



# Global study on Open Education and Open Science: Practices, use cases and potentials during the COVID-19 pandemic and beyond

Christian M. Stracke, Aras Bozkurt, Daniel Burgos, Jon Mason, Ebba Ossiannilsson, Ramesh Chander Sharma, Marian Wan, Jane-Frances Obiageli Agbu, Karen Cangialosi, Grainne Conole, Glenda Cox, Fabio Nascimbeni, Chrissi Nerantzi, María Soledad Ramírez Montoya, Cleo Sgouropoulou, Jin Gon Shon, Pierre Boulet, Andreia Inamorato dos Santos, Stephen Downes, Robert Farrow, Vanessa Proudman, Zeynep Varoglu, Martin Weller, Junhong Xiao, Gema Santos-Hermosa, Özlem Karakaya, Vi Truong & Cécile Swiatek

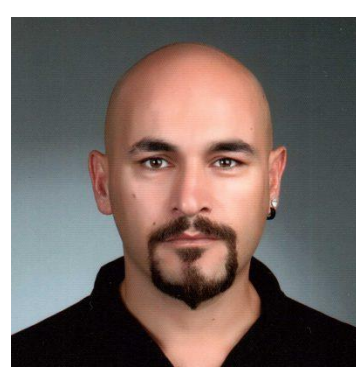
<https://doi.org/10.5281/zenodo.5546182>



28 September 2021



Christian Stracke



Aras Bozkurt



Daniel Burgos



Jon Mason



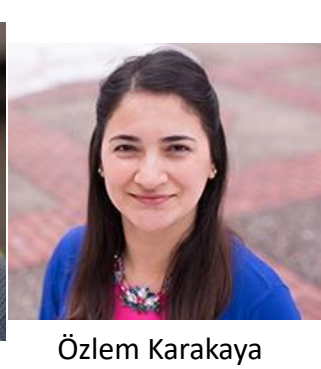
Ebba Ossiannilsson



Ramesh Sharma



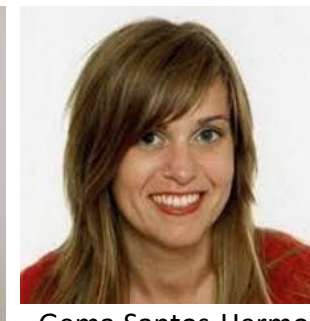
Karen Cangialosi



Özlem Karakaya



Cécile Swiatek



Gema Santos-Hermosa



Glenda Cox



Fabio Nascimbeni



Chrissi Nerantzi



Andreia Inamorato dos Santos



Jin Gon Shon



Robert Farrow



Grainne Conole



Stephen Downes



Jane-Frances Obiageli Agbu



Martin Weller



Zeynep Varoglu



Junhong Xiao



Vi Truong



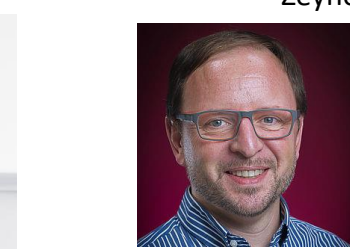
Vanessa Proudman



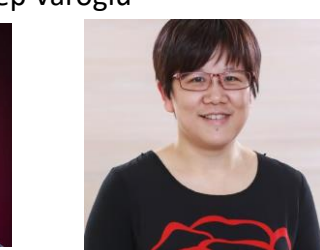
Cleo Sgouropoulou



María Soledad Ramírez Montoya



Pierre Boulet



Marian Wan



# Open Education and Open Science for our global society



- Australia
- Brazil
- France
- India
- Mexico
- The Netherlands
- Nigeria
- South Korea
- Spain
- Sweden
- Taiwan
- Turkey
- United Kingdom

# Challenges for formal education during the COVID-19 outbreak



<https://pixabay.com/illustrations/covid-19-coronavirus-distance-4951405/>

- Global overview of the status of Open Education and Open Science
- First year of the COVID-19 pandemic
- Practices and uses cases from 13 countries and global regions
- Challenges for formal education during the COVID-19 outbreak
- Potential solutions and examples of Open Education and Open Science



# New Normal



Our responses to emerging challenges in education is of vital importance to sustaining its ideals and philosophy. With the emergence of COVID 19, one is tempted to either stay reserved for a variety of reasons or be inspired to embrace the **'new normal'**

# Disruptions and Lockdowns

Educational systems in all countries were affected and witnessed disruptions and partial lockdowns (OECD, 2020; UNESCO et al., 2020)

Governments, public authorities, educators, pupils and their parents were not prepared facing unexpected challenges. Thrown into cold water, all parties tried to develop and implement solutions and work-arounds.



