



## A global perspective on schooling in the COVID-19 pandemic era

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The COVID-19 pandemic led to disruptions in education worldwide that have been characterized as “the worst education crisis on record” (The World Bank, UNESCO & UNICEF, 2021, p. 4). A key response globally to slow the spread of the pandemic was a radical reduction in face-to-face contact between people (Bozkurt et al., 2020). Accordingly, general and vocational schools were shut down intermittently (The World Bank et al., 2021, p. 5). The resultant education crisis “brought education systems across the world to a halt, with school closures affecting more than 1.6 billion learners” (ibid.). According to a September 2021 UNICEF press release, since the pandemic’s start school children worldwide had missed an estimated 1.8 trillion hours of classroom instruction (UNICEF, 2021). These numbers meanwhile have only grown as a result of ongoing or repeated school closures. In addition, “millions more are at risk of never returning to education” (The World Bank et al., 2021, p. 5). Thus, due to the COVID-19 pandemic, an enormous number of children and adolescents worldwide have been affected by what often are far-reaching interruptions in their education.

A closer look at the state of research reveals how varied the opportunities to learn – if any – were for children around the world. This emerged from a study covering 11 countries<sup>1</sup> conducted by the International Association for Evaluation of Educational Achievement (IEA) in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the European Commission. Students in countries with a higher human development index continued to benefit from learning opportunities, whereby most teachers in these countries reported maintaining a focus more on the core components of curricula. By contrast, in Burkina Faso, Rwanda, Kenya, Ethiopia, and India, different percentages of school principals

in each country reported that they had not been able to afford their learners any teaching or learning opportunities during their school closures (Meinck, Fraillon & Strietholt, 2022). Thorn and Vincent-Lancrin (2021) in analyzing studies from 10 high-income OECD countries<sup>2</sup> found that the average learning time of students in them was reduced by half compared to regular classroom instruction in face-to-face settings. As a whole, large variations in student learning time could be observed during the first lockdown in 2020, with a sizeable proportion of students, up to 20% in some countries, not engaging in any schoolwork (ibid.). While some countries switched from in-person classroom instruction to distance learning in the course of the school closures in 2020 and 2021 (e.g., Germany, see Sonnenburg, Buddeberg, & Hornberg in this issue; for Austria, see Altrichter & Helm also in this issue; for other countries, see OECD, 2021a, 2021b), and other countries experimented with televised education (e.g., Tunisia, see Bouhlila, Jules, Hentati & Arnold in this issue), students in some countries had no access at all to alternative educational offerings (see e.g. Meinck et al., 2022). Intermittent school closures thus impaired teaching and learning opportunities worldwide. However, even in countries where schools stayed open for in-person classes – in some cases only in the later course of the pandemic – schooling was affected by health measures, alternating-shift classes, hybrid classes, or the quarantining of individual students and entire classes (Thorn & Vincent-Lancrin, 2021).

Emergency remote teaching formats, variously designated as distance education/learning/teaching, e-learning, online education/teaching or homeschooling saw use worldwide (Bozkurt et al., 2020). Participation was mandatory in the countries that adopted them in response to the pandemic; nowhere was it an elective option, as is often the case with remote teaching under normal circumstances (ibid.; Hodges, Moore, Lockee, Trust & Bond, 2020). The term ‘emergency remote teaching’ also serves to signal that these were ad hoc measures, i.e., unplanned variants of online education unlike ones that incorporated normal quality criteria for online teaching and learning. Compared to the latter, the former furnishes a mere stopgap measure pending a return to regular in-person instruction as soon as the pandemic situation allows (Hodges et al., 2020). From the current data, we can conclude on the whole that during the prevailing COVID-19 pandemic the nature, quality, and reach of school-based learning opportunities vary widely throughout the world (The World Bank et al., 2021; Meinck et al., 2022). In addition to the resulting uncertainties for teachers and students (cf. Hornberg & Sonnenburg, in press), the first effects discussed under the following headings are already foreseeable or have even been empirically demonstrated.

