



BizMOOC Discussion 05

Issues for MOOC

recognition/certification/accreditation

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Issues for MOOC recognition/certification/accreditation

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1. Abstract

This paper aims at elaborating on the issues with regard to MOOCs' recognition, certification and accreditation and determines what should be considered in the nearest future to use MOOCs as a bridge between formal and non-formal education.

MOOCs were not meant from the beginning to be part of the formal education, but as the time passes by, each time more students enrolled in this type of courses are requiring some kind of certificate. This is not an easy task, but seems to become a priority for a part of the students.

2. Introduction

Under the era of continuous and fulminant changes in information, communication and technology (ICT) field, the knowledge evolution implied numerous changes in the public and private sector, higher education not being an exception. There is no doubt on the need of increasing productivity and efficiency, and thus, efforts are undertaken in adapting the high potential of ICT.

The education system is experiencing gradual but constant changes given the new possibilities derived from the generation of open resources at international level (Bell, 2010). MOOCs appeared as a solution of the low or even lack of adaptation of higher education to the challenges of the society of today especially given the effects of the economic crisis on the employability. Therefore, gradual transformation took place from eLearning to OpenCourseWare. Given the dynamic evolution of knowledge and ICT, MOOCs could be the new education methodology allowing the rapid adaptation of curricula and contents to the new and changing requirements.

MOOCs can improve the effectiveness of education and innovation in learning that would provide broader access to knowledge. They can make lifelong learning a reality helping learners to up-skill and re-skill regardless of their socio-economic situation (Vassiliou, 2013). More socially inclusive and open for new learning and teaching methods, they can be increasingly useful if widely recognised, which however is burdened due to mainly two reasons - quality and financial resources. In other words, the combination of digital content and global connectivism is enabling the perfect scenario for the introduction of new changes in higher education. Furthermore, and following Weller and Anderson (2013), the consolidation of new methodologies in the education system depends on the capacity to avoid the

resistance to change and the support of the institutional ability to adapt and understand new challenges in the education field.

Since its inception in 2008, MOOCs have experienced a rapid growth in interest at the time that the need to address issues of learner assessment and accreditation was also increasing (McGreal et al., 2014). The fact that digital learning (with content obtained via Internet) enabling knowledge and skills acquisition via formal or informal learning, alone or in groups, does not imply that learners will achieve the assessment of the learning nor an appropriate academic recognition (Taylor, 2011; Mackintosh, McGreal & Taylor, 2011).

Recognition constitutes one of the three incentives of MOOCs (other two are learner's satisfaction and completion). The knowledge of getting newly acquired skills and competences recognised by the higher education institution, education provider or employer encourages the learners to take up courses for the purpose of personal and professional development. More importantly, knowing that a course will not be completed only for the learner's satisfaction can lead to decrease in dropout rates.

The recognition, accreditation and certification could be defined in many different ways, but generally, it refers to establishing a set of arrangements to make visible and value all learning outcomes (incl. knowledge, skills and competence) against clearly defined and quality-assured standards (Yang, 2016). Moreover, according to the ECTS users' guide "recognition of non-formal and informal learning - the process through which an institution certifies that the learning outcomes achieved and assessed in another context (non-formal or informal learning) satisfy (some or all) requirements of a particular programme, its component or qualification".

It is relevant to mention that recognition procedures are based on compatibility of learning outcomes rather than comparing the content. This should be mirrored in its open and flexible approach to recognition, aiming at making the lifelong learning a reality and education accessible for all.

Proper recognition and accreditation procedures and certification can offer an educational solution for those who are not in a traditional setting, they can constitute an opportunity of virtual mobility or simply provide a chance of re-skilling or up-skilling employees. However, the adequate usage of those processes is yet to become a reality. The following sections of this paper will provide the insight in the international and European context of the issues of MOOC recognition, accreditation and certification along with outlining the key ones to face in the nearest future.

3. International context

A large amount of MOOC providers as well as researchers are highlighting the need for a solution for the withdraw/dropout rate of MOOCs. It is acknowledged that dropout rates of this kind of courses are rather high (Koutropoulos et al., 2012). A MOOC offered by Coursera in 2012, on Functional Programming Principles in Scala, registered a completion rate of 19.2% (Jordan, 2013). Nevertheless, it must be stated that the majority of MOOCs have completion rates of less than 10% and little is known about the experiences of non-completing MOOC participants (Koutropoulos et al., 2012).

