

Design, Quality and Evaluation of Online Learning



by Christian M. Stracke
Open University of the Netherlands
@ 6th International LINQ Conference
2019-11-22 in Roermond, NL

Open Universiteit
welten-institute.org





Creative Commons Open License for sharing & re-using slides

"Attribution – Noncommercial – Share Alike 3.0"

You can freely share, copy, distribute and transmit the work
under the following conditions:

1. Attribution – 2. Noncommercial – 3. Share Alike



Some rights reserved, see:

<http://creativecommons.org/licenses/by-nc-sa/3.0/>



My affiliations

**ICDE Chair in OER & Associate
Professor for Open Education
Open University of the Netherlands**



**Adjunct Professor for E-Learning
Korean National Open University**



**Advisory Professor for E-Learning
East China Normal University**



**Founder & Director of eLC, the European
Institute for Learning, Innovation & Cooperation**





My experiences

**> 20 years E-Learning
in business & academia**



**Research Institute leadership
and strategic development**



**> 20 years design, realization, evaluation &
optimization of study programs and courses**



**100+ International Projects: with > € 50 Mio.
budgets and > € 4.8 Mio. own funding**





My interests

**Innovative Open Education
in Schools & Higher Education**



**Media Literacy, Self-Reflection and
Critical Thinking as Key Competences**



**Learning Design for Online
Collaboration & Personalization**



Global initiative ICORE for OR & OE



International LINQ Conference



**What is
the current
situation?**

Digital Age

Two core factors:

1. Globalisation

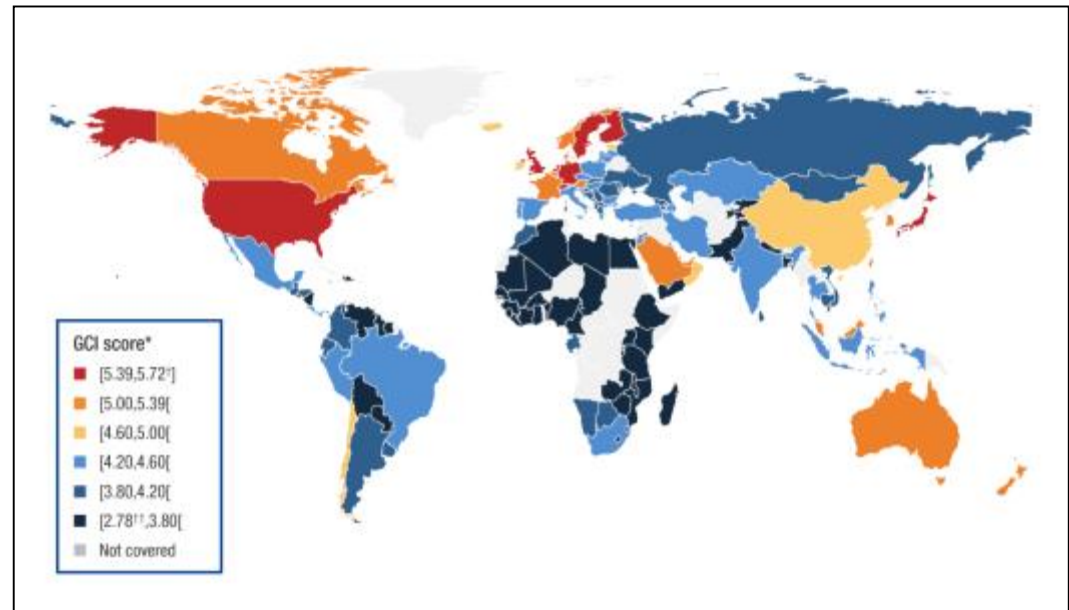
2. Worldwide Internet



Internationalisation

Global competition & societal change

**Close the gaps
& open new
opportunities
Challenges:
Learn to Learn**



Learning in global crisis

Learning in global crisis

Economic crisis (Hayes, profit only)

Education crisis (innovations, quality)

Media crisis (literacy, fake news)