*Learning losses:* The disruption and impairment of schooling have raised the specter of significant learning losses among students worldwide. As long as school

closures continue, which they still do in some cases, these learning gaps are expected to worsen (cf. e.g. Thorn & Vincent-Lancrin, 2021). Results of extant studies point in this direction and show that there is a global preponderance of learning losses (cf. e.g. the reviews of Böttger & Zierer, 2021; Hammerstein, König, Dreisörner & Frey, 2021; Helm, Huber & Postlbauer, 2021; Zierer, 2021); however, other studies report no losses in learning outcomes (cf. Helm et al., 2021, among others). As jointly reported by the World Bank et al. (2021, p. 15), “studies from low- and middle-income countries in particular reveal major systemwide learning losses.” Yet, enormous learning losses afflicted even high-income countries where online learning could be realized (ibid.). Consequently, measures to reduce learning deficits have been taken by a large number of countries for which data are available (see OECD, 2021a, for an overview). Generally speaking, however, it is still too early to produce empirically sound assessments because sufficient data on learning losses just is not there yet (see also Thorn & Vincent-Lancrin, 2021). For instance, some of the studies already cited in reviews only examine the effects of school closures in 2020.

*Loss of the school as safe space:* For children and adolescents, the school closures were accompanied by a loss of the protective space that school normally provides them with:

During school closures, children’s health and safety was jeopardized, with domestic violence and child labor increasing. More than 370 million children globally missed school meals during school closures, losing what is for some children the only reliable source of food and daily nutrition. ... Advances in gender equality are threatened, with school closures placing an estimated 10 million more girls at risk of early marriage in the next decade and at increased risk of dropping out of school. (The World Bank et al., 2021, p. 6)

These massive consequences of the COVID-19 pandemic for minors imply a dire retrograde step for the affected individuals and societies. They underscore the importance of the Sustainable Development Agenda with its 17 goals, adopted by all members of the UN in 2015, of which goal 4 addresses quality education, i.e. to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, 2015, p. 14).

*Impact on student well-being:* The COVID-19 pandemic by no means affected children’s schooling alone, but also their home and social environments. For example, it shrank private contacts, changed parents’ employment situation, and led to financial and health concerns (Thorn & Vincent-Lancrin, 2021). For students, the pandemic was an unfamiliar situation; loss of the school as a socialization agency led to a reduction or elimination of social contacts both at school and in the personal sphere (cf. also Meinck et al., 2022). The World Bank et al. (2021, p. 6) summed up the situation as an unprecedented “mental health crisis among young people.” The combination of school closures and social restrictions consequently affected the lives

of the children and their families, in some cases massively, for an extended period, with adverse effects on the children's educational opportunities and experiences (Thorn & Vincent-Lancrin, 2021).

*Parents as 'substitute teachers'*: Parents whose children studied in part or entirely at home during the pandemic suddenly found themselves cast in the role of substitute teachers (Bozkurt et al., 2020). For some, it involved assigning homework, which the teachers had previously provided (Graumann, 2020) and helping their children, especially the younger ones, with their assignments (Thorn & Vincent-Lancrin, 2021). In the OECD countries studied by Thorn and Vincent-Lancrin (2021), most parents devoted more time to their children's schooling and care than before the pandemic (ibid.). They thus had to balance caring for their children at home with their jobs (Bozkurt et al., 2020). The elimination of presence care provided by schools and day care centers/kindergartens thus ended up imposing a double burden on working parents.

*Changes in how students learn*: The (partial) school closures also increased the students' responsibility for their own learning processes (Aldon, Cusi, Schacht & Swidan, 2021). Among other things, they were challenged in the context of individualized learning to practice reflective competence for their own work and learning behavior. With the goal of self-regulated learning by students (cf. e.g., Sonnenburg, 2022), these skills undoubtedly proved to be a key individual resource for coping with the framework conditions induced by the COVID-19 pandemic. Bozkurt et al. (2020) could therefore conclude that "it is maybe the first time in contemporary history, [that] learners (and parents in the case of K-12) have been given that much agency over and responsibility for their learning" (p. 10).

*Changes for teachers*: The infection dynamics and their impact on schools forced teachers to continuously adapt to changing conditions for their teaching. In switching to distance-only instruction, for example, teachers had to find new ways of communicating with students and teaching them remotely. As Ehren et al. (2021) point out, teachers on the one hand were therefore confronted with teaching their students in rotating, smaller learning groups and having to develop concepts, including hybrid learning, for this purpose. On the other hand, in face-to-face classes under the requisite hygienic conditions they had to employ methods that avoided physical proximity between participants (ibid.) yet were practicable for both teachers and students. In addition, in some countries, testing and assessment regimes were modified, in part to mitigate the impact of the COVID-19 pandemic (e.g., Aldon et al., 2021; The World Bank et al., 2021), leading to additional changes in existing instructional practices.

