Designing Online Learning Environment: ICT Tools and Teaching Strategies

The authors analyze the capabilities of Information and Communication Technologies (ICT) and e-learning tools applied in the educational process through all levels of Higher Education in Russia: Bachelor’s / Master’s Degree Programmes and Professional Training. The article is based on the data obtained during the study in 2019 organized at Sevastopol State University, Lomonosov Moscow State University Branch in Sevastopol, V. I. Vernadsky Crimean Federal University, Institute of Foreign Languages (Simferopol) and S. I. Georgievsky Medical Academy (Simferopol).

Having analyzed literary sources and the results of conducted empirical research, the authors specify blended learning peculiarities in Higher Education, describe the application of various ICT and e-learning tools used to design online learning environment and new teaching strategies.

The study included a survey to identify popular ICT and modern e-learning tools applied by students and professors to manage educational process. The participants of the research were undergraduate students, educators and applicants of further Professional Training programmes.

The research has been aimed at the analysis of ICT and e-learning tools, their efficiency in solving educational tasks in online learning environment. The results showed that ICT and e-learning tools are widely used at universities to manage educational process, maintain communication and interaction, evaluate progress, organize assessment and team projects. ICT and online educational services also develop students’ autonomy and collaboration skills.

**Keywords:** online learning, Information and Communication Technologies, e-learning tools, blended learning, teaching strategies, autonomy, teamwork.

**Introduction**

Over the past 20 years, Higher Education in Russia has been changed greatly. The factors affecting this transformation include various political, social, and cultural processes: globalization, states’ partnership and collaboration, cross-cultural communication, increased migration, business, and academic mobility.

Besides, the 21 century is considered to be the period of great technological advance or digital age. The spread of the World Wide Web and numerous evolving digital technologies has shaped the new vision of Higher Education and Professional Training in Russia and other parts of the world.

First of all, the technologies and digitalization have influenced the way young students perceive and process information, their interaction patterns in the educational process, and day-to-day communication. Young people are also called now “Generation Z”, “Digital Natives”, “Internet Generation”, “Home Landers” etc. (Nikonov, Shamis, et al., 2019). We can’t ignore the importance of technologies in their life.
Secondly, the modern educational system is focused on lifelong learning priority. Online learning facilities may offer numerous opportunities to get new knowledge and develop students’ skills, creating a new learning environment. Also, the implementation of the “Open education” concept has led to the popularity of online learning and blended learning formats. The idea of open education has changed the way learners may acquire, share, and consolidate knowledge, having practically unlimited access to high-quality education and learning materials.

As a result, a significant amount of information and evolving digital technologies influenced the introduction of Information and Communication Technologies (ICT) and various e-learning tools into the system of educational institutions at various levels, including additional professional education (Strategy, 2008). Regarding Russian educational reforms, modern e-learning is one of the means to increase the motivation of students, quality of education, and the effectiveness of professional training. The simple transfer of knowledge is not so important as the development of students’ creative potential, professional skills and competencies.

The use of ICT and e-learning tools stimulates the design of new learning environment for students and educators offering new possibilities for the productive education.

**Problem Statement**

Modern teaching at Crimean universities can be characterized as a transitional period in the digitalization of Russian society (National Programme “Digital Economy of the Russian Federation”, 2018). Nowadays e-learning tools and ICT provide a smooth educational process through all levels of Higher Education: Bachelor’s / Master’s Degree Programmes and courses of additional Professional Training.

With the transition to blended learning system in the 21st Century language class, we need to consider the peculiarities of new online communication in the educational process. Among significant methodological issues are the adoption of new interaction patterns, developing learners’ autonomy and collaboration skills, organizing assessment, and designing new teaching approaches in an online environment.

The Partnership for 21st Century Skills was established by the National Education Association (NEA) in 2002 and the “Framework for 21st Century Learning” was developed. Among 18 skills as essential themes for learning in the 21st century “Four Cs” (Critical Thinking, Communication, Collaboration, Creativity) and Innovation were highlighted (CEFR Companion Volume with New Descriptors, 2018).

The CEFR introduces the concept of “Mediation”. Mediation language activities, (re)processing an existing text, occupy an important place in the normal linguistic functioning of our societies. When the students use a language, several activities are involved; mediation combines reception,
production, and interaction. They try not only to deliver a message but rather to develop an idea through what is often called “languaging” (talking the idea through and hence articulating the thoughts) or to facilitate understanding and communication (Connecting the 4 Cs of 21st Century Education (With a 5th C!), 2016). The notion of mediation is connected with the development of ways of communication and interaction in the online environment.

