# A Systematic Review of African University Student's Learning in the Era of COVID-19 Pandemic: Lessons from China

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## Abstract

Over one billion students worldwide were severely impacted by school closures predicated by the COVID-19 pandemic. Most reviews have focused on developing countries with established infrastructure supporting e-learning. This contrasts with many African countries struggling to provide their students with the financial and structural support they need during this unprecedented time. This literature review examines Africa University Student learning during the COVID-19 era. A literature search was conducted on the Web of Science and EBSCO for relevant studies published from 2020 to 2021. The search terms include COVID-19, university student, learning, and higher education. Inclusion and exclusion criteria were used in selecting the final 58 articles. Our analysis found that Africa benefited from e-learning by acquiring technical skills and developing proactive coping strategies. However, the benefits are undermined by challenges associated with restricted access to technology, poor institutional policies, disruptive environments, and emotional turmoil. We learned that the representative Asian country, China, invested in multiple online teaching methods and focused on improving awareness of e-learning. These strategies enabled China to go back to school quickly after the lockdown. Future research should include all the scientific databases to obtain comparable results.

## 1. Introduction

COVID-19, which started in late December 2019, was, as of March 2020, declared a global pandemic by the World Health Organization (Abu Talib et al., 2021; WHO, 2020). The pandemic disrupted everyday life, including educational activities. As an emergency response, Global authorities issued a stay-at-home order. Also, they extended the blockade period to control the infection rate (Huang, 2020). The COVID-19 pandemic-related school closures have had a significant negative impact on more than a billion students worldwide. Over 1.6 billion kids and teenagers missed school for several months during the pandemic (UNESCO, 2021). The learning turmoil caused by COVID-19 is out of the ordinary. Still, by examining it, we can gather important insights into its widespread impact on learners by examining relevant studies.

Most schools facing closures started reopening but used virtual teaching methods. Other schools transitioned to distance learning which requires access to information communication technology (ICT) (Matters et al., 2021; Nweze, 2021). Due to the urgency created by the pandemic, many schools were ill-prepared to deal with these changes (Huang, 2020). For instance, the teachers and students had limited time to plan, coordinate, and adapt to the transition. To our knowledge, only eight systematic reviews have been published to examine its impact on student learning and performance (Abu Talib et al., 2021; Ahmady et al., 2021; Ashraf et al., 2021; Camilleri, 2021; Cavus et al., 2021; Huck et al., 2021; Naciri et al., 2021; Saikat et al., 2021; Suryaman et al., 2020). These reviews focused on learning strategies (Ahmady et al., 2021), recommendations to improve learning and performance (Huck et al., 2021), performance indicators and metrics (Camilleri, 2021), the effects of virtual education (Cavus et al., 2021; Naciri et al., 2021; Saikat et al., 2021; Suryaman et al., 2020), and the transition from traditional to online learning (Abu Talib et al., 2021). The subsequent studies found; that Technology-Enhanced Learning (TEL); and Scenario-Based eLearning (SBEL), or learning through simulation, were effective learning platforms during the lockdown (Ahmady et al., 2021; Cavus et al., 2021; Saikat et al., 2021). ICT skills and infrastructure influence student perceptions, acceptance, motivation, and engagement (Naciri et al., 2021; Suryaman et al., 2020). Students from low-income homes were disadvantaged because they had limited access to technology (e.g., the internet and digital devices) (Abu Talib et al., 2021). Huck et al. (2021) recommended that education ministers invest in technology, train teachers in remote learning, and promote teacher-parent interaction.

The weakness of these studies is that they focused on elementary schools and medical professionals in developed countries (Ahmady et al., 2021; Naciri et al.,

