

Christian M. Stracke (Ed.)

# Learning Innovations and Quality:

“The Future of Digital Resources”



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Organized by the University of Duisburg-Essen, Germany (UDE)

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**Christian M. Stracke (Ed.)**

# **Learning Innovations and Quality:**

## **"The Future of Digital Resources"**

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# Open Learning: The Concept for Modernizing School Education and Lifelong Learning through the Combination of Learning Innovations and Quality

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Elected ISO-Convenor ISO/IEC JTC1 SC36/WG5 ([www.sc36.org](http://www.sc36.org))

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**Abstract:** Learning innovation and learning quality are very often addressed separately and solely. But in fact they are interdependent and have to be reflected both for achieving the best learning quality: This article discusses how to achieve the best appropriate learning quality as the core objective in learning, education and training by combining the three dimensions learning history, learning innovations and learning standards. Only their mix can ensure to meet the learners' needs and to provide the best and appropriate learning opportunities and learning quality: The Open Learning Concept is presented as combination of suitable open learning styles and open learning scenarios and adapted for school education and lifelong learning in the world of work. Open Learning aims at the right balance between learning innovation and quality for modernizing school education and lifelong learning fitting to the given situation and for a long-term and sustainable improvement across all sectors in learning, education and training, all communities, educational and training systems and societies in Europe and worldwide.

**Keywords:** Open Learning, quality, innovations, learning history, quality development, school education, lifelong learning, digital age

Open Learning is the theoretical and generic framework and long-term vision for the modernization of Learning, Education and Training (LET) and for the required changes in all educational sectors, from kindergarten to lifelong learning. Open Learning combines learning innovations and learning quality to achieve a balanced and appropriate solution adapted to the given learning objectives, needs and situations. In this article, Open Learning will be introduced in general and applied for school education and lifelong learning.

Learning innovations and learning quality are important and reflected topics for a very long time from the beginning of discussions and theories about learning processes: In Europe, Plato's Allegory of the Cave is one of the earliest examples. Their debate continued during the introduction of the first universities in the Middle Age and of the school systems in the 18th century. During the last years and the upcoming so called "digital age", many discussions took place (also in the fields of school and higher education, learning for work and at workplaces as well as non-formal and informal learning) due to the two main changes covering all sectors, branches and levels of the society:

1. Globalisation and
2. worldwide internet establishment

These two factors are leading to global markets, worldwide networking, communication and competition, as well as to the digitalisation of services and systems with the introduction of internet-based services, hardware and software within all parts of our lives. They were and are still changing all societies and in particular the learning, education and training in schools, universities, at work and online.

The European Union has identified the challenges and opportunities by these global changes and published several communications and framework for the future European society and its learning, education and training: Based on the Lisbon Declaration, the former vision of the Information Society called i2020 and the established Bologna Process (European Commission 2005), the European Commission and Council have reviewed and analysed the impact of the globalisation, the internet and the information technologies in general leading to current new communications and policies: The Digital Age for Europe, EUROPE 2020 and Education and Training 2020 are reflecting these movements with special emphasis on the potentials for the European citizens and communities (European Commission 2010a and 2010b, European Council 2009). Most recently the European Commission launched the communication on Opening Up Education for supporting the introduction and use of Technology-Enhanced Learning (TEL) and Open Educational Resources (OER) as well as the Grand Coalition initiative for competences and skills development through lifelong learning related to the world of work and all citizens in the European societies.

In the international discussions about the future learning, education and training from theory, research and politics but also from press, individuals and social communities, the main focus is currently on the technological innovations and their opportunities. That is valid for learning opportunities and in particular for learning at work and online. Theories and experts are claiming brand new and extraordinary chances, sometimes promising new learning eras and paradigmas:

E. g., the theories of connectivism by Siemens (2005) or of Social Learning by Hart (2011). Even the arrival of fundamental new ways of learning are promised under the label of learning 2.0 / 3.0 in analogy to the terms web 2.0 / 3.0 (Downes 2005, Karrer 2007, and for an overview Redecker 2009). Finally new concepts and descriptions of our world as a 'flat world' are leading to predictions that 'to learn how to learn' will become the most important asset for all workers due to all the changes and faster innovation (Friedman 2006): It is claimed to be a new movement and progress however it is clear and evident in pedagogy since several hundreds of years (if not longer) that 'to learn how to learn' is most important for learning processes and progress and for the development of personality and competences (Dewey 1966, Piaget 1953, Rousseau 1968, Vygotsky 1988).

