Towards a MOOC-related Strategy in Romania

Carmen Holotescu
"Ioan Slavici" University of Timisoara, Romania
Strada Profesor Doctor Aurel Păunescu Podeanu, Timișoara
Tel.: 0256 213 108
carmenholotescu@gmail.com

Gabriela Grosseck
West University of Timisoara, Romania
Bulevardul Vasile Pârvan 4, Timișoara 300223
Tel.: 0256 592 111
gabriela.grosseck@e-uvt.ro

Abstract

A purpose of this paper is to present and discuss the status of Open Education (OE) in Romania, with a focus on Massive Open Online Courses (MOOCs) initiatives in the country. Based on the Open Education activity research in Europe, we also highlight a number of significant OE initiatives and policies which may provide effective exemplars for Romania to consider.

In the last section of the article, we also propose a set of recommendations in order to facilitate the development of Open Education in the country, aiming to enable stakeholders to make more informed strategic decisions to promote MOOC integration in all forms of education. The recommendations are organized on three levels: teachers, institutions and policy makers.

This work continues and updates our research and proposals related Open Education initiatives and policies in Romania (Holotescu, 2007; Holotescu, 2012; Holotescu and Pepler, 2014; Holotescu et al., 2014a; Holotescu, Andone and Grosseck, 2016).

Keywords: MOOCs, OERs, Open Education, policies, strategies

1. Open Education - an international perspective

Over the last two decades the impact of technology can be seen in every field of education. More and more emerging technologies are shaping our practices, emphasizing on the idea of openness in education: Open Educational Resources (OERs), Open Education Practices (OEPs) or Massive Open Online Courses (MOOCs) have already made their headlines in education.

According to Inamorato dos Santos, Punie and Mũnoz (2016), Open Education (OE) is an umbrella term which implies different understandings through time. More specifically, they refer to OE as a "mode of realizing education, often enabled by digital technologies, aiming to widen access and participation to everyone, by removing barriers and making learning accessible, abundant, and customizable for all. It offers multiple ways of teaching and learning, building and sharing knowledge, as well as a variety of access routes to formal and non-formal education, bridging them". In a nutshell, OE means access to content, courses, support, assessment and certification in ways that are flexible, and accommodate diverse needs. Barriers, as regards, for example entry or cost, are reduced or eliminated.

There are two key concepts of Open Education: *Open Educational Resources* (OERs) and *Massive Open Online Courses* (MOOCs).

In 2002, at the "Forum on the Impact of Open Courseware for Higher Education in Developing Countries", UNESCO brought for the first time to the public attention the term of *Open Educational Resources*. The OERs were defined as any teaching, learning and research materials that are freely and openly available to be used, shared, combined, adapted or expanded by teachers, educators, students and independent learners, without an accompanying need to pay royalties or license fees (UNESCO, 2002).

Open Educational Practices (OEPs) are closely related to OERs, and are defined as a whole "range of practices around the creation, use and management of Open Educational Resources with the intent to improve quality and innovate education" (OPAL, 2011). A broad perspective of the notion of "openness" can be found in Conole (2013), "covering each major phase of the education life cycle, namely, design, delivery, evaluation and research".

A decade ago, education was challenged by a new paradigm, the *Massive Open Online Courses* (MOOCs), which have brought innovation at all levels, aiming to respond to the most pressing learning needs, generated by the new development policies and the rapid evolution of technology.

It has already been noticed in the literature that every letter in the MOOC acronym is negotiable. Therefore, the MOOC definition embraced by the majority of scholars and researchers and adopted as an operational definition by the authors is the one proposed by the partners of three important European projects (HOME, ECO project, OpenupEd) as: *Massive Open Online Courses* are "courses designed for large numbers of participants, that can be accessed by anyone anywhere as long as they have an internet connection, are open to everyone without entry qualifications, and offer a full/complete course experience online for free" (OpenupEd, 2015).

