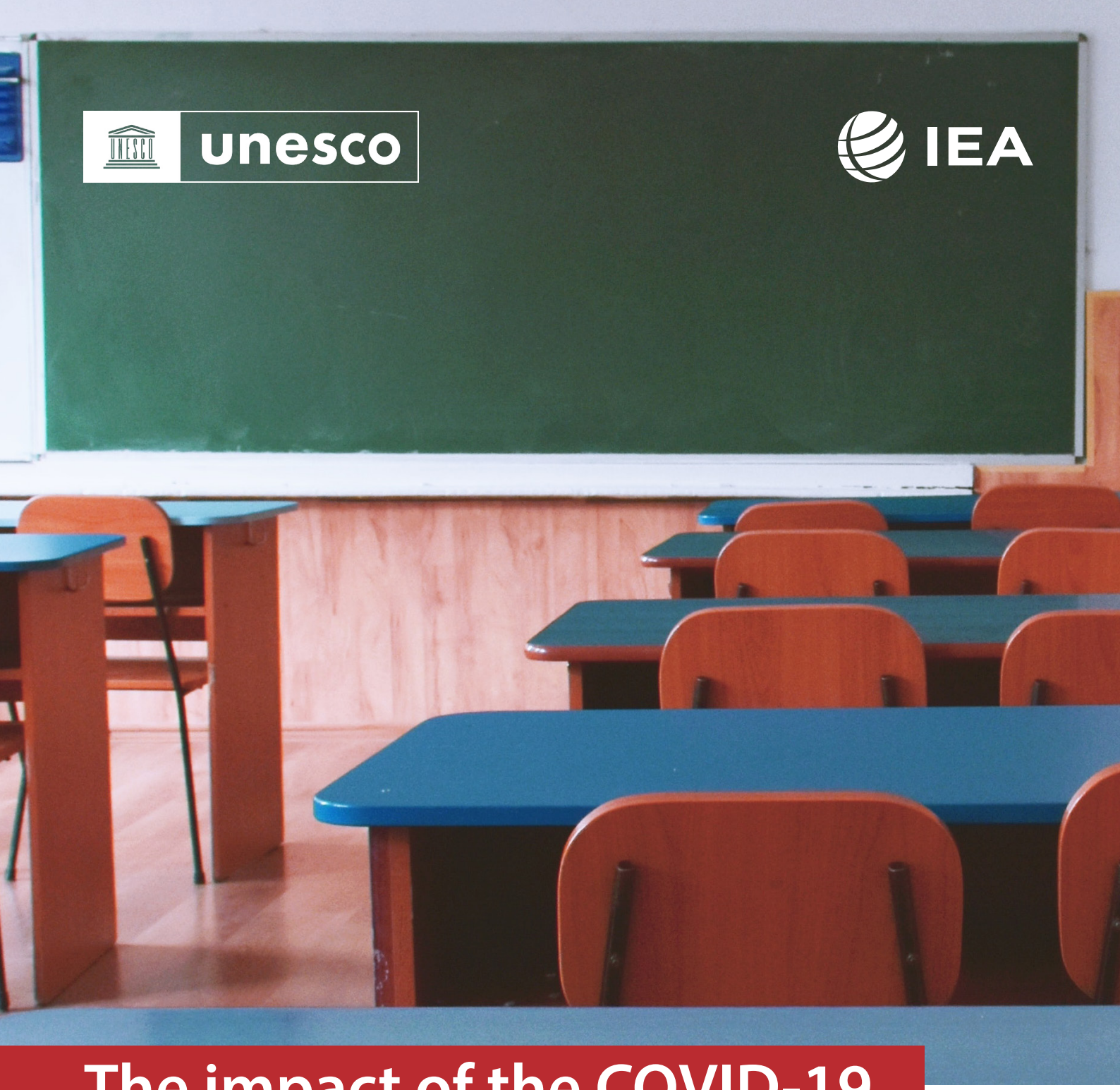


The impact of the COVID-19 pandemic on education

International evidence from the Responses to Educational Disruption Survey (REDS)

Sabine Meinck, Julian Fraillon, Rolf Strietholt

UNESCO – a global leader in education

Education is UNESCO's top priority because it is a basic human right and the foundation for peace and sustainable development. UNESCO is the United Nations' specialized agency for education, providing global and regional leadership to drive progress, strengthening the resilience and capacity of national systems to serve all learners. UNESCO also leads e orts to respond to contemporary global challenges through transformative learning, with special focus on gender equality and Africa across all actions.

unesco
United Nations
Educational, Scientific
and Cultural Organization

The Global Education 2030 Agenda

UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to ***"ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."*** The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.

Education 2030

International Association for the Evaluation of Educational Achievement (IEA)

IEA is an international cooperative of national research institutions, government research agencies, scholars, and researchers working to evaluate, understand, and improve education worldwide. IEA is a non-profit and independent organization. More than 60 countries are actively involved in the IEA network and over 100 education systems participate in its studies.

IEA

Researching education, improving learning

Published in 2022 by the United Nations Educational, Scientific and Cultural Organization (UNESCO), 7, place de Fontenoy, 75007 Paris, France and Stichting IEA Secretariaat Nederland, 311 Keizersgracht 1016 EE Amsterdam Netherlands.

UNESCO ISBN 978-92-3-100502-2

Editors:	Sabine Meinck, Julian Fraillon, Rolf Strietholt
Contributing authors:	Minge Chen, Julian Fraillon, Emilie Franck, Alec I. Kennedy, Sabine Meinck, Sebastian Meyer, Rolf Strietholt, Karsten Penon, Mojca Rožman, Agnes Stancel-Piątak, Felix Süttmann, Anja Waschk, Clara Wilsher Beyer
Front cover image:	Front cover image by Dids from Pexels.com. Photo of Empty Class Room.
Design:	Jasmin Schiffer
Lay-out:	Becky Bliss Design and Production, Wellington, New Zealand

SHORT SUMMARY

The COVID-19 pandemic disrupted education provision at an unprecedented scale, with education systems around the world being impacted by extended school closures and abrupt changes to normal school operations. The Responses to Educational Disruption Survey (REDS) investigated how teaching and learning were affected by the health crisis, and how education stakeholders responded to the educational disruption across and within countries. The study aimed to provide a systemic, multi-perspective, and comparative picture of the situation at the secondary education level (grade eight) in 11 countries spanning Africa, Asia, Arab region, Europe, and Latin America.

While many other efforts exist that collect and provide similar information, they are mostly derived from non-representative rapid surveys and lack internationally comparable information from schools, collected in a systematic and scientific manner.

The REDS International Report presents unique data, collected from countries, schools, teachers, and students for the first time, in chapters that cover several themes on which data were collected which include student and teacher well-being, students' academic progress during the school closures, and the measures countries have implemented to keep all children learning.