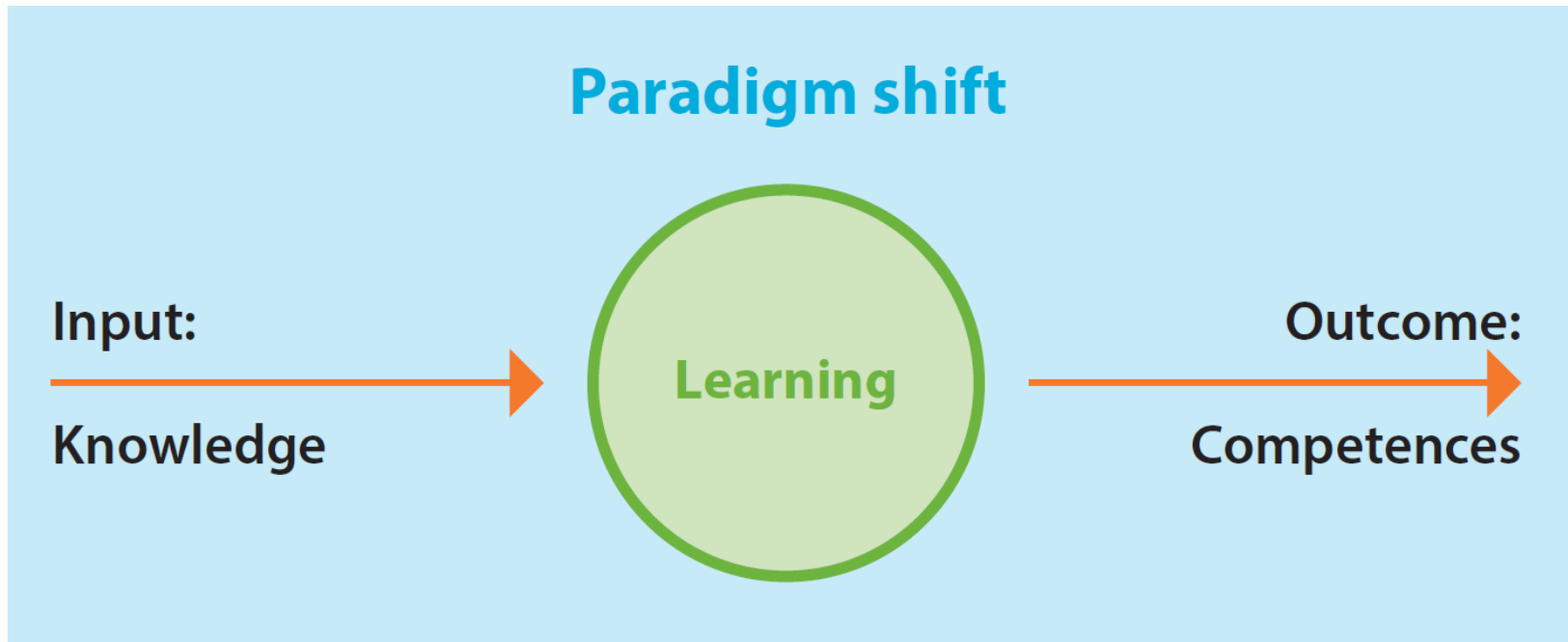
Societal crisis (ethics, egoism)

We need innovative and high quality

Open Education for all as human right

Learning cha(lle)nges

**Not knowledge but competences:
to meet future tasks & society**





SUSTAINABLE DEVELOPMENT GOALS





SUSTAINABLE DEVELOPMENT GOALS



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



**What is
quality education?**

**A simple
experiment ...**



A simple experiment:

**Please imagine and define
the quality of your
favourite gummy bear**

**Quality
cannot be defined**

**... except through adaptation
to your situation and context!**

**We need
Change
in Education!**

**To improve
Quality
in Education!**

Quality of (Online) Learning

ISO/IEC 40180 for quality

Needs Analysis	Framework Analysis	Conception/ Design	Development/ Production	Implementation	Learning Process/ Realization	Evaluation/ Optimization
Initiation	Analysis of the external context	Learning objectives	Content realization	Testing of learning resources	Administration	Planning
Stakeholder identification	Analysis of staff resources	Concept for contents	Design realization	Adaption of learning resources	Activities	Realization
Definition of objectives	Analysis of target groups	Didactical concepts/methods	Media realization	Activation of learning resources	Review of competence levels	Analysis
Demand analysis	Analysis of the institutional and organizational context	Roles and activities	Technical realization	Organization of use		Optimization/ improvement
		Organizational concept	Maintenance	Technical infrastructure		
	Time and budget planning	Technical concept				
	Environment analysis	Concept for media and interaction design				
		Media concept				
		Communication concept				
		Concept for tests and evaluation				
		Concept for maintenance				



