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A tale about Zen philosophy and a motorcycle (that is: OER & MOOC quality)

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Abstract

The paper introduces the concept of education quality, mainly based on a shared culture, that is a background for a permanent reflection on a process in which teachers, students, and stakeholders are involved, in a gradual improvement of their competence. People can achieve quality if they head for an open, participatory, iterative trajectory towards personal identity construction through the achievement of satisfaction of a well done work. In this context measurement tools and final quality controls are only a means "toward the end of satisfying the peace of mind of those responsible for the work" (Pirsig, first edition 1974, 2005, p.304).

The also describes the Open Educational Resources and Massive Open Online Courses phenomenon, and presents the most recent studies about the theoretical framework and practical tools available in the scientific literature to scaffold the quality evaluation of open education. The discussion, taking full advantage of the literature presented, recognises that we are still in the infancy of the Open Education quality evaluation, and that the available tools have still to demonstrate their value in the application's fields, through empirical researches.

Keywords: *Quality of education, e-Learning, higher education*

Prologue

"Quality….you know what it is, yet you don't know what it is. But that's self-contradictory. But some things are better than others, that is, they have more Quality. But when you try to say what Quality is, apart from the things that have it, it all goes poof! There's nothing to talk about. But if you can't say what Quality is, how do you know that it even exists? If no one knows what it is, then for all practical purposes it doesn't exist at all. But for all practical purposes it really does exist. What else are grades based on? Why else would people pay fortunes for some things and throw others in the trash pile? Obviously some things are better than others…but what's "betterness"? So round and round you go, spinning mental wheels and nowhere finding any place to get traction. What the hell is Quality? What is it?" (Pirsig, first edition 1974 --2005, p. 184)

So wrote Pirsig in 1974, in the book "Zen and the art of motorcycle maintenance", a kind of autobiography that narrates about the author travel —together with his eleven-year-old son Chris— across the United States, from Minnesota to California, driving an old English motorcycle. The book fascinated 5 million people in these flower power hippy days, because Pirsig offered a way out of their contradictions: a rebellion idea of the official culture that, however, will not end in an absolute and resigned refusal. The author, among fantastic landscape descriptions, introduces his "quality metaphysic", a theory that considers what reality is, what is good, what is right, and arrives at surprising conclusions about the existence and the life, often synthesizing the western and oriental thought, opening a debate among the different paradigms dealing with the "value" concept.

Once introduced masterfully our quality topic with Robert Pirsig, we arrive now at the heart of our issue, namely the quality of (e)Learning and its later evolutions, OER-Open Educational Resources and MOOC-Massive Open Online Courses.

1. The method

This paper describes a state-of-the-art study about the researches on (e)Learning quality, and particularly on OER and MOOC quality, grounded in literature analysis and on data from the author researches.

The methods used during the literature analysis were mainly three: (Phelps, Fisher & Ellis, 2007):

- Citation chaining. A technique where you follow the backward or forward chains of citations that lead to other relevant material.
- Limiting searches. A process of narrowing the search results in order to identify the most relevant and appropriate references (on the basis of approach by type of source).
- Monitoring. Maintaining awareness of developments, from sources particularly dedicated to the topic of interest.

2. (e)Learning quality

From Pirsig's words, we can realise that quality is a complex issue and (e)Learning quality is not an exception.

One of the first paper that try to define quality is the Harvey & Green (1993) one, even today cited as a reference point, with quality defined in five dimensions (Kawachi, 2015):

- Achieving exceptional excellence: surpassing some pre-set criterion-referenced standard;
- Achieving perfection: without trial and error envisaging improving the item later on;
- Achieving fitness for purpose: satisfying the aims of producing the item, according to the judgments of the various stakeholders;
- Achieving value for money: focusing on the immediate output, mid-term outcome, and long-term impact effectiveness;
- Achieving transformation: empowering the consumer.