Initial findings provide evidence for better orienting and tailoring policy responses to crisis and provide invaluable information on what may be required to accelerate education, recover from crisis, and to strengthen the resilience of education systems in the future.

unesco

"Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed"

The impact of the COVID-19 pandemic on education

International evidence from the Responses to Educational Disruption Survey (REDS)

Foreword

This report, based on the findings of the Responses to Educational Disruption Survey (REDS), is about data, evidence, and insights for reimagining teaching and learning and building resilient and inclusive education systems for the future. It is a joint effort by the International Association for the Evaluation of Educational Achievement (IEA) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) as an initiative of the Global Education Coalition (GEC) that was launched by UNESCO in March 2020 to ensure continuity of learning around the world at the outbreak of the COVID-19 pandemic. The report aims to bring to light the impact of the COVID-19 pandemic on teaching and learning, not only in terms of challenges but also opportunities for change based on scientifically collected first-hand information.

The survey, focusing on lower-secondary education (grade 8), covers eleven countries of varying income and education development levels across Africa (Burkina Faso, Ethiopia, Kenya, Rwanda), Asia (India, Uzbekistan), the Arab region (United Arab Emirates), Europe (Denmark, Russian Federation, Slovenia), and Latin America (Uruguay). Using random probability samples and scientific data collection procedures as well as rigorous analysis methods, REDS investigated how school systems in these countries responded to educational disruptions and the measures adopted both at the national and school levels to enable learning continuity. The findings, drawn from reliable data and robust evidence, have revealed how education systems and schools were insufficiently prepared for abrupt, large-scale changes due to massive school closures.

The unprecedented nature of this disruption requires the rapid availability of fresh data to inform the policy response. The REDS study was conducted within a record timeline - less than 18 months compared to a timeframe of 4 years generally required for such large scale studies - while maintaining high standards of data reliability. It provides cross-nationally comparable data covering an extensive range of topics associated with the consequences of the COVID-19 pandemic on education, and as perceived by school principals, teachers and students who were directly affected.

These perceptions are enlightening evidence to better orient and tailor policy responses. The large majority of teachers report being open to innovation and believe that new approaches to teaching and learning will remain after the pandemic. More than half state that students have not progressed to the levels expected. On their side, a large cohort of students report anxiety about disruptions to their schooling, with those from low socio-economic backgrounds feeling less confident about completing school work independently. To respond to different and specific needs, interventions have to be tailored to the context of every school, in how teaching and learning is organized. The findings highlight the need, and the opportunity we have, to incorporate more adaptive, innovative and alternative delivery methods to support students, especially those most at risk of no or partial schooling for protracted durations. This lesson is vital for crisis response in the future, but also to ensure that student learning and their well-being are prioritized in the recovery, as the pandemic continues to disrupt education systems.

A successful educational recovery is one that builds resilience, relevance and inclusion, to ensure that every child and youth learns meaningfully, safely and sustainably. It involves reimagining education and learning while recommitting to what we know works and reflecting on what does not. Above all, in this search for resilience and transformation, it is a reminder to all of us that evidence, dialogue and cooperation are game changers for children's learning journey, in pursuit of the Sustainable Development Goal on education that is a fundamental human right.

Stefania Giannini
Assistant Director-General for Education
UNESCO

Dirk Hastedt
Executive Director
IEA

Acknowledgments

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Association for the Evaluation of Educational Achievement (IEA) would like to acknowledge the valuable contributions of numerous individuals and institutions that made this report possible.

First and foremost, we would like to acknowledge the important and invaluable work of implementing the plans and questionnaires within the individual countries, which was provided by the dedicated REDS National Research Coordinators: Etienne Ouedraogo (Burkina Faso), Jacob Christensen (Denmark), Yilikal Wondimeneh Demissie (Ethiopia), Jyoti Bawane and Murzban Jal (India), Samuel Ngaruiya (Kenya), Olga Chikanova (Russian Federation), Rose Baguma and Fabien Habimana (Rwanda), Eva Klemen (Slovenia), Shaikha Alzaabi and Nada Ruban (United Arab Emirates), Cecilia Hughes (Uruguay), and Abduvali Ismailov (Uzbekistan).

We also thank the significant contribution of the many different teams and members of IEA that contributed to different phases of the study and preparation of the report. For survey management: Sebastian Meyer and Anja Waschk; sampling: Karsten Penon and Felix Süttmann; data management systems and analysis: Yasin Afana, Clara Beyer, Svenja Kalmbach, Adeoye Oyekan, Xiao Sui and Duygu Uyar; software development and testing: Elma Cela, Deepti Kalamadi, Lorelia Lerps and Meng Xue; research and analysis: Minge Chen, Julian Fraillon, Emilie Franck, Alec I. Kennedy, Sabine Meinck, Mojca Rožman, Agnes Stancel-Piątak, Rolf Strietholt, and Nayeli Urdiales; communication, publication, production and coordination: Inasa Bibic, Roel Burgers, Laura Cheeseman, Philippa Elliott, Isabelle Gémin, Katie Hill, Raegen Jackson, Andrea Netten, Jasmin Schiffer, Jan-Philipp Wagner, and Jimena Vollbrecht, under the expert guidance of Dirk Hastedt. Additional thanks go to the IEA Publications and Editorial Committee (PEC), led by its Chair, Seamus Hegarty whose critical advice and suggestions enhanced the overall quality of the report.

We would also like to thank the enthusiastic, detailed, and thoughtful contributions from UNESCO, in particular, Gwang Chol Chang, Le Thu Huong, Awol Endris Adem, Omar Diop, Saidou Jallow, Abinav Kumar, Pascal Rakund, Anne Muller, and Roberto Carrera Hernandez, under the guidance of Borhene Chakroun. We also wish to acknowledge the short-term consultants who worked tirelessly to support the research, review, and data analysis: Markus Schwabe, Nguyen Ngoc Tram and Teerada Na Jatturas. Furthermore, we also extend our thanks to a further group of UNESCO colleagues who also provided valuable feedback Manos Antoninis, Sonia Guerriero, Peter Wallet, Justine Sass and Le Thu Huong.

Finally, we are extremely grateful to several institutions and their staff for their contribution to REDS, notably the European Commission's Joint Research Centre: Alice Bertoletti, Federico Biagi, Abdel Bitat, Giorgio di Pietro, Zbigniew Karpiński and Marco Montanari, and the Australian Council for Educational Research: John Ainley, Sharon Every, Julian Fraillon, Tim Friedman, Jennifer Hong, Celia McNeilly, Gayl O'Connor, Greta Rollo and Wolfram Schulz. Additional thanks also go to the Bill & Melinda Gates Foundation for their kind support. We apologize for any omissions and express our sincerest thanks to everyone, whether named here or not, who graciously gave their time and expertise.