Although the number of participants is larger than can be taught in a "normal" campus classroom or college situation, there are at least three features that have to be taken into consideration for the Romanian space, namely the interculturality and the diversity (Andone, 2016) and the language (Jansen, 2015). Thus we propose as a number of participants for a massive course to range between 150-2500, where 150 is the Dunbar's number (Legrand, 2015).

1.1.. Open Education initiatives – a European perspective

The Open Education movement has received an important attention since September 2013, when the European Commission (EC) published a document entitled "Opening Up Education", which contains challenges and recommendations to the country members and to the educational and training institutions regarding the important role of technology in increasing educational efficacy and equal rights in education.

At that time, the EU emphasized the development of an adequate infrastructure in the area of ICT for a proper usage of OERs (European Commission, 2013).

In the following year, the European Parliament presented a report with the recommendation of taking into consideration the new technologies and OERs as key drivers for ensuring quality in education via more accessible and open online knowledge. As a result, the EC increased the support of the scientific research for the creation, utilization and implementation of MOOCs and OERs (European Parliament, 2014).

In this regard, some of the recent European initiatives acting as driving forces for transforming education and learning at all levels are:

- *Open Education Europa* (Opening Up Education Through New Technologies, https://www.openeducationeuropa.eu)
- *SCALE CCR* (Up-Scaling Creative Classrooms in Europe, http://is.jrc.ec.europa.eu/pages/EAP/SCALECCR.html)
- *OEREU* (Open Education Resources and Practices in Europe, http://is.jrc.ec.europa.eu/pages/EAP/OEREU.html)
- *OERup*! (Erasmus+ project focusing on OERs for Adult Education, https://www.oerup.eu/about/), one partner being IREA, Romanian Institute for Adult Education
- *POERUP* (Policies for OER Uptake, http://poerup.referata.com/wiki/Main_Page). The last one is followed by the related projects *SharedOER* and *ADOERUP* (Adult Education and OER).
- EU programmes also stimulate research and supporting models for both MOOC development and implementation. Such EU-funded projects of the last years are:
- *HOME* (Higher education Online: MOOCs the European way, http://home.eadtu.eu)
- *ECO* (Elearning, Communication and Open-data: Massive Mobile, Ubiquitous and Open Learning, http://ecolearning.eu)
- *OpenupEd* (a pan-European MOOC initiative, http://www.openuped.eu)
- *EMMA* (The European Multiple MOOC Aggregator, http://platform.europeanmoocs.eu)
- *MOOCKnowledge* (to assess the impact of Massive Open Online Courses in Europe, http://moocknowledge.eu)
- *MOVE-ME* (MOocs for uniVErsity students on the Move in Europe, http://movemeproject.eu)
- *LangMOOC* (Language Learning MOOCs, http://wwwlangmooc.com)
- *BizMOOC* (MOOCs for the world of business, http://bizmooc.eu)
- *MOONLITE* (MOOCs for social inclusion and employability, http://moonliteproject.eu)
- *ReOPEN* (Recognition of Valid and Open Learning, http://reopen.eu)
- *X5gon* (Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network, http://www.k4all.org/project/x5gon).

In October 2017, during the EADTU Conference "Online, Open and Flexible Higher Education", the European MOOC Consortium (EMC) was launched, comprising standing platforms and organisations, such as FutureLearn, France Université Numérique (FUN), OpenupEd, Miríada X and EduOpen (Jansen, 2017). Offering almost 1000 MOOCs and representing 200 HE institutions and companies, the EMC's self-declared mission is "to develop activities to increase the awareness and use of digital education and MOOCs within universities" and "to strengthen the continuing education sector by increasing the credibility and visibility of MOOCs" (EMC, 2017).

In a recent survey, Castaño Muñoz, Punie and Inamorato dos Santos (2016) revealed that the European universities offer numerous MOOCs, which are important for individual learning, even if certificates are rarely formally recognized. To participate in MOOCs, digital competencies are needed, and also the feedback from facilitators and peers is important.

