

can successfully reform and improve the existing system of higher education in Russia if properly introduced. Thus, we hope to create “Virtual Learning Environment (VLE)” with implementation of Open Educational Resources (OER) together with Shared Online Courses (SOC) and Massive Open Online Courses (MOOCs).

3.1. Open Educational Resources

First of all, it is Open Educational Resources: digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research [20]. The development of the information society and the widespread diffusion of information technology give rise to new opportunities for learning. At the same time, they challenge established views and practices regarding how teaching and learning should be organised and carried out. Higher educational institutions have been using the Internet and other digital technologies to develop and distribute education for several years. Yet, until recently, much of the learning materials were locked up behind passwords within proprietary systems, unreachable for outsiders. The open educational resource (OER) movement aims to break down such barriers and to encourage and enable freely sharing content [13]. The term “OER” is not synonymous with online learning, eLearning or mobile learning. Many OER – while shareable in a digital format – are also printable.

Let us mention briefly that it was the Massachusetts Institute of Technology that first talked about placing learning materials for free on the Internet in 2001. Soon after the term “Open Educational Resources” (as well as an abbreviation OER) emerged and was defined as: “educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes” [24]. The trend towards sharing software programmes (open source software) and research outcomes (open access publishing) is already so strong that it is generally thought of as a movement. It is now complemented by the trend towards sharing learning resources – the open educational resources movement.

Using OER is not cheating; in fact, it can improve the quality of learning experiences by building on other people’s work. Too often staff are creating learning materials for modules and courses that have already been developed elsewhere to an excellent standard.

Since this first initiative, the number of repositories storing OER has grown in number and constantly shifts. The institutions involved so far seem to be well-reputed internationally or in their countries. Attitudes are changing in education

globally to promote the open sharing of educational courses and resources [3].

The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes and recorded lectures, essay questions and other assignments, tests, projects, audio, video and animation, discussion topics or reading lists. Teaching staff can “pick and mix” them to suit their own purposes [7].

That leads us to the role that institutional staff play in producing and (what is more important for our study) using the content. A number of studies conducted in European universities have explored staff attitudes towards OER [13]. Generally, the most significant barriers surrounding the use of OER included the lack of time and lack of a reward system. In Russia we add here staff attitudes to borrowing and sharing resources. A culture of borrowing and sharing of resources exists between close colleagues, but not further afield (something like “I only use resources recommended by someone I know and trust”), and whilst some teachers would obtain resources from the Internet, they are unwilling to place materials there saying: “Why give away resources to other universities?” Besides, the concept of open licensing with respect to content has arrived to Russia relatively recently: people producing and using intellectual products in Russia are predominantly familiar with the concepts of copyright and author rights and unaware or know very little about open licenses, the more so as the culture of sharing is not prevailing yet.

Another difficulty of using OER is that the openness of the resources is often limited by a language barrier. Most repositories are in English and university staff in Russia use and create their own cultural content in their own language. That is why advantages of OER and opportunities they offer to different levels of the educational system are not yet fully recognized.

As for the arguments supporting OER projects, they are as follows:

- OER expand access to learning for everyone but most of all for nontraditional groups of students and thus widen participation in higher education;
- They can be an efficient way of promoting lifelong learning for both the individual and the government;
- They can bridge the gap between non-formal, informal and formal learning.

Thus, OER projects expand access to learning for everyone, most of all for non-traditional groups of students and thus widen participation in higher education. They can be an efficient way of promoting lifelong learning. They can bridge the gap between non-formal, informal and formal learning. OER is itself a challenge (especially in Russia), but

may also become a sound strategy for individual institutions to reimagine.

3.2. Massive Open Online Courses

In 2011, the respective roles of higher education institutions and students worldwide were brought into question by the rise of the Massive Open Online Courses. MOOCs are freely available, accessible and contain materials that are cleared for use in any educational or personal context.

The European Commission defines a Massive Open Online Course as: “an online course open to anyone without restrictions (free of charge and without a limit to attendance), usually structured around a set of learning goals in an area of study, which often runs over a specific period of time (with a beginning and end date) on an online platform which allows interactive possibilities (between peers or between students and instructors) that facilitate the creation of a learning community. As it is the case for any online course, it provides some course materials and (self) assessment tools for independent studying” [1]. These courses are offered mainly by universities, and, increasingly, institutions around the world are joining various MOOC platforms to offer their courses.