Motivation has been identified as an important contributor to student engagement in a MOOC (Milligan et al., 2013; Milligan et al., 2016). What can motivate people to engage in MOOCs? Individual motivation can go from the desire to achieve an academic credential at a reduced cost, personal enrichment, up to self-satisfaction (Liyaganawardena, Adams and Williams, 2013). It must be underlined that having updated information about the actual motivations in place would be valuable, among others, for the design of MOOCs.

According to Milligan et al. (2016), while high self-regulator students establish specific goals related to the course content, the effect on their professional needs and the structure of their learning around the development of content knowledge and expertise (Pintrich, 1999), low self-regulators focus more on their passion for learning, curiosity, or desire to broaden their knowledge. The range of motivation is reflected by the goals set (Zheng et al., 2015; White et al., 2015). Moreover, high self-regulators are pursuing the extension of their knowledge and expertise to benefit their current or future roles independently if they were intending to complete the course, or if the study process was planned more strategically. On the opposite, low-self regulators are not focusing the learning, but mainly their performance, looking for the completion of the course. In this case, the recognition of MOOCs and their accreditation could be a more valuable source of motivation than for high self-regulators.

Together with the monetization, the recognition/certification is one of the most polemic aspects. In fact, the accreditation process opens the door towards an income source at the time it is the way of evaluating the learning process, offering the certification needed/requested by the employers (BIS, 2013). According to Moody's, regarding the foresight of the incomes of north American HEIs, states that MOOCs certificates should be considered as an experiment in the attempt of obtaining extra incomes by granting credits (Moody's Investor Service, 2013).

Usually, educational technology companies like Coursera, edX or Udacity conduct MOOCs. These companies are offering different types of certification for which a fee must be paid. The scale of these fees depends on the type of course. It must be highlighted that certification for a MOOC is offered and recognized by at least one higher education institution. Traditionally learners enrol with one institution and expect to receive the teaching, the content, the assessment and the eventual accreditation from this very same institution (Murray and Friesen, 2011).

Table 1. A comparison of the certification offered by Coursera and edX

Aspects	Coursera	edX
Time frame for deciding the use of the Signature Track or not	3 weeks	
Steps to be taken (authentication procedure)	<ul style="list-style-type: none"> • Payment of \$30 to \$100 (depending on the course). • Submit a recognized ID (e.g., drivers license) + take a picture of yourself via webcam => Identification & authenticity • Type a short writing sample, for “keystroke” signature to be used after each test. 	<ul style="list-style-type: none"> • Payment of \$25 to \$300 (depending on the course).
Certificates	Payment	Payment
	With HEI	With HEI
Types of certificates	<ul style="list-style-type: none"> • Verified (the majority are priced at \$49) • Specialization (a sequence of courses that culminate into a capstone Project at the end; 45% of Coursera courses offer this kind of certificate) 	<ul style="list-style-type: none"> • Verified (very similar to Coursera’s price strategy) • Professional Education (from \$49 to \$949) • Credit • XSeries¹

Source: own elaboration.

According to Ronney De Winter from Class Central², the pricing of courses can be classified in four main categories as follows:

- Courses priced at \$49. The majority of Coursera’s courses are in this category.
- Courses priced at \$79. These seem to be generally courses for skills with a high demand in the job market (especially IT, programming or business-related courses).
- Courses priced at \$29. The majority are in Chinese, Spanish, or Portuguese. Thus, most probably these courses are targeting developing countries.
- Courses priced over \$100. They’re mostly capstone courses for business and leadership related topics.

¹ Recently, for the students who overcome a series of site courses in computer science, a certificate is offered by the Massachusetts Technological Institute. This would be the so-called XSeries certificate offered by edX platform non-lucro MIT and Harvard University. Kolowich (2014) expects to be a trend followed also by other universities in the near future. Different courses offered by Coursera were recognized for granting credits by the Council for Education of the United States: (1) "Bioelectricity: A Quantitative Approach", Duke University; (2) other ods (3) "Pre-Calculus" and (4) "Algebra" Calofornia University in Invirne; and (5) "Calculus: Single Variable" from the University of Pennsylvania. All five courses are offered through Coursera platform counting with the endorsement of the Council based on the value of these courses to be worthy of official credits.

² Retrived from <https://www.class-central.com/u/43904>

Digital revolution was born in the United States. It all started in 2012 when two biggest global MOOC platforms – Udacity and Coursera – were first launched. It soon became clear that in order to be competitive MOOCs cannot just provide knowledge, but also should be able to offer a credible qualification. This realisation was mirrored in the activity of the American Council on Education that has started reviewing selected Coursera’s classes for credit equivalency. Consequently, the universities can recognise them for the purpose of pursuing with the formal educational path, but are not obliged to (The economist, 2012).

