

MEDICAL RESIDENTS' FOREIGN LANGUAGE COMMUNICATION DEVELOPMENT THROUGH BLENDED LEARNING

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Abstract

The article is devoted to the problem of foreign language communication development through blended learning. The experimental group is represented by medical residents, young doctors who wish to continue their education and specialize in a certain branch of medicine. The role of professional communication in a foreign language is outlined. The study is focused on the English language potential for medical specialists. It can increase their professional development, interest and activity in scientific research, international professional collaboration, laboratory investigations, hospital practice, life-long learning. The study identifies the main advantages of blended learning in teaching professional foreign language communication. Special attention is given to the conditions for successful implementation of blended learning technologies in the enhancement of professional communication in a foreign language. The article presents a pedagogical experiment in the context of teaching professional medical communication in English through blended learning. The results of the experimental work let us speak about the conditions necessary for medical residents' vocational communication development by means of blended learning, as well as about effective approaches to facilitate foreign language teaching in the professional field of medicine.

Keywords: Students, teachers, teaching, higher education, communication, medical students, language, blended learning, professional development.

1 INTRODUCTION

1.1 Actualizing the problem

Medical residents' foreign language communication development involves the formation of their abilities and skills to be ready to participate in the professional activity. The role of foreign language communication in the field of medicine is increasing. By professional communication we take into account: (1) academic communication – academic writing to deliver scientific articles and interpret them, facilitating rendering skills; public participation in scientific conferences, presenting reports, organising discussions in the professional field of medicine; (2) communication at workplace – with colleagues, patients at hospitals and health centres; (3) communication for continuing professional development as an indispensable part of a successful career for a medical practitioner, either a clinician or a researcher.

Medical residents are recent medical school graduated, young doctors with a university degree. After graduation instead of working as a general practitioner in general medicine, they decide to specialize in a certain branch of medicine (cardiology, radiology, laboratory diagnostics, genetics, rheumatology, endocrinology, oncology, surgery, etc.) At this moment they acutely realize the necessity of foreign language professional communication due to a demand for information in the field of their specialty, professional collaboration, scientific research. The larger part of information in the medical field is presented in English. Thus, the English language potential for medical specialists can't be underestimated. The knowledge of English can increase their professional development, interest and activity in scientific research, international professional collaboration, laboratory investigations, hospital practice, life-long learning. The need to follow rapid pharmaceutical and technological innovations, changing clinical recommendations and new medication guidelines require highly developed foreign language communication skills, as well as those of working with a lot of information in English. Information for specialists is available in many media resources – the internet, e-journals of special professional orientation, scientific publics, online conferences, scientific forums etc. These are great areas to grasp information from, to exchange information with colleagues, to discuss information, to convey specialists' findings to the academic community.

One of the means of enhancing these skills is blended learning. It is a good technique to teach the skill of dealing with great amounts of information as well as to introduce learner's autonomy, which is

crucially important for young specialists with different working hours – some of them work day shift, others work night shifts, and some work twenty-four hours. In this teaching model the leading role is given to independent learner's training using electronic media resources; and communication skills are practised in the classroom. Thus, blended learning technology presupposes some individual approach to a learner, some individual trajectories in the process of studying a foreign language. From this perspective, we assume that blended learning can be an effective tool to teach professional foreign language communication to medical residents. Due to integration of traditional classroom work and the use of Internet resources it is a good way to improve the efficiency of the educational process.

The novelty of the study is supposed to be connected with teaching a foreign language through blended learning to post-graduate students – recent medical school graduates. When studying a foreign language, they develop a motivated need for professional communication in English in order to continue their education, enhance their professional medical knowledge and skills through clinical and research practice, collaboration with colleagues and researchers in foreign professional associations.

1.2 Status of the problem

The analysis of scientific and pedagogical literature on blended learning, as well as the study of practical foreign language experience at the university revealed the following approaches to this educational model and professional foreign language communication in the following studies presented by domestic and foreign specialists:

Digitalization in education is investigated in research works by G.R. Eremeeva, E.V. Martynova, E.F. Zalyalova (2020), [1], where the authors focus on digitalization of the educational process through problem-based learning; Blended learning supported by digital technology in research works by Elena María Trujillo Maza et al. (2016) [2], where the authors correlate blended learning with the increased flexibility and autonomy in students' learning process as well as the development of various competencies;