A survey conducted during November 2016-February 2017 shows that 68% of European higher education institutions already offer or plan to develop MOOCs, in order to increase institutional visibility and flexible learning opportunities, but also to generate income and explore cost reductions (Jansen and Konings, 2017).

1.2. Open Education – the Romanian Context
1.2.1. OE/OER-related projects

Romania is also part of the OE movement, being active mainly through the OERs and OEPs initiatives carried out by institutions, groups, communities and individuals, and through specific projects or programmes. We identified the following directions of action (Holotescu, 2012; Holotescu et al., 2014a; Holotescu and Pepler, 2014):

- *Elaboration of proposals at government level related to OER and Web2*.0. In this respect, in 2007, the first author of this paper has formulated proposals related to OERs and Web2.0 in a "Knowledge based Economy Project (KEP)" report (Holotescu, 2007).

- *The usage of OER and Web 2.0 in formal and life-long learning education as strategic lines of development for ICT in education* is considered from February 2015 as a fundamental topic of the National Strategy on Digital Agenda for Romania 2020 (https://www.comunicatii.gov.ro/agenda-digitala-pentru-romania-2020). The government programme also mentions the implementation of an e-learning platform and online repositories (http://mrp.gov.ro/web/programul-de-guvernare-2017-2020/).

- *The free availability for download of digital textbooks for pre-university education* from a section of the Ministry of Education site (http://manuale.edu.ro), since the autumn of 2014. However, the e-books are not published under open licenses and do not use open formats. At the moment of writing this paper, the project of the textbooks law is being discussed (http://edu.ro/consultare-publică-proiectul-legii-manualului-școlar) and a project to implement *an e-learning platform and online repositories for OERs* was launched (http://edu.ro/rețea-de-resurse-educaționale-deschise-la-nivelul-inspectoratelor-școlare-județene).

- *The support and promotion of open access and OER* by the "*Romanian Coalition for OER*", launched in October 2013 (http://educatiedeschisa.ro). The coalition has published guides, has organized workshops and national conferences on Open Education, and formulated concrete OE-related proposals for the government (http://www.inovarepublica.ro/educatie-deschisa-romania).

- *Training courses related to open educational pedagogies* offered by different e-learning players such as KEP, Moodle Romania, Didatec, iTeach, Sloop2desc, ActiveWatch Media Monitoring, Compendiu.ro etc.

- *Publication of guides* about "OER for different disciplines" (http://tinyurl.com/KEPOERguide), and of *open journals related to open education* (http://iteach.ro/experientedidactice, http://www.elearning.ro).

- *Open resources curation in public directories,* more numerous at pre-university level:
http://forum.portal.edu.ro, http://didactic.ro, http://e-scoala.ro, http://dascali.ro,
http://educatie.inmures.ro, https://kidibot.ro, http://digitaliada.ro, https://dacobots.com,
http://livresq.com etc.

- *Foundation of strong communities* and *organization of events* for open access movement / culture (open source, open data, open licenses etc.). Thus, in September 2, 2008 the Creative Commons Romania version was launched with the help of ApTI (Association for Technology and Internet).

1.2.2. MOOC-related projects

In the following we mention several ongoing institutional and inter-institutional MOOC initiatives developed in the Romanian space, at different educational level and by different educational actors (Holotescu, Andone and Grosseck, 2016; Holotescu, 2017):

