

ON THE EXPERIENCE OF AN EXPERT IN AN OPEN ONLINE COURSE CONTEST

Diana Bogdanova

Federal Research Center “Computer Science and Control”
of the Russian Academy of Sciences
Vavilova 44/2, 119333 Moscow, Russia
d.a.bogdanova@mail.ru

***Abstract:** The article is devoted to the illustration of experience gained while conducting assessment of open online educational courses as a member of the Expert Council of EdCrunch Award Contest, the only contest of this kind within the framework of the EdCrunch events in the world. Criteria for course assessment for both experts and consumers, the requirements for applicants are presented. The article also presents summarized results of experts' feedback as a conclusion.*

Keywords: digital educational environment, open online course, assessment criteria, rubrics.

INTRODUCTION

Understanding the need for the expansion of e-learning as one of the most important ways to overcome the global challenges faced by the education system was reflected in a few international strategic planning documents. In particular, the Incheon Declaration, which was adopted at the World Education Forum in May 2015, outlined the development priorities for the education systems of the member countries of UNESCO (Incheon Declaration and Framework for Action for the implementation of Sustainable Development, 2015). Nowadays in the Russian Federation a number of initiatives aimed at creating necessary conditions for the formation of a more advanced digital economy are being implemented. Enhancement of the digital economy is considered to increase the quality of citizens' life, ensure economic growth and national sovereignty and as a result should lead to a rise in Russia's competitiveness. Most of the initiatives, for example, "Strategy for the Development of the Information Society in the Russian Federation for 2017-2030" and "the Digital economy of the Russian Federation Program", are quite complex and thus require competent staff in the implementation process. It is therefore necessary to properly modernize the system of education and vocational training to bring educational programmes in line with

the needs of digital economy. Hence, education requires introduction of digital tools for learning activities with their further integration in existing information environment. Moreover, the current state and speed of economic development require availability of a learning tools, which can be accessed on an individual basis at any time of an individual's life and in any place. In order to meet the needs described above, a state priority project "Modern digital educational environment in the Russian Federation" was launched. One of the objectives of the project is to expand opportunities for continuing education for all categories of citizens while fostering its systematic quality improvement. The tools, with which the goal is planned to be achieved, include a widespread introduction of open online courses (via the Internet), allowing interactive participation. The chosen strategy requires involvement of specialists from different areas to create not just a universal educational platform, but also modern high-quality teaching materials. Moreover, the project requires creation and implementation of new approaches to the formation of a learning environment and the evaluation of students' learning outcomes.

1. THE CONTEST EDCRUNCH AWARD

The Open Online Courses (OOC) annual Contest EdCrunchAward is one of the educational events which promote the fulfilment of the goals set by the government. The contest is held by the organizers of the International Conference on New Educational Technologies EdCrunch-Moscow (Conference). The founders and organizers of the conference and contest are: National University of Science and Technology MISIS and Charitable Foundation "Rybakov Fund" with the support of the Federal Research Center "Computer Science and Control" of the Russian Academy of Sciences.

Government and non-government non-profit educational organizations, commercial institutions and teachers of various education levels were invited to participate in the contest by submitting materials through the official contest website.

The mission of the contest (as it has been announced by the organisers) is to make substantial improvements to the education system by introducing best practices in e-learning. The courses submitted to the contest should belong to either secondary, higher or non-formal level of education and should be related to the following disciplines:

- social, human sciences and liberal arts (Russian language and literature, foreign languages, history, social studies, world art culture, music, fine arts);
- physics and mathematics, natural and technical sciences (STEM);
- non-formal education can be from any field of knowledge.

To be more specific, the contest objectives are to:

- detect best practices for creating open online courses and introducing them to the educational process while implementing educational (training) programmes;
- highlight best courses from the consumers' and experts' points of view;
- improve tools and methods of online learning in Russian and in the international education context;
- disseminate modern innovative educational technologies;
- identify and provide support to creative administrators, teachers, tutors and entrepreneurs;
- provide an opportunity to enhance knowledge and skills for all stakeholders (methodologists, producers, designers, etc.).

The contest organizers fulfill the following functions: formation of the contest Expert Council; provision of information support; reception and processing of the materials; presentation of the contest applications to the Expert Council for consideration; running award process for the contest winners. Moreover, the organizers of the contest are responsible for providing publicity for it, maintaining equal conditions for all the participants and preventing any information disclosure about the results before the date of their official announcement.