**1st ISO standard for
(e-)learning quality**

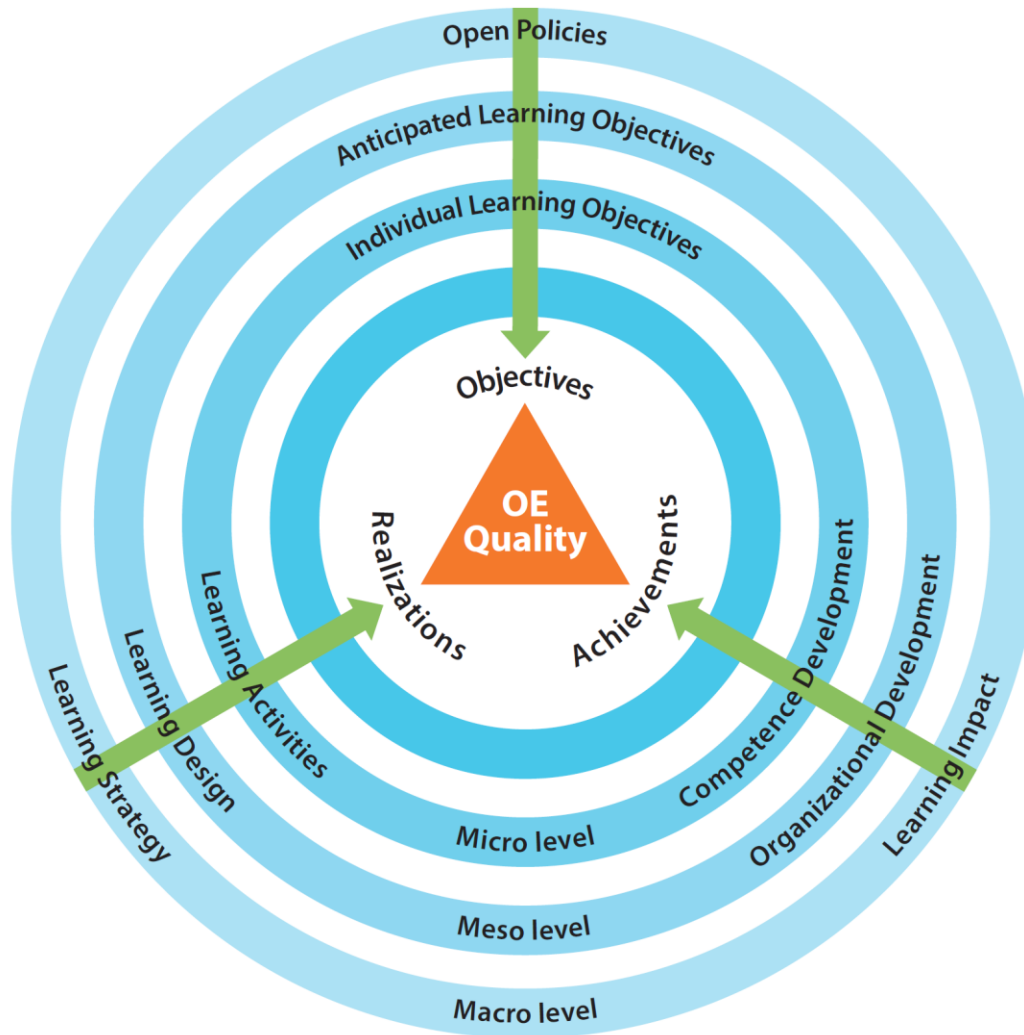
ISO/IEC 40180 for quality

Needs Analysis	Framework Analysis	Conception/ Design	Development/ Production	Implementation	Learning Process/ Realization	Evaluation/ Optimization
Initiation	Analysis of the external context	Learning objectives	Content realization	Testing of learning resources	Administration	Planning
Stakeholder identification	Analysis of staff resources	Concept for contents	Design realization	Adaption of learning resources	Activities	Realization
Definition of objectives	Analysis of target groups	Didactical concepts/methods	Media realization	Activation of learning resources	Review of competence levels	Analysis
Demand analysis	Analysis of the institutional and organizational context	Roles and activities	Technical realization	Organization of use		Optimization/ improvement
		Organizational concept	Maintenance	Technical infrastructure		
	Time and budget planning	Technical concept				
	Environment analysis	Concept for media and interaction design				
		Media concept				
		Communication concept				
		Concept for tests and evaluation				
		Concept for maintenance				



**Conceptual standard
requires adaptation**

OpenEd Framework



**What are
Open Educational
Resources (OER)?**

OER to share and re-use

Open Educational Resources (OER)

- **2012: 1st World OER Congress:
Paris OER declaration by UNESCO**
- **2017: 2nd World OER Congress**