a)   Platforms and MOOCs implemented by *academic institutions*:
- *UniCampus* (http://unicampus.ro) started in April 2014 by University Politehnica Timisoara, Unicampus offers MOOCs on a version of Moodle platform based on cMOOCs methodology (Vasiu and Andone, 2014).
- *NOVAMOOC* (http://novamooc.uvt.ro) is a UEFISCDI project about development and innovative implementation of MOOCs in Higher Education, run by West University of Timisoara (WUT) during 2015-2017. WUT offers its first MOOC on the Teachable Platform, "Practicing English with Technology" (https://west-university-timisoara.teachable.com/p/pet).
- *UniBuc Virtual* (http://www.unibuc-virtual.net) by Credis (Department of Distance Learning from Bucharest University) developed and ran three MOOCs for Teachers Training on a Google Apps-based platform.
- "Critical Thinking MOOC" was developed and ran in 2014 by the Maastricht School of Management Romania on Iversity (http://www.msmromania.org/content/msmro-produces-first-mooc-eastern-europe).
- University "Babes Bolyai" Cluj Napoca developed through the eLIADA project materials for four MOOCs (http://eliada.ubbcluj.ro/proiect).

b)   Platforms and MOOCs implemented by *companies and NGOs*:
- *MOOC.ro* (http://mooc.ro) developed by Moodle.ro. Currently offers two MOOCs about Moodle and Articulate.
- *eStudent* (http://estudent.ro) is a platform that offers MOOCs on psychology, communication, business, geography and Romanian language. It was developed by APIO, CTRL-D and university teachers/experts.
- *Startarium* (http://startarium.ro) is a platform nurturing an entrepreneurship ecosystem. It gathers a group of organizations and experts that offer MOOCs, mentoring and crowdfunding around 8,000 potential entrepreneurs who design and develop their start-up plans using the platform features.
- *Cursera* (http://cursera.ro) developed MOOCs by medical universities, organizations and hospitals.
- *MOOCs on Udemy*: NGO Management, Association Young Initiative (http://udemy.com/management-ong).
- *MOOC in medical education* offered by Romanian Angel Appeal Foundation (http://raa.ro).

c)   *MOOC presence in formal education*:
- *MOOC integration in blended academic courses.* Politehnica University of Timisoara was a pioneer by integrating MOOCs in the following courses: "Web Programming" (Holotescu et al., 2014b), "Instructional Technologies" (Vasiu and Andone, 2014) and "Embedded Systems" (Bogdan, 2017). There are also such initiatives at "Ioan Slavici" University of Timisoara for the "Multimedia and OOP" courses and at West University of Timisoara for "Digital storytelling course", a transversal discipline for all second year bachelor students, regarding their specializations.

- *Credit (marks) recognition for students' participation in MOOCs.* It involves the students' activity in different projects for some courses at the Politehnica University of Timisoara and the West University of Timisoara.
- *MOOC accreditation* at the Politehnica University of Timisoara: "Digital Marketing" offered by Google (http://atelieruldigital.jaromania.org).
- *Teacher continuing professional development* using MOOCs at "Ioan Slavici" University of Timisoara: participation in MOOCs related to OE, but also to the topics of the taught courses and research.
- *Virtual mobility project*: A summer-day's MOOC, partners Business Faculty, University Babes-Bolyai, Cluj-Napoca Romania, Georgia, and the Netherlands.

d)　　*Scientific events related to open education*:

- Workshops and national conferences organized by the Romanian Coalition for OER.
- Workshops organized by the Politehnica University of Timisoara during the Open Education Week (http://elearning.upt.ro).
- Since 2014, the International Conference eLSE has a section dedicated to OER and MOOCs, co-chaired by the authors (http://elseconference.eu).
- SMART Conference, co-organized by the authors since 2013, has a special focus on open education (http://academia.edusoft.ro/category/conferences).
- The International "New Trends and Perspectives in Open Education" conference was the first event organized by a HE institution on Open Education topics (https://novamooc.uvt.ro/?page_id=445) .

e)　　*Projects and studies*:

- MOOCBuddy: the first Messenger chatbot for MOOCs (http://facebook.com/MyMOOCBuddy).
- Research and doctoral studies (in the last 5 years there are 47 articles indexed in the Web of Science written by Romanian authors, having MOOCs as research subject).
- *Contributions of educational actors at international level*, which implies/underlines the recognition of quality Romanian experts involved in OE movement worldwide. See for example the UNESCO mentoring programme "Open Education for a better world" http://unesco.ijs.si/project/creating-dynamic-online-courses/.