From this perspective, it seems that learning innovations are the only path and road map for a better future education and training: The underlying (and often hidden) argument is that through them we are earning many new chances to learn, without them we are not fitting to the changing times of globalisation and worldwide internet as well as to the new digital generation, the so labelled "digital natives" (Prensky 2001, cf. for a general criticism of this term Schulmeister 2008). We call this discussion the (learning) innovation strand.

On the other hand, there is a long-term discussion with huge tradition (since the beginning of our culture) about the learning quality covering a broad range of topics like quality of learning design, objectives, materials, input as well as learning processes, outcomes and the achieved knowledge, skills and built competences. Many theories were developed in the past dealing directly or implicitly with the question how to ensure or to improve the learning quality (cf. for an overview Stracke 2006a). We call this debate the (learning) history strand even if some of the topics like quality management for education and training are less than 100 years old.

Surprisingly, both discussion strands, the new innovation and the old history, are not interconnected and not reflecting each other. It seems that the supporters of learning innovations do not want to refer to theories of the past and that the authors of learning history do not want to recognise global changes vice versa. That leads us to an important question that requires urgently attention and an answer in our changing times: What is the relation between learning innovations and learning quality?

Our answer is based on three hypotheses of the current learning situation:

1. Learning history should not and cannot be ignored.
2. Learning innovations are mainly technology-driven.
3. Learning is not completely changing.

First of all, it has to be stated clearly that the worldwide changes by globalisation and internet for all through world wide web and social media and communities do not justify to withdraw or ignore all theories from the past. They are resulting from many discussions across societies, cultures and centuries leading to learning experiments, evaluations, failures as well as successes and finally to the improvement of both, the learning opportunities as well as the learning theories themselves. Modern innovation theories ignoring this treasure of expertise from the history are losing a well-proven underground for basing their argumentation (even if contradictory) that is providing a huge variety of different concepts (e.g. cf. for extremes the theories of cognitive development by Piaget (1953) and the systems theories by Luhmann (1995 and 1998) and Maturana/Varela (1992)). Moreover they cannot convince by such ignorance because without definition of their relation to the historical strand they claim to jump out of nothing (see figure 2 below) and start from the scratch (what is evidently not the case).

Second, the currently claimed learning innovations based on the effects of new internet opportunities, services and social media are only dealing with technological changes and chances: Of course we can realize diverse learning scenarios and (digital) communities, services and systems today that were not available several years ago like MOOCs, social communities, blogging (Redecker 2009, Hart 2011, Daniel 2012). But these technological inventions and changes are offering only new options and pre-conditions. They cannot be successful by themselves, they still require an appropriate learning design and setting with an attractive and motivating learning environment: For those (and other) reasons we call together with Daniel (2012) MOOCs as the 'educational buzzword of 2012'. Therefore we direct our focus on the learning quality beyond MOOCs as MOOCs are not providing new innovative learning methods and design but only the scaling up to a huge amount of learners using traditional approaches. We believe that the future improvement of the learning quality should not depend on specific settings and tools like MOOCs but can be achieved through sound and fitting pedagogical and educational planning and design (that can include the choice for MOOC as one alternative): Learning quality was, is and will be the key for learning success and outcomes (Stracke 2012).

Finally learning is not completely different and changing only due to the globalisation, new technologies and network opportunities. The new technologies and global changes are providing challenges and chances to establish new ways to base, present and integrate learning processes within education and training and learning groups including new options for self-

regulated learning. But these new modes and types of access and interactions in learning processes do not change completely the way how people learn. The style how to use, consume and reflect learning opportunities and materials may change through increasing speed and multi-tasking and lower attention but that is only increasing the requirements for learning designers, educators and teachers.