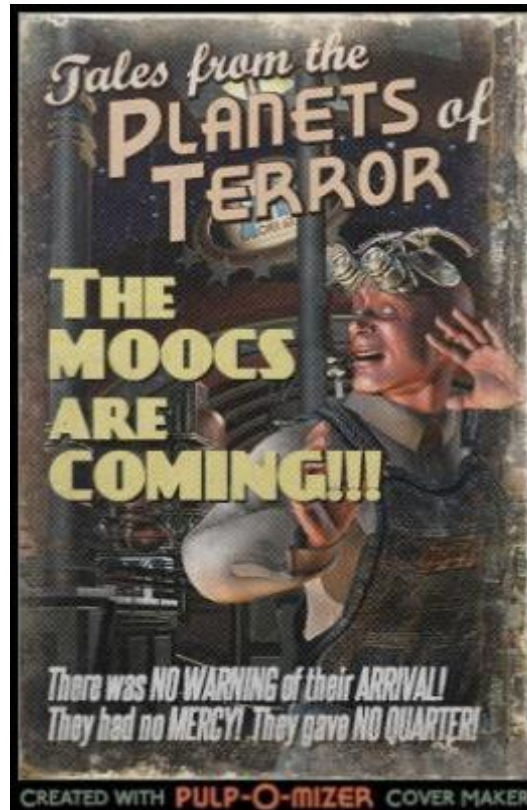


**What are
MOOCs?**

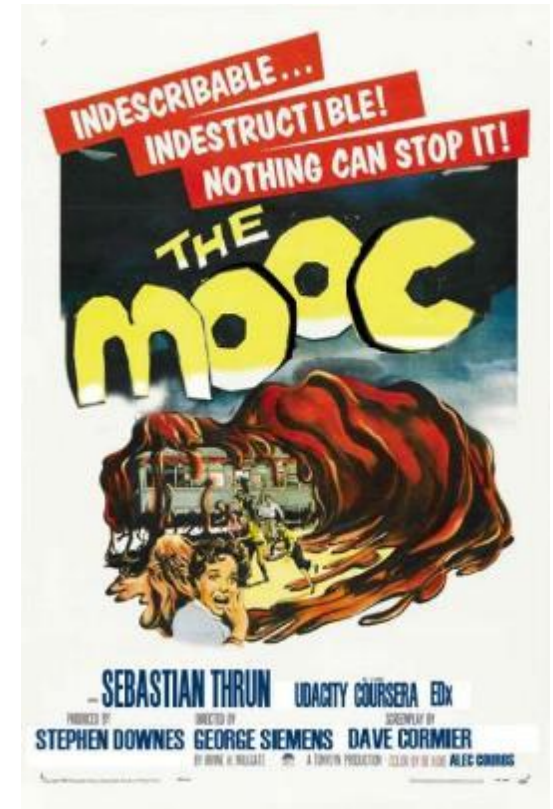
What are MOOCs?

Massive (?)
Open (?)
Online (?)
Courses (?)

Thus: MOOCs are
(should be) OER!



Source: <https://www.flickr.com/photos/catspyjamasnz/>



Source: <https://www.flickr.com/photos/gforsythe/>

Future of MOOCs?

**MOOCs are the
educational
buzzword of 2012**

(Daniel, 2012)



**MOOCs are dead!
And long live the MOOCs!**

(Stracke, 2017)

Real status of MOOCs

The fact is:

**Number of MOOCs, MOOC learners
and MOOC providers are growing
until today!**

(Shah, 2018)



81M

Students



800+

Universities



9.4k

Courses

Quality of MOOCs?

**Many issues
including
high drop-out
rates (> 90%)**

(Gaskell, & Mills, 2014;
Margaryan, Bianco, & Littlejohn, 2015;
Reich, 2015;
Stracke, 2017)

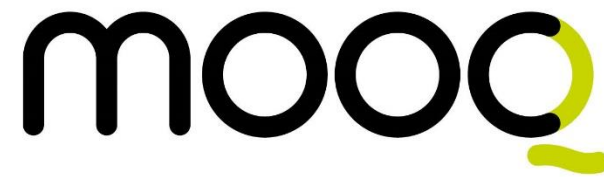


Source: <https://www.flickr.com/photos/-ed/>

We need higher drop-out rates!

(Stracke, 2018)

What is
mooQ?



**WE WILL MAKE
MOOCs BETTER!**

www.mooc-quality.eu

mooq for MOOC quality

MOOQ involved > 10,000 MOOC learners, designers, facilitators and providers through:

- 1. the Global MOOC Quality Survey (GMQS),**
- 2. 27 coded expert interviews (1 to 3 hours),**
- 3. MOOQ interactive workshops & discussions in > 20 regional & international conferences,**
- 4. as well as communication and collaboration in traditional channels and social media**

GMQS:
Global MOOC
Quality Survey



**Join our Global
MOOC Survey!**

www.mooc-quality.eu

First G^{MOQS} in 2017

Global Survey on the
Quality of MOOCs

[Load unfinished survey](#)

[Exit and clear survey](#)



Global Survey on the Quality of MOOCs

This Global Survey aims at improving the Quality of MOOCs and is facilitated by the [European Alliance MOOQ](#). Thank you very much for your participation!

WELCOME to the Global Survey on the Quality of MOOCs!

Dear Participant,

The survey addresses MOOC learners, MOOC designers and MOOC facilitators. It begins with a few questions on your profile before you are asked to select the survey section that fits best to your main role in MOOCs (i.e., either as MOOC learner, MOOC designer, or MOOC facilitator).

Please support us to improve the quality of future MOOCs and take 20 - 30 minutes to answer our questions. Thank you very much for your time!

We value your privacy and guarantee your privacy and data protection: [Please read our privacy statement here](#).