<https://pixabay.com/photos/couple-social-distancing-5422795/>

# Emergent need for enhanced sharing of the information and knowledge



<https://pixabay.com/photos/man-happy-home-office-working-6054543/>

- Science and technology to respond to challenges of global health crisis and outbreaks
- Need for enhanced sharing of the information and knowledge
- Open science: prominence or stands out as a (scholarly) movement
- Transformative role of science and technology



# Four guiding questions

## Two general questions:

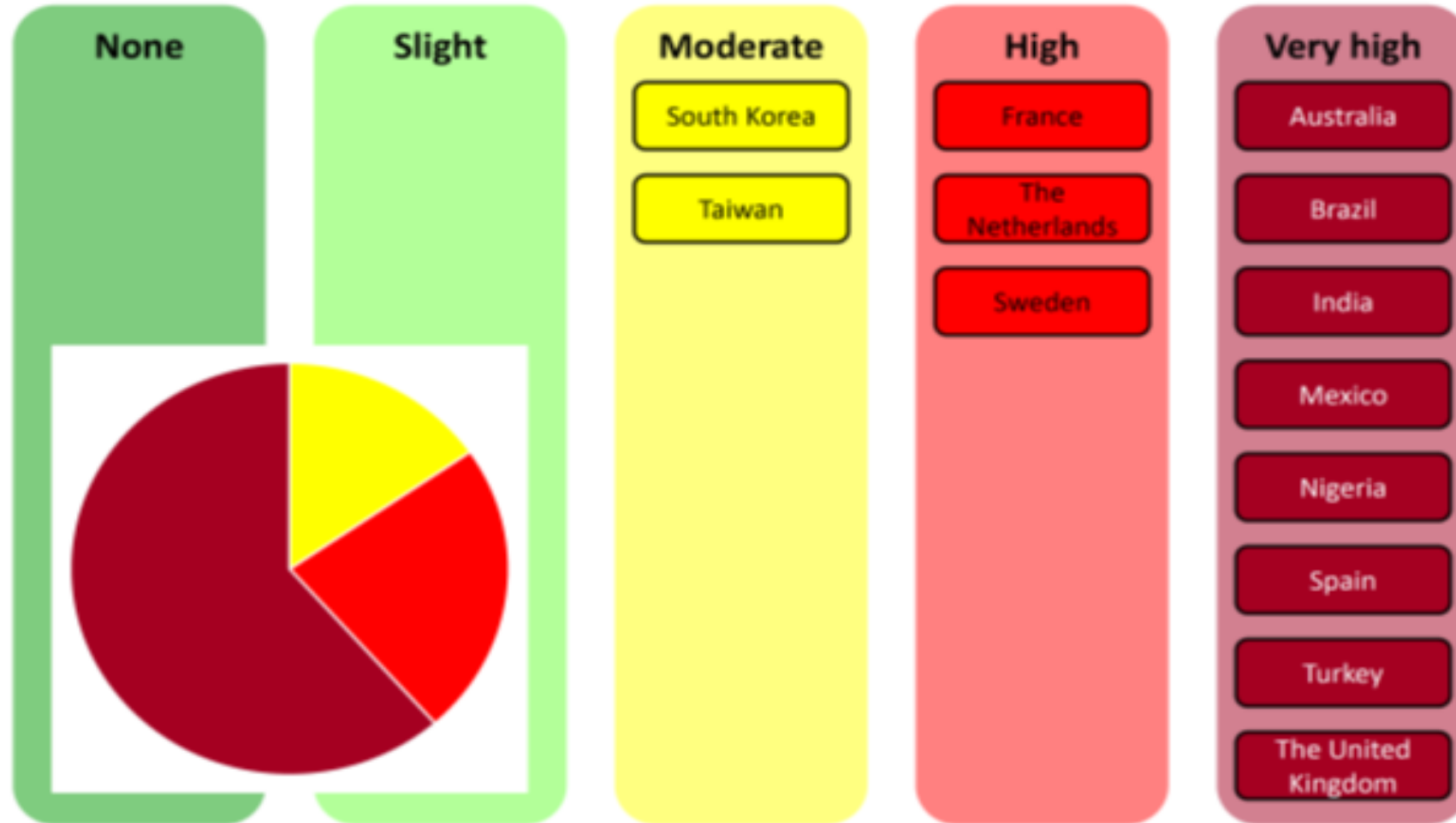
1. How was formal education affected by the COVID-19 outbreak?
2. What were the strategies and implemented solutions?

## Two specific questions on Open Education and Open Science:

3. How much have Open Education and Open Science been proposed and addressed and what is the difference between original intentions and current real impact?
4. Which good practices, lessons learned and recommendations exist and how can Open Education and Open Science contribute in the future?