Table of contents

Executive summary

Chapter 1: Introduction to the Responses to Educational Disruption Survey **1**
How to read this report 1

Chapter 2: The conceptual background of REDS **7**
Chapter highlights 7
Introduction 7
Research themes and respondents in the REDS conceptual framework 11
Description of the eight REDS research themes 12

Chapter 3: Methods, procedures, and data **20**
Chapter highlights 20
Introduction 21
Instrument development 21
Target populations 21
Sampling design and implementation 22
Data collection 23
Data cleaning 27
Statistical analysis methods 28
Limitations of REDS 29

Chapter 4: International findings **34**
National contexts 34
Impact of the pandemic on classroom teaching and learning 54
Communication, feedback, and assessment 84
Help and support for teaching and learning 107
Well-being of students and teachers 126
Transitioning students back to school 151
Academic progress, preparedness for future disruptions, and persisting changes 168
Inequalities in teaching and learning during the pandemic 184

Chapter 5: Reflections and conclusions **202**

Appendices
Appendix A1: Sampling information and participation rates 210
Appendix A2: Country summaries 220

List of tables and figures

Tables

Table 2.1:	REDS questionnaires that addressed the eight REDS research themes	11
Table 3.1:	Achieved sample sizes	23
Table 3.2:	Exclusion rates (%)	31
Table 4.2.1:	Most frequent school responses for beginning, and end of the disruption period	56
Table 4.2.2:	Percentages of teachers teaching their class remotely	58
Table 4.2.3:	Percentages of teachers spending 240 minutes or more teaching students on a typical day before and during the COVID-19 disruption	60
Table 4.2.4:	Percentages of students attending lessons at school or in a place away from school during the COVID-19 disruption	62
Table 4.2.5:	Percentages of students having access to the following resources at home during the COVID-19 disruption (part 1 of 2)	63
	Percentages of students having access to the following resources at home during the COVID-19 disruption (part 2 of 2)	64
Table 4.2.6:	Percentages of teachers to whom the following working conditions applied all of the time or part of the time during the COVID-19 disruption	65
Table 4.2.7:	Percentages of schools that made specific changes to school policies and procedures during or following the COVID-19 disruption	67
Table 4.2.8:	Percentages of schools whose capacity to deliver remote teaching was substantially limited or somewhat limited (part 1 of 3)	68
	Percentages of schools whose capacity to deliver remote teaching was substantially limited or somewhat limited (part 2 of 3)	69
	Percentages of schools whose capacity to deliver remote teaching was substantially limited or somewhat limited (part 3 of 3)	70
Table 4.2.9:	Percentages of schools providing the following resources before or during the COVID-19 disruption	71
Table 4.2.10:	Percentages of schools that made the following resources available to all or some students during the COVID-19 disruption (part 1 of 2)	73
	Percentages of schools that made the following resources available to all or some students during the COVID-19 disruption (part 2 of 2)	74
Table 4.2.11:	Percentages of students reporting an increase in the following aspects of their schoolwork during the COVID-19 disruption	76
Table 4.2.12:	Percentages of students agreeing or strongly agreeing with statements about their learning progress during the COVID-19 disruption	77
Table 4.2.13:	Percentages of teachers agreeing or strongly agreeing with statements regarding the delivery and planning of curriculum content to their class during the COVID-19 disruption (part 1 of 2)	78

	Percentages of teachers agreeing or strongly agreeing with statements regarding the delivery and planning of curriculum content to their class during the COVID-19 disruption (part 2 of 2)	79
Table 4.2.14:	Percentages of teachers agreeing or strongly agreeing with statements about the quality of teaching and learning in their class during the COVID-19 disruption	80
Table 4.2.15:	Percentages of teachers reporting a decrease to some degree or substantial decrease in aspects of student learning and engagement in comparison with the time before the COVID-19 disruption	82
Table 4.2.16:	Percentages of principals reporting an increase in the time allocated to teachers for certain activities in comparison to before the COVID-19 disruption	83
Table 4.3.1:	Students communicating with their teachers and classmates sometimes or often (part 1 of 2)	86
	Students communicating with their teachers and classmates sometimes or often (part 2 of 2)	87
Table 4.3.2:	Percentages of students receiving materials or information from their school sometimes or often	89
Table 4.3.3:	Students receiving materials sometimes or often for their lessons	90
Table 4.3.4:	Percentages of teachers reporting an increase in time spent on communication	91
Table 4.3.5:	Percentages of schools reporting an increase in time allocated to teachers for communication	93
Table 4.3.6:	The increase in time teachers spent on communicating with parents/guardians of students in their class in comparison with before the COVID-19 disruption (part 1 of 2)	94
	The increase in time teachers spent on communicating with parents/guardians of students in their class in comparison with before the COVID-19 disruption (part 2 of 2)	95
Table 4.3.7:	Percentages of students receiving their teachers' feedback to some or most or all, or almost all of their schoolwork (part 1 of 2)	96
	Percentages of students receiving their teachers' feedback to some or most or all, or almost all of their schoolwork (part 2 of 2)	97
Table 4.3.8:	Teachers reporting an increase in providing feedback to students in their class in comparison with before the COVID-19 disruption (part 1 of 2)	99
	Teachers reporting an increase in providing feedback to students in their class in comparison with before the COVID-19 disruption (part 2 of 2)	100
Table 4.3.9:	Teachers agreeing or strongly agreeing with statements on the assessment of student learning in their class during the COVID-19 disruption (part 1 of 2)	101
	Teachers agreeing or strongly agreeing with statements on the assessment of student learning in their class during the COVID-19 disruption (part 2 of 2)	102

Table 4.3.10: Principals' expectations of the assessment of student learning during the COVID-19 disruption (part 1 of 2) 104

Principals' expectations of the assessment of student learning during the COVID-19 disruption (part 2 of 2) 105

Table 4.3.11: Percentages of schools implementing policy changes related to assessment and reporting implementing the changes to a large or to some extent 106

Table 4.4.1: Persons helping students with their schoolwork at home sometimes or often, or always 109

Table 4.4.2: Students receiving no help at all with their schoolwork at home (part 1 of 2) 110

Students receiving no help at all with their schoolwork at home (part 2 of 2) 111

Table 4.4.3: Students receiving support from their teachers (part 1 of 2) 113

Students receiving support from their teachers (part 2 of 2) 114

Table 4.4.4: Teachers providing support to students and their families during the COVID-19 disruption to a large or some extent 116

Table 4.4.5: Teachers' capacity to support students during the COVID-19 disruption 117

Table 4.4.6: Teachers' professional development in selected areas before the COVID-19 disruption 119

Table 4.4.7: Percentages of schools that increased the use of resources and activities during the COVID-19 disruption 120

Table 4.4.8: Percentages of schools providing increased support to parents and guardians during the COVID-19 disruption 121

Table 4.4.9: Percentages of schools providing support to parents and guardians before or during the COVID-19 disruption (part 1 of 2) 123

Percentages of schools providing support to parents and guardians before or during the COVID-19 disruption (part 2 of 2) 124

Table 4.4.10: Percentages of schools feeling very well or somewhat supported by people or organizations during the COVID-19 disruption 125

Table 4.5.1: Percentages of students who reported on various impacts of learning at home most of the time or always 128

Table 4.5.2: Percentages of students agreeing or strongly agreeing with statements regarding their well-being during the COVID-19 disruption (part 1 of 2) 129

Percentages of students agreeing or strongly agreeing with statements regarding their well-being during the COVID-19 disruption (part 2 of 2) 130

Table 4.5.3: Percentages of students agreeing or strongly agreeing with statements about how they felt during the COVID-19 disruption (part 1 of 3) 132

