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**THE EFFECTIVE USE OF AUTHENTIC MATERIALS IN
TEACHING-LEARNING EMP**

533.01 UNIVERSITY PEDAGOGY

**Summary of
The Ph.D. thesis in Education Sciences**

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THE CONCEPTUAL FRAMEWORK OF THE RESEARCH

The actuality and importance of the research. The ever-present socio-educational changes occurring both in the Republic of Moldova and worldwide require new approaches in the organization of the educational process, as well as of the on-going training regarding the effectiveness and optimization of the language teaching and learning process which involves the integration of information and communication technologies.

Therefore, it should be mentioned that, although EMP (English for medical purposes) is a vital necessity for medical students, few researches have been carried out in this field. Thus, according to the National Development Strategy "Moldova 2020" " the modernization of the education system should meet both the individual needs of young people and the requirements of the labor market..." [6, p. 3], has become a priority at all levels of the education system through the direct transition from theory to practice. Due to the modernization process, the educational institutions in the Republic of Moldova are increasingly focused on the use of products, provided by modern information industries and technologies. As a motivational factor and from a communicative perspective, authentic teaching materials used in teaching and learning Medical English offers the future specialists the opportunity to implement their professional knowledge and to comply with the international requirements within their occupational setting later on.

The description of the current situation and identification of the research problems. Although quite significant, the problem of the effective use of authentic materials in teaching -learning Medical English has not been sufficiently researched across the Romanian countries, thus, there has been used a historical approach to our study , in order to identify the general and specific strategies in didactics, per general, and of teaching and learning Medical English, particularly, through a postmodern paradigm shift. The following literature review has been considered and studied: Cristea S. [9], Jinga I. [15], Bontaş I. [4], Cucuş C. [11], etc. (defined the key concepts in the field of pedagogical research; proposed various models of pedagogical approaches within the modern and postmodern context, as well as described the challenges imposed by the paradigm shift of the contemporary curriculum); Pâslaru V. [22], Callo T. [7], Papuc L. [21] and so on ; Bucur F.N. [5], Cerghit I. [8], Guţu V. [14]

etc. defined the curriculum theory and introduced a certain “order” / “logical organization” in the conception and performance of the educational process; Vicol N. [29], Joița E. [16] referred to the concept of lifelong learning for the (re) organization of (post) modern educational systems, as well as described the paradigm shift of the postmodern current. The principles of teaching and learning English for Specific Purposes (ESP) have been redefined and re-elaborated according to specific objectives, considered as one of the major concerns of Western methodologists: Maher J. [17], Crystal D. [10], Nunan D. [19], Basturkmen H. [2], Douglas D. [12], Swales JM [27], Robinson PC [25], Dudley-Evans and St. John [13] etc.

The dominance of English, especially in the field of healthcare shows a double orientation towards action and interaction, being studied and described by the researchers like Molhim M.A. (2011) [18], Scollon and Wong Scollon (2001) [26], Allum V. (2012) [1] etc.

The principles of designing and conducting a Medical English Course, based on specific content, students' needs analysis and target situation analysis, various pedagogical approaches, methods and educational strategies, have been defined in a series of papers by Peih-Ying Lu and John Corbett (2012) [23], Pilott M. (2013) [24] etc.

The concepts of *authenticity* and *authentic materials* were defined and studied by the following researchers: Berardo S.A. (2006) [3], Tomlinson B., and Masuhara H. (2010) [28], Allum V. (2012) [1] etc.

All these orientations and trends led us to identify the **research problem**, which requires the elaboration of the theoretical and practical background and premises for efficient use and optimization of the teaching and learning process of Medical English via authentic materials, being determined by the students' needs and correlated with the requirements of the global labor market and in accordance with the requirements of the information society.

The **purpose of the research** is to determine the theoretical and methodological landmarks to *effectively implement authentic teaching materials in the educational process of English for Medical Purposes*.

Research hypothesis. The teaching-learning process of Medical English will be successfully achieved if the theoretical and methodological

background on using authentic materials will be proved and exploited during the EMP classes.

Research objectives:

1. To examine and epistemologically implement the optimization of the teaching-learning process of Medical English by analyzing and revealing the basic concepts: *English for Specific Purposes, Medical English, authenticity and authentic teaching materials.*
2. To determine the pedagogical conditions for exploiting authentic materials in the process of teaching-learning Medical English.
3. To establish the strategies to optimize the teaching-learning process of Medical English.
4. To analyze the use of teaching methods in the field of applied linguistics, focused on streamlining the teaching-learning process of Medical English.
5. To elaborate and validate the *Pedagogical Model for the Effective Use of Authentic Materials in Teaching-Learning EMP*

The methodology of the Ph.D. research included the following studies and experimental methods: (1) *theoretical methods*: scientific data collection, analysis and synthesis, comparison, theoretical modeling and generalization; (2) *praxiological methods*: observation, interviewing, testing and data interpretation; (3) *pedagogical experiment* (investigating, implementing, validating); (4) *statistical methods*: collection of the study results and their interpretation via the SPSS program for statistical data processing; (5) *methods of analysis*: qualitative and quantitative assessment of the experimental results.

The novelty and scientific originality of the research is justified by the fact that, for the first time in our country, the concepts of authenticity and authentic materials are used to facilitate and optimize the process of teaching-learning Medical English in terms of a variety of contents, effective teaching-learning approaches, global exchange of experiences and best practices.

The scientific problem solved in the research consists in the reasoning of the theoretical and methodological concepts of authentic materials used in teaching English for medical students, as well as in developing and implementing the *Pedagogical Model for the effective use of authentic materials within the process of teaching and learning EMP.*

The theoretical significance of the research consists in implementing and optimizing the didactic and methodological strategies used for a modern curriculum of the Medical English discipline within the "Nicolae Testemitanu" State University of Medicine and Pharmacy.