Policy-wise, the issue of recognition of digital education has been tackled by international organisations such as UNESCO or OECD that have been emphasising the added value of e-learning methods particularly in its wide social outreach. UNESCO’s Education 2030: Framework For Action underlines the importance of access to quality basic, vocational and higher education with a clear commitment to lifelong learning strengthened by the usage of ICT tools. Additionally, it reads as follow: *In addition, the provision of flexible learning pathways, as well as the recognition, validation and accreditation of the knowledge, skills and competencies acquired through non-formal and informal education, is important* (UNESCO, 2015).

When integrating informal learning (open learning) with the formal one, one of the major hurdles in this process is the assessment of learning and its accreditation toward a credential (Conrad, 2013; Friesen and Wihak, 2013). Following McGreal et al. (2014), academic assessment is still the privilege and purview of individual post secondary systems. Despite the development of national accreditation frameworks, international ones are still to be developed and adapted to the new needs due to the introduction of each time more informal learning options (e.g., MOOC and other open learning tools).

As an example of assessment or accreditation for informal learning, the secondary system counts with two main types as depicted below:

- **The Recognition of Prior Learning (RPL)**³: it is very popular and followed by examinations that allow learners to challenge-for-credit through assignments, examinations, interviews, courses, tutorials, demonstrations, self-assessment, external evaluations, essays, face-to-face or online workshops, and a variety of other instruments (Conrad and McGreal, 2012). RPL option is more resource intensive, as staff for prospective students is needed. Nevertheless, RPL-intensive institutions already count with resources and structured in this sense like policy, research, repositories and experience with licensing, for example (McGreal et al., 2014).

³ Also referred to as Accreditation of Prior and Experiential Learning (APEL), Prior Learning Assessment (PLA, mainly in the USA) and Prior Learning Assessment and Recognition (PLAR, mainly in Canada), among others (McGreal et al., 2014).

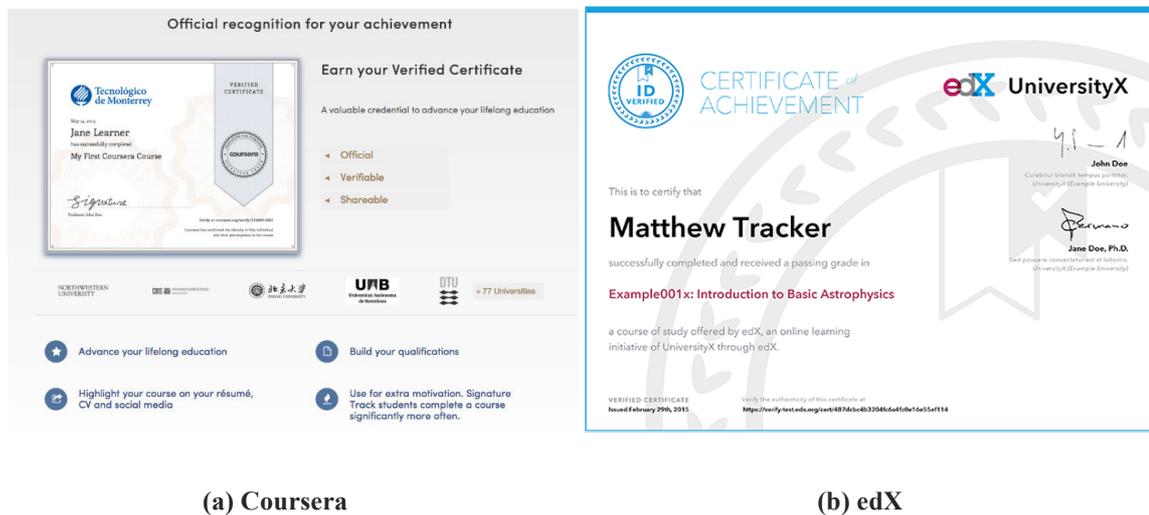
- **Credit transfer:** it is meant mainly to grant credit to students with courses from other institutions. Credit transfer, compared to RPL, is a less labour-intensive option, but sometimes it can be problematic for students. With a different credit system all over the world (except for the countries which decided to implement or adapt their systems to the European one through the ECTS), credit transfer could cause discrepancies and possible disagreements.