2021). Therefore, their findings are not generalizable in all country contexts (Ashraf et al., 2021). Specifically, these studies did not examine the impact of learning on college students. Moreover, none of these studies focused on Africa as a continent. Finally, no study examined the lessons other countries could learn from China, as the country could control the pandemic in less than six months. The present study bridges this gap by reviewing studies investigating the effect of COVID-19 on the learning and performance of African college students. The report also analyzes lessons that Africa can learn from China to reduce the negative impact of future disasters on learning and performance. UNICEF (2021) found that 40% of all school-age children in East and Southern Africa (about 32 million) stopped learning following COVID-19-related closures. In addition, more than 1700 teachers died of COVID-19 (Amnesty International, 2021). The World Bank (2021) predicts that COVID-19-related learning poverty will increase by 70% in areas with low and moderate incomes, including those in Africa (World Bank, 2021). Therefore, it is crucial to examine the consequences of school closures and establish ways to reduce their impact on education. Although China was the first country to be hit by the epidemic, it quickly undertook essential measures to ensure that students returned to school in less than six months. China's education policy was comprehensive, and addressed education governance, management of teachers and their students (Xue et al., 2021).

Mainland China suspended all educational activities at the onset of the pandemic (December 2019). However, the Ministry of Education (MoE) requested that higher education institutions switch to virtual classes. By April 2020, on-campus education, including high school students, gradually resumed. By mid-May, more than 100 million students (about 39% of China's student population) had returned to campus (The People's Republic of China, 2020). Understanding how China returned to school on time will inform African countries on how to implement effective mitigation and recovery responses. This paper is written in the following sections; section one, the research question, the search procedures and selection processes, data extraction strategies, and the research methodology. Section 2: Includes the findings, summary, and conclusions. This systematic review seeks to answer the following questions.

1) What effect does COVID-19 have on African students' academic performance?

2) What challenges have teachers and students faced during COVID-19?

3) What can Africa Continent benefit from China to reduce disasters' negative impact on learning and performance?

## 2. Methods

After the initial literature search, we found a significant lack of papers addressing the study's objective. The importance of this study is not only to answer the research objective but also to draw a lesson from China on the best practices used during online learning.

## 2.1. Search Strategy

We reviewed the reference lists of 4 qualitative and quantitative review articles on education (Cen et al., 2020; Chisita & Chizoma, 2021; Mahlaba, 2020). The study objective is best addressed using a systematic review. A systematic review identifies, evaluates, and synthesizes research results to summarize evidence that can contribute to evidence-based practice. This review followed the guidance for reporting items for Systematic Reviews and Meta-Analyses (PRISMA) (Crawford & Cifuentes-Faura, 2022). Data used in this review were searched in two databases (Web of Science and EBSCO). The search and selection keywords include COVID -19, education, China, Africa, performance, and learning.

## 2.2. Inclusion/Exclusion Criteria

Based on the bullion search, we found 720 articles, but not all materials were included in this study; therefore, we set some inclusion and exclusion criteria. The inclusion criteria used in the selection of most eligible studies include: 1) research articles, 2) published articles between 2020 and 2021, 3) articles addressing higher education 4) COVID-19 and E-learning. However, the articles excluded include: 1) articles not carried out in China and Africa and 2) articles which do not fall within the scope of the study.

## 2.3. Study Selection

In the first search using the two databases, we found 720 articles. After manually checking, 79 duplicated articles were removed, leaving 641 screened. In the next stage, 413 irrelevant articles were removed, leaving 228 articles for retrieval, but 15 were not retrieved. Then the retrieved 213 articles were screened for eligibility. (n = 20) articles were excluded because the geographical location was outside of China or Africa; (n = 37) not published articles; (n = 25) not higher education (n = 7) not quantitative or qualitative studies; (n = 44) related to academic performance and learning (n = 18) participant, not university students. Finally, 58 articles met the inclusion criteria and were included in this review. See the PRISMA flow chart in Figure 1.

## 3. Data Extraction

The 58 articles which met the inclusion and exclusion criteria were presented in Table S1. We extracted data from the studies using the extraction forms of the author's name, source title, country of study, findings, outcomes, participants, and sample size. The information on data extractions is summarized in Table S1.