Percentages of students agreeing or strongly agreeing with statements about how they felt during the COVID-19 disruption (part 2 of 3) 133

Percentages of students agreeing or strongly agreeing with statements about how they felt during the COVID-19 disruption (part 3 of 3) 134

Table 4.5.4: Percentages of students who were affected by different situations 136

Table 4.5.5: Negative effects during the COVID-19 disruption on teachers' well-being 137

Table 4.5.6: Teachers' abilities to cope with the changing job requirements during the COVID-19 disruption (part 1 of 2) 138

Teachers' abilities to cope with the changing job requirements during the COVID-19 disruption (part 2 of 2) 139

Table 4.5.7: Percentages of teachers agreeing or strongly agreeing with statements about the support offered or given to them by others during the COVID-19 disruption (part 1 of 2) 141

Percentages of teachers agreeing or strongly agreeing with statements about the support offered or given to them by others during the COVID-19 disruption (part 2 of 2) 142

Table 4.5.8: Percentages of schools that provided different types of support for school staff (part 1 of 2) 143

Percentages of schools that provided different types of support for school staff (part 2 of 2) 144

Table 4.5.9: Teachers providing support to students and their families during the COVID-19 disruption to some or to a large extent 145

Table 4.5.10: Percentages of students who received helpful information on selected topics from their school or teachers (part 1 of 2) 146

Percentages of students who received helpful information on selected topics from their school or teachers (part 2 of 2) 147

Table 4.5.11: Percentages of principals reporting an increase in their school's use of different support resources for students in comparison with the time before the COVID-19 disruption (part 1 of 2) 149

Percentages of principals reporting an increase in their school's use of different support resources for students in comparison with the time before the COVID-19 disruption (part 2 of 2) 150

Table 4.6.1: Percentages of students agreeing or strongly agreeing with statements about their experiences returning to school after the COVID-19 disruption (part 1 of 2) 153

Percentages of students agreeing or strongly agreeing with statements about their experiences returning to school after the COVID-19 disruption (part 2 of 2) 154

Table 4.6.2: Percentages of teachers agreeing or strongly agreeing with statements with respect to their class when they returned to regular lessons at school after the COVID-19 disruption 155

Table 4.6.3: Percentages of students agreeing or strongly agreeing with statements about their school and classroom experiences after the COVID-19 disruption 157

Table 4.6.4: Percentages of teachers agreeing or strongly agreeing with statements with respect to their classroom environment when they returned to regular lessons at school after the COVID-19 disruption 158

Table 4.6.5:	Percentages of teachers using methods to facilitate students' learning after their return to school to a large or some extent	159
Table 4.6.6:	Percentages of schools using methods to support students' learning after their return to school (part 1 of 2)	161
	Percentages of schools using methods to support students' learning after their return to school (part 2 of 2)	162
Table 4.6.7:	Percentages of students agreeing or strongly agreeing with statements about their school experiences after the COVID-19 disruption	163
Table 4.6.8:	Percentages of teachers using methods to support students' well-being after their return to school to a large or some extent	165
Table 4.6.9:	Percentages of schools making provisions to support the social and emotional well-being of students to facilitate regular (face-to-face) teaching (part 1 of 2)	166
	Percentages of schools making provisions to support the social and emotional well-being of students to facilitate regular (face-to-face) teaching (part 2 of 2)	167
Table 4.7.1:	Percentages of students feeling confident or very confident about learning in the future (part 1 of 2)	171
	Percentages of students feeling confident or very confident about learning in the future (part 2 of 2)	172
Table 4.7.2:	Percentages of teachers believing certain practices or procedures will be somewhat or very important in future (part 1 of 2)	173
	Percentages of teachers believing certain practices or procedures will be somewhat or very important in future (part 2 of 2)	174
Table 4.7.3:	Percentages of schools that took specific actions to prepare for remote teaching in case of future disruptions such as the one caused by the COVID-19 pandemic (part 1 of 2)	176
	Percentages of schools that took specific actions to prepare for remote teaching in case of future disruptions such as the one caused by the COVID-19 pandemic (part 2 of 2)	177
Table 4.7.4:	Percentages of schools that increased priorities for selected topics to some degree or substantially as a result of the COVID-19 pandemic (part 1 of 2)	178
	Percentages of schools that increased priorities for selected topics to some degree or substantially as a result of the COVID-19 pandemic (part 2 of 2)	179
Table 4.7.5:	Percentages of schools feeling prepared for providing remote teaching if their school building was closed to students for an extended period in the future	180
Table 4.7.6:	Percentages of principals believing academic outcomes of specific groups of students in their school decreased to some degree or substantially due to the experiences in the COVID-19 pandemic (part 1 of 2)	182

	Percentages of principals believing academic outcomes of specific groups of students in their school decreased to some degree or substantially due to the experiences in the COVID-19 pandemic (part 2 of 2)	183
Table 4.8.1:	Inequalities in the proportion of students who reported that their parents lost their job	191
Table 4.8.2:	Inequalities in the proportion of students who reported that their parents worked from home	192
Table 4.8.3:	Inequalities in the proportion of students who expressed loneliness	193
Table 4.8.4:	Inequalities in the proportion of students who reported to exercise more than usual	195
Table 4.8.5:	Inequalities in anxiety about future education	196
Table 4.8.6:	Inequalities in anxiety about falling behind in learning	197
Table 4.8.7:	Inequalities in confidence to plan schoolwork independently	199
Table 4.8.8:	Inequalities in feeling prepared for future school closures	200
Table A1.1:	Obtaining school samples – strategies	210
Table A1.2:	School-level exclusions prior to sample selection	212
Table A1.3:	Stratification variables	213
Table A1.4:	Sample sizes	214
Table A1.5:	Unweighted participation rates – student survey	216
Table A1.6:	Weighted participation rates – student survey	217
Table A1.7:	Unweighted participation rates – teacher survey	217
Table A1.8:	Weighted participation rates – teacher survey	218
Table A1.9:	Participation rates – school survey	218
Table A2.1:	Country Summaries	221

Figures

Figure 1.1: Example table without filter question 4

Figure 1.2: Example table with filter question 5

Figure 1.3: Major activities conducted by national centres when working with schools 26

Figure 4.1.1: Monthly numbers of new people testing positive for COVID-19 from January 2020- July 2021, school closure, and data collection periods in Burkina Faso 36

Figure 4.1.2: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Denmark 38

Figure 4.1.3: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Ethiopia 39

Figure 4.1.4: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in India 41

Figure 4.1.5: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Kenya 43

Figure 4.1.6: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in the Russian Federation 44

Figure 4.1.7: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Rwanda 46

Figure 4.1.8: Monthly numbers of new people testing positive for COVID-19 from January 2020 July 2021, school closure, and data collection periods in Slovenia 47

Figure 4.1.9: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in the United Arab Emirates 49

Figure 4.1.10: Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Uruguay 51

Figure 4.1.11: Monthly numbers of new people testing positive for COVID-19 from January 2020 July 2021, school closure, and data collection periods in Uzbekistan 53

Figure 4.2.1: Distribution of duration of disruption period as reported by principals 57

Figure 4.8.1: Students' sample distribution of gender, SES, and school location 186

Figure 4.8.2: Inequalities in school closures and the continuation of schoolwork 188

Executive summary

REDS investigated how countries approached the challenge of ensuring continuity in teaching and learning during the educational disruption resulting from the COVID-19 pandemic. The study's overarching objectives were to acquire an overview of the situation in a variety of education systems around the world, and to provide policy-makers and education leaders with valuable information for evidence-based decision-making.