The submitted courses can be of any type (according to generally used OOC classification described below) except cMOOC (connectivist massive open online course). This type of course is excluded from the contest, because there is no transparent, formal and widely used methodology to evaluate the quality of such courses, as the course is focused less on lectures and tests, but more on an exchange of experience, communication of the participants. Below are listed the course types which can participate in the contest:

- xMOOC (massive open online course which is usually commercial and based based on traditional approaches to online course developing);
- BOOC (a big open online course);
- DOCC (distributed open collaborative course);
- LOOC (little open online course);
- MOOR (massive open online research);
- SPOC (small private online courses);
- SMOC (synchronous massive open online courses);
- mOOC (micro Open Online Course);
- SOOC (selective Open Online Course);

- ROOC (regional Open Online Course);
- GROOC (group open online course);
- MOOC 4.0 (many-to-one – co-education with deep impact on each student).

2. THE CONTEST EXPERT COUNCIL

The Expert Council must include individuals from following categories:

- course designers (they might be designers and teachers at the same time, like S. Thrun, who is known as “Godfather Of Free Online Education”, and founder of Udacity company, offering massive open online courses);
- web and graphic designers;
- teachers;
- tutors;
- administrators-in-training;
- students-learners;
- marketing specialists and other managers in education and educational business;
- media specialists (Paton, Fluck, & Scanlan, 2018).

In practice, the majority of the Council members are teachers (usually around 95% from 80 people) with the rest of the Council composed of designers, administrators, analysts and media specialists. Council members represented various regions of Russia from St. Petersburg to Ekaterinburg and Novosibirsk as well as many educational institutions. The overall size and composition of Council members demonstrate the timeliness and importance of holding such an event.

3. ASSESSMENT CRITERIA

Course assessment is very important because it has a strong impact on learning and is an indicator of the quality of learning. In the online environment, methods and criteria of assessment can be very different. Let us consider some of the USA institutions involved with course assessment and examples of criteria used.

Quality Matters (QM)

It is a quality assurance leader in online education. Its impact and influence is seen broadly across the US and expanding internationally. It has 800 subscribers and is used for secondary, higher education and is also used in professional development. It has eight standards:

- course overview and introduction;
- learning objectives;
- assessment and measurement;
- resources and materials;
- course activities and learner interaction;
- course technology and learner support;
- accessibility and usability.

Within the eight general standards the higher education rubric has 43 specific standards. Reviewers follow a specific course assessing algorithm.

Association iNACOL (International Association for K-12 Online Learning)

It specializes in secondary education (with special attention to Advanced placement programmes). Evaluation criteria include:

- mastery;
- personal achievements of the student;
- graduation result;
- readiness for college and career;
- availability of additional opportunities for students from economically disadvantaged families.

Universities

The next group of organizations involved in evaluating online courses are universities. They produce internal self-evaluation by their own criteria and provide external services. Online courses are evaluated in nine categories, ranging from 3 to 8 criteria. The rating categories are shown below:

- introduction and course overview;
- evaluation of the course and assessment of students' knowledge;
- training materials and resources used;
- student engagement and community;
- pedagogical design and supply of the course;
- technology for teaching and learning;
- support and resources;
- accessibility and versatile design;

- conclusion and summing up.

From what has been said, it is obvious that the evaluation of online courses is a topical and popular subject, and the criteria themselves are not fossils developed decades ago, but dynamically respond to changes (Lederman & Jaschik, 2014).

Talking about the contest, the set of rubrics for assessment had initially been chosen by the organisers and extended during mutual following online discussions between experts and organizers. The set of rubrics was based on a system of criteria and assessment mechanisms proposed by a number of international organisations such as QM, Open ECB Check-Quality and some others (Murphy & Stewart, 2017). The assessment of course quality includes evaluation of various course aspects, with the core being quality of:

- course and overall learning objectives, competences received or expanded by the participants;
- overview and introductory part of the course;
- course assessment tools and measurement of the results achieved by the participants;
- content and provided training materials;
- learning activities on the course and ways of interaction with students;
- technologies used in the course;
- student support and administration;
- accessibility, usability and design;
- course marketing;
- feedback on the course provided by the participants.