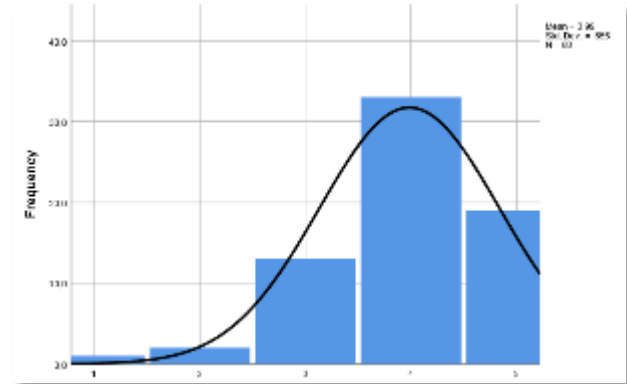
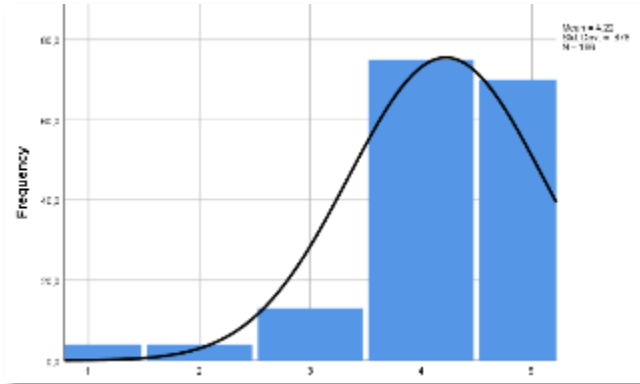
To start the Global Survey, click the button "Next" below, you can save the Global Survey and continue it later at any time. It runs until the end of March 2017.

The Global Survey is organized by the [European Alliance MOOQ](#) led by the [Open University of the Netherlands](#), and is supported by:

[United Nations' UNESCO IITE](#), [United Nations' ITCILO](#), [United Nations' FAO](#), [United Nations' UNITAR](#), [International Council for Distance and Open Learning \(ICDE\)](#), [Commonwealth of Learning \(COL\)](#), [International Community for Open Research and Education \(ICORE\)](#), [European Association of Distance Teaching Universities \(EADTU\)](#), [European Distance and E-Learning Network \(EDEN\)](#), [European Association for Technology-Enhanced Learning \(EATEL\)](#), [Open Education Consortium \(OEC\)](#), [Contact North \(CN\)](#), [European Association for Practitioner Research on Improving Learning \(EAPRIL\)](#) and many more



Key **GMQS** result



	n	R ²	M ²	p
LF by learners	125	.094	9.382	.000***
LL by learners	130	.101	10.818	.000***
LR by learners	136	.112	12.286	.000***
GG by learners	108	.045	4.131	.026*

	n	R ²	M ²	p
LF by designers	49	.003	0.109	.703
LL by designers	50	.043	1.595	.143
LR by designers	48	.046	1.537	.138
GG by designers	43	.001	0.038	.821

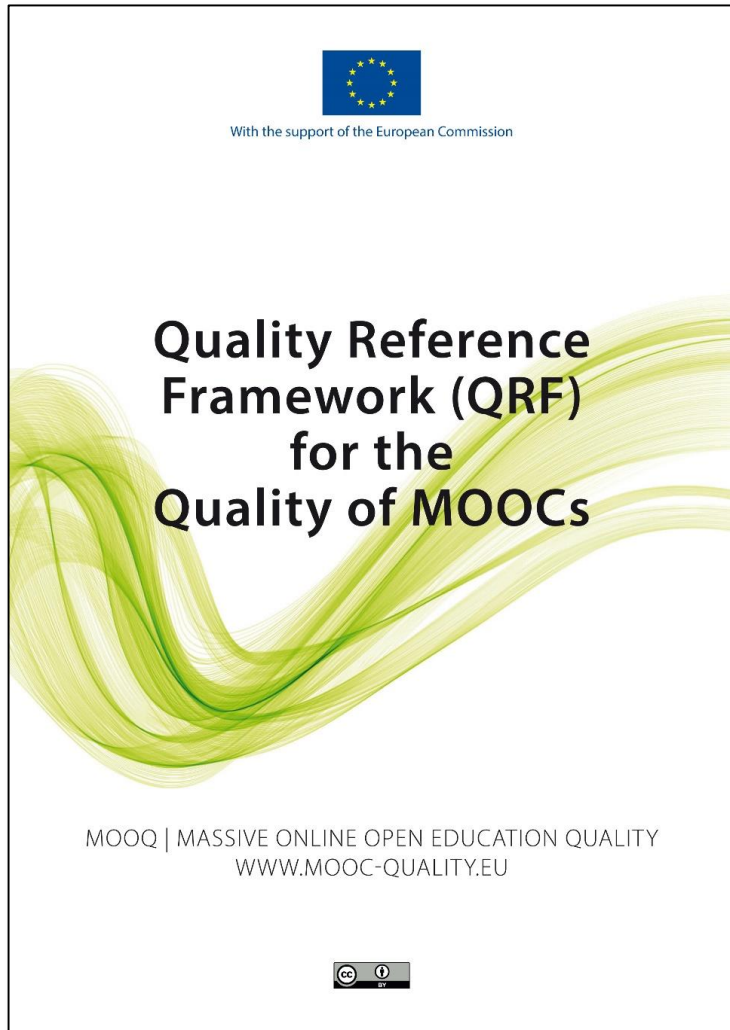
LF: Interaction between learners and facilitators - LL: Interaction among learners