What is most important for the success of learning processes is the learning quality. Learning opportunities have to meet the need of the learners and to provide the appropriate quality to fulfill their requirements. That can sometimes mean a simple learning course with teacher-centered education and sometimes a complex sophisticated learning environment with learner-oriented group work enriched facilitated by an educator as moderator, tutor or enabler and with new learning technologies and innovations including social media and communities. That means that learning quality cannot pre-defined but have to be adapted to the given situation and learners. In this sense, learning history and learning innovations are two different approaches and points of view that are interdependent and cannot be reflected solely but have to be analysed in conjunction for achieving the best and appropriate learning opportunity and success. Next to them, standards are building the third source for planning and designing the best learning opportunity and quality (see figure 1 below).



Figure 1: The three Dimensions of Learning Quality

This overall objective for the continuous improvement of learning quality can be called quality development: Quality development has to combine the relevant and appropriate approaches, concepts and elements from all three dimensions that are basing the learning quality: History (by learning theories and traditions), innovation (by new learning options) and standards (by consensus building on learning).

As shown in the following figure 2, there could be three alternatives and options in theory: To focus only on the learning innovations only (1.), to focus only on the history of learning traditions and theory (2.) or to arrange the mix between both approaches (3.). As already explained above, it is not possible to argue that the only focus on learning innovations can succeed by jumping out of nothing as it cannot be argued and proven how such a jump can take place by ignoring the learning experiences and theories. On the other hand, future learning opportunities have to reflect the changes in society and chances by innovations and would also fail by ignoring them. Therefore only the mix of learning innovations and history based on learning experiences and theories from the past is promising and convincing as shown in figure 2.

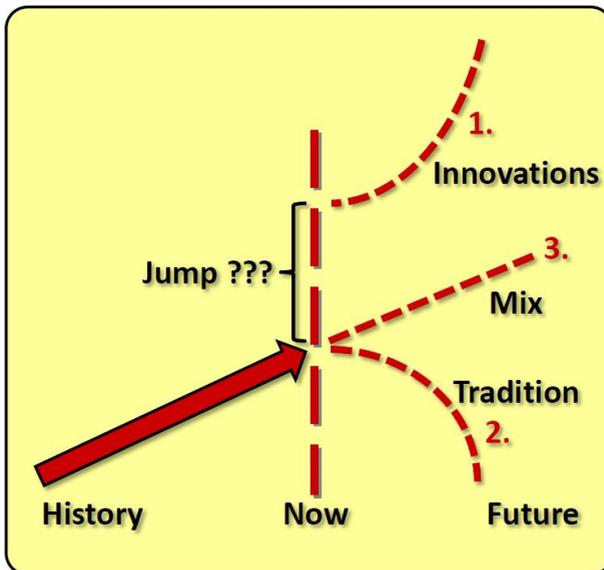


Figure 2: The Relation between future Learning Quality and Learning Innovation

Thus, we can say: Quality development is the crucial task for learning, education and training.

In the past, a long-term debate has focussed the quality development in general regarding the different quality issues, aspects and approaches (cf. Deming 1982; Juran 1951 and 1992; and for an overview Stracke 2006a). Quality development in its broad sense can be defined as follows (cf. Stracke 2006b):

Quality development covers every kind of strategy, analysis, design, realisation, evaluation, and continuous improvement of the quality within given systems.

Quality development can be described formally by the chosen scope. Quality is not a fixed characteristic belonging to subjects or systems but depends amongst others on the point of view and scope. The following differentiation of the scope into three quality dimensions has become widely accepted:



Figure 3: The Dimensions for defining Quality in general

1. Potential dimension: What are the potentials for the quality development in the future?

2. Process dimension: How can the processes be described and optimized for the purpose of quality development?
3. Result dimension: How can the quality development be supported regarding given results and systems<sup>1</sup>?