The REDS data collection took place between December 2020 to July 2021 in 11 countries: Burkina Faso, Denmark, Ethiopia, India, Kenya, the Russian Federation, Rwanda, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan. REDS collected questionnaire data from a total of 21,063 students, 15,004 teachers and 1,581 principals. Student data were collected in eight countries, teacher data in ten countries and school data in all 11 countries. Each national research centre responsible for the administration of REDS provided national-level data on the conditions and measures implemented within each country.

Data collected for REDS were put through rigorous sampling, data cleaning and processing steps. Due to the accelerated timeline and fluid and unpredictable global pandemic context in which REDS was implemented, REDS data are subject to some limitations, annotated throughout this report.

Continuity of teaching and learning varied greatly across countries

All 11 countries that participated in REDS reported at least one period of physical school closure in response to the COVID-19 pandemic, during which most schools were closed for the majority of students. The periods of school closure varied within and across countries, mostly starting in the Northern Hemisphere Spring of 2020, and lasting one to two months in the Russian Federation and Denmark to almost a year in the United Arab Emirates. In addition to this large variation in the duration of school closures, there were also differences in the participation of students in schooling and the modes, media, and teaching methods used in these periods. In Burkina Faso, Rwanda, Kenya, Ethiopia, and India, varying proportions of school leaders reported that their schools did not offer any teaching and learning provisions during the disruption. In the remaining six RED countries—all with higher Human Development Index measures—all schools were reported to continue to offer teaching and learning provisions during the disruption.

Where teaching and learning continued, more than half the teachers reported that they narrowed the focus of their teaching to the essential components of the curriculum. Furthermore, the majority of teachers in most of the countries reported that they also taught highly modified components of the practical curriculum.

The large majority of teachers across countries reported being open to innovation and shifting priorities in the future, as well as that, they believed new approaches to teaching and learning will continue to be important after the pandemic.

Principals, teachers, and students perceived a decline in learning progress

Student achievement was not directly measured in REDS. However, principals, teachers, and students were asked about their perceptions of students' academic progress during the disruption. Both principals and teachers reported the perception that student learning was impeded during the disruption, with more than 50% of teachers in all countries stating that students have not progressed to the extent that they would have normally expected at that time of year. The data collected from students were more variable in this regard. While more than half of students in most countries reported learning about as much during the disruption as they did before the disruption, about half of the students across countries also agreed that it became more difficult to know how they were progressing.

Help and support for students was not always available

In most countries, students received help from their parents or teachers on learning topics during the disruption. Nonetheless, there was still a significant percentage of students who, at least sometimes, had no one at all available who could help them with their schoolwork.

Many teachers acknowledged their role as important supporters of students and their parents on multiple topics regarding learning and beyond. Also, many students agreed they had one or more teachers whom they felt comfortable to ask for help. However, most teachers across countries agreed that it was difficult to provide lower achieving and vulnerable students with the support they required.

Schools responded to the threat to well-being

Students and teachers reported declines in their well-being during the disruption to schooling. In most countries, over 50% of students agreed that they were feeling overwhelmed by what was happening in the world due to the pandemic and that they were anxious about the changes to their schooling. At the same time, in countries where teaching and learning continued during the disruption, teacher workload generally increased.

Schools placed considerable priority and effort into supporting the well-being of staff and students. On a positive note, teachers agreed that they felt supported by the school leadership and by their colleagues, and most students reported feeling supported and part of their school.

When considering the future, the majority of school principals in most countries reported increased priorities for promoting student and staff well-being.

More effort is needed to prepare schools and students for future disruptions

The pandemic was unprecedented, and schools and education systems needed to establish and implement their responses very quickly. This raised the question of the degree to which students, schools, and systems felt prepared for similar disruptions to schooling should they occur in the future. The perceptions of students and school principals regarding their schools' preparedness for future disruptions vary substantially across countries.

A significant percentage of students in all participating countries do not feel very prepared or not prepared at all for such an event in the future. This important finding uncovers a need for further research on identifying those students and developing tailored measures to aid them during disruptions. It also provides the policy-makers with the necessary scientific evidence to develop mechanisms to support students, teachers, and schools in the future.

Vulnerable students were more likely to fall behind

REDS provides a wealth of data and allows the responses from questionnaires to be considered in the context of other variables, such as socioeconomic status (SES) and gender. This is especially important for identifying inequalities in learning opportunities and concerns about falling behind during the disruptions. Students with low SES were more likely to worry about their future education and falling behind in learning. Additionally, students with low SES were less confident in completing schoolwork independently and were more likely to not feel prepared for school closures. This is further underlined by teachers' responses that confirmed a reduced capacity to manage the needs of vulnerable students, and higher declines in learning progress, including students with special needs, and students with a migration background. Gender gaps were not consistent and all in all less pronounced.

Reflections

This international report shows that teaching and learning mostly continued during the COVID-19 disruption with varying alternative delivery methods across countries. This was largely possible because of the flexibility, adaptability, resilience and determination of systems, schools, teachers, and students. However, efforts posed significant challenges associated with increased teacher workload, as well as with teacher and student well-being. Questions remain about whether the changes implemented during the disruption would be sustainable over longer-periods of time.

Further research and consideration is warranted into understanding the factors that both led to successful outcomes for some schools, teachers, and students, but also unsuccessful outcomes for others. This may further inform both ongoing thinking about the changes to regular schooling that may persist following the pandemic and planning to address the challenges of disruptions to schooling that may occur in the future.

CHAPTER 1

Introduction to the Responses to Educational Disruption Survey

Sabine Meinck, Julian Fraillon

Starting in February 2020, Education systems around the world have been impacted in an unprecedented manner and scope as a result of the rapid spread of COVID-19. In June of the same year, the Organization for Economic Co-operation and Development (OECD) assumed that "[in the absence of] an intentional and effective education response, the COVID-19 pandemic is likely to generate the greatest disruption in educational opportunity worldwide in a generation" (Reimers & Schleicher, 2020). In most, if not all countries around the globe, schools have closed–often repeatedly–for considerable amounts of time in an effort to contain the spread of COVID-19 (The United Nations Educational, Scientific and Cultural Organization [UNESCO], the United Nations Children Fund [UNICEF], & the World Bank, 2020). Remote teaching and learning were implemented in many countries, with the mediums and methods of delivery determined by local conditions and resources. However, many schools also retained some face-to-face teaching and learning, typically with significant changes to regular school operations resulting from, for example, new hygiene and distancing regulations. At the peak of school closures in early April 2020, over 90% of the world's school-aged learners were estimated to be affected (UNESCO, 2020). According to findings from the Survey on National Education Responses to COVID-19 School Closures (UNESCO, UNICEF & the World Bank, 2020), by August 2020, on average across 108 countries, students had missed approximately 10 weeks of in-person instruction.