A team of experts (for each subject) approved by the contest organizers evaluates competing courses. As soon as the first application has been received, the experts start the evaluation process. Courses are compared on the basis of scores which they receive during the evaluation: each expert assigns his score for each evaluation criterion, the scores for each criterion are then averaged by a number of experts participating in the course evaluation, and finally the average scores are summed. The contest organizers determine the minimum acceptable number of experts assessing a single course.

The contest had a few nominations, where "The best course from the experts' point of view" was one of them. In 2017 students' evaluation was for the first time included in assessment and nominations.

4. STUDENTS' EVALUATION

Several Russian organizations, for example Internet + Education Competence Center and an autonomous non-commercial organization Institute for Internet Development declare that along with the expert review, there should exist mechanisms allowing for evaluation of quality of e-learning and the MOOC by end consumers. Therefore, organizations named above, proposed a project in order to distinguish and consolidate the interest of consumers of e-learning services and as a result, the procedure of OOC assessment was proposed (Nikanorov & Shvindt, 2017; Nikanorov & Shvindt, 2018). The assessment blocks are divided into three sections:

- Quality assessment. This section contains indicators and criteria measuring the quality of the materials presented in the course. In this category the fulfilment of consumer's main requirements towards the content of the course are evaluated;
- Evaluation of e-learning results and course acknowledgement. This section contains indicators and criteria measuring how well according to the consumers the course measures their course progress and achievements. Additionally, this is where procedures for verification and recognitions of the course results by higher education institutions or employers are evaluated;
- Architecture assessment. This section contains requirements for course design (including interfaces allowing participants to interact with the course and with each other) and technologies used in information transfer. Core criteria of this section are: availability and accessibility of needed materials, user friendliness of the interface, availability and results of self-evaluation of learning outcomes.

Student evaluation process and the criteria used in it neither duplicate nor substitute professional and expert evaluation but rather supplement it. Inclusion of student evaluation provides opportunity to characterize the needs of consumers, allowing to adjust the course to better meet the needs and interests of consumers.

5. INTEGRATED NOMINATION

In November 2017, an additional contest nomination was announced. The new nomination used the results from integration of experts' and students' assessments. Additional winners of the contest were announced by the end of the year. It is worth mentioning that all the winners, applicants and Expert Council members received certificates, which were produced with the use of blockchain technologies to encrypt personal data, which protect certificates from being falsified (Bogdanova, 2017).

Overall number of applications submitted to the Contest was ~80, which is very close to the maximum capacity of the Expert Council in its current composition, showing a growing interest in the Contest.

6. EXPERTS' FEEDBACK

After the Contest had finished, the contest organizers distributed a questionnaire among the experts to collect feedback. Overall feedback was quite positive, experts particularly noted the wide geography of contest participants, the presence of courses developed by regional higher education institutions. It can be stated that the authors succeeded in presenting course content interestingly and consistently.

As for other positive sides of the Contest it should be noted that all courses contained detailed introductory materials and various types of progress assessment. Experts' feedback summary showed that most of the courses ensured compliance with the entire set of evaluation criteria at a proper level, no matter of the subject chosen by course authors. All subjects presented were interesting and relevant, the quality of the teaching materials was at a good level. It is worth mentioning that the overall impression of some courses even arose a desire among the experts to enroll in them. Most authors managed to adapt the content of their course, which was initially offline, to online learning while being able to adjust the form and depth of presentation in accordance with the target audience of the course. Many courses were well enabled with sufficient tools and techniques, including educational materials and an organized system of counselling (one-to-one or one-to-many), to help participants to achieve learning objectives stated in the course.

However, courses of inferior quality were also submitted. Apparently, authors of such courses were either not completely familiar with the main evaluation criteria or were not self-critical enough. For example, some courses did not provide an opportunity to browse the whole timeline and content of each section of the course. In high quality successful courses a student has the right and possibility to know what will be taught in the future, and having looked at several paragraphs ahead, to get an understanding of the entire course with tests and assignments. In spite of the fact, that overall design and user-friendliness were well thought out in most courses, some of them did not have a convenient navigation system.