The aim of the research is to analyse popular ICT and e-learning tools applied to manage educational process, to design flexible online learning environment and new teaching strategies respectively. The study also focuses on the ways of developing students’ language skills, autonomy and collaboration with the help of ICT in professional training. The research reveals peculiarities of blended learning integrated into the system of Higher Education (on the example of Bachelor’s / Master’s Degree Programmes and Professional Training). Moreover, concerning new teaching strategies design, the authors describe changes in approaches to Academic English language teaching at university. Academic English is regarded as an essential component of Professional Training in online learning.

Materials and Methods

The study is based on the results of an empirical study devoted to the analysis of ICT and e-learning tools used to design an online learning environment at universities. It also comprises the results of conducted survey offered V. I. Vernadsky Crimean Federal University, Institute of Foreign Languages (Simferopol) and S. I. Georgievsky Medical Academy.

The purpose of the survey was to find out the examples of e-learning tools and ICT used by students and professors to solve numerous educational tasks. These results and participants’ feedback are taken into consideration while designing a new format of the online learning interaction at universities and developing innovative teaching strategies respectively.

The study also involved interviewing students of Bachelor’s and Master’s Degree Programmes at Sevastopol State University and Simferopol universities to identify their initial level of ICT awareness. ICT and e-learning tools were also widely applied in the system of additional Professional Training.

The article presents the results of conducting two courses on professional development with the use of ICT: “Professional Training Modernization Strategy” at V. I. Vernadsky Crimean Federal University and “First Crimean Winter MOOC School” at Lomonosov Moscow State University Branch in Sevastopol.

“First Crimean Winter MOOC School” for Russian Educators was offered by the Center of Online Learning Competencies “Lomonosov” in January-February, 2019. The participants from numerous Russian Universities and educational institutions were taught to use new educational technologies of distant learning and applied e-learning tools for team project management and collaboration.
Literature Review

Online learning has been introduced to the system of Higher Education to make it open, flexible, user-friendly, and attractive for students meeting their learning needs.

Moreover, according to UNESCO Guide for Policy Makers in Developing Countries, “online and blended education, in general, are seen by governments as a new and flexible way to educate at large scale whilst not increasing costs significantly (sometimes even increasing the quality of education whilst keeping total costs the same)” (Making Sense of MOOCs, 2016).

The requirements of New Federal State Educational Standards of Higher Education 3++ and laws in Russia underline the importance of e-learning implementation starting from the Bachelor’s Degree Programme through all further stages (Federal State Educational Standards of Higher Education (Bachelor’s Degree Programme) 3++, 2019). Researchers and educators integrate digital technologies to design the online learning environment at Russian universities. It leads to the necessity of developing new skills and professional competencies for students and professors.

A new format of education assumes the integration of the blended learning. Basically, the term “blended learning” is associated with the application of ICT, e-learning tools, and distance learning educational technologies mixed with traditional forms.

Stefan Hrastinski, (2019) supposes in his study that blended learning means: “…essentially all types of education that include some aspect of face-to-face learning and online learning is described as blended learning in the literature” (Hrastinski, 2019). Also, he underlines that blended learning is also used to describe other blends, such as combining different instructional methods, pedagogical approaches, and technologies, although these blends are not aligned with influential blended learning definitions (Hrastinski, 2019). Some researchers consider blended learning as a new educational approach merging educator’s practices with online learning (Voronin et al., 2019).

UNESCO Guide as well states that by integrating online and face-to-face approaches, blended learning provides learners with both flexibility and support (Jansen & Schuwer, 2016). Facilitative interaction is regarded as the primary trend in Higher education.

In the given study we keep to the meaning of blended learning in High School as integrating e-learning tools and ICT to the traditional educational process and teaching approaches.