The applicative value of the research comprises the development and experimental validation of the Pedagogical Model for the effective use of authentic materials within the process of teaching and learning EMP that contributed to an increase in the effectiveness and academic performance of medical students, justified by their positive results assessed at the end of the EMP course.

The implementation of scientific results was carried out by implementing the experimental study results at practical lessons of Medical English within "Nicolae Testemitanu" SUMPh, as well as by participating to various workshops, conferences and national and international scientific publications, and by elaborating three practical course-books on the use of authentic materials to optimize the teaching-learning of EMP : *Medical English Part I (video-based workbook)*, *Medical English Part II (video-based workbook)*, *Nursing (practical course book)*.

Ph.D. - related publications: 3 practical course-books, 1 digital course-book, 1 AGEPI patent, 22 scientific research papers (within national and international journals), 12 presentations at international conferences, 2 participations at national conferences (the 1st place).

The volume and structure of the thesis includes annotations in Romanian and English, list of abbreviations, introduction, 3 chapters, general conclusions and recommendations, 153 pages of basic text, 208 bibliographic sources, 16 tables, 34 figures, and 25 annexes.

Keywords: medical students, teaching-learning process, English for specific purposes, medical language, specialized vocabulary, authenticity, authentic materials.

SUMMARY

The introduction specifies the topic, actuality and importance, the purpose and objectives of the research, as well as determines the novelty and scientific originality of the topic regarding the implementation of authentic materials in order to optimize the teaching-learning process of EMP; the theoretical and practical significance of the research, the scientific problem and its solutions; validation and implementation of research results, volume and structure, summary of thesis compartments.

Chapter 1, *Theoretical framework on the effective use of authentic materials in the process of teaching and learning EMP*, includes the epistemological study of the research problem and explains the concepts and principles of teaching English for Specific Purposes, which have been redefined and re-developed according to the objectives considered as one of the major concerns of the methodologists. Correlations on the didactics were established in terms of interactive and authentic methods in order to optimize the process of teaching-learning Medical English, in the context of an educational paradigm shift among higher education institutions, as well as the imperative needs of doctors, health care staff and other people working in the healthcare industry.

An in-depth study was required for optimization of the teaching-learning process of Medical English due to globalization and internationalization phenomena that are inherent in the 21st century and particularly due to students' intention to collaborate or integrate into the labor market within English-speaking communities, as well as to further participate to a variety of international scientific activities, within different professional exchange programs, international collaboration, academic mobility and long-term partnerships. Numerous researches have been studied based on the students' needs analysis, which has created premises for adjusting, modernizing and optimizing the methodological approaches appropriate to teaching-learning English for Specific Purposes.

The theoretical background of EMP remain understudied both at national and international level. Several studies on English for Specific Purposes have identified and explained the need to implement new methods of effective teaching of Medical English in higher education institutions for further integration into the global academic environment, development / promotion of scientific activities, programs, participation in academic and

professional mobility, international collaboration and long-term partnerships.

Chapter 2, *Pedagogical conditions for the use of authentic materials in the process of teaching-learning medical English*, defines the main components of a teaching program of a Medical English course based on the studies and experiences of some countries across Europe and the Middle Eastern countries in order to optimize the teaching-learning process in higher education institutions. Moreover, there have been identified the challenges that teachers and curriculum designers have to face in the process of teaching Medical English, due to its double character: the linguistic and the professional characteristics. The principles of designing and teaching a Medical English course, based on its specialized content, students' needs and the target situation analysis, methodological approaches, methods and educational strategies, have been outlined in a series of research papers by Hull M. (2004), Nation ISP and Macalister J. (2010), Peih-Ying Lu and John Corbett (2012), Pilott M. (2013) etc. According to these researchers, the teaching of specialized languages should be adapted to the objectives and needs of the learners, as well as to meet their expectations / purposes.

Although a number of course projects, materials and strategies have been described during the development of the ESP, currently, there is no common understanding on the EMP course content, thus ESP teachers try to adapt their own methodology and teaching strategies, depending on the group of students and their needs. What is certain is that most ESP educators highlight the role of the communication competence as a main component of a professional discipline. The acquisition of the communicative competence is determined by a number of criteria, such as: the *communicative functions* that are applied by the speaker of the target language; *the contexts* (settings and environment) in which the language is being spoken or used; *conversation topics or themes*; *the degree of the language precision and fluency*; *the duration and quality of conversation*.

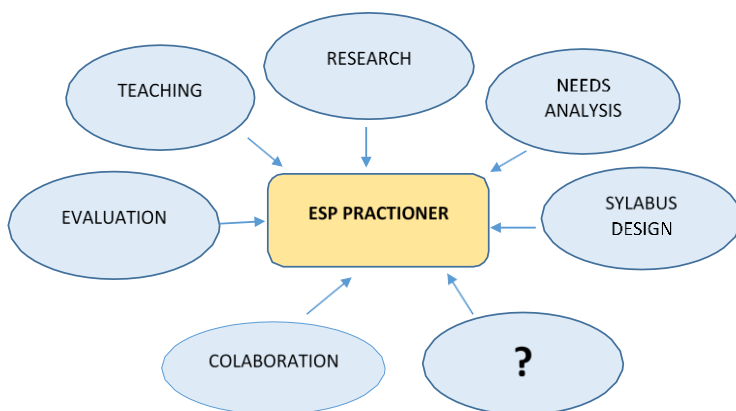
In this order of ideas, additional methods, techniques and strategies, are necessary to be implemented, which will integrate effective development of communication skills for future medical specialists. Thus, the concept of authenticity is essential for a content-based learning approach (of

Medical English), the student being exposed to the same target language and in a variety of real-life conditions as the *native speaker*. Therefore, authenticity often correlates with *relevance* and *motivation*.