As for the platforms used to run the courses, the most convenient courses were usually located on well-known platforms such as Coursera or Lectorium, which have high technical capabilities. It should be noted that those platforms provided equal, high-profile opportunities for creating courses of both science and arts courses types. Taking local preferences into account, usage of domestic platforms such as Lectorium or Open Education might be preferred, as it creates a psychologically comfortable learning environment for users. While working as an expert, one can get an opportunity to get acquainted with technical capabilities of different platforms. An observation worth noting is that courses running on the

same platform look similar. For example, Stepik platform courses, which initially seemed fascinating, later lost their attractiveness because most of them followed a similar learning process and had a quite limited set of technical means. While choosing a platform for the course attention should be paid to its technical capabilities in order to provide diverse and entertaining learning, which does not lack any steps of course life cycle, such as pre-start marketing, student enrolment, distribution of materials, assessments.

A special comment should be made on course metadata cards, which is another name for course passports. Quite often the cards were not carefully filled out, making it feel like the course purveyors thought that the card is not an important structural part of the course. Whereas the card should contain all necessary information, that will allow a potential consumer to decide on whether to enrol in the course or not. For example, if the card stated that the course can be taken by people with disabilities, it should be also noted how the course grants this opportunity for the consumer to make sure that he will be able to finish the course.

Overall, the contest facilitates introduction and expansion of technologies of distant learning in the educational process, stimulating the development of online-learning and supporting its self-improvement.

CONCLUSION

Given the fact that the contest is rather new and is evolving, it can be stated that it makes substantial contribution to arriving at solutions to the challenges the Russian education is currently facing. The contest forms a professional community, contributes to the creation of a system for assessing the quality of online courses and online resources for general education, it allows combining expert and peer reviews, which facilitates development of more complex rating systems.

In the nearest future with a large number of participants and experts, such contests will provide an opportunity to perform a statistical analysis of the results with a view to obtaining reliable data which will allow making informed judgments on the status and trends in online education in Russia.

REFERENCES

Bogdanova, D. (2017). Богданова Д.А. Об одном способе валидирования академических записей в условиях мобильного обучения. *Народное образование №5*. С.112–115. ISSN 0130-6928. [Bogdanova, D. (2017). On a method of validating academic records in a mobile learning environment. *Public education №5*. С.112–115. ISSN 0130-6928.] [In Rus]

Contest EdCrunch Award. Retrieved from <http://2017.edcrunch.ru/project/edcrunch-award>. (accessed 16 July 2018)

- Incheon Declaration and Framework for Action for the implementation of Sustainable Development 2015. Retrieved from <http://unesdoc.unesco.org/images/0024/002456/245656R.pdf>. (accessed 23 July 2018)
- Lederman, D., Jaschik, S. (2014). The 2014 Inside Higher Ed Survey of Faculty Attitudes on Technology: A study by Gallup and Inside Higher Ed. Retrieved from <https://www.insidehighered.com/news/survey/survey-faculty-attitudes-technology>. (accessed 19 July 2018)
- Murphy, C.A., Stewart, J.C. (2017). On-campus students taking online courses: Factors associated with unsuccessful course completion *The internet and higher education*, 34, 1-9.
- Nikanorov, I., Shvindt, A. (2017). *Proceedings from MATEC Web of Conferences 141, 01054 (2017) DOI: 10.1051/mateconf/201714101054 Smart Grids 2017*. Retrieved from https://www.matec-conferences.org/articles/mateconf/abs/2017/55/mateconf_smartgrids2017_01054/mateconf_smartgrids2017_01054.html. (accessed 23 July 2018)
- Nikanorov, I., Shvindt, A. (2018). *Proceedings from MATEC Web of Conferences 158, 01024 (2018) https://doi.org/10.1051/mateconf/201815801024 VI International Forum for Young Scientists "Space Engineering 2018"*. Retrieved from https://www.matec-conferences.org/articles/mateconf/pdf/2018/17/mateconf_se2018_01024.pdf (accessed 23 July 2018)
- Open ECB Check-Quality. Retrieved from www.ecb-check.net. (accessed 18 July 2018)
- Paton, R.M., Fluck, A.E., Scanlan, J. D. (2018). Engagement and retention in VET MOOCs and online courses: A systematic review of literature from 2013 to 2017 *Computers & Education*, 125, 191-201.
- Quality Matters TM. Retrieved from <https://www.qualitymatters.org/>. (accessed 19 July 2018)