Stracke et al.

Open Education and Open Science for our Global Society during and after the COVID-19 Outbreak

www.opening-up.education

Open Education and Open Science
for our Global Society
during and after the COVID-19 Outbreak

by Christian M. Stracke et al. (2020)

Citation:

Contact:

Dr. Christian M. Stracke
ICDE Chair in OER
Associate Professor for Open Education and Innovation
Open University of the Netherlands
Adjunct Professor, Korean National Open University
Advisory Professor, East China Normal University
ORCID: 0000-0001-9656-8298
Christian.Stracke@OU.NL

http://www.opening-up.education
http://www.learning-innovations.eu
http://www.ICORE-online.org

Open Education and Open Science for our Global Society during and after the COVID-19 Outbreak

Christian M. Stracke [1] [0000-0001-9656-8298] , Aras Bozkurt [2] [0000-0002-4520-642X] , Grainne Conole [3] , Fabio Nascimbeni [4] [0000-0002-2269-9989] , Ebba Ossiannilsson [5] [0000-0002-8488-5787] , Ramesh Chander Sharma [6] [0000-0002-1371-1157] , Daniel Burgos [4] [0000-0003-0498-1101] , Karen Cangialosi [7] , Glenda Fox [8] [0000-0001-9656-8298] , Jon Mason [9] , Chrissi Nerantzi [10] [0000-0001-9656-8298] , Jane-Frances Obiageli Agbu [11] , María Soledad Ramírez Montoya [12] , Gema Santos-Hermosa [13] , Cleo Sgouropoulou [14] , Jin Gon Shon [15]

[1] Open Universiteit, The Netherlands, [2] Anadolu University, Turkey, [3] Independent Consultant, United Kingdom, [4] Universidad Internacional de La Rioja, Spain, [5] Swedish Association for Distance Education, Sweden, [6] Ambedkar University Delhi, India, [7] Keene State College, Canada, [8] University of Cape Town, South Africa, [9] Charles Darwin University, Australia, [10] Manchester Metropolitan University, United Kingdom, [11] National Open University of Nigeria, [12] Tecnológico de Monterrey, Mexico, [13] Universitat Oberta de Catalunya, Spain, [14] University of West Attica, Greece, [15] Korean National Open University, South Korea

christian.stracke@ou.nl

Keywords: Open Education, Open Science, Open Data, Open Scholarship, COVID-19.

Abstract (peer-reviewed and selected for publication and presentation at OE Global Conference 2020)

Open Education and Open Science are global movements increasingly gaining interest and awareness since the COVID-19 outbreak. These two concepts, which can be traced back to the Middle Ages for Open Science and even earlier for Open Education, bear the potential to support our global society in particular during the current COVID-19 emergency and to build more open and global futures for science and education.

Open Education is more a broad movement than a precise concept and discipline as shown by the key dimensions of Open Education that have been analysed and integrated into the OpenEd Quality Framework. Several studies revealed the constant changes in the understanding and implementations of Open Education through the centuries. Specific emphasis of Open Education is on the requirement and need to provide innovative pedagogical models and learning opportunities.

To improve the learning quality through Open Education, the learners as well as the educators have to change their traditional strategies and views: Educators should facilitate learner-centred education and learners need to build and enhance key competences including strategies for self-regulated learning processes and media literacy. These change requests are strongly increasing when educators and learners are starting with

digital media and online education, in particular when established as "new standards" during the current COVID-19 outbreak (without any serious introduction and training).

Open Science is (like Open Education) a global movement beyond scientific research focusing changes in theoretical as well as practical approaches. The two key objectives of Open Science are reliability and trust to enable new ways for scientific progress that is also relevant for the individual citizens and collectives. Thus, Open Science concentrate on achieving and combining subjective and objective credibility within the global society but also in small communities including school classes and educational groups.

Through these goals and strategies, Open Science can support societal as well as educational tasks: Scientific thinking and argumentations are beneficial for judging about (fake) news and building knowledge concepts and key competences such as self-reflection. Online learning can utilize and implement Open Science as a guiding philosophy as well as research topic.

How can Open Education and Open Science support our global society in general and in particular during the current COVID-19 outbreak? Our first assumptions:

Assumption 1: Open Education and Open Science can facilitate new learning opportunities through digital media and online environments, fostering the combination of individual key competences for self-regulated learning and living.

Assumption 2: Open Education and Open Science can foster communication and collaboration opportunities in online systems and social media leading to more transparent facts, increasing media literacy and critical thinking, fighting against fake news and conspiracy theories.

Assumption 3: Open Education and Open Science can boost innovation by facilitating collaborations in findings solutions like medicines for COVID-19 through greater availability and accessibility of publicly funded scientific research outputs.

Assumption 4: Open Education and Open Science can strengthen democracy and resilience within our global society by building responsible citizens as well as reliability and trust in our local and regional communities.