Blended learning is relevant in the modern Higher Education System of Russia due to the changes in curriculum structure, syllabus, and load scheduling peculiarities of educational Institutions. Nowadays approximately more than half of working hours are offered for autonomous work. The idea behind this approach lies in the importance of fostering critical thinking skills and autonomy through constant consolidation of basic knowledge and further skills development. According to 21st Century Skills Framework, the most
important skills for students are Life and Career Skills, Learning and Innovation skills and Information, Media and Technology Skills (Framework for 21st Century Learning Definitions, 2019). Moreover, autonomy and digital literacy are mentioned in the requirements of Federal State Educational Standards of Higher Education 3++ and in the description of universal and general professional competences and outcomes that Bachelors of various majors acquire while studying at University (Federal State Educational Standards of Higher Education (Bachelor’s Degree Programme) 3++, 2019).

Furthermore, the popularity and quality of worldwide academic mobility as part of Higher Education and Professional Training is closely connected with the development of modern digital educational environment. Russian universities design their own educational platforms of distant learning and online resources but address to the products of other providers as well. For example, various online courses are integrated into the process of Professional Training at Russian Universities (e.g. MOOCs on such platforms as www.universarium.org, www.lektorium.tv, www.openedu.ru, www.postnauka.ru, www.coursera.org, www.futurelearn.com, www.edx.org, www.stepik.org, www.khanacademy.org, www.udemy.com, www.udacity.com etc.). There are numerous collaborative partnerships’ projects among universities to support, test, or improve educational process and quality of professional training. Students are offered to enroll in a course provided by any other educational institution or platform to get the credit. It consolidates their knowledge and helps to develop new vision and autonomy. This approach has been in high demand during the COVID-19 pandemic and lockdown in Russia.

It should be noticed, that the national educational platform of the Russian Federation “Open Education” (www.openedu.ru) is widely used in the system of Russian Higher Education. It comprises more than 564 officially certified online courses designed by famous professors of Russia for students of various training programs and majors. The project was developed by the Association of “National Platform of Open Education” established by leading Universities of Russia: Lomonosov Moscow State University, Peter the Great St. Petersburg Polytechnic University, Saint Petersburg University, NUST MISIS, Higher School of Economics, MIPT, Ural Federal University, ITMO University. The courses are free of charge and comply with the requirements of the Federal State Educational Standards of Russia with the possibility of official certification (National platform of Open Education, 2019).

Besides, the online learning environment and innovative pedagogical approaches stimulate students’ engagement and the personalization of the educational process. By integrating digital technologies and e-learning tools students may choose or design their personal learning trajectories according to their needs and requirements. They may manage their learning process and track academic performance.

As a rule, in blended learning students have the opportunity to work both in the classroom collaboration or individually. They are offered face-to-face contact with lecturers and other students; individual work is mostly organized autonomously using ICT and e-learning tools integrated into flexible forms of
distant and online learning facilities. This format complies with the shift to networking activities and transforming centralized learning patterns.

Results

The research has been aimed at the analysis of ICT and e-learning tools used by students and professors at Crimean Universities to manage the educational process both in face-to-face and online learning formats. The results are taken into consideration to develop innovative teaching strategies and approaches to support the educational process online in the system of Higher Education and the smooth transition to blended learning.

Online learning in Higher Education of Russia is implemented via Learning Management Systems (LMS), integrating various MOOCs or incorporating numerous ICT and e-learning tools. For example, Sevastopol State University and Lomonosov Moscow State University Branch in Sevastopol have developed Moodle projects to manage the educational processes in distant formats (to deliver courses, share learning materials, and track students’ progress). The platforms www.distant.msu.ru and www.distant.sev.msu.ru comprise professors’ learning/testing materials and courses that students may address to while preparing for classes individually. Moodle, ICT, and other distance learning technologies help to develop students’ autonomy, self-discipline, and other professional skills.

Online learning is regarded as an innovative way of interaction in the educational process. Communication and sharing of information are organized with the help of ICT and popular e-learning tools. ICT (in terms of Computer Science) are digital technologies that allow you to create, save, distribute, transmit information, or provide services. In our research, under the term ICT we understand the set of methods, processes, software, and hardware, integrated to collect, process, store, distribute and present data or information by the participants of the educational process.

In our opinion, the efficiency of professional training in the system of Higher Education can be achieved relying on the fusion of traditional teaching methods with new approaches and integrating ICT and e-learning tools (ELT) on regular basis. ICT and e-learning tools offer the participants of the educational process a wide range of interaction patterns and management opportunities in face-to-face and online learning.

