Implementation of Interactive Methodology in Medical Education: Blended Learning Approach, E-Learning vs Conventional Learning

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Abstract---Nowadays, the acquisition of innovative approaches and techniques that use the Internet is one of the main goals for the development of higher medical education in Ukraine. Blending learning is an effective way to gain knowledge in medicine and such kind of education is carried out through educational programs and curriculum and was approved for each department by the scientific council of the university. This paper describes the effectiveness of blending learning in the preparation of medical students in Ukraine. The authors designed a course "Medical English for Specific Purpose" and implemented it into the educational process. From this research, it can be concluded that blending learning is an integral part of modern education with the ability to use collaborative and critical thinking skills. In such kind of education, the role of a teacher changes to the facilitator who involves and stimulates students to go through real problem solving and meaningful lifelong learning experiences.

Keywords---conventional learning, future doctors, learning strategy, medical students, online learning.

Introduction

Improving the standards of professional training of future doctors by the international and common European standards would increase the competitiveness of the country's higher medical education. One of the possible ways of implementing positive changes in the professional training of future doctors is to take into account the results of scientific investigations of other countries such as Haq et al. (2004); Howe et al. (2004); Zeiger (2005); McCullagh

et al. (2008); McCarter (2009); Parmelee et al. (2009); Choudhary & Gupta (2015); Tomlinson (2005); White (2006).

All these studies proved that English is a crucial thing and a basic skill in modern people lives. Future doctors couldn't realize all their potential without being knowledgeable in this area. That is why, according to the requirements of the Dnipro State Medical University (DMU), at the department of language preparation, a course on Academic Medical English Preparation was designed. This course is carried out through the educational program and curriculum and was approved by the council for each speciality. The educational program includes 5 components that give acquisition of competencies under the National Qualifications Framework. A good general course should contain an introduction, needs analysis, independent learning, education technology, discourse analysis and genre analysis, and should develop an awareness of individual learner characteristics and the frameworks of inter-cultural differences – all highly relevant to LSP teaching (Howard & Brown, 1997). The research aims to increase the competitiveness of domestic higher medical education and to optimize the conditions for the international mobility of medical students in the national and international labour markets with the help of studying English due to the Ukrainian government's declaration of the European integration path.

Materials and Methods

A course on Academic Medical English Preparation was designed by the Department of Language Training, Dnipro State Medical University. It includes a course "Medical English for Specific Purpose" which aims to teach students to combine conventional face-to-face learning with distance education in developing productive and receptive skills (Geller et al., 1990; Trong et al., 2021). To reach the purpose of this course a medical English classroom was created. 80 medical students of the first course have taken part in this research. They were divided into 4 groups. Two of them used an interactive DIGIBOOKS Platform, authentic materials and books, and at the end of the course passed an occupational English text such as the OET Cambridge exam. The other two groups had a conventional way of study with a standard book without interactive techniques with usual textbooks such as "English for medical students" by Avrakhova (2018). The goals and activities were already designed and added to the educational program of each group. Each member of the experimented groups had both types of tasks collaborative and individual tasks which have been done with a help of the interactive platform and contributed to the fulfillment of the group work.

Results and Discussion

Modern tech-fluency plays an increasingly important role in higher medical education. For this reason, blended learning is promoted by DMU. The words of Richard Otto could explain the importance of blended learning: "Blended learning aims to orchestrate an effective composition of learning experiences. Instructional design has a long history of blending classroom work with homework, field trips, labs, reading assignments, and audio-visual media. However, what is new in this era of blended learning are the powerful modes of online synchronous and asynchronous activities and technology-based instructional methods which can

now be added to the mix" (Otto, 2005). Although, it has advantages and disadvantages. Before their evaluation, it is necessary to analyze what is blended learning for medical education. Blended learning is a way of learning that combines conventional classroom lessons with lessons that use computer technology and may be given over the internet. Blended learning is a way of breaking down to education (Cambridge Dictionary). It should be noted that the concept of "blended learning" is interpreted by our department as a modern approach to teaching medical English that is used by teachers and students for receiving it to acquire new knowledge and skills. This method of blended learning taught our teachers to shift from teacher-centered learning to student-centered learning with the ability to train soft skills such as social and communication skills, emotional intelligence and personality traits. The method combines technological advances and face-to-face learning. Blended learning brings benefits and challenges on many levels. A frequently mentioned benefit of online learning is flexibility in time and learning environments (Vaughan, 2007).

E-learning means studying at home using computers and courses provided on the internet. It is a comprehensive investigation of course developers'. Language teacher trainees' views regarding the usefulness and effectiveness of a multimedia self-tuition course. Distance education was introduced in 1981, starting with 91 students at the time. The primary purpose of using video in distance education is to improve understanding and comprehension synchronously or asynchronously (Cambridge Dictionary). This type of learning requires technical equipment and internet platform which requires: some budget, self-motivation, digitalized materials, internet access, tech-fluency for both participants of the educational process. This type of learning has the advantages which allow having an independent place and own pace of completion of each task, instand feedback from the platform with own progress which could be seen by the teacher and the owner of the results, media context increase motivation and the possibility of having reworks and analysis of the mistakes (Nerín et al., 2004; Afonso et al., 2004; Rees et al., 2004).