Our experience of over 12 years of teaching Medical English to students at the "Nicolae Testemitanu" University of Medicine and Pharmacy allowed us to define authenticity and authentic materials in teaching English as being original, true, and valid materials that help optimize the teaching-learning process of English for Specific Purposes by increasing the accessibility and acquisition level of specialized and content-relevant information.

Undoubtedly, there are many options and versions of using AM (authentic materials) in EMP classes, a significant factor being the dexterity, intelligence and skills of the teacher namely, to *exploit, optimize and apply* them in order to achieve certain educational goals and have a positive, long-term impact, both on teachers and students.

The study could not underestimate the significant role and multiple functions that an ESP teacher should have. As the objectives of an ESP program are to provide students with the necessary and additional knowledge to work effectively at their future workplace, there are a number of additional challenges involved in the teaching-learning process. Certainly, the role of the ESP teacher is a varied one, starting from the common roles as a teacher-linguist, to a narrower one as that of a practitioner, who has to coordinate and provide a needs analysis of the ESP students; design the study program; develop, optimize and evaluate the teaching materials for efficient and long-lasting educational outcomes. The major roles of an ESP teacher are provided by Figure 1.



**Figure 1. The functions of an ESP practitioner
(after Dudley-Evans T. și St. John M., 1998)**

If we are to represent a scheme of the advantages of the authentic materials used in teaching-learning Medical English, then a positive reaction in both directions can be noticed (teacher-student):



Figure 2. The advantages of using authentic materials in the teaching-learning process for teachers.

Nowadays, the Internet offers truly unique opportunities, including a huge variety of authentic materials that inspire both teachers and students. Most importantly, ESP students can access a great amount of information related to their field of interest in an interactive and interesting way.



Respectively, following the review of several studies in the field, we identified and classified the following types of AM (authentic materials):



Figure 3. Classification of authentic materials according to their type and content (Medical English)

Based on the study findings, the following lesson models are presented below by using AM and which were applied during the experiment at the formation stage.

Topic	<i>Good Food vs. Bad Food</i>
Level	Intermediate
Objectives	<ul style="list-style-type: none"> ● To express their own opinions by developing critical thinking. ● To identify attitudes and opinions from the viewed content. ● To participate in conversations and debates on the importance of proper nutrition and the consequences of consuming unhealthy products.
Materials	<ul style="list-style-type: none"> ● Available web source: https://www.youtube.com/watch?v=S9_23-zjhm ● Authentic digital image (picture) <i>Fast Food Supper</i> by Jacob Thompson. ● Worksheet activity (<i>Appendix 8</i>).

Pre-viewing	<ul style="list-style-type: none"> ● The teacher displays on the screen the picture of the <i>Fast Food Supper</i> by Jacob Thompson ● Students are asked to identify the major health problems facing our society. ● The teacher asks various questions about the image, such as: "What famous painting is the artist trying to remind us of?" ● Students must find similarities and differences between this image and Leonardo da Vinci's famous fresco <i>The Last Supper</i> and explain the author's connection and the hidden message.
Viewing	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <ul style="list-style-type: none"> ● Students will watch the shortened version of the 7-minute movie <i>Supersize Me</i> about the side effects and health consequences caused by unhealthy diet, based on real-life an experiment. ● Students will make notes about the changes that occurred in the main character's body per week of the experiment. (Appendix 9).
Post-viewing	<ul style="list-style-type: none"> ● Students will be divided into small groups to discuss and identify symptoms and consequences of poor nutrition. ● Each group will complete the patient observation sheet, which includes a description of his condition and the symptoms that appeared each day of the experiment. ● Students will speak upon the new vocabulary or expressions (advanced level students will help the others). ● Students will summarize and draw conclusions about this case study. ● They will communicate and share their opinions with their group mates.
Extra Task	<ul style="list-style-type: none"> ● Students will write down their future recommendations regarding this case.

	<ul style="list-style-type: none"> ● Students will make a recovery / treatment plan for that patient.
<i>Rationale</i>	An interactive way to explore authentic videos would be to visit blogs and read relevant comments upon the case. Students may access sites and share or leave comments on various videos or discuss with other people about it. By default, they could practice communication in English and effectively improve their intercultural communication skills by interacting with people from different cultures and religions.

However, we found that the reviewed literature does not contain relevant pedagogical approaches regarding an adequate training of teachers in the field of EMP. Most researchers give simple recommendations for organizing a process of teaching-learning General English and not for specific purposes. Therefore our pedagogical model was designed based on the study of the best theoretical and praxiological practices of teaching English, based on the need to study English for Specific Purposes (ESP). The algorithm presented in the pedagogical model, as well as its content offers us possibilities to provide a teaching-learning approach of English related to specific disciplinary fields and their multiple subdivisions (Figure 4).

In this context, we'd like to point out the correlation between the positive aspects of authentic materials (increased interest, motivation, creativity, authenticity, etc.) and the initial needs of students, which denotes a direct interdependence, by identifying the quality indicators, reported at the end of the pedagogical experiment (quality, efficiency, functionality and relevance). Thus, our pedagogical model has an applicative, functional, coherent and dynamic character, due to the use of various inter- and transdisciplinary methods and approaches, where the physician is considered the main subject of the educational activity, who undergoes qualitative changes of developing communication skills ; starting from the physician placed in the academic framework of an educational process (INPUT) to the physician working in the professional field (OUTPUT), by activating the adaptation mechanisms and becoming an active participant of a distinct professional community (Figure 4).