<table>
<thead>
<tr>
<th>Table 1. The use of ICT to manage the educational process</th>
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<tr>
<td>Educational process</td>
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<tr>
<td>Communication</td>
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6
ICT and e-learning tools are widely used in the online learning environment to maintain online communication, get immediate feedback, track progress and academic performance, provide visualization of materials, sharing information, presenting data, simulation, organizing experiments and team projects.

The next important issues of designing efficient e-learning in Higher Education are educational content and teaching strategies in the online environment.

Since 2005 the authors have taught on most programs and modules that the English Language Section has offered (Samoylenko, 2018). This also includes directing Masters’ Courses at Sevastopol State University for several years, preparing students and educators for TKT exams and organizing continuing professional development activities. During Ph.D. and Dr. studies at the University, we developed an interest in the interplay between ideas of language, identification practices, and contextualized intercultural communication aimed at the building of academic and digital literacy as well.

It is now generally accepted that English is used in teaching and learning in Higher Education around the world. The researchers consider English not only as of the core discipline in the curriculum but an efficient tool in the professional training of students.
According to professor of Global Englishes at the University of Southampton Jennifer Jenkins, (2017) language and intercultural communication skills are considered to be primary skills in our globalized world. English is the language of intercultural communication in the online environment.

Professor Anna Mauranen, (2015) at the University of Helsinki studies English as a Lingua Franca in Academic Corpus (ELFA). English is widely-spread in professional and academic online communication. That is why it should be considered an important component of intensive professional training in Higher Education and online learning collaboration.

Nowadays there are numerous scientific databases, digital libraries, and other resources for academics with their adopted rules and requirements (Scopus, Web of Science, Springer, Chicago, IEEE Xplore, etc.). Scientists analyze the manner and style of researchers’ writing in English presenting their works. Submitting papers written in English requires a clear vision, proper training, and experience.

Nowadays, the concept of English for Academic Purposes (EAP) has been the major trigger for the changes in English as a Foreign Language (EFL) program at Sevastopol State University. By the end of the Master’s course, students must be able to read and analyze the contents of scientific publications, organize their own research, make presentations of research results, prepare articles, reports, summaries, reviews, and projects using the appropriate logical structure and ICT tools.

Therefore, we need to teach students of Bachelor’s / Master’s and Postgraduate programs the aspects of English academic discourse and communication issues in the online learning environment. These skills are developed nowadays using ICT and e-learning tools to build students’ professional competences. In this context, the term “digital literacy” encompasses not only the skills of software and technologies implementation but mastering approaches and mechanisms of information processing and online communication in English and native language.

There is an abundance of ICT and e-learning tools that can be used in teaching and assessing the development of students’ language skills: listening, reading, speaking, and writing. They may be integrated into the project of online learning environment design.

From our experience, we suggest the following sources and tools shown in Tables 2.

<table>
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<tr>
<th>Listening</th>
<th>Reading</th>
<th>Speaking</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Podcast hosting sites:</td>
<td>Mass media resources, online newspapers and journals:</td>
<td>Web conferencing services and messengers:</td>
<td>Blogging platforms; Blogger, WordPress, Tumbir,</td>
</tr>
<tr>
<td>Busspsprout, Captivate, Simplecast,</td>
<td>AdForum, BBC, CNN, Journalism.org.</td>
<td>Skype, Zoom,</td>
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</table>
In order to identify initial ICT awareness of students of Bachelor's programme and to test their skills, we conducted a written survey in the beginning of the study. The students of V. I. Vernadsky Crimean Federal University and S. I. Georgievsky Medical Academy (Simferopol) took part in the research. The first question was: "Do you apply Information and Communication Technologies preparing your homework?" The positive answer was given by 77.5% of students, the answer "no" was marked by 22.5% of respondents. Choosing the answer "Yes", students were asked to specify what ICT tools they prefer.

**Table 3. The results of a survey on ICT types used by the students at V. I. Vernadsky Crimean Federal State University and S.I. Georgievsky Medical Academy**

<table>
<thead>
<tr>
<th>ICT tools</th>
<th>The number of students (%)</th>
</tr>
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<tbody>
<tr>
<td>Electronic textbooks and manuals; digital encyclopedias and reference books.</td>
<td>67.5 %</td>
</tr>
<tr>
<td>Educational resources on the Internet.</td>
<td>55 %</td>
</tr>
</tbody>
</table>
Students with negative answers also stated the reasons why they ignored ICT in their training. They said that a sufficient amount of information is still available in printed sources; the lecturers present enough materials in classes; the book is more convenient to use.