LR: Interaction between learners and learning resources - GG: Interaction among teams and groups

MOOC learners vs. MOOC designers

Quality Reference Framework

www.MOOC-quality.eu/QRF



QRF includes

Three Dimensions

plus 2 adaptations:

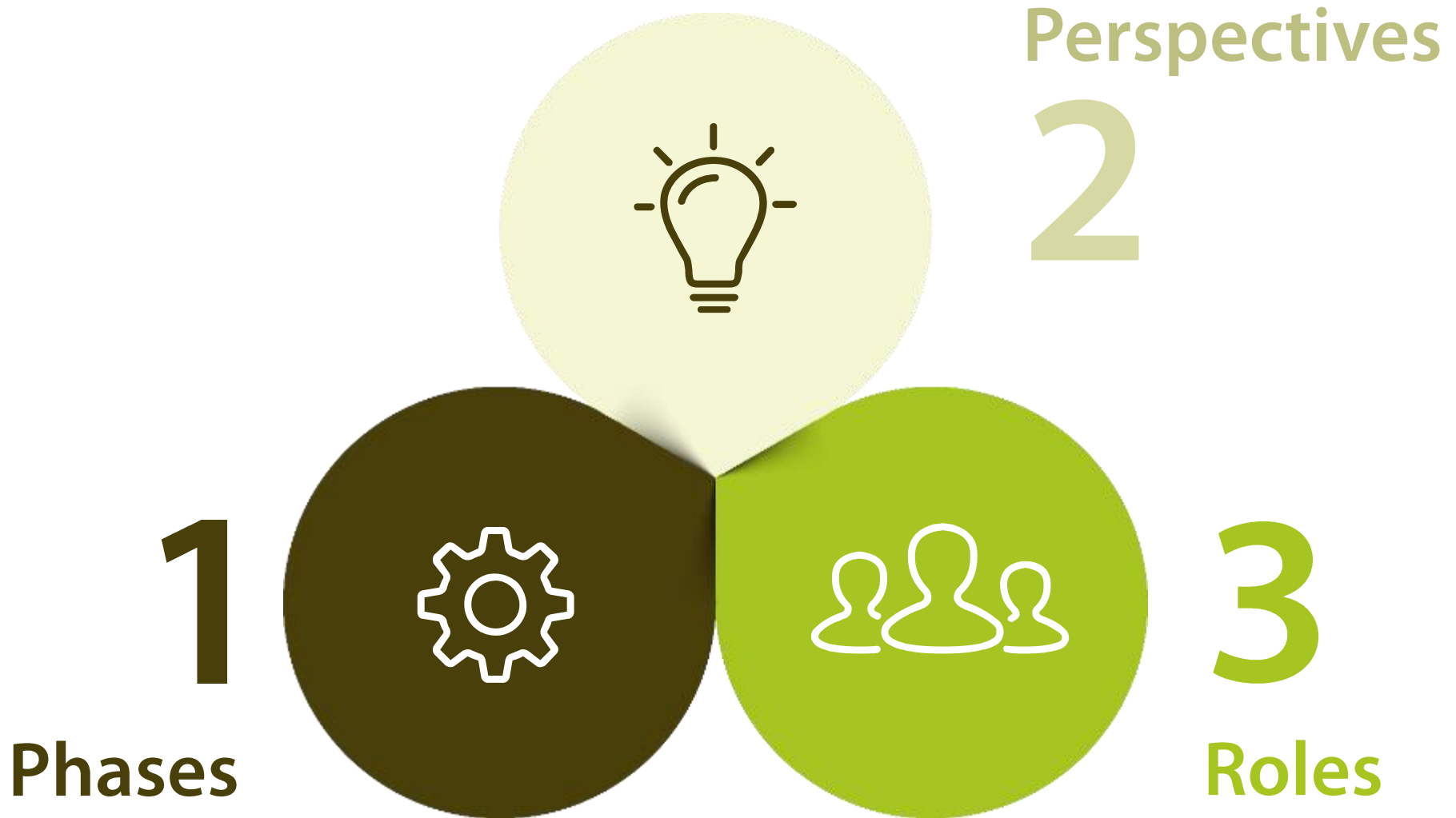
Quality Indicators

(for experts)

Quality Checklist

(for beginners)