In order to ensure learning continuity during the pandemic, education systems had to react fast, with very little time to prepare new distance learning measures and relatively few existing solutions immediately available. Countries were faced with the challenges presented by variations in, for example, students' access to the internet, learning resources and digital devices (if online learning was to be implemented), the availability of parental or family support for students, and the familiarity of the teaching staff with approaches to remote teaching. In addition, schools were faced by new challenges regarding the monitoring of student learning when teaching and learning were disrupted by the pandemic measures. As a first response, many education systems pushed the introduction of home-schooling programmes and remote learning, offered free online resources, delivered paper-based assignments to students' homes, or used public TV and radio broadcasting channels to deliver education programmes (UNESCO, UNICEF & World Bank, 2020).

Governments and education systems were quick to seek advice from researchers and to support and commission research regarding the impact of the pandemic on education, and a body of important literature is emerging that can help mitigate the impact of the pandemic on education and support the development of unified responses. However, understandably, given the immediate need within countries, most of these research initiatives concentrated on local, national conditions. Until now there has been a lack of internationally comparable first-hand information from schools, teachers, and students collected in a systematic, efficient, and scientific manner using the research methods and standards applied in international large-scale assessment, that would allow looking at variations between countries and facilitate learning from each other. The Responses to Educational Disruption Survey (REDS) was initiated to fill this gap. Eleven countries followed the universal invitation to join the study. REDS collected internationally comparable data from school principals, teachers, and students, contextualized with information gathered at the national level. In an effort to answer the overarching research question:

> *How were teaching and learning affected by the disruptions due to the COVID-19 pandemic, and how was this mitigated by the implemented measures, across and within countries?*

REDS investigated how countries approached the challenge of providing students with the opportunity to continue learning during the educational disruptions, and what conditions

were related to these opportunities. Focusing on the evaluation of the varying situations in lower-secondary education (grade 8), REDS examined systems' and schools' preparedness for implementing remote teaching and learning; prior to, during, and after the school closures. This was achieved by collecting data on a broad range of topics related to infrastructure, resourcing, human support mechanisms, and capacities related to remote teaching and learning management. Data were also collected on the plans for and implementation of the return to "regular schooling" following the pandemic. Data collected in REDS included (but were not limited to): the availability of resources for digital or other modes of remote teaching and learning; modes and methods of assessment and feedback; perceptions on the success of strategies implemented during the pandemic; and motivation and engagement of students, teachers, and school leaders to implement teaching and learning under the disruptive conditions. Issues concerned with students' and teachers' well-being, including well-being support, were also explored. By analyzing and reporting aspects of these data together with respondents' background, REDS was also able to examine inequalities in educational learning opportunities during the disruptions.

The study's overarching objective was to acquire an overview of the situation in a variety of education systems around the world. REDS aimed to provide policy-makers and education leaders with valuable information for evidence-based decision-making: allowing them to evaluate the effects of the educational disruptions on their schools, teachers, and students, and develop tailored solutions for mitigating these effects. The study also aimed to uncover which students are at most risk during and as a result of school closures, and to determine factors, characteristics, and implemented measures that may influence the success of remote teaching and learning across countries.

The REDS data collection was implemented in between December 2020 to July 2021 in the following 11 countries: Burkina Faso, Denmark, Ethiopia, India, Kenya, the Russian Federation, Rwanda, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan. It thereby covered a wide set of countries from Africa, Asia, Europe, the Gulf region, and South America. REDS collected questionnaire data from a total of 21,063 students, 15,004 teachers and 1,581 principals. Student data were collected in eight countries, teacher data in ten countries and school data in all eleven countries. Each national research centre responsible for the administration of REDS provided national-level data on the conditions and measures implemented within each country. Using random probability samples and standardized data collection procedures, as well as rigorous data analysis methods, REDS aims to deliver high quality data and robust evidence on education during the pandemic. The study covers, in an unprecedented manner, cross-nationally comparable data covering an extensive range of topics associated with the influence of the COVID-19 pandemic on education, by giving a voice to multiple stakeholders within the participating educational systems.

This report presents the first findings of REDS. It will be accompanied by the REDS international database, publicly available via IEA's data repository (https://www.iea.nl/data-tools), inviting scholars for further in-depth analysis and research. The report will first introduce the conceptual background of REDS (Chapter 2), followed by an overview of the methodology and procedures implemented in the study (Chapter 3). Besides detailing the procedures for sampling, data collection, data cleaning, and statistical analysis, importantly, Chapter 3 will also discuss limitations regarding comparability and validity. Chapter 4 is dedicated to the presentation of the results, starting with country profiles capitalizing on the National context surveys (Section 4.1). This section will be useful to contextualize all following sections within Chapter 4 that present aggregated responses from students, teachers, and school leaders on various topics such as the *Impact of the pandemic on classroom teaching and learning* (Section 4.2); *Communication, feedback, and assessment* (Section 4.3); *Help and support for teaching and learning* (Section 4.4); *Well-being of students and teachers* (Section 4.5); T*ransitioning students back to school* (Section 4.6); *Academic progress, preparedness for future disruptions, and persisting changes* (Section 4.7); and *Inequalities in teaching and learning during the pandemic* (Section 4.8). The report will close providing reflections and conclusions (Chapter 5).

References

Reimers, F.M., & Schleicher, A. (2020). *A framework to guide an education response to the COVID-19 pandemic*. OECD. https://www.aforges.org/wp-content/uploads/2020/04/framework.pdf

UNESCO, UNICEF and the World Bank (2020). *What have we learnt? Overview of findings from a survey of ministries of education on national responses to COVID-19*. Paris, New York, Washington D.C. UNESCO, UNICEF, World Bank http://hdl.handle.net/10986/34700

UNESCO. (2020). School closures caused by Coronavirus (Covid-19). UNESCO https://en.unesco.org/covid19/educationresponse