Table 4. The examples of ICT applied by the students to prepare for language classes at V. I. Vernadsky Crimean Federal State University and S.I. Georgievsky Medical Academy

<table>
<thead>
<tr>
<th>ICT tool</th>
<th>The number of students (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Popular Software</strong></td>
<td></td>
</tr>
<tr>
<td>Microsoft Word</td>
<td>77.5%</td>
</tr>
<tr>
<td>Microsoft Power Point</td>
<td>50%</td>
</tr>
<tr>
<td>Microsoft Excel</td>
<td>22.5%</td>
</tr>
<tr>
<td>Microsoft Office Publisher</td>
<td>22.5%</td>
</tr>
<tr>
<td>Microsoft Media Player</td>
<td>10%</td>
</tr>
<tr>
<td>CorelDraw</td>
<td>5%</td>
</tr>
<tr>
<td>Photoshop</td>
<td>7.5%</td>
</tr>
<tr>
<td>Visio</td>
<td>2.5%</td>
</tr>
<tr>
<td>other</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Online whiteboards</strong></td>
<td></td>
</tr>
<tr>
<td>Tricider</td>
<td>20%</td>
</tr>
<tr>
<td>Wallwisher</td>
<td>5%</td>
</tr>
<tr>
<td>other</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Audio recording software programmes to prepare speaking assignment</strong></td>
<td></td>
</tr>
<tr>
<td>Vocaroo</td>
<td>22.5%</td>
</tr>
<tr>
<td>VoiceThread</td>
<td>17.5%</td>
</tr>
<tr>
<td>Voxopop</td>
<td>0%</td>
</tr>
<tr>
<td>myBrainShark</td>
<td>10%</td>
</tr>
<tr>
<td>other</td>
<td>15%</td>
</tr>
</tbody>
</table>

Moreover, ICT and e-learning tools can be applied to develop students’ autonomy and skills of teamwork and collaboration including time-management, task priorities, planning, self-discipline, and flexibility. LMS Moodle is a bright example of an online learning tool used to organize learner-centered teaching in High School.

The research under review comprises the results of ICT types used in the teaching and assessment of both undergraduate students and participants of further Professional Training programs (Samoylenko, 2018).

Let’s analyze the examples of additional professional training programs with ICT and e-learning tools organized in 2019. The participants enrolled in the professional development program “Professional Training Modernization Strategy” were taught to apply ICT and other e-learning tools as part of integrating creative approaches to problem-solving tasks in the educational process. After mastering the course, the trainees had to design their own
individual programs of additional professional training based on the skills and knowledge obtained. The educators were offered to prepare for classes autonomously and being engaged in teamwork. The assignments included such activities as collecting data and information processing, preparing reports, case-study assignments, brainstorming procedures, making portfolio using various ICT.

These task formats were aimed at the development of critical thinking and skills of collaborative learning and team project management.

Another example of an additional professional training program realized partially in the online learning environment is the “First Crimean Winter MOOC School” for Russian Educators. It was organized at Lomonosov Moscow State University Branch in Sevastopol in January-February, 2019. Over 100 participants from numerous Russian Universities and educational institutions were taught to apply new educational technologies of distant learning while developing and presenting their team projects. The training program was designed as a blended learning model, including MOOC elements (theory part), face-to-face meetings, project management, and teamwork sessions (practical assignment). The course was offered by the Center of Online Learning Competencies “Lomonosov”. The aim of the programmes was to teach users to integrate technologies in their day-to-day work while planning curriculum and organizing the educational process at universities. The projects covered various methodology issues: designing curriculum and syllabus, creating, delivering, and promoting online courses, university branding, etc.

The learning materials were placed at https://lms.profedu.online/ and delivered in a MOOC format. The enrolled users studied lectures, discussed questions, and issues through course forum and chat room. Much attention was paid to problem-solving activities. While creating and presenting team projects the participants applied various online tools and ICT for team collaboration to discuss ideas, prepare, deliver, and present materials of the projects that are bright examples of organizing teamwork at distance. The projects were presented online, so all registered users could follow the procedure and give their immediate feedback. This interaction pattern proved its feasibility and efficiency informal assessment, transparency, and developing learners’ autonomy, new vital professional competences, and digital literacy. Moreover, the proposed format fully supports the priority of the “Four Cs” fundamental skills development: Communication, Critical Thinking, Creativity and Collaboration through all stages of Higher Education and further Professional Training.