# Impact of COVID-19 on formal education in selected 13 countries



# Key aspects of distance education due to COVID-19 in selected 13 countries

## MACRO

- Formal education at a distance for first time
- Similar approaches for formal education
- Missing infrastructure and sharing Open Educational Resources

## MESO

- Diverse teaching and learning methods and practices
- Open education and access to Open Educational Resources

## MICRO

- Urgent need for professional development and training for teachers
- Assessing and monitoring learning environments, teachers and students



# References

- Agbu, J. O., Mulder, F., De Vries, F., Tenebe, A., & Caine, A. (2016). The best of two open worlds at the National Open University of Nigeria. *Open Praxis*, 8(2), 111-121. <https://doi.org/10.5944/openpraxis.8.2.279>
- 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. <http://asianjde.org/ojs/index.php/AsianJDE/article/view/462>
- CEDEFOP. (2020). *Swedish actions on education in response to the corona pandemic*. <https://www.cedefop.europa.eu/en/news-and-press/news/swedish-actions-education-response-corona-pandemic>
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage.
- Creswell, J. W., & Plano Clark, V. L. P. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods and practice*. Sage.
- Di Pietro, G., Biagi, F., Costa, P., Karpinski, Z., & Mazza, J. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets*. Publications Office of the European Union. <https://doi.org/10.2760/126686>
- Elbardan, H., & Kholeif, A. O. R. (2017). An Interpretive Approach for Data Collection and Analysis. In *Enterprise Resource Planning, Corporate Governance and Internal Auditing* (pp. 111-165). Palgrave Macmillan.
- European Commission. (2020). *Digital Education Action Plan (2021-2027). Resetting education and training for the digital age*. [https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan\\_en](https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en)
- Folkhälsomyndigheten. (2020). *Protect yourself and others from the spread of infection*. <https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/skydda-dig-och-andra/information-pa-olika-sprak/engelska>

Contd ...

# References

- Inamorato dos Santos, A., Punie, Y., & Castano Muniz, J. (2016). *Opening up education: A support framework for higher education institutions*. Publications Office of the European Union. <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/opening-education-support-framework-higher-education-institutions>
- Javiera, A., Havemann, L., Neumann, J., Stefanelli, C., Campbell, L., Cronin, C., Gonsales, P., Priscila, Lesko, I., Alvaro, R., Veiga, C., & Wetzler, J. (2020). *Open education policies: Guidelines for co-creation*. Zenodo. <https://zenodo.org/record/4281363#.X7fkgS-HI0o>
- JRC. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets*. Joint Research Center. <https://ec.europa.eu/jrc/en/publication/likely-impact-covid-19-education-reflections-based-existing-literature-and-recent-international>
- Mulder, F. & Jansen, D. (2015). MOOCs for Opening Up Education and the OpenupEd initiative. In C. J. Bonk, M. M. Lee, T. C. Reeves, & T. H. Reynolds (eds.). *MOOCs and Open Education Around the World* (pp. 130–142). Routledge.
- National Library. (2018 May, 16). *Sweden stands up for open access – cancels agreement with Elsevier*. [https://www.mynewsdesk.com/se/kungliga\\_biblioteket/pressreleases/sweden-stands-up-for-open-access-cancels-agreement-with-elsevier-2508242](https://www.mynewsdesk.com/se/kungliga_biblioteket/pressreleases/sweden-stands-up-for-open-access-cancels-agreement-with-elsevier-2508242)
- OECD. (2020). *Covid-19 country report*. <https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf>
- Ossiannilsson, E. (2020). After Covid-19 some challenges for Universities. In A. Tlili, D. Burgos, & A. Tabacco (Eds.), *Education in a crisis context: COVID-19 as an opportunity for global learning*. LNET Series. Springer.
- Ossiannilsson, E. (2020). The new normal: Post covid-19 is about change and sustainability. *Near East University Online Journal of Education (NEUJE)*.
- Ossiannilsson, E., Zhang, X., Wetzler, J., Gusmão, C., Aydin, C.H., Jhangiani R. S., Glapa-Grossklag, J., Makoe, M., & Harichandan, D. (2020). From open educational resources to open educational practices. For resilient sustainable education. *Distance et Mediations des Savoirs*, 31. <https://doi.org/10.4000/dms.5393>
- Stake, R. E. (1995). *The art of case study research: Perspective in practice*. Sage.

Contd ...