In the same line, MOOC movement is facing a clear need of alternative assessment and despite the fact that many institutions around the world are considering these alternatives there is a long way to go. A possible option could be RPL (Camilleri and Tannhäuser, 2012; Conrad, 2013).

As we stand today, there are mainly three types of recognition/certificates offered by MOOCs, as follows:

- The majority of MOOCs are offering **digital badges** for completion of either the entire course, of each unit or of a week of work (e.g., OLDSMOOC by Open University).
- Other MOOCs, as the ones facilitated by Coursera, offer proctored exams for a fee, which will involve the earning of a **certificate**, together with a higher education institution (HEI), for successful students (see figure 1).
- Some other MOOCs provide a **Statement of Accomplishment** for successful students, but in this case no college credits are associated to this type of certificate⁴.

Figure 1. Certificates of MOOCs



⁴ The American Council on Education recommended different Coursera courses for college credit at the time a California bill is seeking credit for students taking faculty approved courses online. Nevertheless, one year after the first attempt of the University to grant credit to students who had passed a MOOC no results was registered in this sense (Jobe, 2014).

Source: www.coursera.org and www.edx.org

It is true that for higher education institutions the perspective is more complex as they have to face conflicting challenges (Pundak et al., 2014):

- (a) They must facilitate up-to-date knowledge in a permanent changing context (in all or almost all fields).
- (b) They have to guide students in the examination process through broad-based observation while considering different scientific disciplines.

Furthermore, HEIs are operating under several limitations as leaning program boundaries, budgetary constructions and lack of accessibility to experts in different areas, as well as the limited series of courses offered to the students. Pundak et al. (2014) are highlighting that in order overcome all these limitations Ort Braude Academic College of Engineering opted for an experimental program allowing students to enrol for MOOC courses under the college's supervision, being eligible for accreditation in the case of successful completion. Nevertheless, a very low rate of students considered the registration (less than 3%) and not even 2% were accepted for the program.

The problem is not (just) the low rate of students, but the evaluation of the learning of each one of the students enrolled (which normally means thousands of students). For this purpose, several tools could be employed (Pundak et al., 2014):

- (a) **Automatic examination of closed questions:** it is generally given a weekly question with answers prepared beforehand by course lecturer and staff. The questions could be from multiple choice, correct/incorrect, fill in a blank, a numerical or mathematical question, etc. Immediate feedback is given by the automatic system. Multiple attempts are generally given to the students in this kind of evaluation system.
- (b) **Peer evaluation:** based on an open assignment. Thus, each component of the assignment with the corresponding predetermined value must be previously made public for the students before performing the assignment. Based on these details as well as on several detailed examples, students are asked to evaluate the work of their colleagues on the course. This tool enables the creation of a community of learners with different perspectives and gives the chance of exchanging views and deliberating on the way to evaluate products. Hence, a more active role of students is fostered. However some drawback should be underlined: its validity, the influence on creativity and the quality of the feedback.
- (c) Examination through **artificial intelligence**.

Nevertheless, some speculations have been made related to the loss of the monopoly of HEIs of granting degrees or credits due to the introduction of badges and certificates granted by other educational institutions and considered in the labour market (Gaebel, 2014; Fain, 2014).

The MOOC certificates are not necessary the most relevant aspect now as the authenticity/identification seems to have a greater demand. Moreover, according to Yuan and Powell (in the JISC-CETIS report of March 2013), the certification is not such an important element as the majority of the students enrolled in MOOCs already have a degree.

4. European context

Following Androulla Vassiliou, the previous Commissioner for Education, Culture, Youth and Sports, when launching Commission’s Opening Up Education initiative in 2013, the EU is also planning to encourage the recognition and validation of skills acquired through digital learning.

There is also a Bologna Process context, which in the case of European region plays a significant role in the digital transformation in education. As the latest Communiqué, a document that is periodically issued by the Ministers of Higher Education of all members of the European Higher Education Area (EHEA)⁵, reads: “Fair academic and professional recognition, including recognition of non formal and informal learning, is at the core of the EHEA”.

The European Credit Transfer and Accumulation System (ECTS) is a tool of the European Higher Education Area (EHEA). Hence, it is used only within higher education systems aiming at making studies and courses comparable and transparent. Therefore, it helps enhance the quality of higher education. It started to integrate the experience abroad into the curriculum at mother-university and now it has become a tool to incorporate various types of learning experience into the formal education in lifelong perspective. It can apply to all programmes regardless of the mode of delivery (classroom-based, distance and work-based learning) and learning context – formal, informal, non-formal (European Commission, 2015). Thus, this tool could be potentially used also for the purpose of recognising MOOCs for the purpose of formal education. There are already examples of European universities that offer course credits towards the degree for completion of MOOCs. Through FutureLearn platform, learners can take up courses towards their future programme for free, however should a learner want to pursue with the programme, the access to this may be hampered, as they would have to first pay for the certificate of achievement and final assessment (Ali, 2016).