Following the theoretical framework offered by Harvey & Green (op. cit.) we already analysed the (e)Learning quality in our recent papers (Ghislandi & Raffaghelli, 2014; Ghislandi, 2015). In this work we present the most important results of an almost ten-year research, focused first of all on the four levels through which we can examine a research item: epistemology, theoretical approach, methodology, and methods. We then identify the categories that represent the ground for the analysis, based on our empirical researches: dimensions, levels, stakeholders and phases of the (e)Learning quality. We spoke of mediated, participatory, trans/formative and open quality. We reason on the fact that (e)Learning quality—when based on a constructivist epistemology, pedagogical vision, mixed methods, with a strong qualitative mark, and mediated by tools that capitalise participation, trans/formation and openness—must be pursued through a skilful, iterative, open, participatory design.

It's a quality based on a shared evolving culture, and it is a background for a permanent reflection on the process that involve teachers, students, and stakeholders, in a gradual improvement of their competence. We are far away from the idea that we can achieve quality through measurement tools and final quality controls, meaning that can at most comfort and support people who are in a trajectory towards a personal identity construction through the achievement of satisfaction of well-done work. In this vein, we also offered a set of rubrics to be used during the iterative and shared (e)Learning design process.

We want to point out that we use the form (e)Learning because what we are saying about quality intends to go at the heart of the process, reflecting on topics that are fundamental to learning as well as when the "e" of (e)Learning comes into play. Although online learning has its peculiarities that we cannot ignore, in an all-round analysis.

Other important studies and in-depth analyses about the (e)Learning quality are also available (Ehlers, Goertz, Hildebrandt, & Pawlowski, 2005; Ehlers & Pawlowski, 2006; Williams, Kear, & Jon, 2012; Grifoll et al., 2010; Uvalić-Trumbić & Daniel, 2013). Many of these works are available on the EADTU- European Association of Distance Teaching Universities site. There are also associations that are reflected on the eLearning quality over a long period: Quality Matters, Online Learning Consortium, and EFQUEL-European Foundation for Quality in e-Learning (see sites on the References).

In this century, (e)Learning generated some new approaches to the education process: OER- Open Educational Resources and MOOC- Massive Open Online Courses. We will dedicate the following paragraphs to this topic.

3. OER-Open Educational Resources

OER is an educational resource that is open from many point-of-views:

- technical, because it is easily found and downloaded from the net;
- economic, because it is gratis;

- legal, because it is released under an open license.

Where legal points are concerned, due to the fact that OER are generally multimedia – that is, they use images, text, video, graphic – the copyright matter is complex (Ghislandi, 1995; Scorer, 1995; Triberti, 1995). But at the beginning of the year 2000, exactly 16 December 2002, in San Francisco the Creative Commons licenses were presented. They give the possibility of reusing the multimedia resources at established conditions, without having to ask every time previously to the author. They allow a creative use of copyright law, with the aim to articulate a positive discourse about the rights transfer. No longer are "every right reserved" but instead a conditionally predetermined rights transfer is envisaged. We can argue that "open" not only means open access, but also means the possibility to retain, reuse, revise, remix, redistribute OER, at conditions predetermined by the author (SPARC, n.d.).

The OER history started in 2001, with the MIT-Massachusetts Institute of Technology OCW-Open Courseware project with the support of the William e Flora Hewlett Foundation. In 2002, the United Nations Educational, Scientific and Cultural Organization (UNESCO) open the "Forum on Open Courseware for Higher Education in Developing Countries". In 2007, the "Cape Town Open Education Declaration" is published and in 2012 in Paris the "World open educational resources Congress" is held. Finally, in 2013 the "Open Education Europa" portal was opened by the European Union.

A definition of OER is offered by the "Report to the European Commission on New modes of learning and teaching in higher education": "Open Educational Resources (OER) are any online materials that are freely accessible and openly licensed for anyone to reuse and repurpose for teaching, learning, and researching" (HLGMHE- High-Level Group on Modernisation of Higher Education, 2014, p.58). OER can be of different type: courses, didactical material, modules, learning objects, syllabi, lessons, homework assignments, quiz, laboratory activities, games, simulations, texts, video and audio, images, and software. Shortly, all digital resources are available in collections all around the world. There are many organisations that offer OER: Wikiversity, Khan Academy, University of Cambridge, Faculty of Education Open Educational Resources for Teacher Education, OER Commons, Open Learn, etc.