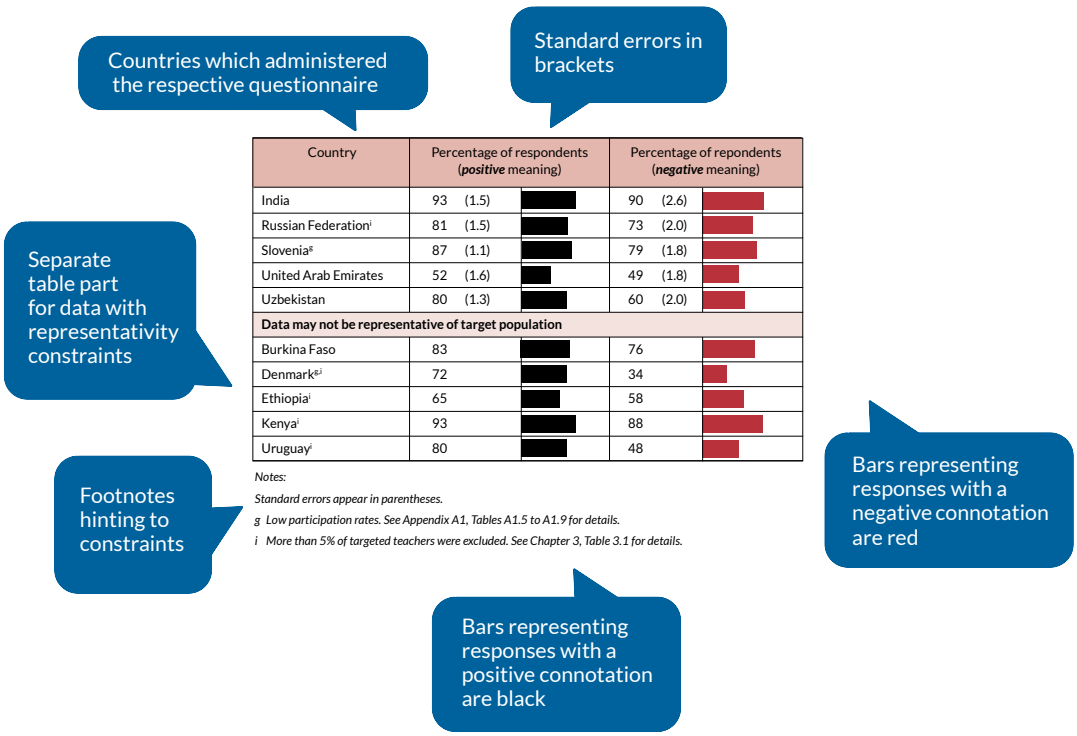
How to read this report

- **Data collection:** This report presents data collected from large random samples of school principals, teachers, and students in secondary schools (mostly grade 8). Results refer to percentages of individuals responding in specific ways to questions posed in the REDS questionnaires.
- **Reference period:** One important concept used in REDS is the *reference period*, which comprises the initial period of educational disruptions in each country. Respondents were asked to refer to this period for many of the surveys' questions. Whenever referring to the "COVID-19 disruption" in the report, this reference period is implied. More information on this concept is given in Chapter 2 and duration and time location of the reference period for each country is presented in Chapter 4 (Section 4.1).
- **Target class:** Another significant concept used for the teacher questionnaire is the t*arget class*. When answering questions related to teaching, teachers were asked to think of the subject that they taught most in the target grade before the COVID-19 disruption started, this class is referred to as the target class.
- **Administration of questionnaires:** Not all countries chose to administer all questionnaires; India and Uruguay chose to not collect data from students, and Rwanda solely administered the school questionnaire.
- **Presentation of results:** Results are presented in text and table format. See Figures 1.1 and 1.2 for annotated examples of the tables in Chapter 4 (Sections 4.2 to 4.7). Table headers indicate the respective sources of the presented results.
- Tables in Chapter 4 can have two–or sometimes even three–parts, indicated in brackets in the table title.
- Many tables are not based on data from all respondents, but only those (students, teachers, and schools) who engaged in teaching and learning during the reference period. The percentages presented in those tables need to be interpreted respectively.
- Colored bars are used to present results in graphical formats. Black or gray colored bars indicate findings carrying a positive connotation, and red or light red colored bars indicate findings carrying a negative connotation. Black and red colored bars are used when results refer to the whole population or all respondents; gray and light red colored bars are used when results refer only to students, teachers, and schools who engaged in teaching and learning during the reference period (Figures 1.1 and 1.2).
- **Survey timeframe:** REDS was launched and conducted within an extremely tight timeframe, and within a particularly challenging time as schools were still affected by disruptions due to the pandemic. This caused potential threats to the reliability and validity of some results. Chapter 3 gives comprehensive details on the conduct of the study and any arising issues; all tables carry annotations of respective constraints. All results should be viewed with the caveats detailed in this chapter in mind.

Representative results: Representative results are based on weighted data and are presented consistently together with their standard errors. Standard errors indicate the uncertainty of the estimated parameters (mostly percentages) related with the fact that not every eligible student, teacher, or school leader in the countries' populations has participated in REDS.

- Of note, school data from Denmark; teacher data from Burkina Faso, Denmark, Ethiopia, Kenya, and Uruguay; and student data from Burkina Faso, Denmark, Ethiopia, and Kenya may not be representative of the target population. This caveat is illustrated in all tables by visually separating respective results. For details, please see Chapter 3 for constraints on comparability.

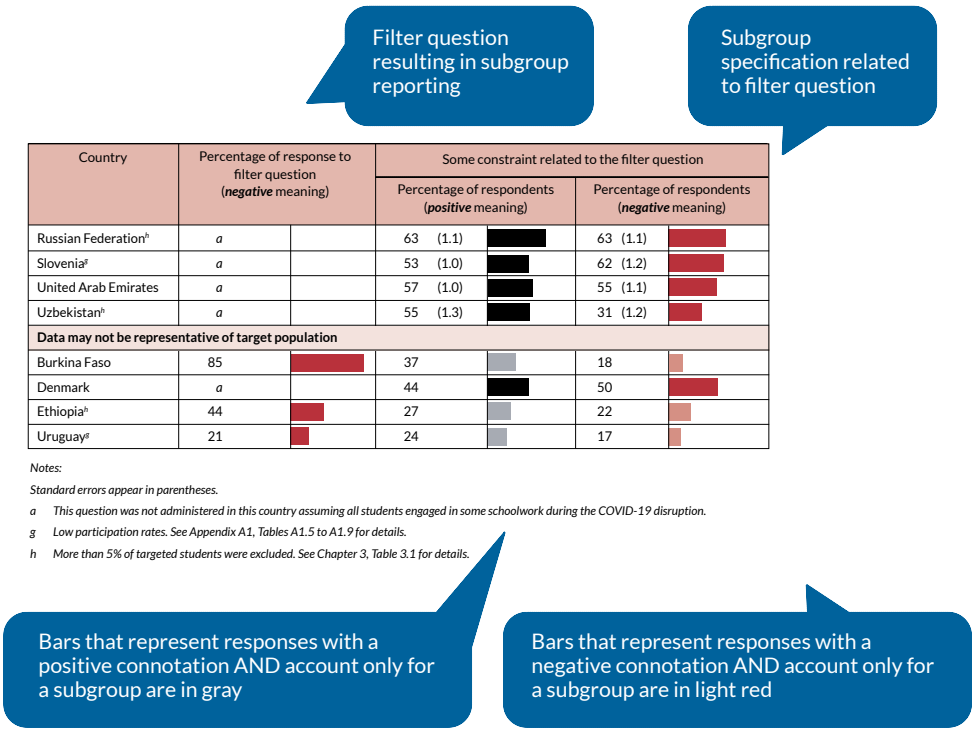
Figure 1.1: Example table without filter question



Country	Percentage of respondents (*positive* meaning)	Percentage of repondents (*negative* meaning)
India	93 (1.5)	90 (2.6)
Russian Federation[i]	81 (1.5)	73 (2.0)
Slovenia[g]	87 (1.1)	79 (1.8)
United Arab Emirates	52 (1.6)	49 (1.8)
Uzbekistan	80 (1.3)	60 (2.0)
Data may not be representative of target population		
Burkina Faso	83	76
Denmark[g,i]	72	34
Ethiopia[i]	65	58
Kenya[i]	93	88
Uruguay[i]	80	48