A British report “The Maturing of MOOCs” clearly states that the increasing formal recognition of MOOCs constitutes a priority for policy-makers and institutions. The accreditation methods said to include badges and adoption of

⁵ More information on EHEA <http://www.ehea.info>

validation techniques (e.g., keyboard tracking, honour codes). Nevertheless, it is worth noting that there is a lack of any systematic solution for policy on credit recognition (Department of Business, Innovation&Skills, 2015).

OpenupEd has provided some indication of their accreditation and funding models. It is suggested that all courses may lead to recognition by means of a completion certificate or a credit certificate that may count towards a degree. The credit certificate comes with a cost attached ranging from €25 to €400, depending on the course length and institution. The majority of courses, despite the use of 11 languages initially and Arabic afterwards, are either in English or Spanish, largely drawn from two large distance-teaching institutions - the Open University and Universidad Nacional de Educación a Distancia (Department of Business, Innovation&Skills, 2015).

According to the European Commission, the European Union is trying to “stimulate teachers and educational institutions to test innovative digital approaches” (Kroes and Vassiliou, 2013). However, without an active participation of students and learners - this goal might be difficult to achieve, therefore the Member States and the European countries should be further encouraged to use the opportunities available for all, not only to a privileged groups of the society. Attempts to better accessibility could exemplified with the practice of Freiburg University in Germany, which started awarding credits for a course offered by Udacity (The economist, 2012).

Daniel et al. (2015) are underlining that in Europe there has not been a “profound reflection on whether MOOC should grant loans and whether these loans could be approved under the credit system” in the European Higher Education (ECTS). But if MOOCs do not grant any credit both in the hybrid and distance models no changes in the higher education system are envisioned as a consequence of this new trend, MOOCs, unless the accreditation of HEIs is coexisting with the MOOCs certificates (Gaebel, 2014).

Given the European System of Mobility among Member States, students can easily transfer credits earned at any university in one of the 53 countries who signed the Lisbon Recognition Agreement, independently if the knowledge, skills and competences were acquired through non-formal, informal or formal courses. Following the CEO of Iversity, Hans Klöpper, students have the capacity of identifying a high quality courses by the fact that the content is open to anyone. Once the completion of such courses is increasing, the demand for its accreditation will rise as well and for European HEIs will not be easy to resist to the temptation of recognising this new form of learning (The Economist, 2014). Moreover, the legal framework could be adapted in the member states of the European Union as well as in the rest of the countries who signed the Lisbon Recognition Agreement and in line with the governmental requirements for lifelong learning and secondary school (Hollands and Tirthali, 2014).

5. Main obstacles and challenges of recognition, certification and accreditation of MOOCs

Some of the courses that are organised by MOOC providers, offered by MOOC platforms or partnerships lead to either certificate of completion, a badge or credit course. None of those are usually accredited, nor follow any general rules regarding certification of educational courses.

Initially, MOOCs has not aimed at awarding credits at all. The possible confirmation of taking up a MOOC is a certificate of attendance of completion. Even though the courses themselves are free of charge – obtaining any kind of evidence that one has been enrolled or completed such course is often issued upon a fee. Those certificates are designed by the MOOC provider and are usually not formally recognised by any other institution (Geabel, 2013).

It is worth mentioning that within the realm of open online courses the traditional accreditation models are not appropriate (Rodríguez, 2012). The issue is even more complex when it comes to c-MOOCs as assess or give credits when the participants are not performing the same tasks. Another issue to take into consideration is the fact that many participants are peripheral. The same happens with the content of the courses because it is not static content from the beginning until its completion. The content is on a continues evolution. Hence, perhaps not all types of MOOCs should include a certification but could be used as an introduction to subjects further offered through formal learning tools (Rodríguez, 2012).

Following Bacsich et al. (2013), not many institutions indicate they either produce or use open educational resources and where the production is high, the coordination between institutions is low and the governmental support is lacking or is too low. When it comes to the institutions that are looking for the assessment and accreditation of open courses the numbers are even lower (Conrad et al., 2013). Despite these challenges, the open education movement is a reality.