Following Hyelen (2009) these are the reasons why an organisation should be willing to be involved in an OER creation:

- to share knowledge consistent with the university mission;
- to use at best the public funds (that come from taxation) through giving back to the public the scientific work;
- to lower the production cost, through the resources reuse;
- to accelerate the new resources development, also improving their quality;
- to improve the public relations and to attract new students.

The faculty members also have many reasons to create OER:

- altruism;
- the pleasure to be involved in a production with colleagues;
- a strategy to fine tune the final (commercial) version of didactical resources;
- to augment its reputation in open community;
- to access the best possible resources;
- to improve its didactic.

But D'Antoni also list the factors that slow down the OER diffusion (D'Antoni, 2008):

- lack of web 2.0 technology competence;
- lack of knowledge about new didactical model;
- resistance of faculty in creating open resources;
- copyright & funding & language;
- quality assurance;
- university policy.

Nevertheless, the European Commission stressed many times the necessity to create and use OER, particularly in the academic world (European Commission, 2013; Commission Staff, 2013). And the HLGMHE- High-Level Group on Modernisation of Higher Education (2014, p. 68) recently said, "Governments and higher education institutions should work towards a full open access to educational resources. In public tenders, open licenses should be a mandatory condition so that content can be altered, reproduced and used elsewhere. In publicly (co-)funded educational resources, the drive should be to make materials as widely available as possible".

4. MOOC-Massive Open Online Courses

The MOOC phenomenon is recent and is growing very quickly (Daniel, 2012; Haggard, 2013). The term was coined by Dave Cormier in 2008 to describe the course 'Constructivism and Connective Knowledge' taught by George Siemens and Stephen Downes (Cormier, 2008) with 25 Manitoba University (Canada) students and 2300 followers online. Another very popular course was the Sebastian Thrun and Peter Norvig "Introduction to Artificial Intelligence", with 160.000 followers (Yuan & Powell, 2013). In 2012 e 2013, excited by the news coming from California and Canada, a MOOC explosion was witnessed; many articles also appeared in the most popular Italian newspapers and magazines. Consortia were also established for MOOC creation and diffusion: Coursera with 47% of the market, edX, 8,3%, Open2Study, 3,5% and Udacity, 2,8%. And in Europe: Miriada, 6,8%, FutureLearn, 2,8%, France Universitè Numerique, 2,2%, Iversity, 2,1% (Shah, 2013). In 2014, Coursera had 22 million students in 571 courses, with 240.00 followers for the most popular course (Coursera, 2014).

But not all MOOCs are the same. We can see radically different courses from the point-of-view of educational strategies and media. Siemens coined one of the first MOOC categorisation: cMOOC and xMOOC. cMOOCs are courses based on connectivism theory, where the teacher uses innovative strategies like flipped classroom; peeragogy, communities of practice, learner-centred approach, multimedia environment and focus on pedagogical quality. The xMOOCs are based on more transmissive strategies (Siemens, 2012). Other classifications followed, like Clark (2013) with 8 MOOC types; Conole (2013a) with 12 dimensions connected with different types of participation, communication and multimedia use; Mulder e Janssen (2013) with 5 dimensions, OER, open learning services, open teaching efforts, open to learner needs and open to employability and capabilities (Rosewell & Jansen, 2014).

The European Union has recently opened the Open Education Europe site to browse among the available OER, catalogued like courses, MOOC and Resources.

5. OER vs MOOC

The question that we can ask at this point is: what is the relation between OER and MOOCs?

These are the differences between OER and MOOCs:

- OER is a resource, and sometimes a course. MOOCs are courses including assessment, credits system, students support, curriculum, etc.;
- OER are typically delivered on demand while MOOCs have a defined beginning and end;
- OER can be used by a single person while MOOCs are addressed to a massive cohort, during a given period.;
- OER are delivered under Creative Commons licenses. And this is not so evident for MOOCs. We say that OER are gratis and libre while MOOCs are gratis but not always libre. The term "gratis " is used referring to the removal of price barriers alone and the term "libre " for the removal of price and at least some permission barriers (Suber, 2008);
- OER are for every school level while MOOCs are mainly dedicated to Higher Education and the Life Long Learning (postgraduate or nonformal).