The literature on MOOCs is growing [5, 7, 13, 17]. This literature tends to acknowledge (with a few exceptions) that MOOCs bring an impetus of reform, research and innovation to the process of learning. For example, using a definition of MOOCs as courses which “are free of charge, open to a global audience and built for large numbers of people”, Prof. M. Barber from Institute for Public Policy Research identifies the significant difference between MOOCs and prior forms of online learning as “this shift from depending on the government to focusing on the customer – in this case the student – has played out again and again in other sectors as globalisation and technology have changed the rules of the game.” [3]

American and European literature addressing MOOCs from the perspective of university education considers the pros and cons of MOOCs for universities, assesses the problems of MOOC production and delivery, forecasts MOOC impact on university models, and analyses trends [11]. However, there is little published discussion on MOOCs and their possible contribution to university education in Russia and some universities and their staff have not even heard about them.

Still, MOOCs offer university-level courses without the need to complete an entire program. They are ideal for unsupervised activities and other universities can select courses from any institution offering them to their students. There are very few face-to-face courses that include the flexibility of online access to lecture materials and recordings.

MOOCs provide an online version of a complete course, with video instruction, online quizzes and forums to encourage student engagement, virtual office hours where professors communicate with students, and graded assignments (using software or peer students to do the grading) to evaluate whether students learn from the course.

The main limitation of these distance-learning approaches is the fact that it only impacts those whose primary motivation is to acquire new knowledge and skills. In other words, this type of course is not very effective with those who are only motivated by obtaining credits. The MOOC format itself suffers from weaknesses around access, content, quality of learning, accreditation, pedagogy, poor engagement of weaker learners, exclusion of learners without specific networking skills.

Another problem here is that content from a MOOC offered by a university outside your students’ home country may not match cultural and other conditions with which they are familiar. There may also be some issues for students who lack motivation [17]. Since a MOOC is voluntary and there is no penalty for dropping the program or lagging behind, there may be issues with course completion. Although a student may have received an excellent education, there will not be a corresponding diploma. Besides, MOOC certificates are not recognised by Russian universities at the moment, so MOOCs serve mostly for the purpose of self-education. Besides, Russian universities face here other problems, including the need to localize content by translating it from English into Russian and a difficult adjustment of online courses to Russian universities’ curricula.

On the other hand, at a national level, MOOCs represents a further blurring of the borders between formal and informal learning, and universities are recommended to study how MOOCs can be efficiently used to meet some of the demand for increased lifelong learning.

3.3. Shared Online Courses

Shared Online Courses are high-quality online courses and learning modules that are broadly available for sharing across multiple institutions. The idea of SOC comes from MOOCs as to share eLearning courses via a learning management system now is common [4].

Still there are differences here:

- A SOC is a combined effort of higher education institutes and not of an individual company or a prestigious university. Current approaches to reduce cost have a negative effect on quality and diversity (smaller studies disappear). Only by sharing resources this can be prevented. Resource sharing is not necessarily restricted to

digital resources; also teachers can be shared, e.g. by using on-line classes or webinars.

- SOCs developed by a group of universities are good quality courses and materials positioned within their institutional branding and are available online for students of these universities only.
- SOCs also provide support for actual certification to be carried out by certain universities. Certification is probably the last service universities want to lose. That is the reason Shared Online Courses are not open.

The Russian Ministry of Education launched a national website as a gateway to open and distance learning, called the “Russian national platform of open learning” (available at: <https://openedu.ru/>) (see Figure 3). This initiative aims to present the various online offerings of Russian universities on one website, and to develop a platform for further development of high-quality online education in the country [22]. Its long-term goal is to make a full analogue of university’s curricula which will allow to get knowledge of the same level and quality as during academic education. It implies high requirements to the developing programs and their effectiveness. Students will have an opportunity to successfully complete the basic education programs staying at home. This resource is expected to raise higher education to the next level and improve overall quality in regional universities and affiliated structures.