As stated above, the number of initiatives is not so large, but one can note the diversity of projects and of the involved organizations. MOOCs offered are free and contribute to the institutions visibility and learning flexibility. However, they do not generate income and are not mentioned in official documents yet.

As recognition of the Romanian achievements related to Open Education, the EU OpenEdu study summarized the state-of-the-art in a country report (Inamorato dos Santos et al., 2017), mostly based on the authors' previous work. Furthermore, Wang et al. (2017) reveal that Romania is one of the 4th most productive country in OER-related studies, with the authors of this article ranking in top 10 of researchers worldwide.

The evident drivers that move things towards are both researchers and teaching staff (seldom the policy makers and managers of the institutions) and companies and associations. Nevertheless, in the process of developing such MOOCs related-projects, there were encountered certain difficulties and limitations. Thus, as the main barriers in the OERs/MOOCs development and adoption could be considered (Holotescu, Andone and Grosseck, 2016; Holotescu, 2017):

√ 　rigid policies in formal education related to curricular systems and assessment practices;
√ 　the lack of possibility to officially accredit online courses, in spite of an impressive number of projects related to online courses over the last 15 years, and of the policy proposals coming from different organizations (such courses can only be used in a blended approach in formal education);
√ 　the lack of MOOC-related strategies at national level in formal and continuing education;

√ teachers' lack of time and interest to explore, understand, evaluate and use new technologies, OERs and MOOCs in the teaching-learning process;

√ a reduced number of training programs for adopting open educational practices;

√ lack of incentives, official recognition and promotion for teachers implementing open educational practices.

2. Recommendations for a MOOC-related strategy in Romania

To foster the inclusion of Open Education, OERs and MOOCs in the Romanian educational system, a set of recommendations is proposed below.

The first of them are quoted and updated from the report (Holotescu, 2007) and have not been fully implemented, while some of them are new and original, as derived from our experience (Holotescu et. al, 2014b; Bogdan et. al, 2017). Others are quoted and adapted from recent reports of the projects POERUP (POERUP, 2014), OpenEdu (Castaño Muñoz et al., 2016; Inamorato dos Santos et al., 2016), OpenCred (Witthaus et al., 2016), from recent studies (Patru and Balaji, 2016; Jansen and Konings, 2017; Grech and Camilleri, 2017) and from OER Congress documents (OER AP, 2017). The last were endorsed by ministers and their designated representatives of 20 countries, Romania included.

The recommendations are organized on three levels (Tabel 1): for policy makers at national levels, for institutions and for teachers themselves, because real changes appear from grass roots level.

Table 1. Recommendations for opening up education in Romania

For policy makers
• The already existing publicly funded educational content should be used more intensively by teachers and students: connections with curricula, the skills they develop should be clearer; encourage and support the sharing of best practices; should be also licensed under CC.   • Create a repository under CC licenses with the educational projects in which Romanian schools, universities and educational organizations have participated.   • Partnership of the Ministry of Education with publishers, broadcasters, libraries, cultural institutions to provide open access to their own resources.   • Encourage a competitive market for the production of educational resources, ensure transparency of supply and equal opportunities to market actors, based on a set of quality criteria, containing pedagogic, design, accessibility and openness principles.   • Implement an online platform for collaborative production of OERs/MOOCs by institutions, teachers and students, based on open collaborative technologies, presenting open scenarios for learning (Holotescu, 2007).
• Any public outputs from the European Commission programs (specifically including Erasmus for All and Framework) should be made available as open resources under an appropriate license.   • Budgets for digital education should include money for developing and maintaining OERs/MOOCs.   • OER should be allowed on approved materials lists.   • Quality agencies in ENQA (the European Association for Quality Assurance in Higher Education) should improve their understanding of new modes of learning (including online, distance, OERs and MOOCs) and their impact on quality assurance and recognition.   • Encourage Europe-wide validation of the knowledge and competences developed through online study and informal learning, including but not restricted to OERs and MOOCs (POERUP, 2014).
• Promote the use of MOOCs for re-skilling and up-skilling both unemployed people and workers, especially those without employer support to training activities; this would help to reduce the unemployment rate.   • Promote digital competence development in both formal education and professional development activities. This could lead to a higher participation rate of individuals in an open education context and, indirectly, to reduced training costs and a greater flexibility in education (Castaño Muñoz et al., 2016).   • Foster dialogue and collaboration between actors in HEI internationalization, student mobility and