OER and MOOCs have also some common elements:

- Both use multimedia elements;
- Both are gratis (see Table 1).

We have to stress that OER and MOOCs are created with different aims and by diverse organisations (Dellarocas & Alstyne, 2013). MOOCs are generally (but not always) created by private companies or universities consortia that are trying to define a workable business plan. OER are created mainly for social promotion, humanitarian and altruistic aims. Moreover they are often based on the work of volunteers and are supported by foundations that are not looking for an economic profit, but for financial sustainability. "This does not mean necessarily that an OER-organization has to generate a competitive return on investment in financial terms for the providers, but it helps to maximize the effect of the supply of OER within the financial boundaries or to expand these boundaries and expand possibilities" (de Langen, 2013, p.1).

For these reasons we will treat the OER and MOOCs quality separately, because they are substantially different for all two of the Harvey & Green (1993) quality dimensions are concerned, namely achieving fitness for purpose —that is, satisfying the aims or reasons for producing the item – and achieving value for money – focusing on immediate output, mid-term outcome, and long-term impact and effectiveness.

As Creelman, Ehlers, & Ossiannilsson (2014, p.85) say "Quality in Education can thus not be understood as an overall classification of good schools, programs or learning scenarios, but needs to be seen as a result of clear negotiation processes of value systems, requirements and results. For the quality of educational processes this means that we need to ask which stakeholders having which interests take part in the educational scenario in which way".

Table 1. Differences and analogies between OER and MOOC (Ghislandi, 2015).

OER characteristics	**MOOC characteristics**
Gratis e libre	Gratis, but not always libre because they are in some cases protected by copyright restriction
Resource	Course (assessment, crediting, student support, curriculum, previous credits recognition, etc.)
Free choice of delivery time	With start and end decided by the MOOC organization
Addressed to a single person/limited number of people	Addressed to a massive cohort of people
Multimedia	Multimedia
Creative commons	Creative commons?
Completely gratis	Cost charged for certification/tuition/etc.
Social promotion, humanitarian and altruistic aims	For-profit
Every school level	Higher Education, Lifelong Learning (Post degree + nondegree)

6. OER and quality

Posch & Altrichter (1997, p.130), cited in (Creelman et al., 2014), say that quality is a relative term and it is impossible to achieve more than clearly defining the criteria which every stakeholder may use in his quality assessments. This is the reason why many scientific papers about OER (and MOOC) quality propose, after the theoretical framework of reference, their criteria for the quality analysis.

The very recent Kawachi (2015) is not an exception to this rule, and is a paper that reaps the fruits of a deep research that involved many people in different continents. The research team reviewed all the 45 known quality frameworks for Open Education and built 205 criteria from them. Through several rounds of international workshops, questionnaires and surveys, these have been examined by more than 200 experts and teachers around the world to reduce the initial list of parameters to a framework consisting of 38 key criteria, as suggestions to be considered by teachers for improving the quality of their OER, distributed among four levels: the teaching aspects, information content aspects, presentation aspects, and the system technical aspects (acronym TIPS). These key criteria are also easily applied as a rubric to assess or improve existing OER by reusers.

There is also another scientific most cited report about the OER quality, published by the Luxembourg: Publications Office of the European Union (Camilleri, Ehlers, & Jan, 2014). In this paper, the authors postulate that appropriate institutional strategies and policies are necessary to guide the OER evolution in an efficient and effective manner. They consider quality to be a confluence of the following concepts (Camilleri et al., 2014, p.13):

- "*Efficacy* –the fitness for purpose of the object / concept being assessed. Within the context of OER, this might include concepts such as ease-of-reuse or educational value.
- *Impact* – impact is a measure of the extent to which an object or concept proves effective. It is dependent on the nature of the object / concept itself, the context in which it is applied and the use by the user.
- *Availability* – the availability that includes concepts such as transparency and ease-of-access-- is a pre-condition for efficacy and impact to be achieved, and thus also forms part of the element of quality.
- *Accuracy* – accuracy is a measure of (a) precision and (b) absence of errors, of a particular processes or object.
- *Excellence* – excellence compares the quality of an object or concept to (a) its peers, and (b) to its quality potential, that is, the maximum theoretical quality potential it can reach."