In order to facilitate lifelong learning, MOOCs should play a role of a bridge between formal and non-formal education and therefore their recognition through, for instance recognition of prior learning should be possible, regardless whether the proof of completion (in the form of credits or certificate) was acquired or not. Eventually, what count is the skills and competences obtained.

Having analysed the available literature and other sources it can be stated that the issue of awarding credits and issuing (accredited) certificates is inseparable from hardly responsive higher education and education and training systems, quality and economic reasons. In this section we will consider those as the key issues hampering recognition, accreditations and certification, commencing with the latter one.

Since the economic crisis the European education discourse has even more shifted towards the direction of developing a knowledge society that benefits the growth of economies, it is of high importance to acknowledge that education and

learning need to be tailored according to the societal needs and not to the needs of the economy solely. Education and learning serve multiple purposes where employability is only one of the facets, along preparing active citizens for life in democratic societies, fostering social mobility, personal development and securing sustainable development for the societies we live in. This should be reflected in how educational opportunities are financed and governed.

To provide an example of how the discourse has been steered by the economic benefits of MOOCs we have carried out an exercise for the purpose of this paper aiming at a limited and selective on-line articles review. All six articles included in our bibliography constituted a sample for the word analysis exercise. We have been analysing the way the benefits of MOOCs are presented and we found examples of economy-driven narrative, which is shown in the table below.

Table 2. Review of selected articles in Web magazines about MOOCs

Citation	Source	Comment
<i>Whatever your opinion, the US-inspired massive open online courses (Moocs) prove the existence of an enormous untapped market for high-quality distance learning and a potentially profitable revenue stream.</i>	Independetnt.co.uk	Commodified language, focus on marketisation instead of wider access to education.
<i>Even if MOOCs can coin sound academic currency, they must also make real money. (...) The first way of generating revenue is a “freemium” model, in which the course is free but the graduation certificate is paid-for.</i>	The economist	Commodified language, focus on marketisation instead of wider access to education. Emphasis on the fact that a learner cannot obtain a ‘proof of attendance and results’ unless they pay.
<i>If students can prove that [that means acquiring certain skills - authors’ note], they will not have to pay tuition -- at least not unless so many students ask for credits that the university needs to start charging a fee to handle all the requests.</i>	Inside Higher Ed	Refers specifically to recognition process as a costly procedure that a learner will have to cover the costs of.
<i>OpenupEd, says the report, has suggested that all its courses may lead to recognition, “for example with a completion certificate or a credit certificate that may count towards a degree”. There will be costs attached to credit certificates, ranging from €25 to €400 (US\$540), depending on the course length and institution.</i>	The University World News	Emphasis on the fact that a learner cannot obtain a ‘proof of attendance and results’ unless they pay.

Source: own elaboration.

One of the issues arising from the current status of MOOCs is the misleading narrative. MOOCs are said to be tools that could cater for the educational needs of those who cannot pursue their professional education due to, in the majority of the cases, socio-economic reasons. However, even after having completed a course, an individual may not be able to use skills or competences acquired, as the way they were obtained, even though it should not make any difference, is an obstacle for the skills and competences to be fully recognised by a HEI or employer.

6. Conclusions and considerations for the future

It is clear that a legal framework regarding the recognition/certification/accreditation on non-formal and informal education could facilitate the evolution of the education system as well as its adaptation to the needs and requirements of the XXI century society.

There is no doubt that this process didn't even start at a global level, but there is interest in this sense at least at European level. Moreover, the needs of adaptation and of diversifying incomes of educational institutions (universities or not) put new methodologies as MOOCs in the spotlight of these institutions. The costs and the knowledge needed for producing and offering MOOCs conducted to increasing need of synergies between universities and different platforms like Coursera, edX, Udacity, etc.

The proliferation of MOOCs included also new challenges and new requirements from the consumers of MOOCs. Among others, the recognition of this type of courses started to be one of the most important issues to be solved by the producers. Universities count with the trust of society in the accreditation process of formal learning. Thus, higher education institutions are needed. Without their involvement, the process is not covering the needs of the consumers. However, academic boards and senates of many universities are hostile to reuse open-licensed courses and associated assessments even though those materials have been formally approved by another accredited university and even though these open courses can be adapted locally at no cost and offered in parallel with existing courses in order to diversify curriculum at the home institution. This reticence could be translated into a poor business strategy and foresight.

Additionally, governmental bodies should and could be involved in order to give an even stronger support to this process of accreditation and to the official certificates requested and liked to new teaching/learning methodologies as MOOCs.

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