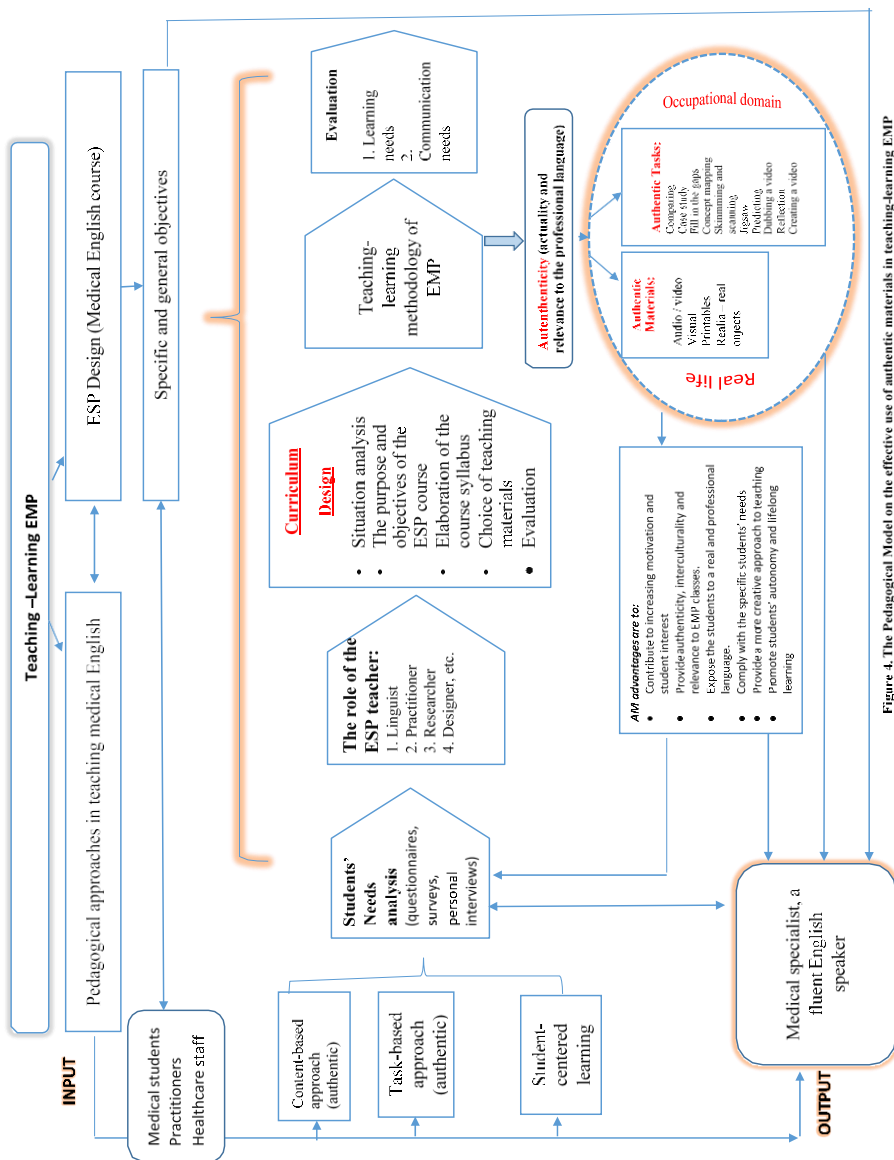


Figure 4. The Pedagogical Model on the effective use of authentic materials in teaching-learning EMP

Figure 4. The pedagogical model for the effective use of authentic materials in teaching- learning EMP

This present research summed up that authentic materials are meant to arouse the student's interest and motivation in an interactive way, due to their relevance, real-life resemblance, reliability and high scientific quality, which meet the linguistic and professional needs of students from the Faculty of General Medicine at "Nicolae Testemitanu" State University of Medicine and Pharmacy, and who will later on become efficient members within their professional community.

Chapter 3. The experimental framework on implementing the pedagogical model for the effective use of authentic materials in teaching-learning EMP describes the praxiology of the methodological conceptualization of the *Pedagogical Model for the effective use of authentic materials within the teaching and learning process of EMP* at the university level, by making successful experimental attempts to implement and exploit authentic materials in teaching –learning Medical English, specialty General Medicine 2, at the "Nicolae Testemitanu" State University of Medicine and Pharmacy. The experimental design of the research included three stages: data collection, the formative stage and validation stage. The study included an experimental sample of 80 students from the Faculty of General Medicine 2, at "Nicolae Testemitanu" State University of Medicine and Pharmacy, being conducted between 2017-2020, according to the curriculum and the objectives for teaching-learning EMP (English for Medical Purposes) in higher education establishments.

Table 1. The study sampling

Samples	No. of students	Data Collection	Formative Stage	Validation
Experimental sample (Faculty of General Medicine)	40	September 2017	October, 2018- May, 2019	June, 2020
Control sample (Faculty of General Medicine)	40	September 2017	October, 2018- May 2019	June, 2020

The **main purpose of this experimental study** is to assess the data collected in the experimental sample (ES), which includes 40 students, who were evaluated for a possible improvement of their academic

performance, by implementing authentic materials in their Medical English classes and which would have a positive effect on the students' motivation. The control sample (CS) included 40 respondents, students in the same academic year, specialty General Medicine, who did not benefit from the use of authentic materials in the teaching –learning process of Medical English, having as reference materials the course textbooks that had been already approved by the curriculum, as well by using predefined activities and tasks based on these textbooks.

The objectives of the experimental research involved the following actions:

- To determine the level of acquisition of medical vocabulary in the context of the initial professional training;
- To identify the students 'needs at the beginning of the course, as well as the teaching-learning results, expected at the end of the EMP course;
- To exploit a wide range of AM for the development of communication skills and specialized knowledge in the field of healthcare;
- To observe the opinions and behavioral attitudes of future physicians in terms of using AM within their classes (assessing motivation, interest, comprehension, relevance, creativity, critical thinking, etc.);
- To promote the use of authentic materials, in order to create dynamic, interactive and relevant lessons for medical students;
- To determine the effectiveness and utility of AM compared to the use of traditional English course books;
- To elaborate tests for assessing the level of acquisition of specialized medical vocabulary;
- To design and validate the experiment on the implementation of the *Pedagogical Model for the effective use of authentic materials in teaching-learning of EMP*, in order to improve language acquisition, learn specialized vocabulary and use it in further professional communication.