the validation of non-formal and informal learning (Witthaus et al., 2016).
•   The government should support and scale up multi-stakeholder partnerships for efficiency reasons, but also for the benefit of society as a whole (Jansen and Konings, 2017).
•   Besides open-licensing policies, the government could support the creation of regional or national centres to finance and promote MOOCs and allied activities (Patru and Balaji, 2016).
•   Strategic public-private partnerships are needed in order to fully exploit blockchain in (open) education. The implementations of blockchain technology for education are in initial stages, several organizations are in the initial stages of pilot-testing award of certificates using a blockchain, while others are accepting blockchain-based cryptocurrency payments. The potential of the blockchain in areas such as the issuing of certificates, verification of accreditation pathways, lifelong learning passports, intellectual property management and data management should be further investigated (Grech and Camilleri, 2017).

For educational institutions

•   All teacher training programmes should include topics related to OERs, MOOCs, open licenses and social media/Web2.0/collaborative/free tools to create educational materials in a collaborative manner.   •   Developing open-literacy both for the academic and administrative staff.   •   Facilitate the sustainable implementation of OERs/MOOCs by creating incentives for use and reuse, and funding technical infrastructure to increase access to OERs/MOOCs (Holotescu, 2007).
•   MOOCs could be adopted for individuals already trained in the efficient use of ICT and online learning; institutions should determine and increase the digital readiness of both teachers and students.   •   Policies for MOOC accreditation should be adopted, applied for students, but also for recognition of the teachers' continuous development and for career advancement opportunities (Bogdan et al., 2017).
•   Strong and ongoing collaborations between schools, universities and other educational stakeholders involving OERs/MOOC projects.   •   Accessibility should be a priority for all OERs/MOOCs, including disability accessibility standards (POERUP, 2014).
•   Have a holistic strategy for opening up education that encompasses the 10 dimensions of the OpenEdu framework, making the open education strategy part of the overall institutional strategy.   •   Explore new practices and welcome changes.   •   Revise the practices at all levels: mission statement and vision, current organizational management structures and day-to-day policies, and the institution's role in the community and globally (Inamorato dos Santos et al., 2016).
•   Validate open learning by offering credentials for MOOCs and free and open online courses.   •   Provide flexible options for "free elective courses" or "self-study courses" in the curricula, including open learning for study progression.   •   Join European consortia related to MOOCs and build partnerships with HEIs/employment bodies (Witthaus et al., 2016).
•   Build the capacity of users to find, re-use, create and share OERs/MOOCs.   •   Empower educators and learners to develop quality, gender-sensitive, culturally and linguistically relevant OERs/MOOCs appropriate to local cultures and to create local language OERs/MOOCs.   •   Ensure inclusive and equitable access to quality OERs/MOOCs (OER AP, 2017).
•   It is important to acknowledge the need for capacity-building amongst faculties in the management of MOOCs and to develop a system of recognition and incentives for the faculty.   •   The design, development and delivery of MOOCs can be expensive for an institution; thus, continuous evaluation, reuse or adaptation of existing or available MOOCs is an important aspect to take into consideration (Patru and Balaji, 2016).