The role of blended learning of radiology while training medical students is accentuated in research works by Adrien Vavasseur et al. [3], where the authors evaluate the impact of blended learning using a combination of educational resources (flipped classroom and short videos) on medical students for radiology learning; Blended learning in foreign language teaching to university students is studied in research works by M.G. Bondarev [4], A.A. Valeev, [5], I.G. Kondrateva [6], D.R. SAbirova [B. Tomlinson, C. Whittaker [8], H. Brown [9];

Professional communication while foreign language teaching is investigated in research works by E.B. Galiullina, L.A. Gizyatova [10], A.A. Valeev [11], A.D. Zubkov [12], L. Louhiala-Salminen, A.Kankaanranta [13], where the authors focus on teaching English for specific purposes, its possibilities and innovative approaches.

1.3 Hypothesis

Medical residents' foreign language communication development through blended learning can be successfully performed if the educational process at university involves the following methodological conditions: Relevant role of foreign language professional communication is determined by medical residents; Students are provided with the opportunity of autonomous work with e-learning resources; Professional background and practical orientation are strengthened.

2 METHODOLOGY

2.1 The task of the research

The tasks of the research are: 1) To justify the role of professional communication in a foreign language to medical residents; 2) To identify the main advantages of blended learning in teaching professional foreign language communication to medical residents; 3) To explore effective approaches to facilitate foreign language communication in the professional field of medicine.

2.2 Theoretical and empirical methods

The following methods were used at different stages of the research: theoretical methods – outlining the problem of the research, analysing domestic and foreign literature on the subject of the study,

theoretical generalization of the results; empirical methods – observation, questioning, comparative analysis of the obtained results, pedagogical experiment.

2.3 The trial infrastructure and stages of the research

The research was carried out at the Institute of fundamental medicine and biology of Kazan federal university (Kazan, Russian Federation) within the framework of teaching medical residents to the subject of “Foreign language”. There were two stages of the research. At the initial stage (September 2020), 50 medical residents, recent medical school graduates (35% males and 65% females), formed their ideas about the role of professional communication in a foreign language in the field of medicine; practised their abilities to use e-learning tools such as an electronic educational online resource, websites, Microsoft Teams; developed opportunities to independently work with authentic foreign language sources of information such as professionally focused articles in medicine, video podcasts on urgent medical issues, reference books, presentations of their colleagues. Professional communication in English was trained and delivered in the form of: Rendering scientific articles in a certain field of medicine (academic communication); Modelling case-histories and role-playing the dialogues between a doctor and a patient/ between a doctor and a third party/ between a doctor and a colleague (communication at workplace); Discussing the video podcasts about the work of medical practitioners, their personal and professional qualities and requirements; Describing a future career, ways of professional development, life-long learning (communication for continuing professional development). The state of the problem in the language education practice was studied; empirical material was collected. At the final stage of the pedagogical experiment (May 2021), criteria for evaluating students’ professional foreign language communication were suggested and developed. The results were compared with the initial indicators.

3 RESULTS

3.1 The course and results of the experiment

Blended learning was implemented through flipped classroom. Students were given the task to work with the platform SJR: Scientific Journal Rankings (<https://www.scimagojr.com/journalrank.php>) [14], study the information about the journals and country scientific indicators, search for the scientific journals in their professional field, their branch of medicine choosing from subject areas such as Health professions, Biochemistry, Genetics and Molecular Biology, Dentistry, Immunology and Microbiology, Medicine. Then medical residents read the articles independently at home, studied the issues, compared the information from various journals, made some notes, key points. Individual work with information resources from such e-tools was followed by communication in class, where students used rendering as a means of communication and presenting these articles according to the annotation plan, drew conclusions, formulated their personal professional attitude to the topic under investigation, discussed them with fellow students.

Another approach to facilitate foreign language communication in the professional field of medicine through blended learning was arranged through the digital educational online resource “ESP listening for medical students” (<https://edu.kpfu.ru/enrol/index.php?id=2371>) [15] created for this purpose on the platform of Kazan federal university. This electronic online resource includes authentic video podcasts on medical topics – from anatomy, body organ systems to medical practitioners and medical education. It is supplied with vocabulary and comprehension exercises, as well as the ones for thinking and speaking, describing and retelling. Medical residents watched the video podcasts, did the assignments online. Later in the classroom, they were prepared and ready to use the obtained information, practice their communication skills. So, in the framework of blended learning approach, after individual work with websites and online resources, medical residents trained and developed their communication skills in class.