*Digitalization push and widening of the digital divide*: In the course of the necessary changeover to digital forms of education, a digitalization push can be observed

in schooling worldwide. Thus, The World Bank et al. (2021) recapitulated the COVID-19 crisis as not only having taught critical lessons but also as a catalyst for changes and innovations: “Remote and hybrid education, which became a necessity when the pandemic hit, has the potential to transform the future of learning if systems are strengthened and technology is better leveraged to complement skilled and well-supported teachers” (ibid., p. 6). However, this is also accompanied by the need to acquire digital competencies, including from a critical-thinking perspective, i.e., developing a skillset for critically analyzing information and evaluating its authenticity. Moreover, privacy concerns arise from the short-term shift to digital forms of instruction and testing (Bozkurt et al., 2020). Resorting to digital modes of communication has also further exposed the global “digital divide” (ibid., p. 5). The term refers to the disparity in access to the Internet as well as mobile devices around the world and between urban and remote rural areas (ibid.). This is especially true in countries that are politically unstable, are characterized by violence, and are poor (e.g., developing countries such as Palestine, Afghanistan, and Libya – see Khlaif, Salha, Fareed & Rashed, 2021).

*Sharpening of social inequality:* The digital divide exacerbated the social divide and inequality in education (Bozkurt et al., 2020; The World Bank et al., 2021). On the whole, the negative consequences of the COVID-19 pandemic were magnified in disadvantaged populations (Thorn & Vincent-Lancrin, 2021). Students who previously had also experienced social inequality were among those most severely impacted by the effects of the COVID-19 pandemic (Bozkurt et al., 2020).

The impacts discussed here are intended to serve as a kind of synopsis of global widely-discussed impacts, not as an exhaustive list. As a further caveat, not all impacts of the COVID-19 pandemic are foreseeable at this time, and they may vary at the individual country level. Furthermore, the data situation across countries is highly uneven with a worldwide dearth of high-quality data and studies suitable for supporting representative results. It is also noteworthy in this context that the consequences of the most recent developments (those from 2021 and 2022) have yet to be factored in sufficiently.

The contributions collected in this special issue of the *Tertium Comparationis* journal document the responses during the COVID-19 pandemic by school systems in Sweden, Tunisia, Austria, and the Federal Republic of Germany as they sought to execute on their educational missions. Posing unprecedented challenges to societies around the world, months-long school closures represented a turning point for many school systems, as documented by the contributions collected in this issue for Tunisia, Austria, and the Federal Republic of Germany. Sweden, whose primary schools were kept open, with only upper secondary education locked down, represents the lone exception.

With an eye to an international readership, we asked the contributors to this publication to begin by outlining the structure of their respective school systems, before moving on to an overview of the pandemic's chronological course in terms of how it affected schools, based on initial research findings. This rough structuring is intended to provide the reader with a comparative view. Although the articles are structured in an analogous way, they are deliberately heterogeneous with regard to country-specific characteristics. They also differ according to the type of article: The article on the Swedish school situation during the pandemic is based on a proprietary empirical study, while the other contributions refer to already existing empirical data. Our aim in this issue is to retrospectively document the course of the pandemic in the selected countries with reference to the school systems discussed here, as well as to highlight the effects that are already discernible and the developmental needs they suggest. For quality assurance, all contributions were put through multi-stage double-blind peer reviews. We would like to take this opportunity to thank the reviewers for their valuable inputs and expertise. We are also indebted to all our participating authors for helping us bring this special issue in under a tight deadline.

This issue is organized as follows: After this introduction, *Susanne Kreitz-Sandberg*, *Noam Ringer*, and *Ulf Fredriksson* lead off with an article titled 'We have our lessons in Teams' – Strategies chosen in Swedish schools during the COVID-19 pandemic and consequences for students in upper secondary education.' The authors describe how Sweden responded to the COVID-19 pandemic by keeping its compulsory schools open while closing the upper secondary schools, resorting temporarily to distance learning in the latter during the 2020 spring semester. Relying on data gleaned from interviews they conducted with upper secondary students, the authors delineate the strategies implemented for Swedish schools and their consequences for the students. Their analysis highlights how the students experienced the pandemic-induced shift to digital and remote learning, with an emphasis on the digital infrastructure and adjustments required for studying under remote learning conditions.