## 4. Results

In this review, a total of 58 studies were used. We present the following results based on the information obtained from the reviewed studies.
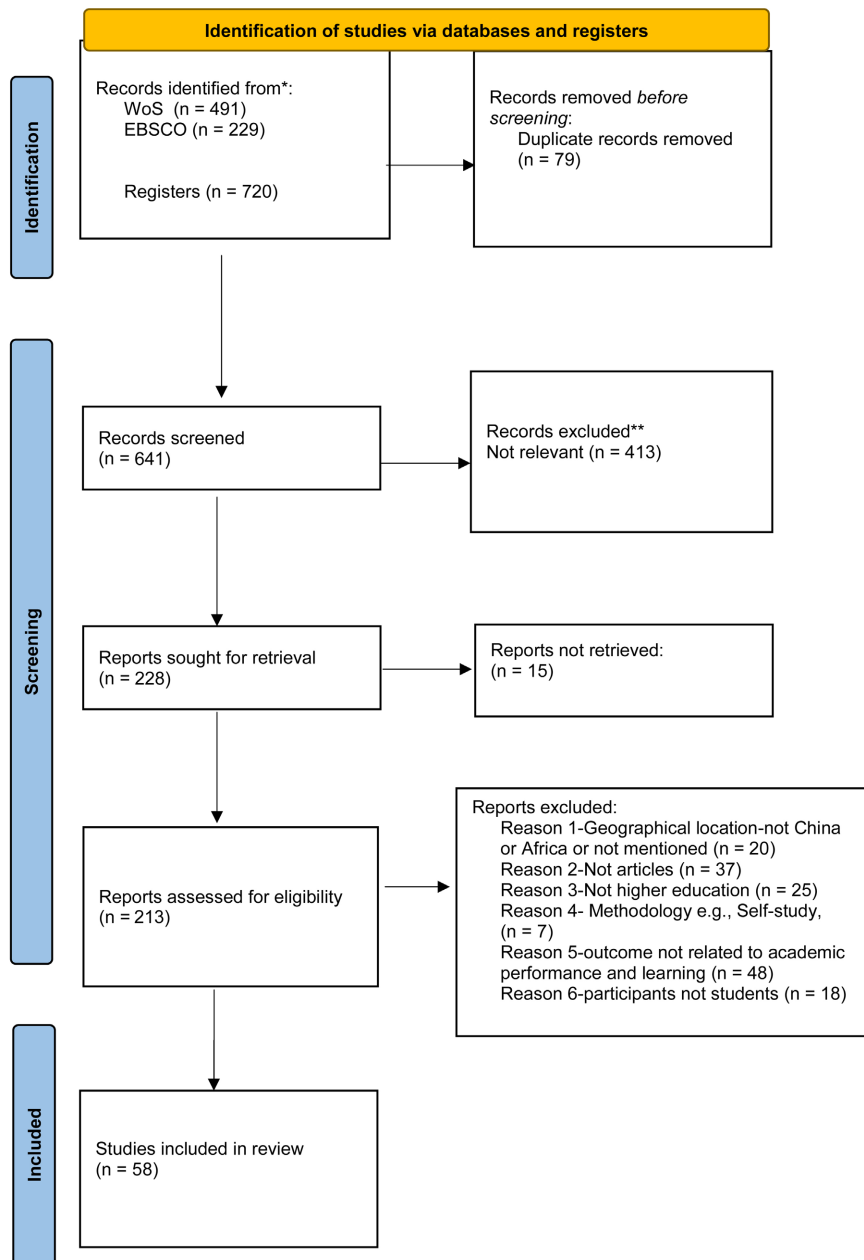
**Figure 1.** PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources.

## 4.1. Effect of COVID-19 on African Students' Academic Performance

Based on our result, we found that the COVID-19 pandemic affected student academic achievement both negatively and positively.

*Skills acquisition*

The findings show that students acquired the following skills during a lockdown: Use of computer hardware, software, or mobile devices. A vital feature identified during respondent profiling was that students who attended schools in rural areas benefited the most. The students were motivated to familiarize them-

selves with video conferencing and computer software such as Microsoft Office and read about the University's virtual environment. In addition to the computer skills, the students got accustomed to online learning and internet-based research. In unique cases, school closures forced students to revert to an online setting when access to company-based software was inaccessible or restricted. Students reported improvements in other skills connected with collaboration and independent learning. They agreed that they effectively interacted with their colleagues during session discussions. Some of the students preferred learning online to traditional teaching methods. Students preferred self-study (i.e., reading a PDF or PowerPoint slide with explanations) over supportive learning (listening to pre-recorded annotated slides and lecture notes). These learners consider e-learning systems useful and maximize their use if they feel it improves learning activity and performance.