As the experimental work showed, it is possible to assess the development of foreign language professional communication skills in medical residents only with the help of diagnostic procedure. In this regard, tests and questionnaires for students were used. Criteria for effective medical residents’ foreign language professional communication development through blended learning were outlined. Testing was carried out in the academic year of 2020-2021: initially - in September 2020, for the second time - in May 2021 in one experimental and one control group. The results are presented in Table 1.

Table 1. The results of medical residents' foreign language communication development through blended learning ("+" means increased percentage in indicators for the period September 2020 – May 2021)

Criteria for effective foreign language professional communication development through blended learning	The control group (professional foreign language communication development without the support of blended learning)	Experimental group (professional foreign language communication development based on blended learning)
Increasing awareness of the role a foreign language plays in the professional medical career	+ 12 %	+ 90 %
Developing linguistic skills, enlarging professional vocabulary	+ 10 %	+ 75 %
Developing presentation and self-presentation skills (when rendering articles, speaking about a medical career, communicating with patients)	+ 10 %	+ 85 %
Raising the skill of autonomous work with online resources	+ 15 %	+ 90 %
Raising the level of young medical specialists' motivation to communicate information in a foreign language	+ 20 %	+ 95 %
Increasing ability to arrange self-education	+ 15 %	+ 80 %

According to the obtained diagnostic results, in the experimental group a stable increase in all parameters is observed. Thus, students who took part in the experiment demonstrate much higher indicators of developing professional communication skills, taking into account increased awareness of a foreign language in the medical field as well as the skill of autonomous work and processing the information from online resources. Applying professional communication in everyday use makes the process of learning a foreign language more related to life, to working in their specialties. To prove this fact students become more engaged in the learning process. Blended learning tools make it easier for them to arrange their self-education because of their working shifts and overload at work. It is in primary relation to their ability to work with online resources autonomically.

3.2 The role of professional communication in a foreign language to medical residents

As we suppose teaching professional aspect of a foreign language deals with language for specific purposes (LSP). And the purpose of language education is communication, the use of the foreign language in a certain specialty.

The results of the study and personal university teaching experience of the authors make it possible to agree with T. Dudley-Evans, & M.-J. St. John [16], I.I. Baranova, I.A. Gladkikh [17], Rizky Eka Prasetya [18], that new methodological approaches to LSP teaching are required, they are supposed to be based on integration of communication and information technologies.

According to the results of the research we can identify the role of professional foreign language communication for medical residents:

- 1) Most of information in medicine is presented in English. To remain a competent medical practitioner, to follow the urgent issues in medicine, to keep up to date with medication guidelines and technological innovations, requires constantly updating their knowledge. And

then studying this information from all over the world resources, integrating it into their clinical practice, consequently developing new skills and competencies.

- 2) A successful medical practitioner integrates in his career clinical practice and scientific research. Research centres, professors of universities and hospital doctors from different countries work in close collaboration with each other, developing joint projects, arranging academic mobility programs for students and medical residents, exchanging experience. It's a key to progress in science and clinical practice. Specialists from various countries communicate in English.
- 3) Foreign language communication is significant for continuing professional development of a medical practitioner. It gives opportunities to read international scientific articles in the field of medicine from authentic reputable journals, review them, make conclusions, discuss urgent medical problems at scientific and practical conferences, participate in online and offline forums, seminars and webinars, thus creating a reputation for yourself as a highly qualified specialist.
- 4) Professional communication in English can motivate young specialists to self-develop. They study information on various professional issues in medicine, they compare themselves with their peers and colleagues, and it stimulates and motivates them to learn more, to achieve more.

All these points make professional communication for medical residents highly necessary and extremely challenging. We should understand that the English language is not the ultimate purpose, it's a means of communication used to achieve more sophisticated goals.

3.3 Advantages of blended learning in teaching professional foreign language communication to medical residents

Most of the approaches to blended learning include the combination of face-to-face learning with computer-controlled learning, or a range of opportunities presented by combining the Internet and electronic mass media, with forms requiring physical presence in the classroom of the teacher and students, according to C.J. Bonk, C.R. Graham, M.G. Moore [19]. We follow the most appropriate interpretation of this term by D. Garrison, N. Vaughan to denote the concept of blended learning as a combination of traditional full-time and distance learning technologies [20]. In this respect we can support the idea of the methodologists in the field of higher education pedagogy E.E. Bennett and R.R. McWhorter [21], R. Blake [22], G. Dudeney, N. Hockly [23], P. Sharma, B. Barrett [24], who emphasize the effectiveness of information and communication technologies integration in the educational process as one of the flexible approaches to learning.