Quality development requires a long process to be established and integrated throughout a whole organisation and in particular the society. Once started, it has to become a continuous improvement circle to be finally successful (Crosby 1980; Deming 1986). Quality cannot be described and fixed by a simple definition, because in itself quality is too abstract to have any impact. Therefore, quality has to be defined and specified according to the given context and situation considering the perspectives of stakeholders involved (Donabedian 1980). It is important to identify the relevant aspects and to specify the suitable criteria. It is necessary to find a consensus amongst the different views and perspectives to gain a common understanding of quality for the given context and situation due to different and sometimes contradictory needs and definitions of quality by all stakeholders (for detailed explanations on context determinations cf. Crosby 1980; Deming 1986; Donabedian 1980).

The questions are now: What does it mean for learning, education and training and how can we transfer it to school education and lifelong learning?

## The Open Learning Concept

The Open Learning Concept answers these questions and the given challenges of globalization for the modernization of learning, education and training. Open Learning combines the two major dimensions to meet the current requirements and the right balance between learning innovations and tradition achieving high quality in learning:

1. Suitable and **open learning styles** and designs
2. Suitable and **open learning scenarios** and environment

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<sup>1</sup> Cf. Donabedian 1980, for the whole long-term debate on the quality issues, aspects and approaches cf. Deming (1982 and 1986) and Juran (1951 and 1992).

Open Learning introduces the open movement into all educational sectors: Under the umbrella of the term "Open Education" many different approaches are currently summarized. The use of Open Educational Resources (OER) and the design of Open Educational Practices (OEP) are often promoted for all educational sectors based on the definition by UNESCO (2002). As a theoretical and generic framework and long-term vision for the modernization of Learning, Education and Training (LET) and for the required changes in all educational sectors, from kindergarten to lifelong learning, Open Learning has always to be adapted to the specific situation, target group, learning objectives and needs.

Technology-enhanced learning can play a key role in the future improvement of learning quality in education and training, enterprises, human resources and societies: Not only formal, but also non-formal and informal learning can be facilitated by technology-enhanced learning, e. g., through social learning for working smarter and social workplaces (Hart 2011 and Cross 2010, for general criticism cf. Davenport 2005). In addition the support and tracking options offered by the used technologies can provide substantial basis for data collections, measurements and evaluations of all learning and working activities to assess changes in the performance and assigned competences.

In the following we will provide first adaptations for the school education and the lifelong learning in the world of work.

### **Open Learning for the school education**

Open Learning can be adapted as **Open School Learning** for the school sector as the combination of:

1. Open Education (innovative education with technologies)
2. Creative Classrooms (collaboration with moderation)

Open School Learning introduces the concept of Open Education within schools by improving the variety of learning styles, amongst others through the use of e-Learning and Open Educational Resources. Open School Learning establishes the vision of Creative Classrooms where teachers are continuously changing their roles according to the scenarios and students are cooperating, amongst others through developing a network of communities across Europe.

Currently, one major project funded by the European Commission is focusing such a broad and sustainable introduction of Open School Learning and technology-enhanced and competence-based learning within school education across whole Europe:

Open Discovery Space (ODS) with its focus on the school sector and teachers as main target group addresses more than 2,000 schools and offering training for over 10,000 teachers in all 27 EU member states: ODS introduces innovative learning designs and scenarios into K-12 schools through the support by technology enhanced learning and social communities.

The ODS project focuses the establishment of de-centralized regional communities through the introduction of technology-enhanced learning within the national European school systems including the provision of a portal for Open Educational Resources and the development of learning scenarios and services for the long-term improvement of school education by innovative pedagogical planning and learning.<sup>2</sup>

### **Open Learning for lifelong learning in the world of work**

Open Learning can be adapted as **Open Work Learning** for lifelong learning in the world of work as the combination of:

1. Open Training (innovative non-formal training with technologies)
2. Workplace Learning (communities with peer-support)

Open Work Learning introduces the concept of Open Education within lifelong learning at the workplaces in enterprises by improving the variety of learning styles, amongst others through the use of e-Learning and just-in-time availability. Open Work Learning establishes the vision of Workplace Learning where employees can immediately search and find learning materials and expertise, amongst others through direct access to communities with peer-support and automatic detection and relating of required competences and skills.