*Academic learning*

Online learning affected the quality of content delivery but not the student's academic performance. Changes in student performance were associated with difficulty switching from in-class learning to virtual classrooms. Students with Wi-Fi access did better than those without Wi-Fi but had just cellphone data. Low performance was predominant among students from low-income households.

*Coping strategies*

The results showed that most students facing internet connectivity and power issues were using other platforms (e.g., WhatsApp). They also preferred to work at night to avoid interference and utilize nighttime mobile data. To prevent infection, most students avoided crowds, washed their hands frequently, and used their elbows or handkerchiefs to cover their mouths and noses.

## 4.2. Possible Challenges and Responses during COVID-19

*Lack of access to technology*

Students in rural areas with limited internet access could not attend online classes or consult with their teachers. More than sixty per cent of students say they could not take the online exam because of a lack of facilities and prefer face-to-face exams (Kifle Mekonen & Chiamaka Nneoma, 2021; Meji et al., 2021). Due to the shortage of laptops provided by the University, more than half of the students had to rent a laptop or access course materials via mobile phones. Using a small screen interfered with reading, entering, and managing online resources. In addition, it interrupted student-teacher interactions during the online session.

*Structural challenges*

Online learning does not just require computers and smartphones to succeed. At the core of the online learning matrix, there is a need to have energy sources that are reliable and sustainable. These structural challenges are in three areas: poor internet connectivity, frequently planned (i.e., load shedding), and un-

planned power outages due to poor infrastructure. It will not be easy to charge the devices without a power source. Most students prefer to study at night when there is little noise but most households lack proper lighting. Access to quality and affordable internet services is also a challenge. Some institutions provide data to each student to ensure that everyone can participate in online education. The odds ratio for urban students with sufficient data access was 5.6 times that for rural students ($p$ = 0.0006) (Ross, 2021). It is difficult for local students to attend live lectures or download media files. Due to geographic restrictions, communication signals are severely hampered in these areas.

*University policies and procedures*

Higher learning institutions provide online learning platforms (e.g., MOODLE) to substitute physical teaching (Mhandu et al., 2021). The ICT support staff were on-call to assist students with technical difficulties. However, students in rural areas felt they had not received proper guidance on how to use computers, and there were challenges in making a smooth transition to online learning. Some students did not have access to the learning platform. They claimed that they knew nothing about the platform, had not received instructions on how to use it, had no clear instructions on how to use it, or could not connect to the platform. The platforms were not found (e.g., poor connectivity or system integration). Universities have made more efforts to improve the technical quality of the system, but the results show that these changes did not influence students' perceptions of system usefulness (Rughoobur-Seetah & Hosanoo, 2021).

*Poor communication with teachers*

There are discrepancies regarding communication between students and teachers. Some students felt that the guidance and communication from the faculty were inadequate, while others felt that there was too much communication. The drastic shift in teaching and learning during this lockdown has shifted the focus from the quality of the education system (tools, quizzes, forums, etc.) to the content of the curriculum. The quality of the education system contributes significantly to learner satisfaction, usefulness, utilization and tools that facilitate learning and education (such as interactive whiteboards and collaboration). It can be assumed that learners prefer direct dialogue with peers (colleagues) and teachers over dialogue through educational tools.

*Disruptive family environment*

Another challenge student experienced while studying at home was how to manage time. Many students stayed in dormitories before the lockdown. This system provided some structure for academic involvement. However, when the students went home, they did not have a supportive environment to study online. Rural students, rather than urban students, need help around their homes, have no study area, and live in crowded homes that are noisy. In addition, the students stated that the family members supported them but did not understand the need for learning. Students from vulnerable families struggle to meet their basic survival needs. Rural households survive primarily on self-sufficiency funds

and struggle to bear other additional costs, especially those that enable e-learning. Some students reported supplementing monthly payments from parents or guardians with part-time or marginal work.