QRF dimensions



Quality Reference Framework

www.MOOC-quality.eu/QRF

1 Phases



Analysis



Design



Implementation



Realization



Evaluation

2 Perspectives



Pedagogical



Technological



Strategic

3 Roles



Designer

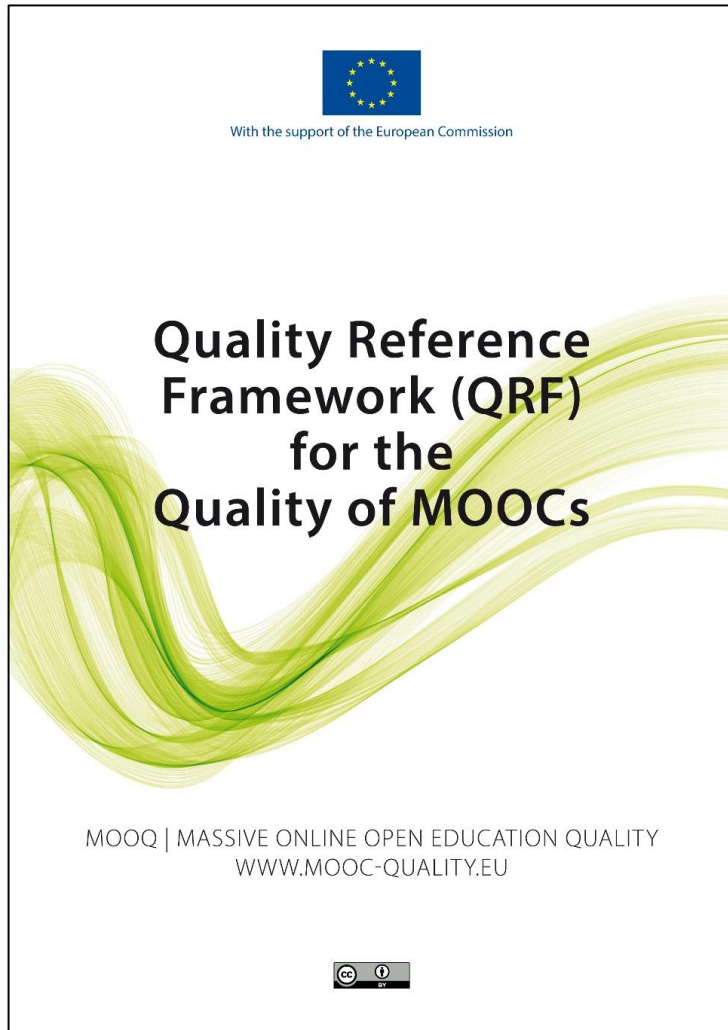


Facilitator



Provider

Quality Reference Framework



**QRF freely & openly
available online:**

www.MOOC-quality.eu/QRF

**What do you think
about the QRF?**

**How to use and
apply the QRF?**

QRF: Your feedback?

Your questions, comments & feedback:

- **XXX**

**How can YOU
contribute?**

How can you participate?

Publish and share your content!

Re-use existing content!

Connect to colleagues!



Open Research & Education

ICORE The International Community
for Open Research and Open Education

Launched 15th May 2013 in Rome

Already more than 300 members within one year

First recognition by key stakeholders & EC:

Let us join forces and become ICORE member!

www.ICORE-online.org



ICORE Workshops for All



ICORE to improve the learning quality!

Series of ICORE Workshops with key organisations

“How to improve Open Quality Education?”

ICORE Workshops at international Conferences:

e.g., ICDE 2015, OE Global 2016 & 2017, WLS 2017

Towards a global joint initiative!

www.ICORE-online.org



How can you join?



**PhD programme in TEL at OUNL
by the leading Welten Institute:**

www.ou.nl/en/web/open-universiteit/-/welten-promoveren

External PhDs: From home

Internal PhDs: Funded, at OUNL

Vacancies: www.academictransfer.com/employer/OU/

MOOCs with Moodle

Interactive Workshop @ OE Global 2019

(26th - 28th November 2019 in Milano) organized by:

Dr. Christian M. Stracke, OUNL

ICDE Chair in OER & MOOQ Coordinator



Dr. Martin Dougiamas, Moodle

Founder & CEO of Moodle



More: www.conference.oecconsortium.org/2019/

LINQ

**The leading European and
international Conference on
Learning INnovations & Quality**

www.learning-innovations.eu

LINQ

Our Vision:

**Open Learning
for best future
Learning Innovation
and Learning Quality!**



Please use: #LINQ2013
Follow: @LINQ_Conference





Join LINQ 2021!

**Looking forward
to welcoming you!**

www.learning-innovation.eu

**Open Education (OE):
Innovations for **changing**
& **opening up** education
to improve LLL **quality****

**We need
Change
in Education!**

**To improve
Quality
in Education!**

Open Education is a **Vision
that is happening!**

****Quality** is most important
for our situation & learners**

**Inclusion and equity for all
to improve our **Global Society**!**

Further References

Stracke, C. M., Downes, S., Conole, G., Burgos, D., & Nascimbene, F. (2019). Are MOOCs Open Educational Resources? A literature review on history, definitions and typologies of OER and MOOCs. *Open Praxis* (accepted, in print).

Stracke, C. M. (2019). Quality Frameworks and Learning Design for Open Education. *The International Review of Research in Open and Distributed Learning*, 20(2), 180-203. doi:10.19173/irrodl.v20i2.4213.