Currently, one major project funded by the European Commission is directly focusing the realization of the concept of Open Work Learning within lifelong learning at the workplaces:

ARISTOTELE addresses the learning processes within organisations with a specific focus on enterprises and the relation between working places and (organizational) learning: ARISTOTELE develops concepts, tools and a platform to combine learning and work with competence development and business processes.

The ARISTOTELE project can provide contributions to the future improvement within learning and work by its focus and achievements on designed concept

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<sup>2</sup> For further information on ODS cf. online at: <http://www.opendiscoveryspace.eu>.

maps and landscapes: They are the basis for information models and systems to combine the four ARISTOTELE models and to establish a platform for the identification of addressed competences, skills and knowledge and automatic peer-support proposals in relation to the lifelong learning in the world of work.<sup>3</sup>

## Summary

Learning innovation and learning quality are very often addressed separately and solely. But in fact they are interdependent and have to be reflected both for achieving the best learning quality: The best appropriate learning quality remains the core objective in learning, education and training and can be achieved by combining the three dimensions learning history, learning innovations and learning standards. Learning innovations can increase the learning quality but require a basis provided by the learning experiences and theories from the past. On the other hand learning traditions have to be enriched by innovations, in particular facing the current worldwide challenges of globalisation and worldwide internet establishment. Together with the third dimension, the learning standards, learning history and learning innovations are building the basis and potential inputs for planning and design learning opportunities. A suitable mix of history from learning experiences and theories and current innovations combined with international consensus on learning standards is required.

The Open Learning concept was introduced to fulfill these challenges and requirements: It has been roughly adapted to the school education as Open School Learning and to lifelong learning in the world of work as Open Work Learning. In general Open Learning can ensure to meet the learners' needs and to provide the best and appropriate learning opportunities and learning quality fitting to the given situation and for a long-term and sustainable improvement. In the future it has to be demonstrated that Open Learning can also be adapted across all sectors in learning, education and training, all communities, educational and training systems and societies in Europe and worldwide.

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<sup>3</sup> For further information on ARISTOTELE cf. online at: <http://www.aristotele-ip.eu> where the four ARISTOTELE models, the concept maps and information models are online available, too.

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# LINQ 2013 Keynote and Invited Speakers

## Keynote Speakers at LINQ 2013:

**António Silva Mendes** (Director, DG EAC, European Commission)

**Tony Bates** (Tony Bates Associates, USA)

**Jay Cross** (Internet Time Alliance, USA)

**Christian-Friedrich Lettmayr** (CEDEFOP Director, Greece)

**Ignasi Labastida** (Director OCW Consortium and Creative Commons, Spain)

**Rory McGreal** (UNESCO OER Chair, University of Athabasca, Canada)

**Fred Mulder** (UNESCO OER Chair, Open University of the Netherlands)

**Miguel-Angel Sicilia** (University of Alcalá, Spain)

## Invited Speakers at LINQ 2013:

**Godelieve von den Brande** (DG EAC, European Commission)

**Brian Holmes** (Director EACEA, European Commission)

**Liina-Maria Munari** (DG Connect, European Commission, tbc)

**António Moreira Teixeira** (Open University Lisbon, Portugal)

**Mario Scalet** (UNESCO)

**Ildikó Mazar** (EDEN)

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**Learning Innovations and Learning Quality:**

The two main objectives to foster improvements in learning, education and training and the two core ingredients for learning success and impact. They are focused by many different theories and diverse practices. And they are more and more required due the increasing speed of globalization and changes in communities, economies, technologies and societies worldwide.

This book demonstrates the need for combining learning innovations and learning quality from various perspectives: The scientific articles address the different ways of formal, non-formal and informal learning and all the educational sectors from kindergarten, school, university to lifelong learning.

Particular emphasis is put on the current opportunities provided by digital resources: How can we benefit from their potential and increase their (open) access and re-usage in learning, education and training?

Thus, the book contributes to the current debate on opening up education towards new and innovative learning practices and online communities:

To integrate learning innovations and learning quality into a holistic and sustainable vision and approach for modernizing learning, education and training in our society.