On the basis of this framework the authors propose three ‘sets' of quality approaches (Quality Assurance of Resources, Quality Assurance of Strategies / Policies, Quality Assurance of Learning) and two sets of quality instruments (Tools and Tool Practices, Collaborative and Partnership Models). Camilleri et al. (Camilleri et al., 2014, p.25) conclude "although OER are high on the agenda of social and inclusion policies and supported by many stakeholders in education, their use has not yet reached a critical threshold. This has to do with the fact that the past and – to some extent – the current focus on OER is mainly on building more access to digital content. There is too little consideration of whether this will support educational practices or promote quality and innovation in teaching and learning. We consider that OERs are moving from a first phase in which the emphasis was on ‘opening up access and availability' to a second phase where the focus will be on ‘improving learning quality' through OER"

In the open education scenarios, the learner has an important role as an active constructor of learning materials (cocreator). For this reason, and also considering the student voice movement that recently produced many research reports (Ghislandi & Raffaghelli, 2013), we would like to point out also two papers about the students as evaluators of open educational resources (Rolfe, 2015; Bissinger & Bogner, 2015).

7. MOOC and quality

Weller (2013), cited in (Uvalić-Trumbić & Daniel, 2013, p.16), holds that most of the quality criteria that have been developed for formal education do not apply to MOOCs, because in formal education student assessment and certification are a central feature of the relationship between the student and the education provider. In fact, one of the criticisms of most MOOCs is that this important higher education feature is missing. And Bates (2012) argues that MOOCs are regarded as a second-class form of education. Just to give an example MOOCs providers like MIT do not recognize their MOOCs for transfer into an on-campus degree. Conversely MIT allows their "intra muros" students to take them for credits. It is like saying: MIT regards its own MOOCs students as inferior to the ones who take its campus-based credit courses.

All this says that we can't use for MOOC the same criteria (or at least the majority of criteria and the full theoretical framework) that we use for OER or (e)Learning courses because:

- One of Harvey & Green (1993) dimensions – achieving fitness for purpose – is taken very differently by the stakeholders (students, teachers and the organisation) of MOOCs and (e)Learning delivered by recognized Higher Education Institutions.
- Three of the Harvey & Green (1993) dimensions are taken very differently by MOOC and OER stakeholders. The first dimension is fitness for purpose, that is, reasons for producing the item, according to the judgements of the various stakeholders. The second dimension is value for money, that is, the different focus on the immediate output, mid-term outcome and long-term impact. The third factor is the different weighting assigned in achieving the consumer transformation, enhancement and empowering.

Two of the remarkable researches on the scientific literature dedicated in particularly to the MOOC characteristics: the first one by EADTU- European Association of Distance Teaching Universities, and the second one by EFQUEL-European Foundation for Quality in e-Learning.

EADTU proposes OpenupEd label, a quality benchmark for MOOCs, published in January 2014. OpenUpEd created quality benchmark for their MOOCs and have noted that courses should show eight common features, Uvalić-Trumbić & Daniel (2013, p.17) say:

- *Openness to learners needs* – This means open entry (no formal pre-requisites), freedom to study at time, place and pace of choice, flexible pathways.
- *Digital openness* – Courses should be available online for free but, in addition, apply open licensing (Creative Commons) so that material and data can be reused, remixed, reworked and redistributed
- *Learner-centred approach* – Courses should aid students to construct their learning from a rich environment, they should not focus on the transmission of content to the student.
- *Independent learning* – A MOOC should provide high-quality materials to enable an independent learner to progress through self-study.
- *Media-supported interaction* – Course materials should make the best use of interactivity, communication, collaboration as well as video and audio to engage students.
- *Recognition options* – Successful course completion should be recognised as indicating worthwhile educational achievement.
- *Quality focus* – There should be a consistent focus on quality in the production and presentation of a MOOC.
- *Spectrum of diversity* – A course should be inclusive and accessible to the wide diversity of citizens.