In this regard, the results of the study let us outline the main advantages of blended learning for foreign language communication development in medical residents:

- 1) the ability to study independently, autonomically using electronic resources, online resources, media resources, working at their own pace, and practicing communication skills in the classroom;
- 2) the possibility to balance the communication level and skills of all students in this group by independently studying the materials and doing extra exercises provided by the teacher (either for students lagging behind or for more advanced students who need not to be bored);
- 3) the possibility to choose the forms of organization of training – it can be face-to-face meetings, classroom classes, consultations by e-mail, chat rooms and blogs, educational online sessions in Skype, Microsoft Teams, Zoom etc. – for medical residents who are assigned by the Ministry of Health to work in other cities and who cannot attend offline classes;
- 4) stimulation of self-learning and information retrieval skills – the need for self-study contributes to the development of a responsible attitude to learning, time planning, personal activity in the search for information – these skills are of primary importance for life-long learning and continuing professional development in medical career;
- 5) implementation of an individual approach in teaching – the possibilities to build individual learning trajectories by arranging individual extra tasks for students, by directing their progress, by following their achievement plan.

In this regard we consider that among the many reasons motivating teachers to choose blended learning are the possibility of using various teaching materials, their diversity, flexibility of teaching

methods, the functionality of teaching tools, with which it is easy to edit, supplement, replace educational, methodological material, share it and experience with their students and colleagues

4 CONCLUSIONS

So, the results obtained in the course of our research and experiment let us interpret the idea that blended learning approach creates favourable conditions for effective professional foreign language communication development in medical residents. Blended learning and its tools in the form of digital technologies contribute to the intensification of the learning process, make it easier for recent graduates because of their working shifts. We believe that the results of the research about a dramatic rise in the ability to arrange self-education and the skill of autonomous work with online resources (80% and 90% respectively) can speak in favour of the fact that blended learning technologies provide opportunities of a self-regulated learning process, which is one of the primary components of modern education today. A significant increase in the level of young medical specialists' motivation to communicate information in a foreign language (95%) received in our experiment can suggest the idea of their active role in the process of life-long learning, on which their professional work and promotion depend. We assume that it correlates with a considerable increase in their awareness of the role a foreign language plays in the professional medical career (90%). A growth of acquired linguistic skills and enlarged professional vocabulary (75%) is interconnected with improvement of their presentation skills, when students become more confident in language usage, more fluent to convey their messages and opinions. Using their professional background, Latin terminology which is abundant in medical English, they can role-play medical cases in the classroom as well as patient's examination procedure enhancing their skill of communicating with patients through making up questions and taking notes. An improvement in self-presentation skills becomes evident in students' description of their professional duties, working days, plans for a medical career.

To this end, we may come up with the conclusion that when using blended learning in the process of medical residents' foreign language communication development, the following conditions should be met:

- 1) It is important to take into account the experience accumulated in the world pedagogical practice about blended learning in order to correlate its tools to the purpose of language education, integrate digital technologies in the learning process, combine various forms of education in accordance with students' individual requirements, levels and goals;
- 2) It is essential to take advantage of open access to digital (educational) online resources and scientific database websites in order to improve language skills and enhance medical scientific background;
- 3) It is crucial to use recent medical school graduates' working experience in order to bring the learning process closer to life, make it more valid and authentic, providing practical orientation, creating realistic situations and cases to show how these skills and knowledge can be used in professional communication;
- 4) It is significant to create motivation and self-motivation in students in order to establish a strong wish to master foreign language professional communication, never stop to develop in their medical career, get promotion, because medicine progresses fast, medical knowledge spread quickly through joint alliances and associations as well as through scientific publications and discoveries;
- 5) It is important to ensure an active role of a student in education in order to provide his eager participation in the process of communication, which can be achieved through flipped classroom technique and digital online resources, when individual autonomous work with online resources alternates with face-to-face communication practice.

Thus, blended learning and the conditions above, appropriate combination of full-time and e-learning of a foreign language, relevant selection of tools and methods – all these facilitate the effective development of medical residents' foreign language professional communication. In this regard, we consider blended learning an effective tool to teach professional foreign language communication to medical residents. It makes it possible to combine the possibilities of e-learning and direct communication with teachers and fellow students / colleagues. On the one hand, the leading role is given to independent training using electronic resources, on the other hand classroom hours are devoted to the development of communicative skills.

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