# References

- 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. <https://doi.org/10.19173/irrodl.v20i2.4213>
- Stracke, C. M. (2020). Open Science and Radical Solutions for Diversity, Equity and Quality in Research: A Literature Review of Different Research Schools, Philosophies and Frameworks and Their Potential Impact on Science and Education. In D. Burgos (Ed.), *Radical Solutions and Open Science. An Open Approach to Boost Higher Education. Lecture Notes in Educational Technology* (pp. 17-37). Springer: Singapore. [https://doi.org/10.1007/978-981-15-4276-3\\_2](https://doi.org/10.1007/978-981-15-4276-3_2)
- Stracke, C. M., Bozkurt, A., Conole, G., Nascimbeni, F., Ossiannilsson, E., Sharma, R. C., Burgos, D., Cangialosi, K., Fox, G., Mason, J., Nerantzi, C., Obiageli Agbu, J. F., Ramírez Montoya, M. S., Santos-Hermosa, G., Sgouropoulou, C., & Shon, J. G. (2020). Open Education and Open Science for our Global Society during and after the COVID-19 Outbreak. In *Proceedings of the Open Education Global Conference 2020* (s.p., 4 p.). <https://doi.org/10.5281/zenodo.4275669>
- Swedish Research Council. (2020). *New national portal makes research data on COVID-19 accessible*. <https://www.vr.se/english/just-now/news/news-archive/2020-06-03-new-national-portal-makes-research-data-on-covid-19-accessible.html>
- UNESCO, UNICEF, & The World Bank. (2020, October). *What have we learnt?: Overview of findings from a survey of Ministries of Education on National Responses to COVID-19*. [http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/National-Education-Responses-to-COVID-19-WEB-final\\_EN.pdf](http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/National-Education-Responses-to-COVID-19-WEB-final_EN.pdf) and <https://data.unicef.org/resources/national-education-responses-to-covid19>
- United Nations. (2020, August). *Policy brief: Education during COVID-19 and beyond*. [https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg\\_policy\\_brief\\_covid-19\\_and\\_education\\_august\\_2020.pdf](https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf)
- WHO. (2020, March 11). *Coronavirus disease 2019 (COVID-19). Situation Report – 51*. [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57\\_10](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10)
- Yin, R. K. (1984). *Case study research: Design and methods*. Sage.
- Yin, R. K. (2011). *Qualitative research from start to finish*. Guilford Publications.



# References

- 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. <https://doi.org/10.19173/irrodl.v20i2.4213>
- Stracke, C. M. (2020). Open Science and Radical Solutions for Diversity, Equity and Quality in Research: A Literature Review of Different Research Schools, Philosophies and Frameworks and Their Potential Impact on Science and Education. In D. Burgos (Ed.), *Radical Solutions and Open Science. An Open Approach to Boost Higher Education. Lecture Notes in Educational Technology* (pp. 17-37). Springer: Singapore. [https://doi.org/10.1007/978-981-15-4276-3\\_2](https://doi.org/10.1007/978-981-15-4276-3_2)
- Stracke, C. M., Bozkurt, A., Conole, G., Nascimbeni, F., Ossiannilsson, E., Sharma, R. C., Burgos, D., Cangialosi, K., Fox, G., Mason, J., Nerantzi, C., Obiageli Agbu, J. F., Ramírez Montoya, M. S., Santos-Hermosa, G., Sgourpoulou, C., & Shon, J. G. (2020). Open Education and Open Science for our Global Society during and after the COVID-19 Outbreak. In *Proceedings of the Open Education Global Conference 2020* (s.p., 4 p.). <https://doi.org/10.5281/zenodo.4275669>
- Swedish Research Council. (2020). *New national portal makes research data on COVID-19 accessible*. <https://www.vr.se/english/just-now/news/news-archive/2020-06-03-new-national-portal-makes-research-data-on-covid-19-accessible.html>
- UNESCO, UNICEF, & The World Bank. (2020, October). *What have we learnt?: Overview of findings from a survey of Ministries of Education on National Responses to COVID-19*. [http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/National-Education-Responses-to-COVID-19-WEB-final\\_EN.pdf](http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/National-Education-Responses-to-COVID-19-WEB-final_EN.pdf) and <https://data.unicef.org/resources/national-education-responses-to-covid19>
- United Nations. (2020, August). *Policy brief: Education during COVID-19 and beyond*. [https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg\\_policy\\_brief\\_covid-19\\_and\\_education\\_august\\_2020.pdf](https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf)
- WHO. (2020, March 11). *Coronavirus disease 2019 (COVID-19). Situation Report – 51*. [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57\\_10](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10)
- Yin, R. K. (1984). *Case study research: Design and methods*. Sage.
- Yin, R. K. (2011). *Qualitative research from start to finish*. Guilford Publications.