For teachers

•   New skills and tasks are required for teachers facilitating blended courses that integrate MOOCs: complex course design and management, OERs and MOOCs curation, evaluation of the distributed and collaborative activities of students, facilitation of the local learning community and nurture of its integration in the global communities of MOOCs and many more.   •   Teachers should be active in communities of practice and attend MOOCs too on topics they themselves teach and also on topics related to new educational technologies and pedagogies. Under these circumstances, each teacher could become a life-long and informed learner.   •   Teachers should assist and guide students to assess their own learning needs for choosing the

MOOCs in which to participate in order to deepen the course topics (Holotescu et al., 2014b).
- Teachers need digital skills to curate MOOCs, to assess MOOC quality and to use learning analytics (Bogdan et al., 2017).

As argued by COL (2017), the lack of national policies can limit OE adoption and discourage institutions from engaging in OE activities. The regional consultation in Europe shows the need that OE take the form of a bottom-up movement, focusing at the institutional level, and that national efforts be coordinated through a strategic policy initiative to complement the bottom-up approach.

3. Conclusions

As specified by the Capetown Open Education Declaration (2017), the Open Education should be connected with other open movements and should place the next generation at its core (Capetown, 2017).

Although the Romanian government declared his support for the OE movement, there is no coherent strategy. It is an urgent need to adopt and implement one, for example similar to "Opening up Slovenia" (http://www.ouslovenia.net), in order to build legal mechanisms for implementing open education and for carrying out concrete, cross-dimensional OE projects, consisting in policy actions, capacity building, services and content, research and development, and supportive environments.

Another strategic path can be taken by learning from the experience of the Polish Coalition for Open Education (Śliwowski and Grodecka, 2013). Thus, the Romanian Coalition for OER could play an important role as an *Open Education Observatory*, shaping the policy of openness. We also believe that the involvement of each teacher is important for mainstreaming Open Education.

We hope this paper, with recommendations on three axes, will be a useful reference for further discussions within and between different institutions and policy makers in charge with Open Education, OERs and MOOCs policies in Romania.

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Professor **Carmen HOLOTESCU** is the Dean of the Faculty of Engineering, also the Director of the Center for Open Education, at "Ioan Slavici" University of Timisoara, Romania. She has conducted innovative research over the last 16 years, in Open Education (OE), conceiving and building Social Media learning spaces and integrating emerging educational technologies, OERs and MOOCs in formal/informal learning settings. She has also been involved in many European projects on new collaborative technologies, to training teachers/e-trainers and participants with different backgrounds, also persons in disadvantaged situations. In 2007, as an Expert in the Knowledge Economy Project, Carmen Holotescu was the author of the first national recommendations on OE for the Romanian Ministry of Education. She is a Certified Online Instructor of University of Maryland University College, USA, acting as Online Tutor for 12 years, between 2002-2013. She has facilitated online courses in CS field, working with students worldwide in multicultural settings. She wrote over 100 articles and book chapters related to eLearning/Blended Learning/Open Learning, Social Media, OERs and MOOCs, having more than 1400 citations. Carmen Holotescu is also the organizer and chair of many national and international conferences, workshops and webinars on OE.

Gabriela GROSSECK is Associate Professor in the Department of Psychology at the West University of Timisoara, Romania. She has particular expertise in ICT in education (teaching, learning, and researching), a solid experience in students'/teachers' training both f2f and online environments. For almost a decade she was an editor-in-chief of Romanian Journal of Social Informatics. She is author of many articles in the field of e-learning 2.0, speaker at different international events, workshop organizer and a member of editorial committees (journals and conferences). Her research interests cover main aspects of open education, OERs/OEPs and MOOCs, Web 2.0 tools and technologies in higher education, collaborative aspects and proper use of social media (by teachers, students, researchers, policy makers and other educational actors).