Next we turn to North Africa, for a discussion of Tunisia's school system and its COVID-19 response. We appreciate this contribution by *Donia Smaali Bouhlila*, *tavis d. jules*, *Imen Hentati*, and *Richard Arnold* titled 'Navigating through the Covid-19 pandemic: Unfinished learning in primary and secondary education in Tunisia' – we rarely have the benefit of studies on education systems from this continent. In this article, we learn that Tunisia, like many other countries confronted by the COVID-19 pandemic, implemented emergency distance learning measures to save the school year and ensure continued learning. These efforts, however, were often stymied by a shortage of digital materials and inadequate Internet bandwidth. Hence, in 2020/2021, Tunisia shifted to a model of alternating school days for primary, pre-secondary, and secondary school pupils to avoid overcrowding. In

addition, the curriculum was pared down to give priority to teaching the fundamentals. Based on content analysis of Tunisia's Ministry of Education documentation, including a survey on remote learning, the authors shed light on various measures taken to mitigate learning losses, the challenges Tunisian students and the government had to cope with, and outcomes.

We return to Europe with an article by *Herbert Altrichter and Christoph Helm* titled 'Austrian schools in the COVID-19 pandemic era'. The authors present the key features of the Austrian school system coupled with a comprehensive overview how the country managed its schools during the pandemic from 2020 through early 2022. They highlight the key empirical research findings on the effects of school closures due to COVID-related changes in learning and teaching. How children learned during the pandemic comes in for its share of the researchers' attention; so does how they, their teachers, and their parents coped with the unprecedented situation. The article closes with a discussion of the principal features of pandemic management in Austrian schools and their implications for future school practice and research.

We close out this special issue with an article on the German school system by *Nadine Sonnenburg, Magdalena Buddeberg, and Sabine Hornberg* titled 'The German school system in the COVID-19 pandemic era'. In Germany too the COVID-19 pandemic led to repeated school closures and the switch to distance or alternating-shift learning, but with regional differences in what steps the individual German states took to cope with the pandemic. From the perspective of significant changes in schools, the authors outline seven phases in the pandemic's chronological course in Germany and, relying on empirical findings available to date, they identify medium- to long-term development needs for the German school system. Among these, they cite fostering self-directed learning by students, making up students' learning deficits, with special consideration of inequalities made worse by the pandemic, the digitalization of the school system, and the future development of concepts for linking synchronous and asynchronous (digital) forms of learning and integrating them into mainstream teaching.

The changes in and development needs of school systems during the COVID-19 pandemic identified in the above contributions raise the following questions for the future. What lessons can we draw from the schooling situation during the COVID-19 pandemic with regard to

- (a) the lingering pandemic and how to manage it, e.g., in the event of rising infection rates and new COVID-19 variants;
- (b) addressing the related constraints (e.g., in terms of learning losses, social inequalities, psychosocial impacts, etc.);
- (c) the mainstreaming of positive experiences into everyday teaching practice of POST-COVID times (e.g. relating to the use of digital tools, more flexible

- teaching and learning designs in terms of time, place, content, objectives, delivery and assessment); and,
- (d) preparing for and managing future crises (wars, natural disasters, new pandemics, etc.) (cf. also Bozkurt et al., 2020), which may result in renewed school closures or cancellations of classes, either globally or specific to individual countries?

In sum, with this special issue, we aim to document current experiential knowledge for future reference and to share with national and international readerships the lessons learned, both positive and negative, by select countries in the course of managing the COVID-19 pandemic.

### Notes

1. The study surveyed students, teachers, and principals in the following 11 countries from December 2020 to July 2021: Burkina Faso, Denmark, Ethiopia, India, Kenya, the Russian Federation, Rwanda, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan (Meinck et al., 2022).
2. Thorn and Vincent-Lancrin (2021) reviewed studies primarily from 10 countries: Australia, Belgium (Flanders), Canada, France, Germany, Ireland, Italy, the Netherlands, the United Kingdom, and the United States. However, studies from all countries were not available for all content areas, so that the results of Thorn and Vincent-Lancrin (2021) cited in this paper may partly refer to only select countries.