Table 5 presents the examples of ICT and team collaboration tools used by the participants of professional development programs.

Table 5. ICT and e-learning tools used for team project collaboration in additional professional training

<table>
<thead>
<tr>
<th>Team project management in education</th>
<th>Information processing</th>
<th>Communication</th>
</tr>
</thead>
</table>

11
<table>
<thead>
<tr>
<th><strong>Information search and data collection:</strong> WWW, scientific databases and online libraries, mass media resources.</th>
<th><strong>Synchronous:</strong> group messengers (WhatsApp, Viber, Telegram, Skype), web conferencing services (Zoom, BigBlueButton, etc.), chats, forums.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sorting data:</strong> Microsoft Office, etc.</td>
<td><strong>Asynchronous:</strong> e-mail services, social networks (Facebook, Twitter, Instagram), file-sharing technologies (OneDrive, Dropbox, Google Drive, etc.), collaborative document editing tools (Google Forms), document management systems.</td>
</tr>
<tr>
<td><strong>Data analysis:</strong> Microsoft Office and other software packages (Excel, Visio).</td>
<td></td>
</tr>
<tr>
<td><strong>Presentation of the results and materials:</strong> Microsoft Office (Word, Visio, Power Point), Adobe Photoshop, CorelDraw, Mind Mapping services, movie making and editing programmes.</td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

Taking into account the results of the study, the following conclusions can be made: the level of modern students’ ICT skills can be assessed as "confident user". The application of ICT is widely-spread through all levels of professional training in Higher Education: Bachelor’s / Master’s programmes and additional professional development courses. The universities of the Russian Federation take efforts to design their online learning environment, taking into account learners’ needs, the requirements of Federal State Educational Standards of Higher Education, and the worldwide experience of introducing blended learning. Sevastopol and Crimean Universities adopt Moodle and various combinations of ICT, e-learning tools and resources to design online learning environment.

ICT and other digital educational tools and services are applied to manage the educational process: to maintain communication and interaction, to share information, to track progress, and organize assessment and to peer-to-peer review. These tools are suitable to develop the Language skills of students while learning foreign languages. ICT and e-learning facilities are used by professors to evaluate listening, reading, speaking, and writing skills at the university. Moreover, they are efficient tools for project management, teamwork, and collaborative learning.

At the same time, professors are currently being faced with methodological limitations and a shortage of support in online learning. The results of the research may be used to design new teaching approaches and methodological recommendations to organize efficient interaction in online learning.
The outcomes of the study can be also applied for designing syllabus and online courses for undergraduates (e.g. “Foreign Language for Academic and Scientific Purposes”) and students of additional programmes of Professional Training.

Conclusion

Designing a flexible and reliable online learning environment is quite challenging. It requires both technical skills and methodological assistance.

First of all, to organize educational process online students and professors must have equipment or devices (personal computers, a tablet, a smartphone, or any other type of mobile gadget) with a broadband internet connection.

Secondly, you should know the basics of digital literacy and develop your skills in ICT and e-learning tools application. To organize successful online interaction at university there must be developed special platforms (e.g. Moodle or other channels of online communication) with approved free access to online learning materials and tools.

Moreover, the design of new teaching strategies is of primary concern. There should be a proper balance between online and face-to-face components in blended learning at the university. Engaging students and their motivation are also important. Online learning is partially based on students’ autonomy and individual work. That is why professors should provide extensive instructions for learning and assessment procedures. Clear delivery of cognitive tasks, detailed algorithm, and instructions are necessary for students’ awareness of the educational process in blended learning. It is highly recommended in online learning to present course structure overview, possible reporting forms, set deadlines, assessment details/criteria, forms of control.

Methodological support and consultation by professors are key issues in e-learning implementation at universities. ICT and other e-learning tools maintain communication and support interactive learning where immediate feedback matters.

The research data clarify the methods of developing autonomy and managing teamwork of students with ICT use, taking into account the individual characteristics, learners’ personal and professional needs. ICT tools are focused on principles of practice-oriented learning in Higher Education. New technologies can be used effectively as additional tools to consolidate or test students’ knowledge and skills through various patterns of interaction in online learning environment.

References