The following research topic-related questions were identified for determining the effectiveness of using AM in teaching Medical English at "Nicolae Testemitanu" State University of Medicine and Pharmacy.

1. What are the medical students' needs for learning and acquiring EMP?
 2. What is the attitude of medical students towards the use of AM during the classes?
 3. Which of the authentic materials showed a higher degree of efficiency?
- The results of the survey confirmed the hypothesis that the implementation of the *Pedagogical Model for the effective use of authentic materials within the teaching and learning process of EMP* within "Nicolae Testemitanu" State University of Medicine and Pharmacy will improve and increase the expected results at the end of the EMP course.

1. Data collection stage. The experiment focused on the analysis of the current target situation regarding the efficiency of the teaching-learning process of Medical English. Students were surveyed based on a *Questionnaire on identifying the main communication needs* (the occupational skills, on the one hand) *and learning needs* (that of personal development within an academic environment, on the other hand). In order to assess students' needs related to the importance of English for their future professional career, as well as their own interests, the students completed a questionnaire, which included all coherent aspects of their specific academic and career activity (Figure 5).

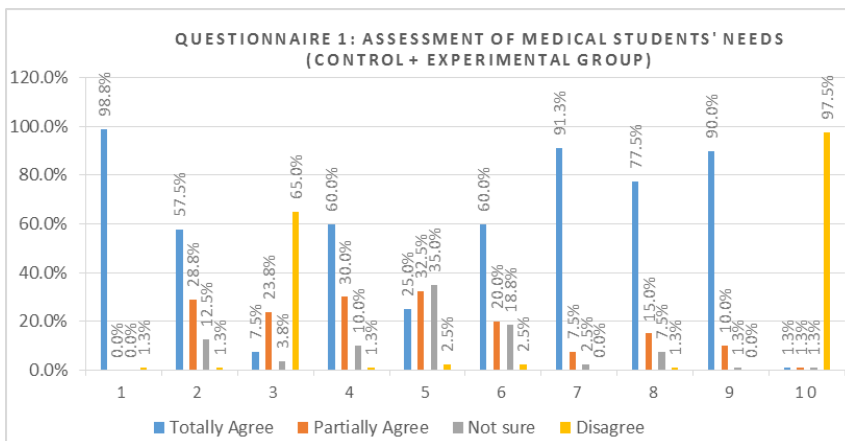


Figure 5. Assessment of the medical students' needs (in both control and experimental groups)

The results of the questionnaire showed that most students are aware of the importance of a Medical English course and may even already identify some long-term goals and objectives.

The next step of the data collection stage included a pre-assessment test, which evaluated the initial level of knowledge of English in terms of both general and medical language. Based on the general CEFRL descriptors, we identified the main items included in the initial test and the assessing scores of the language proficiency level. We analyzed the level of English language proficiency (lay terms) in both groups (experimental and control group), according to CEFRL descriptors (beginner, intermediate or advanced level) via an initial test to assess students' communication skills. The structure of the pre-test was designed in accordance with the test models developed for the Medical English discipline, provided by the disciplinary curriculum of the Medical English course within the "Nicolae Testemitanu" State University of Medicine and Pharmacy. In this context, it should be mentioned that 6 items were proposed, based on both general knowledge and medical vocabulary, to assess the level of language acquisition and knowledge of terminological vocabulary. Students were scored according to the scale for assessing the level of development of communication skills in a foreign language. Following the test assessment on identifying the necessary communication skills and abilities to express and understand medical language, the test results of the medical students ranged between low and medium scores in both experimental groups, to the same extent. (Table 2).

Table 2 The initial test results assessed in both experimental groups (ES and CS)

Initial Test	High score		Medium score		Satisfactory score		Unsatisfactory score	
	Nr. st	%	Nr. st	%	Nr. st	%	Nr. st	%
CS	0	0	19	47.5	14	35	7	17.5
ES	0	0	18	45	16	40	6	15

Thus, according to the test results, relatively equal data were registered for both experimental groups. We find that no student obtained high scores,

so that most of students - 47.5% and 45% had a mean level of language acquisition, followed by 35% and 40%, for the satisfactory score, and, 17.5% and 15% of students obtained an unsatisfactory score, respectively. At the first stage of our research, we determined the initial level of language acquisition of students in both groups. We assessed the specific students' needs, which were adapted to their specific interests and expectations in order to start the procedure of the formation stage, based on the traditional teaching model, by using adapted teaching materials used in traditional classes (control group) and teaching Medical English through authentic tools, tasks and materials (experimental group).

2. At the formative stage, the pedagogical model for the effective use of authentic materials in teaching and learning EMP was developed and implemented at the university level. This included the development of the writing, listening, reading and speaking skills in English, by improving the teaching-learning strategies within EMP classes.

Based on the analysis of the specific needs, which were identified by the students from the "Nicolae Testemitanu" State University of Medicine and Pharmacy at the stage of data collection, the formative approach of this study was elaborated and carried out by:

- (1) identifying the authentic content from a wide range of available sources;*
- (2) defining and describing the types of authentic materials used during EMP classes;*
- (3) exploiting the authentic materials through a variety of strategies and tasks taken from their real-life and professional settings;*
- (4) assessing the students' opinions on the use of authentic materials within the EMP classes;*
- (5) identifying students' preferences for the use of authentic materials, according to the structure, content, motivation, relevance, comprehension, etc.*

During the formative experiment of introducing the pedagogical model for the effective use of authentic materials within the teaching and learning process of EMP, based on the objectives of our research, systematic observations were made on the active involvement of students within the lessons, characterized by an increase in the level of voluntary attention, motivation and high-level interest, homework quality, comprehension etc.