*Emotional turmoil*

Students had mixed feelings about the lockdown and online learning. Some students felt they had enough leeway to engage in online teaching and learning. Others were afraid of the future, anxious about my research, stressed by financial and internet connectivity issues, and constantly thought about family loss during COVID-19. These feelings were common among women, rural students, and people in disadvantaged ethnic groups (for example, blacks, Indians, and mixed-race students). Most students found a way to spend their time (e.g., volunteering in a hospital during a pandemic). The rest felt they had wasted their research potential because of the pandemic and school closure. These feelings affected their well-being, and they were constantly worried about being exposed to COVID-19 while studying.

## 5. Lessons Africa Can Learn from China

### 5.1. Online Teaching Methods

Universities in China combine several teaching and learning methods, such as Lecture-based learning, Case-based Learning. This diversity increased student satisfaction with the learning platform. However, the lesson preparation time at the educational institution was short, and there were many educational tasks. These demanding situations have affected the usage of online classes for the duration of the epidemic. To mitigate these challenges, institutions decided to improve the technical and content quality of the system. By uploading more courses online to avoid duplication, optimizing educational software, enhancing teacher-student interactions, and providing online teacher training opportunities to female teachers, girls increased student interest and enthusiasm for online courses. The institutions organized COVID-19 training. The teachers and students learn how to wash hands and wear protective clothes (e.g., masks, gloves, face shields, glasses, etc. After training, more students and teachers were more likely to follow COVID-19-related directions.

### 5.2. Perceptions of Online Learning

Educational institutions are focused on raising awareness among university faculty and students about the adoption and use of technology. These allowed participants to appreciate the simplicity and values of online learning platforms. These perceptions greatly reflect students' trust in their ability to learn. Gradually leverage the online learning platform as students gain computer self-efficacy. Responding to e-learning was also an essential aspect of their strategy. In most studies, the poor learning experience was caused by less interaction between teachers and students. Therefore, learning attitudes and the environment significantly influenced how students responded to online learning.

## 6. Conclusion

Our analysis found evidence that COVID-19 influenced learning in higher education. Learners in Africa, in particular, have benefited from e-learning by acquiring technical skills, maintaining academic performance, and developing proactive coping strategies. However, the benefits are undermined by challenges associated with restricted access to technology, poor institutional policies, poor communication, disruptive environments, and emotional confusion. It is important to compare ourselves with a country like China to mitigate the shock caused by COVID-19. We learn that China is investing in online teaching methods and improving awareness of e-learning, making the technology very easy to adopt. With these strategies, China returned to school shortly after the blockade. As with all systematic reviews, there are some significant limitations regarding the review methodology and related research. First, the meta-analysis could not be performed due to the non-uniformity of the study. Second, due to research phenomena, a publishing and reporting bias resulted in inadequate summarization of research. We also recognize that a linguistic bias might have been created when we included the studies published in English.

We have identified two limitations of the studies included in the review. First, most studies used convenient or snowball sampling techniques to test causality hypotheses. Such studies tend to be endogenous if the predictors (whether they are classified as predictors, mediators, or moderators) are interrelated with the output variables (Antonakis et al., 2010; Antonakis & House, 2014). Due to the intrinsic bias, it was impossible to draw firm conclusions about the direction and magnitude of the observed effects. Second, it was difficult to compare studies showing the diversity of higher education conceptualization, different learning interventions, language bias introduced by translation, or sample selection.

These results are consistent with previous studies. These studies showed how the shift from face-to-face classrooms to e-learning impacts learning experience (Abu Talib et al., 2021; Camilleri, 2021; Kifle Mekonen & Chiamaka Nneoma, 2021) In addition, they emphasize the value of choosing suitable teaching method and how institutional policies influence these decisions (Ahmady et al., 2021). Finally, we highlight the socio-economic differences that result from e-learning and suggest ways to minimize these gaps (Abu Talib et al., 2021). Our systematic review points to some promising areas for future research. First, this study researched the significant influence of COVID-19 on learning in Africa and how the continent would minimize this impact in the future. Universities in China combined teaching methods such as LBL, CBL, PBL, TBL and RBL. Future research will need to investigate how each teaching method is implemented in a virtual context and how it affects student performance.

