da učestvuju na medjunarodnim konferenijama. Studenti su motivisani da uče i koriste jezik u okruženju koje je u skladu sa njihovim stručnim interesovanjima.

Ključne reči: *Engleski jezik, medicina, podučavanje*