Stracke, C. M. et al. (2018a). Gap between MOOC designers' and MOOC learners' perspectives on interaction and experiences in MOOCs: Findings from the Global MOOC Quality Survey. In M. Chang et al. (Eds.), *Proceedings 18th IEEE ICALT Conference* (pp. 1-5). doi:10.1109/ICALT.2018.0000

Stracke, C. M. et al. (2018b). *Quality Reference Framework (QRF) for the Quality of Massive Open Online Courses (MOOCs)*.

Retrieved from <http://www.mooc-quality.eu/QRF> [Open Access]

All also online available at: <http://www.opening-up.education>

Further References

- Stracke, C. M., & Tan, E. (2018). The Quality of Open Online Learning and Education: Towards a Quality Reference Framework for MOOCs. In J. Kay, & R. Luckin (Eds.), *Rethinking learning in the digital age. Making the Learning Sciences Count* (pp. 1029-1032). doi:<http://hdl.handle.net/1820/9909>
- Stracke, C. M. (2018). 开放教育的学习质量和设计: OpenEd 框架 [= The Learning Quality and Design of Open Education. The OpenEd Framework (translated by Junhong Xiao)]. *Distance Education in China*, 11, 5-18+78.
doi: <http://www.cnki.net/kcms/doi/10.13541/j.cnki.chinade.20181108.005.html>
- Stracke, C. M. (2018). Como a Educação Aberta pode melhorar a qualidade de aprendizagem e produzir impacto em alunos, organizações e na sociedade? In M. Duran, T. Amiel, & C. Costa (Eds.), *Utopias and Distopias da Tecnologia na Educação a Distância e Aberta* (pp. 499-545). Campinas: & Niterói: UNICAMP & UFF.
- All also online available at: <http://www.opening-up.education>

Further References

- Stracke, C. M. (2017). The Quality of MOOCs: How to improve the design of open education and online courses for learners? In P. Zaphiris & A. Ioannou (Eds.), *Learning and Collaboration Technologies. Novel Learning Ecosystems. LCT 2017, Part I*, LNCS 10295 (pp. 285–293). doi:10.1007/978-3-319-58509-3_23
- Stracke, C. M. (2017). Open Education and Learning Quality: The Need for Changing Strategies and Learning Experiences. *Proceedings of 2017 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1044-1048). doi:10.1109/EDUCON.2017.7942977
- Stracke, C. M. et al. (2017). The Quality of Open Online Education: Towards a Reference Framework for MOOCs. *Proceedings of 2017 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1712-1715). doi:10.1109/EDUCON.2017.7943080
- Stracke, C. M. (2016). Is Open Education a revolution or are MOOCs only marketing instruments? Online Proceedings of the Open Education Global Conference 2016. All also online available at: <http://www.opening-up.education>

Further References

- Stracke, C. M. (2016). MOOCs are dead! - Open Education and the Quality of Online Courses Towards a Common Quality Reference Framework. In *EDEN Proceedings*. Bucharest, Hungary: European Distance and E-Learning Network. pp. 215-221.
- Stracke, C. M. (2015). The Need to Change Education towards Open Learning. In C. M. Stracke & T. Shamarina-Heidenreich (Eds.), *The Need for Change in Education: Openness as Default?*. Berlin: Logos. pp. 11-23.
- Stracke, C. M. (2014). Evaluation Framework EFI for Measuring the Impact of Learning, Education and Training. 华东师范大学学报(自然科学版) *Journal of East China Normal University*, 2, 1-12. doi:10.3969/j.issn.1000-5641.2012.02.012
- Stracke, C. M. (2013). The Evaluation Framework for Impact Assessment. *Proceedings of 6th International Conference of Education, Research and Innovations 2013 (ICERI 2013)* (pp. 4654-4663). Retrieved from <http://www.opening-up.education>

All also online available at: <http://www.opening-up.education>

Further References

Stracke, C. M. (2012). Competences and Skills for the challenges of the Digital Age: Combining Learning-Outcome Orientation with Competence Development and Modelling for Human Resources Development / ЗНАНИЯ И НАВЫКИ ДЛЯ РЕШЕНИЯ ПРОБЛЕМ ЦИФРОВОГО ВЕКА: СОЧЕТАНИЕ ОБУЧЕНИЯ КАК РЕЗУЛЬТАТ ОРИЕНТАЦИИ НА РАЗВИТИЕ КОМПЕТЕНТНОСТИ И МОДЕЛИРОВАНИЕ РАЗВИТИЯ ЛЮДСКИХ РЕСУРСОВ. *Информатизация образования и науки* [= Информике (Informika), ISSN 2073-7572], 13(1), 146-160.

Stracke, C. M. (2010). Quality Development and Standards in Learning, Education, and Training: Adaptation Model and Guidelines for Implementations. *Информатизация образования и науки. Информике (Informika)*, 7(3), 136-146.

All also online available at: <http://www.opening-up.education>

Let us cooperate!



christian.stracke@ou.nl



@ChrMStracke

www.opening-up.education

Let us collaborate!



© Sabine Dertinger

www.opening-up.education