### References

- Aldon, G., Cusi, A., Schacht, F. & Swidan, O. (2021). Teaching mathematics in a context of lockdown: A study focused on teachers' praxeologies. *Education Sciences*, 11, Article 38. <https://doi.org/10.3390/educsci11020038>
- Böttger, T. & Zierer, K. (2021). Effekte der pandemiebedingten Schulschließungen im Frühjahr 2020 auf fachlich-kognitive Leistungen von Schüler\*innen im In- und Ausland. Ein narratives Review. *Die Deutsche Schule, Suppl. 18*, 39–58. <https://doi.org/10.31244/9783830994589.02>
- Bozkurt, A., Jung, I., Xiao, J., Vladimirsch, 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.
- Ehren, M.C.M., Madrid, R., Romiti, S., Armstrong, P.W., Fisher, P. & McWhorter, D.L. (2021). Teaching in the COVID-19 era: Understanding the opportunities and barriers for teacher agency. *Perspectives in Education*, 39(1), 61–76.
- Graumann, O. (2020). Effects of the COVID-19 pandemic on students and their parents. *International Dialogues on Education: Past and Present*, 7, Special Issue, 52–60. <https://doi.org/10.53308/ide.v7i1/2.25>
- Hammerstein, S., König, C., Dreisörner, T. & Frey, A. (2021). *Effects of COVID-19-related school closures on student achievement – A systematic review*. <https://doi.org/10.31234/osf.io/mcnvk>
- Helm, C., Huber, S.G. & Postlbauer, A. (2021). Lerneinbußen und Bildungsbenachteiligung durch Schulschließungen während der Covid-19-Pandemie im Frühjahr 2020. Eine Übersicht zur



- aktuellen Befundlage. *Die Deutsche Schule, Suppl.* 18, 59–81. <https://doi.org/10.31244/9783830994589.03>
- Hodges, C., Moore, S., Lockee, B., Trust, T. & Bond, A. (2020, March 27). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Hornberg, S. & Sonnenburg, N. (in press). Ungewissheit als Grundmuster von schulischer Erziehung und Bildung in der globalisierten Welt. In S.-I. Beutel & H. Rademacher (Eds.), *Ungewissheit* (Debus-Pädagogik Jahrbuch Demokratie in Schule und Bildung, Vol. 9). Frankfurt a.M.: Wochenschau Verlag. Manuscript submitted for publication.
- Khlaif, Z.N., Salha, S., Fareed, S. & Rashed, H. (2021). The hidden shadow of coronavirus on education in developing countries. *Online Learning Journal*, 25(1), 269–285. <https://doi.org/10.24059/olj.v25i1.2287>
- Meinck, S., Fraillon, J. & Strietholt, R. (2022). *The impact of the COVID-19 pandemic on education: International evidence from the Responses to Educational Disruption Survey (REDS)*. Paris: UNESCO/IEA. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000380398>
- OECD. (2021a). *The state of school education. One year into the COVID pandemic*. Paris: OECD Publishing. <https://doi.org/10.1787/201dde84-en>
- OECD. (2021b). *The state of global education. 18 months into the pandemic*. Paris: OECD Publishing. <https://doi.org/10.1787/1a23bb23-en>
- Sonnenburg, N. (2022). *Kompetenzorientierte individuelle Förderung in der Schule. Eine explorative Studie zur Verwendung einer digitalen Bildungsdokumentation* (Internationale Hochschulschriften, Vol. 690). Münster: Waxmann.
- The World Bank, UNESCO & UNICEF. (2021). *The state of the global education crisis: A path to recovery*. Washington D.C.: The World Bank, UNESCO, and UNICEF.
- Thorn, W. & Vincent-Lancrin, S. (2021). *Schooling during a pandemic: The experience and outcomes of schoolchildren during the first round of COVID-19 lockdowns*. Paris: OECD Publishing. <https://doi.org/10.1787/1c78681e-en>
- UNICEF. (2021). *Kinder verpassen weltweit 1,8 Billionen Stunden Präsenzunterricht* (Pressemitteilung vom 17. September). UNICEF. Retrieved from <https://www.unicef.de/informieren/aktuelles/presse/2021/covid-19-billionen-verpasste-schulstunden/248322>
- United Nations. (2015). *Resolution adopted by the General Assembly on 25 September 2015. Transforming our world: The 2030 Agenda for Sustainable Development (A/RES/70/1)*. Retrieved from [https://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)
- Zierer, K. (2021). Effects of pandemic-related school closures on pupils' performance and learning in selected countries. A rapid review. *Education Sciences*, 11(6), 252. <https://doi.org/10.3390/educsci11060252>