Our Guiding questions are:
What are key factors for the effective and successful realization of Open Education leading to innovative pedagogical methodologies and learning opportunities? And how can Open Science with its focus on creating reliability and trust underpin these educational objectives?

We hope that our discussion and future research on the impact of Open Education and Open Science can provide first answers on these important questions.

References

1. Arabito, S., & Pitrelli, N. (2015). Open science training and education: Challenges and difficulties on the researchers' side and in public engagement. Journal of Science Communication, 14(4), C01_en, 1–4. doi:10.22323/2.14040301

2. Barbera, E., & Linder-VanBerschot, J. A. (2011). Systemic multicultural model for online education: Tracing connections among learner inputs, instructional processes, and outcomes. Quarterly Review of Distance Education, 12(3), 167-180.

3. Borgman, C. L. (2012). The conundrum of sharing research data. Journal of the American Society for Information Science and Technology, 63(6), 1059–1078.

4. Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., … , & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. Asian Journal of Distance Education, 15(1), 1-126.

5. Cook, B. G., Lloyd, J. W., Mellor, D., Nosek, B. A., & Therrien, W. J. (2018). Promoting Open Science to Increase the Trustworthiness of Evidence in Special Education. Exceptional Children, 85(1), 104–118. doi:10.1177/0014402918793138

6. David, P. A. (2004). Understanding the emergence of 'open science' institutions: Functionalist economics in historical context. Industrial and Corporate Change, 13(4), 571–589. doi:10.1093/icc/dth023

7. Fecher, B., & Friesike, S. (2014). Open Science: One Term, Five Schools of Thought. In S. Bartling, & S. Friesike (Eds.), Opening Science. Cham: Springer (pp. 17–47). doi:10.1007/978-3-319-00026-8_2

8. Freire, P. (1970). Pedagogy of the oppressed. New York, NY: Herder and Herder.

9. Gaskell, A., & Mills, R. (2014). The quality and reputation of open, distance, and E-learning: What are the challenges? Open Learning, 29(3), 190-205. doi:https://doi.org/10.1080/02680513.2014.993603

10. Inglis, A. (2005). Quality improvement, quality assurance, and benchmarking: Comparing two frameworks for managing quality processes in open and distance learning. The International Review of Research in Open and Distributed Learning, 6(1), 49-61 [1-13]. doi:http://dx.doi.org/10.19173/irrodl.v6i1.221

11. Makel, M. C., & Plucker, J. A. (Eds.). (2017). Toward a more perfect psychology: Improving trust, accuracy, and transparency in research. Washington, DC: APA.

12. Nyberg, D. (1975). The philosophy of open education. London: Routledge and Kegan Paul.

13. Ossiannilsson, E. (2018). Ecologies of Openness: Reformations through Open Pedagogy. Asian Journal of Distance Education, 2, 103-119. Retrieved from https://www.asianjde.org/ojs/index.php/AsianJDE/article/view/273/252

14. Peters, M. A. (2008). The history and emergent paradigm of open education. In M. A. Peters & R. G. Britez (Eds.), Open education and education for openness (pp. 3-15). Rotterdam: Sense Publishers.

15. Peters, M. A., & Roberts, P. (2012). The Virtues of Openness: Education, Science, and Scholarship in the Digital Age. Boulder, CO: Paradigm Publishers.

16. Ramírez-Montoya, M.S., & García-Peñalvo, F. (2018). Co-creation and open innovation: Systematic literature review. Comunicar, 54, 9-18. doi:10.3916/C54-2018-01

17. Sharma, R. C. (2018). Innovative Applications of Online Pedagogy and Course Design. IGI Global. http://doi:10.4018/978-1-5225-5466-0

18. 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 [Open Access]

19. Stracke, C. M. (2014). How Innovations and Competence Development support Quality in Lifelong Learning. The International Journal for Innovation and Quality in Learning, 2(3), 35-44. doi:10.5281/zenodo.3608669 [Open Access]

20. 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, 167-178. doi:10.3969/j.issn.1000-5641.2014.02.015

21. United Nations. (2015). Transforming our world: The 2030 agenda for sustainable development. Washington: United Nations. Retrieved from http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

22. Vazire, S. (2018). Implications of the credibility revolution for productivity, creativity, and progress. Perspectives on Psychological Science, 13, 411–417. doi:10.1177/1745691617751884.

23. Vicente-Saez, R., & Martinez-Fuentes, C. (2018). Open Science now: A systematic literature review for an integrated definition. Journal of Business Research, 88, 428–436. doi:10.1016/j.jbusres.2017.12.043

24. Volungeviciene, A., Tereseviciene, M., & Tait, A. (2014). Framework of quality assurance of TEL integration into an educational organization. The International Review of Research in Open and Distributed Learning, 15(6), 211-236. doi:http://dx.doi.org/10.19173/irrodl.v15i6.1927