Second, universities in China were concerned about how the student's psychological well-being influenced the transition to e-learning. Considering such individual psychological factors is essential when assessing new technologies' acceptability and satisfaction. Future studies should suggest other psychological

factors that may alleviate this relationship. Also, research on the effects of training on student psychology is still sparse. Future studies need to investigate how COVID-19 training affects student health and well-being. Finally, due to the above limitations, future studies should expand the search criteria to encompass more scientific databases and obtain other comparative results. These studies may consider grey literature, international conference reports and books. Finally, empirical studies can be conducted using multiple data sources and expert interviews.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

Abu Talib, M., Bettayeb, A. M., & Omer, R. I. (2021). Analytical Study on the Impact of Technology in Higher Education during the Age of COVID-19: Systematic Literature Review. *Education and Information Technologies, 26,* 6719-6746. https://doi.org/10.1007/s10639-021-10507-1

Ahmady, S., Kallestrup, P., Sadoughi, M. M., Katibeh, M., Kalantarion, M., Amini, M., & Khajeali, N. (2021). Distance Learning Strategies in Medical Education during COVID-19: A Systematic Review. *Journal of Education and Health Promotion, 10,* 421.

Amnesty International (2021). *South Africa: COVID-19 Pushes Inequality in Schools to Crippling New Level, Risks a Lost Generation of Learners.*

Antonakis, J., & House, R. J. (2014). Instrumental Leadership: Measurement and Extension of Transformational-Transactional Leadership Theory. *The Leadership Quarterly, 25,* 746-771. https://doi.org/10.1016/j.leaqua.2014.04.005

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On Making Causal Claims: A Review and Recommendations. *The Leadership Quarterly, 21,* 1086-1120. https://doi.org/10.1016/j.leaqua.2010.10.010

Ashraf, M. A., Yang, M., Zhang, Y., Denden, M., Tlili, A., Liu, J., Huang, R., & Burgos, D. (2021). A Systematic Review of Systematic Reviews on Blended Learning: Trends, Gaps and Future Directions. *Psychology Research and Behavior Management, 14,* 1525-1541. https://doi.org/10.2147/PRBM.S331741

Camilleri, M. A. (2021). Evaluating Service Quality and Performance of Higher Education Institutions: A Systematic Review and a Post-COVID-19 Outlook. *International Journal of Quality and Service Sciences, 13,* 268-281. https://doi.org/10.1108/IJQSS-03-2020-0034

Cavus, N., Sani, A. S., Haruna, Y., & Lawan, A. A. (2021). Efficacy of Social Networking Sites for Sustainable Education in the Era of COVID-19: A Systematic Review. *Sustainability, 13,* Article 808. https://doi.org/10.3390/su13020808

Cen, X., Sun, D., Rong, M., Fekete, G., Baker, J. S., Song, Y., & Gu, Y. (2020). The Online Education Mode and Reopening Plans for Chinese Schools during the COVID-19 Pandemic: A Mini Review. *Frontiers in Public Health, 8,* Article ID: 566316. https://doi.org/10.3389/fpubh.2020.566316

Chisita, C. T., & Chizoma, U. S. (2021). Rethinking Academic Library Space amidst the COVID-19 Pandemic in South Africa: Preparing for the Future. *Information Discovery and Delivery, 49,* 105-113. https://doi.org/10.1108/IDD-07-2020-0087

Crawford, J., & Cifuentes-Faura, J. (2022). Sustainability in Higher Education during the COVID-19 Pandemic: A Systematic Review. *Sustainability (Switzerland), 14,* Article 1879. https://doi.org/10.3390/su14031879

Huang, J. (2020). Successes and Challenges: Online Teaching and Learning of Chemistry in Higher Education in China in the Time of COVID-19. *Journal of Chemical Education, 97,* 2810-2814. https://doi.org/10.1021/acs.jchemed.0c00671

Huck, C., Zhang, J., & Gulf, F. (2021). Effects of the COVID-19 Pandemic on K-12 Education: A Systematic Literature Review. *New Waves-Educational Research and Development Journal, 24,* 53-84.