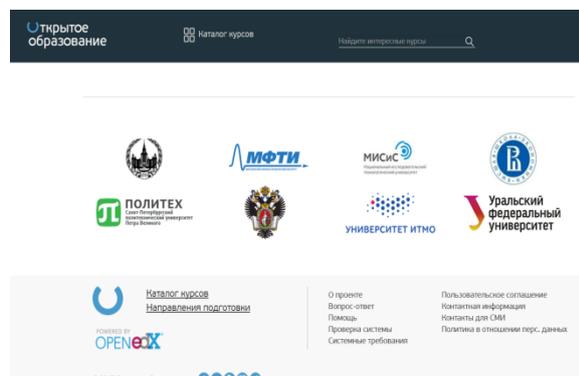


Figure 3. Russian national platform of open learning

The project started with eight of the leading Russian universities (among them National Research Nuclear University “MEPhI”, Ural Federal University, Lomonosov Moscow State University, National University of Science and Technology MISiS, ITMO University, Saint Petersburg University and St. Petersburg Polytechnic University) – each of which initially offered four courses on the website. These universities hope that the establishment of a national educational online

platform and the advancement of Internet education in universities will enable Russian universities to strengthen their positions in the area of higher education.

The platform, used for publishing online courses created by the members of the Association, facilitates the adoption of international standards, formulates its own requirements concerning the quality of online courses and collaborates with providers of higher educational programs, which are implemented using online courses hosted on the platform. Each course undergoes an internal expertise at a university, and a review by the Association to ensure compliance with the “Requirements and Recommendations for Online Courses on the National Open Education Platform”, co-developed by members of the Association. In contrast to other on-line educational resource, Open Education is designed primarily for university students. Nearly all the offered courses are part of higher education programs and are compulsory modules in higher education curricula. Upon successful completion of the course, learners get a course certificate, and credits for the course can be counted towards the students’ curriculum at any university in Russia. In the future, students will be able to master a major part of their university program online by taking courses on this platform. Since the teacher’s role as supplier of reading lists and teaching materials is diminishing, SOCs are likely to accelerate changes in the traditional teaching role and the evolution of more independent learners. Most university authorities believe that the quality of education in Russia will grow thanks to the fact that any student from any Russian university will be able to take courses at top Russian universities wherever and whenever they choose.

Still now the choice of courses on the platform is limited (to 194 in fact). It is the goal of the Russian Ministry of Education and Science to incorporate more universities in this national open learning initiative and to increase the number of courses offered via this gateway; up to 250 courses by the end of 2017. For the time being, the Russian Ministry of Education is preparing to grant accreditation to courses taken on this platform by students of all Russian higher education institutions and is drafting new regulations to allow all Russian universities to include Open Education courses in their programs.

The ultimate goal of the program is to replace distance learning with online courses, improve the quality of education in universities and regional branches, make the educational process in Russia more modern, and improve students’ computer skills.

Furthermore, the introduction of new technologies will enable the program creators to produce more research resources for universities and increase competition in higher education by enabling students

and administrators alike to choose their online options in accordance with the suitability and quality of the courses.

4. Conclusion

Technology is becoming central to the process of learning and teaching in higher education and, in some countries, is driving wider access to education and training. As societies rapidly develop into knowledge-based information economies, information technology becomes a key driver of both economic competitiveness and social development. Fluency in information technology has thus become a central pillar of higher education – both implicitly in how information is shared and explicitly in preparing students for the global markets they will enter after graduation.

The current challenges facing traditional higher education, including higher tuition, budget cuts, and the gap between theoretical and practical training, have caused many universities to search for alternatives. Thus, online learning environments have come to the forefront of higher education. The options we choose are implementation of Open Educational Resources, Shared Online Courses and Massive Open Online Courses into the educational process. All three offer new approaches to traditional campus-based teaching, with virtual learning environments used for course administration, storage of course content and additional resources. Still these new resources should be introduced gradually, while maintaining proper balance between introducing them and traditional education. Only on this condition will we create a new effective learning environment and increase students' satisfaction, better management of intellectual property, and community building.

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