The other remarkable project is the MOOC Quality Project, an initiative of the European Foundation for Quality in E-Learning (EFQUEL). As Creelman says, a series of blog posts by 11 worldwide experts and stakeholders in the field addressed the issues from each participant's viewpoint. From 12 experts' blog post key quality areas were identified by way of document analysis: a massive target group, mixing formal and informal learners, learning across contexts, transparency and openness, peer-to-peer pedagogy, choice-based learning and learner support (Creelman et al., 2014).

We already touched on the fact that one of the MOOC burning issues is the crediting of the institutional organisations. A research conducted by the Institute of Learning Innovation at the University of Leicester in collaboration with the European Commission's Institute for Prospective Technological Studies (IPTS), has generated the OpenCred study (Witthaus et al., 2015). As Witthaus says OpenCred developed a matrix that shows the relationship between the recognition of learning and type of assessment used, analysing a range of initiatives in higher education and professional Lifelong Learning institutions in Europe in which nonformal, open learning achievements are recognised. The vertical axis of the matrix comprises a five-level hierarchy of formality of recognition (from no recognition to full recognition in line with the European Credit Transfer and Accumulation System), while the horizontal axis represents a five-level hierarchy for robustness of assessment (from no assessment to formal examinations). The paper concludes with a summary of the tensions between the assessment procedures used and the recognition awarded.

In the end we would like to recommend some reference sites: Stephen Downes and George Siemens site; European Union site, that allows browsing among worldwide MOOCs e OER, eLearning Papers, that publishes articles regarding

the current situation and e-Learning trends in different communities: schools, universities, companies, civil society and institutions.

8. Discussion

From the literature analysis, we can say that for what the (e)Learning quality is concerned we already have some theoretical framework and application tools that are widely shared and verified by numerous applications and tests.

The discourse is very different and the researches are definitely less mature for what Open Education is concerned, although Europe firmly supported the movement: in 2013, the "Opening up Education" communication was published by the European Commission demanding for "Innovative teaching and learning for all through new Technologies and Open Educational Resources". And last year, the Declaration of Crete asserted the necessity of "Re-establishing Openness as Default".

The main problem is how to implement Openness for achieving best learning results, provided that the OER and MOOC evaluation is still a fluid topic, based on very recent theoretical and practical proposals that still have to be tested on the field. Also considering that the quality matter is strictly connected to the recognition of the competences acquired autonomously and informally by the students, also outside the institutions appointed by the formal education delivery. What the EADTU calls 'recognition options' is currently a major preoccupation of MOOC providers, partly in response to criticisms like that of Bates.

We can foresee a future in which universities will accept to credit open curricula, built through competences acquired in a university itself or informally, outside the academic environment (Ghislandi, 2015). This is possible when quality issue is strictly connected to the creation of a culture that involves all the stakeholders and that will be progressively transforming, using theoretical framework and practical tools as a scaffold to build a trajectory towards innovation and improvement, that is, at the essence, towards quality.

Conclusions …and we go back to the motorcycle and Zen philosophy

We can now – after the previous analysis of the OER and MOOC quality – better understand why we proposed the Robert Maynard Pirsig vision in the prologue.

What is the difference between a biker driving a motorcycle across United States, enjoying immense blue flax flowers fields and knowing how the motorcycle works and a biker who doesn't know anything about the machine design?

An answer still citing Pirsig:

"Other people can talk about how to expand the destiny of mankind. I just want to talk about how to fix a motorcycle. I think that what I have to say has more lasting value. […]The specs, the measuring instruments, the quality control, the final check-out, these are all means toward the end of satisfying the peace of mind of those responsible for the work […]

If you are going to repair a motorcycle, an adequate supply of gumption is the first and most important tool. If you haven't got that you might as well gather up all the other tools and put them away, because they won't do you any good. […]

And what is good, Phaedrus, and what is not good – Need we ask anyone to tell us these things?

(Pirsig, first edition 1974, 2005, p. 304, 301, 310, 405)

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