Kifle Mekonen, Y., & Chiamaka Nneoma, N. (2021). The Two Sides of Online Learning Post COVID-19: Perspectives of International Students in China. *International Journal of Research Publications, 71,* 44-57. https://doi.org/10.47119/IJRP100711220211756

Mahlaba, S. C. (2020). Reasons Why Self-Directed Learning Is Important in South African during the COVID-19 Pandemic. *South African Journal of Higher Education, 34,* 120-136. https://doi.org/10.20853/34-6-4192

Matters, M. E., Brightman, A. O., Buzzanell, P. M., & Zoltowski, C. B. (2021). Inclusive Teaching in Isolating Situations: Impact of COVID-19 on Efforts toward Increasing Diversity in BME. *Biomedical Engineering Education, 1,* 73-77. https://doi.org/10.1007/s43683-020-00012-1

Meji, M. A., Dennison, M. S., & Mustafa, M. M. (2021). Data-Set of Academic Difficulties among Students in Western Uganda during COVID-19 Induced Lockdown. *Data in Brief, 35,* 10-15. https://doi.org/10.1016/j.dib.2021.106851

Mhandu, J., Mahiya, I. T., & Muzvidziwa, E. (2021). The Exclusionary Character of Remote Teaching and Learning during the COVID-19 Pandemic. An Exploration of the Challenges Faced by Rural-Based University of KwaZulu Natal Students. *Cogent Social Sciences, 7,* Article ID: 1947568. https://doi.org/10.1080/23311886.2021.1947568

Naciri, A., Radid, M., Kharbach, A., & Chemsi, G. (2021). E-Learning in Health Professions Education during the COVID-19 Pandemic: A Systematic Review. *Journal of Educational Evaluation for Health Professions, 18,* 27. https://doi.org/10.3352/jeehp.2021.18.27

Nweze, C. (2021). COVID-19: An Unprecedented Pandemic; Government Palliative: Nigerians Experience. *International Journal of Research Publication, 81,* 128-148. https://doi.org/10.47119/IJRP100811720212130

Ross, A. J. (2021). Learning in a Time of Crises: The Learning Experiences of 5th Year Medical Students at the University of KwaZulu-Natal during the COVID-19 Pandemic in 2020. *African Journal of Primary Health Care and Family Medicine, 13,* a3002. https://doi.org/10.4102/phcfm.v13i1.3002

Rughoobur-Seetah, S., & Hosanoo, Z. A. (2021). An Evaluation of the Impact of Confinement on the Quality of E-Learning in Higher Education Institutions. *Quality Assurance in Education, 29,* 422-444. https://doi.org/10.1108/QAE-03-2021-0043

Saikat, S., Dhillon, J. S., Wan Ahmad, W. F., & Jamaluddin, R. A. (2021). A Systematic Review of the Benefits and Challenges of Mobile Learning during the COVID-19 Pandemic. *Education Sciences, 11,* Article 459. https://doi.org/10.3390/educsci11090459

Suryaman, M., Cahyono, Y., Muliansyah, D., Bustani, O., Suryani, P., Fahlevi, M., Pramono, R., Purwanto, A., Purba, J. T., Munthe, A. P., Juliana, & Harimurti, S. M. (2020). COVID-19 Pandemic and Home Online Learning System: Does It Affect the Quality of Pharmacy School Learning? *Systematic Reviews in Pharmacy, 11,* 524-530.

The People's Republic of China (2020). *[More than 100 Million Students across the Country Have Returned to Campus, How Will Schools Conduct Disease Control and*

*Prevention? The Ministry of Education Holds Press Conference to Give out Details].*

UNESCO (2021). Education: From School Closure to Recovery. In *UNESCO* (pp. 395-410). https://www.unesco.org/en/covid-19/education-response

UNICEF (2021). *40 per cent of Children in Eastern and Southern Africa Are Not in School.*

WHO (2020). *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19—11 March 2020.*

World Bank (2021). *World Bank: Pandemic Threatens to Drive Unprecedented Number of Children into Learning Poverty.*

Xue, E., Li, J., Li, T., & Shang, W. (2021). China's Education Response to COVID-19: A Perspective of Policy Analysis. *Educational Philosophy and Theory, 53,* 881-893. https://doi.org/10.1080/00131857.2020.1793653

## Supplement

See Table S1:

https://docs.google.com/spreadsheets/d/1hHA1X51vyyhlEsieXrnyl8PlfPvLai8Zj0eArquWa74/edit?usp=sharing