The efficient use of authentic materials in the teaching-learning process of Medical English was demonstrated by exploiting them in a variety of ways (video, textual, online, printed, via real objects or by combining them), which resulted in the development of 2 authentic course-books for medical students (Medical English Part I, Medical English Part II (video-based workbook)), by including the most successful and relevant authentic materials used during the formative experiment.

3. The validation stage allowed us to determine the effectiveness of the implementation and use of authentic materials in medical English classes in the experimental sample, compared to the control group, which used only the materials presented in the coursebooks, in order to improve their communication skills (writing, listening, reading and speaking), motivation, comprehension and learning autonomy. Moreover, it was determined which of the 5 types of authentic materials proved a higher degree of interest, relevance, reliability and motivation among medical students.

During this stage, the students passed the final evaluation test, according to the before and after method. The assessment test was applied in accordance with the university curriculum, the final test being similar to the initial one in structure, with the use of recommended activities and exercises to assess the level of communicative skills according to CEFRL levels. The final test results reported the following scores, according to a predetermined scoring system.

Table 3. The final test results assessed in both study groups (ES and CS)

Final Test	High Score		Medium Score		Satisfactory Score		Unsatisfactory score	
	No. st	%	No. St	%	No. St	%	No. st	%
CS	12	30	19	48	8	20	1	2
ES	22	55	16	40	2	5	0	0

The final evaluation test proved that students from the experimental group showed a more advanced level of knowledge of EMP, due to the efficient

use of authentic materials used during the experimental formative stage. These results are represented below in a diagram which provides knowledge and understanding on how language acquisition and communication skills have evolved in both experimental groups during the EMP teaching-learning process.

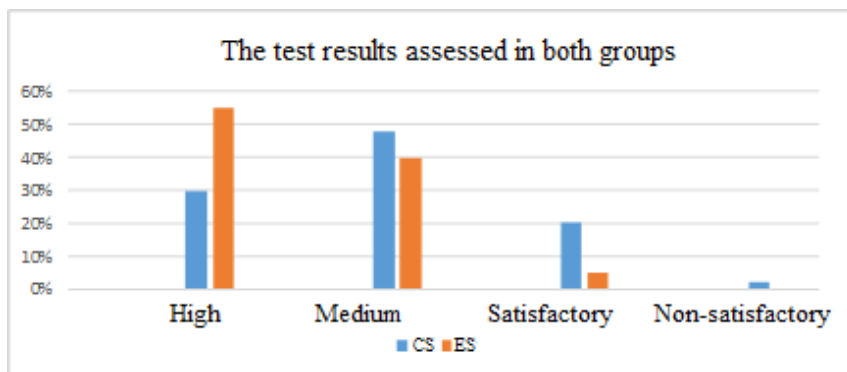


Figure 6. The graphical rendering of the final test results assessed in both samples

Thus, at the data validation stage, the recorded results revealed a high and medium level (only 2 students from ES had a satisfactory level and no student had an unsatisfactory score), with a significant difference in the experimental group compared to the control group. This phenomenon accounts for the use and implementation of authentic materials and activities within EMP classes, as opposed to the traditional approach including predefined tasks and activities available in the coursebooks for studying Medical English.

The SPSS (*Statistical Package for the Social Sciences*) program was used for the statistical processing of the collected data. The conditions of data series normality were checked by the *Kolmogorov - Smirnov test* for all variables, according to which the given value series are distributed approximately normally. At the next stage, we applied the *T-Student parametric test*, for two pair-samples, to evaluate the significant mean values of the control and experimental groups at the final evaluation test. (Table 4). Since the value equal to 0.001 is less than 0.05, the results from the initial and final evaluation tests of the experimental group students differ significantly at a significance threshold of $\alpha = 0.05$ (33.9 compared

to 25.6 points). Therefore, the research purpose of the formative experiment was achieved, and the hypothesis was confirmed.

Table 4. The mean significant values assessed in both CS and ES in the final evaluation test

<i>Paired Samples Statistics</i>					
		<i>Mean</i>	<i>N</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
<i>Pair 1</i>	<i>T_I_L_E</i>	25,63	40	5,143	,813
	<i>T_F_L_E</i>	33,920	40	3,6232	,5729

Conclusion: *The pedagogical model for the effective use of authentic materials in teaching-learning of Medical English* applied in the experimental group, provided higher performances than those of the students in the control group.

Moreover, during the validation stage, we further proposed to apply a questionnaire to the students in the experimental group, to assess and identify their preferences in the use of authentic materials (video, textual, printed, real, and online authentic materials) .

The results highlighted the students' attitude towards their needs, motivation, relevance and interest in using AM in the teaching-learning process of EMP, compared to traditional materials (course-books). The survey showed which type of AM proved to be more effective among future physicians. Thus, we noticed that the most popular ones were the audio / video and online teaching materials, since they showed a higher degree of motivation and more active participation of students, due to a more efficient and interactive way to perceive information and the highly-specialized content.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Following the requirements of the policy options on modern language education and according to the Framework Plan for higher education institutions, the Reference Framework of the university curriculum, the National Curriculum for teaching modern languages, CEFRL descriptors etc. being referred to teaching English at universities and in order to determine the main directions of the professional training of medical students, we determined the theoretical framework for developing the *Pedagogical Model for the effective use of authentic materials in teaching-learning of Medical English* . Thus, based on our pedagogical experiment and the quantitative and qualitative processing of the obtained data, we came up with the following conclusions:

1. The studied scientific problem allowed to determining and in-depth description of the basic concepts of the research: "internationalization process", "English for Specific Purposes", "English for Medical Purposes", "specialized language", "authenticity", "Authentic materials", "authentic tasks", by specifying the importance of further integration of medical students within their professional settings worldwide.
2. An analytical synthesis was performed to highlight the need to re-assess the EMP teaching-learning process by considering the following: the specificity of Medical English and specialized terminology, maximizing the teaching-learning potential adapted to the specific needs of the medical students, selecting information and content oriented towards a specific teaching purpose, based on interactive, open and creative strategies, as well as flexible methods and modern techniques.
3. Following the specificity of teaching medical English, we found that it is generated by two major forces: the analysis of "registers" (genres) specific to the medical context and the study of EMP, adjusted to the "needs" of the medical students to use a unique language of international and scientific communication. The study also revealed the main elements of an EMP course design that would take into account the specific needs of students, thus being a continuous, open process, that requires constant training of ESP teachers.
4. A great number of advantages in using authentic materials for Medical English classes have been described and revealed, as well as the crucial role of the ESP teacher in the teaching-learning process, especially at the

stage of the initial professional training of students, including the role of guiding and encouraging students to use **authentic** (despite their level of English), **up-to-date** (information exchange is increasingly intense) and **relevant** (information must be representative and motivating) information for medical students, which is a priority for their future professional careers.

5. The pedagogical experiment allowed validating the formative value of the Pedagogical Model on the effective use of authentic materials in teaching-learning EMP by developing communication skills and by exploiting authentic materials, which demonstrated an increased interest and motivation among students, due to their interactive approach, relevance, reliability and high degree of scientific quality, thus corresponding to the students' linguistic and professional needs, as to later become efficient, appreciated and showing good performance members in their professional communities. The applied Pedagogical model confirmed a *higher increase in the performance of the experimental group, from low and medium levels to high level, compared to the control group, there being a relevant and statistically true difference between these two groups*. The research results demonstrated the solution of the scientific problem by confirming the hypothesis of the scientific investigation.

6. The scientific contribution of the research consists in: (1) optimizing the teaching-learning process of English at university level for medical students, by consulting relevant literature and revealing the best practices; (2) determining and exploiting authentic materials in teaching-learning EMP at university, which will significantly facilitate the acquisition of the relevant and motivating knowledge, being of special interest for future health care workers; (3) elaborating three practical course books on teaching-learning Medical English within the experimental formative stage, namely *Medical English Part I (video-based workbook)*, *Medical English Part II (video-based workbook)*, *Nursing -practical course book (in process of development)*, based on the use of authentic materials which proved to be efficient, a fact registered by the final test scoring of students from the experimental group compared to the control group, who used traditional approach; (4) developing of the first interactive digital course book in teaching Medical English via authentic materials and receiving

the AGEPI patent; (5) developing the communication skills and practical abilities of using authentic materials among medical students, by developing an autonomous learning degree that ultimately will lead to acquiring lifelong learning skills; (6) by demonstrating for the first time in our country the role of authentic materials in teaching English for Specific Purposes, particularly for medical students.

Based on the research results, the following practical recommendations can be suggested for:

- ***Educational policy designers:*** To assess the possibilities and opportunities to increase the weekly number of Medical English language classes (compulsory course) and introduce optional hours / courses for teaching EMP to students in the last years of study.
- ***Higher education institutions:*** To carry out continuous training courses/workshops/seminars for teachers engaged in the process of teaching-learning English for Specific Purposes in order to exchange good practices with other institutions of this kind; to improve and revise the current programs and disciplinary curricula, in order to perform a paradigm shift from a traditional to an authentic approach, which would meet the real needs of medical students.
- ***University teachers and authors of EMP / ESP course books:*** To use a variety of authentic, interactive materials and include them in the contents of course materials, as to facilitate the assimilation of specific knowledge and their instant use in subsequent professional activity; to apply authentic materials within English classes in order to increase the degree of interest, motivation and autonomy among medical students.

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ADNOTARE

Viorica Cazac

Eficientizarea procesului de predare- învățare a limbii engleze medicale prin intermediul materialelor autentice

Teză de doctor în Științe ale educației, Chișinău, 2021

Volumul și structura tezei: introducere, trei capitole, concluzii generale și recomandări, adnotare (română și engleză), cuvinte-cheie în limbile română, engleză, lista de abrevieri, bibliografie din 208 de surse, 25 anexe, 153 de pagini text de bază, 34 de figuri, 16 tabele.

Publicații la tema tezei. Rezultatele cercetării au fost reflectate în 22 de publicații științifice, 3 suporturi de curs practice, 1 manual digital.

Cuvinte-cheie: *materiale didactice autentice, limba engleză de specialitate, limba engleză pentru scopuri medicale, medicină și sănătate publică, globalizare, eficientizare, limbaj medical, terminologie medicală, limbi moderne pentru scopuri specifice, comunicare în context profesional.*

Domeniul de studiu: pedagogie universitară (limba engleză).

Scopul cercetării constă în determinarea reperelor teoretice și metodologice de *eficientizare a procesului de predare-învățare a limbii engleze medicale prin intermediul materialelor autentice.*

Obiectivele cercetării vizează: relevarea conceptului de predare-învățare a limbii engleze specializate în vederea formării profesionale a mediciiștilor; importanța limbii engleze medicale în contextul globalizării (nivel cognitiv-profesional); analiza procesului academic de predare-învățare a limbii engleze medicale întru revizuirea materialelor la nivel de *curriculum*; identificarea necesităților de comunicare și de utilizare a limbii engleze, la nivel de comunicare specializată; elucidarea modalităților de utilizare, eficientizare și implementare a materialelor autentice în cadrul orelor de limba engleză medicală; elaborarea *Modelului pedagogic de eficientizare a procesului de predare-învățare a limbii engleze medicale prin intermediul materialelor autentice.*

Noutatea și originalitatea științifică a cercetării rezidă în explicarea conceptului „de eficientizare a materialelor didactice autentice”, reliefaarea noilor tendințe și identificarea noilor tehnici, actualizarea tehnicilor deja aplicate în cadrul orelor de limba engleză de specialitate; ajustarea acestora la cerințele profesionale (medicale) întru formarea, cultivarea competențelor necesare, (cunoștințe și experiență) aplicabile în procesul de predare-învățare a limbii engleze medicale.

