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

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Abstract

This paper provides an overview of the status of Open Education and Open Science for our global society in the first year of the COVID-19 pandemic: It presents practices and uses cases from 12 countries and global regions on the challenges for formal education during the COVID-19 outbreak. A special focus is led on the potential solutions and examples of Open Education and Open Science in these regional use cases. Their analysis and comparison present insights about the developed strategies and implemented practices in the different regions worldwide. And their discussion offers opportunities and recommendations how Open Education and Open Science can innovate and improve formal education in schools, universities and lifelong learning during the ongoing COVID-19 pandemic as well as afterwards.

Responding to the impact of COVID-19 on formal education, this paper profiles global perspectives of Open Education and Open Science through highlighting practices and use-cases from several countries and regions on the challenges and opportunities arising. By drawing on examples of extant practice, insights into effective strategies are presented as recommendations for how Open Education and Open Science can innovate and improve formal education in schools, universities and lifelong learning into the future.

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'

COVID-19 has shaken all societies and the whole globe. As a consequence, as noted by a recent OECD report (OECD, 2020), the educational systems in all countries were affected and witnessed disruptions and partial lockdowns. In some regions, formal education was interrupted and new approaches and alternative delivery modes had to be invented from one day to another. 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.

The whole world has recently witnessed through the COVID-19 pandemic how our planet is vulnerable to global health crisis and outbreaks. Such interconnected challenges remind us of the pivotal role of science and technology to respond to these challenges by finding solutions in the service of humanity. Acknowledging the opportunities enabled by the rapid development of information and communication technologies in the interconnectedness of the world, scientific information and sharing of knowledge resources have proliferated. Global health crisis affecting the whole world profoundly like COVID-19 has compelled / heightened the need for enhanced sharing of the information and knowledge. In line with this need, open science comes into prominence or stands out as a (scholarly) movement in the current digital era to respond to the global issues the world encounters by showing the transformative role of science and technology.

Our key interest is how potential solutions and examples of Open Education and Open Science have been introduced and used in different regions worldwide. Through the analysis and comparison of the regional use cases, we want to explore the developed strategies and implemented practices and how much they were built on Open Education and Open Science. We report on the first year of the pandemic until 11th of March 2021, the (sad) anniversary of the declaration of COVID-19 as pandemic by the WHO (2020).

The collected practices and use cases are following four guiding questions as basis:

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?

These guiding questions were formulated broadly so that they can easily be adapted for the regional reports to reflect the diversity of situations in relation to learning traditions, theories, support, practices as well as to given conditions and contexts such as educational systems, curricula, assessments, institutions, resources, infrastructures and laws.

Overall, it can be summarized that formal education was affected by the COVID-19 outbreak in all countries but in different intensities as presented in the following table:

	Not at all affected	Slightly affected	Fairly affected	Affected	Very affected
Countries:			South Korea, Taiwan	The Netherlands, Sweden, France, Turkey	Spain, UK, Australia, Mexico, Nigeria, Brazil

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