Conventional education means the formal educational process determined by the institution of higher education when students and instructors are in the same physical setting (face-to-face) for the majority (Cambridge Dictionary). This method also called face-to-face classroom education where the learner could ask a question during completing a difficult task and it might well increase student's motivation if it was correct. And the main thing that each student must be encouraged by the teacher, this is the greatest possibility to rise motivation. The drawback of this method is dullness we have only two tools a teacher and a book in our case without pictures. And this way of education is not acceptable for the digital generation. This method could be caracterised by good social contact, interference between a teacher and a student, asking questions, immediate teacher's reaction, this type of education for adults who are not well acquainted with the usage of digital equipment. Consequently, it can be said that by combining all types of learning we could upgrade our courses and meke them interesting, reliable and essencial for their vocationally oriented learning (Zavolzi, 2021; Gorghiu et al., 2015; Muliarta, 2016).

Different learners have preferences about learning styles (i.e., auditory, visual, kinaesthetic, tactile; introvert/extrovert; independent/social collaborative). Inventory includes the following learning styles as a combination of the characteristics of observation, experience, thinking, and action: Assimilating Style (planner), Converting style (decision-maker), Diverging Style (creator), and accommodating Style (doer). These preferences are based on how a learner processes information. Providing learning events that engage the learner's strengths is always desired. The blended approach allows a wide variety of learning styles to be engaged (Otto, 2005). The results of the survey conducted by the authors show different kinds of attitudes of both participants of the educational process teachers and students to the integration and implementation of the modern course in medical teaching and studying. All students from experimented groups of Dnipro medical university were engaged in e-learning activities and actively working with the Digi book's platform and had online classes. At the end of the course, 85% of students passed successfully an occupational English text the OET Cambridge exam. 80% of them used online platforms mostly every day. It is important to know how much time students use for practicing new material and how much time the teacher used for analyzing the students' progress (Donker et al., 2014; Flaherty & Richman, 1993).

About 50% of students spend 10 hours almost every week, 27% even spent 3-4 hours a day which means approximately 15-20 hours to practice not only medical English but at the same time train their clinical subjects themes in English. And such kind of work helps them to prepare themselves to Crok 1and 2 in English. For teachers the amount of time they spent is bigger: more than 50 % devoted 3-5 hours a day, at the same time a teacher saves time on checking exercises such as grammar or vocabulary because the platform gives feedback instantly after each task. As our students say, it is very convenient to have your task checked at the same time after you did it, it motivates us to finish all tasks quicker and become more fluent in each language component (Yigzaw et al., 2019; Aziz & Hossain, 2010).

Among the problems connected with blended learning 51% and 38% of teachers named technical problems. In addition, 48% of students found it impossible to follow strict deadlines and 40% of teachers mentioned the lack of time for monitoring the student's work in an interactive course. More than 80% of students and about 90% of teachers participating in the survey agree that our course is a crucial and very important part of modern teaching and learning and it should be integrated into the educational process of each group at Dnipro medical university (Balasubramaniam et al., 2018; Widana et al., 2021). Almost all students found the interactive course very useful not only in medical English but to practice clinical theoretical skills and for their learning in general. 95% of respondents appreciate the opportunity to have free access to the material and tasks anywhere and anytime. Moreover, 91% of teachers think because of this improvement medical students become more motivated and involved in the learning process killing two birds with one stone studying medical English and gaining new knowledge in medical science. 85% of teachers consider e-learning as an effective and reliable tool for increasing students' academic and scientific performance in the future (Danchikov et al., 2021; Grigorievna et al., 2021).

Conclusions

It is worth saying that the findings of our study suggest that medical students and medical teachers are open to new methods and interactive blended learning and tech fluency is a skill of the 21st century and the modern digital generation couldn't live without these up-to-date devices. That is why blended learning is an effective method and a great decision of combination of online learning and face-to-face learning for modern life. Students get an opportunity to practice their medical knowledge at their own pace and instantly get feedback. Furthermore, blended learning adds to the educational process several important plusses for both students and teachers and actively involve them in the learning process. This type of education provided participants with several advantages such as the opportunity to analyze, synthesize, and evaluate ideas and from this research, it can be concluded that blended learning fosters the development of soft skills and critical thinking. The role of a teacher changes to a facilitator who creates a meaningful learning experience and stimulates student's motivation through problem-solving tasks.

The results of this study have to encourage the rest departments of DMU to apply blended learning in teaching not just only medical English but all clinical subjects. Even though the development of such kind, admittedly, is time-consuming for all departments, for monitoring groups to control the process, but it allows teachers to optimize their time on checking the home task and to maintain the quality of the teaching process. The suggested course helps to keep pace with the time and correspond to new requirements of the educational system where information technologies and the use of online resources play a great impact on our modern life.

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