Problema științifică soluționată constă în identificarea fundamentelor teoretice și practice care vor asigura implementarea și validarea *Modelului pedagogic de eficientizare a procesului de predare-învățare a limbii engleze medicale prin intermediul materialelor autentice* cu impact asupra problemei de optimizare a actului didactic universitar, în contextul globalizării social-profesionale.

Semnificația teoretică a cercetării este reliefată de rezultatele cercetării bazate pe analiza situației-țintă și a necesităților mediciiștilor, examinarea și analiza perspectivelor științifice și metodologice în vederea eficientizării procesului de predare-învățare a limbilor străine (limbaj specializat); stabilirea condițiilor și a modalităților de optimizare a didacticii limbii engleze medicale în învățământul superior. S-a demonstrat eficiența utilizării materialelor autentice în actul de predare-învățare a limbii engleze medicale, argumentată prin atestarea de rezultate scontate: nivel înalt de motivare, interes sporit și implicare activă a mediciiștilor în cadrul orelor de limba engleză medicală.

Valoarea aplicativă a cercetării constă în elaborarea și valorificarea experimentală a *Modelului pedagogic de eficientizare a procesului de predare-învățare a limbii engleze medicale prin intermediul materialelor autentice*; abordarea în premieră a problemei date în contextul didacticii limbii engleze medicale; elaborarea de recomandări metodologice pentru profesori, autori de *curriculum*, manuale, ghiduri etc.

Implementarea rezultatelor științifice s-a realizat prin intermediul cercetărilor experimentale în cadrul IP USMF „Nicolae Testemițanu” la orele de limba engleză medicală, având drept reper *Modelul pedagogic de eficientizare a procesului de predare-învățare a limbii engleze medicale prin intermediul materialelor autentice*; prin participarea la conferințele, naționale și internaționale, publicarea materialelor științifice, inclusiv elaborarea/publicarea a 3 suportului de curs, 1 manual digital și realizarea orelor/activităților de limba engleză medicală în grupele de mediciiști.

ANNOTATION

Viorica Cazac

The effective use of authentic materials in teaching-learning EMP

PhD thesis in pedagogical sciences, Chisinau, 2021

The structure of the thesis includes introduction, three chapters, general conclusions and recommendations, annotation (Romanian and English), keywords in Romanian and English, glossary of terms, list of abbreviations, 208 bibliography sources, 153 text pages, 34 figures, 16 tables, 25 annexes.

Publications related to the topic of the thesis: The research results were revealed in 22 scientific publications, 3 practical course-books, 1 digital course-book and 1 AGEPI patent..

Keywords: authentic materials, specialized English, English for Medical Purposes (EMP), medicine and public health, globalization, efficiency, medical vocabulary and terminology, English for specific purposes, professional settings.

Field of study: University pedagogy (English).

Research purpose is to determine the theoretical-practical aspects for the efficient use of authentic materials in teaching and learning English among medical students.

Research objectives: to reveal the concept of English for Specific Purposes in teaching and learning future medical professionals; to highlight the importance of learning Medical English in the context of globalization (at cognitive and professional level); to assess the academic process of teaching and learning medical English in order to review the materials at curriculum level; to identify the communicative and specific needs of medical students; to highlight the efficient ways of using, optimizing and implementing authentic materials during Medical English classes; to elaborate methods and techniques for exploiting authentic materials in order to enhance the process of learning Medical English among future healthcare workers.

The scientific novelty and originality is based on the concept of “making authentic materials more efficient” which aims at highlighting new trends and identifying new updated techniques that can be applied in ESP classes; adjusting authentic materials to professional (medical) requirements for training and developing the necessary specific skills, abilities, knowledge and experience; subsequently, applicable within the process of teaching-learning EMP.

The solved scientific problem consists in identifying the theoretical and practical background that will ensure the implementation and validation of *The Pedagogical Model elaborated to prove the efficiency of using authentic materials in teaching and learning EMP*, as well as the impact of using authentic materials at the university level, in the context of educating social and professional workers within globalized conditions.

The theoretical significance of the research is supported by the research results based on the analysis of the target situation and the needs of future physicians, as well as examination and assessment of scientific and methodological perspectives in order to enhance teaching and learning ESP practices; to establish the conditions and ways of optimizing the process of teaching EMP in Higher Education institutions. This present study proved the efficiency of using authentic materials in teaching and learning EMP by attesting the expected results, namely, high level of motivation, an increased interest and active involvement of medical students within EMP classes.

The practical value of the research consists in the development and experimental optimization of the *Pedagogical Model for the effective use of authentic materials in teaching -learning EMP*. This issue has been first studied in the context of teaching ESP, thus followed by the elaboration of methodological recommendations for teachers, curriculum, textbook and guidelines writers etc.

The implementation of the scientific results was carried out via the experimental research within the Nicolae Testemitanu SUMPh during EMP classes, by implementing the theoretical and practical background of *The pedagogical model of the efficient use of authentic materials in teaching - learning EMP*; by participating at national and international conferences; by publishing scientific materials, 3 course books, 1 digital book and by carrying out practical activities with medical students.

CAZAC VIORICA

**THE EFFECTIVE USE OF AUTHENTIC MATERIALS IN
TEACHING-LEARNING EMP**

533.01 UNIVERSITY PEDAGOGY

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