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Figure 1.2: Example table with filter question



Country	Percentage of response to filter question (***negative*** meaning)	Some constraint related to the filter question	
		Percentage of respondents (***positive*** meaning)	Percentage of respondents (***negative*** meaning)
Russian Federation[h]	*a*	63 (1.1)	63 (1.1)
Slovenia[g]	*a*	53 (1.0)	62 (1.2)
United Arab Emirates	*a*	57 (1.0)	55 (1.1)
Uzbekistan[h]	*a*	55 (1.3)	31 (1.2)
Data may not be representative of target population			
Burkina Faso	85	37	18
Denmark	*a*	44	50
Ethiopia[h]	44	27	22
Uruguay[g]	21	24	17

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

CHAPTER 2

The conceptual background of REDS

Julian Fraillon, Agnes Stancel-Piątak

Chapter highlights

- The REDS conceptual framework was developed to underpin and guide the development of the REDS questionnaire instruments. The content of the framework was determined by reference to the rapidly emerging research literature on the impacts of, what we now know to have been, the early stages of the COVID-19 pandemic. The rationales for the inclusion of the content to be measured and reported on in REDS, were driven by the immediate need to gather information that was regarded as important to build a picture of national responses to the COVID-19 pandemic, and in response to the overarching REDS research question:
  - *How were teaching and learning affected by the disruptions, and how was this mitigated by the implemented measures, across and within countries?*
- The framework comprises eight research themes (see Section 2.3) that formed the basis for development of the REDS questionnaires to be administered variously at the national level, the school level, and to teachers and students. With only minor exceptions, eight research themes were applicable to the content across all four respondent levels.
- The framework has provided the foundation that supports the collection and reporting of REDS data that form the basis of this report. Included in this are the practical and organizational changes in schooling resulting from the COVID-19 disruption, the impacts of the pandemic on teaching and learning and on staff and students within schools, the measures taken to mitigate these impacts, what was happening within schools to help prepare students' return to "regular"[1] schooling, and in what ways the experience of schooling during the pandemic may affect future schooling.
- The conceptual framework further establishes the foundation for the collection of respondent background data that can be used to support the reporting of differences across subgroups in this report (from the perspective of inequality in Chapter 4, Section 4.8) and included in the REDS database to support future secondary analyses.

2.1 Introduction

Study background and the development of the REDS conceptual framework

REDS was developed in response to an unprecedented period of simultaneous rapid changes in schooling within and across countries. This was unusual in the field of international large-scale assessment (ILSA), where studies typically respond to areas of cross-national policy and research interests that have emerged and developed over periods of years, rather than months. ILSA are traditionally run according to a process in which research-based theory provides a foundation for research questions that are investigated through the description of constructs and consequent development of instruments used to measure and report outcomes. In REDS, the establishment of the theoretical foundations, elucidation of research questions, description of constructs, and instrument development took place in parallel rather than in sequence.

The REDS conceptual framework was developed between mid-July and mid-August 2020. Around that time, data collection activities regarding educational responses to the pandemic within countries were being rapidly deployed, and consequent publications were also emerging,

[1] Schooling that more closely resembles schooling before the pandemic than schooling during the pandemic.

many as reports, with a view to making information available as quickly as possible. Rather than being established with reference to an existing theoretical framework, these early studies into the effects of the COVID-19 pandemic on schooling were building and contributing to the theoretical framework as they were being conducted.

Development of the REDS conceptual framework began with an environmental scan of existing published research (in English and German languages) relating to the impacts of the COVID-19 pandemic on schooling. The development primarily considered research and publications from: the American Institutes for Research (Garet et al., 2020; Jackson & Garet, 2020), the National Foundation for Educational Research (Julius & Sims, 2020; Lucas et al., 2020; Sharp et al., 2020; Walker et al., 2020), the RAND Corporation (Hamilton et al., 2020), the ifo Institute (Woessmann, 2020) and Waxmann (Fickermann & Edelstein, 2020).

From this work, and in consultation with national stakeholders, we identified and then began a process of classifying the emerging topics of research interest into themes. These themes were considered with reference to the REDS research questions and the REDS respondents—national centres, schools, teachers, and students.

This was an iterative process. The topics of interest were grouped thematically, and the adequacy of the grouping evaluated according to the completeness of the descriptions of the themes, the fit of the individual topics within their themes, and the relevance of the themes and consequent topics to the respondent groups. Ultimately, each research theme was evaluated with respect to its overall relevance to the REDS research questions.

Unlike many assessment frameworks used in ILSA, the REDS conceptual framework did not seek to describe a conceptual model to guide analyses with respect to the relationships between outcomes and contexts. Typical of ILSA assessment frameworks is the distinction between the description of the outcome variables and the conceptual model describing measurement of the context in which the outcomes are developed (see, for example, Fraillon et al., 2019; Mullis & Martin, 2017, 2019; Schulz et al., 2016). Under this broad model, outcome constructs and contextual constructs are defined and measured with a view to building an empirically-based picture of the various relationships between aspects of context and variations in outcomes. REDS was developed during an unprecedented dynamic period in which the contextual environment was constantly changing, consequently, the contextual environment was both one of the key outcomes of interest in the study, and the context for interpreting variations in respondents' reported experiences. The primary purpose of the REDS conceptual framework was to underpin the development of questionnaire instruments that could be developed and administered quickly, with a view to providing rich and timely data on the experience of the COVID-19 school disruption.

The REDS research questions

REDS was conceived to collect and report data relating to the following overarching research question addressing the COVID-19 related disruptions to schooling:

> *How were teaching and learning affected by the disruptions, and how was this mitigated by the implemented measures, across and within countries?*

As REDS developed, the overarching research question was further elaborated using the following four research questions described below.

- *Within countries, what were the education system-level responses to the COVID-19 pandemic?*

  This question addresses content associated with the practical and organizational changes in schooling resulting from the disruption, from the perspective of national centres, school principals, teachers, and students. For example, the implementation of school closures changed approaches to teaching (e.g., the deployment of remote teaching), changed teacher contact hours, and brought forward questions on how these system-level changes were implemented. Furthermore, this section includes questions of the expectations of schools, school leaders, teachers, students, and parents during the period of the disruption. This research question is the focus of Chapter 4, Section 4.1 *National contexts*, which reports on results from the national contexts survey.

- *What were the impacts of the COVID-19 pandemic on teaching and learning, and how were these mitigated by measures at the school level?*

  This question focuses on the impact on teaching and learning from a number of perspectives. The first relates to changes in the practical and organizational aspects of teaching and learning, such as the degree to which lessons were delivered remotely, the relative proportions of online (i.e., internet-based teaching using digital devices) or offline methods, and the provision of materials and resources to students and teachers.

  The second perspective relates to respondents' experiences of the changed classroom environment as lessons were conducted with teachers and students spread across locations. Included in this are, for example, students' and teachers' experiences of changes in the mode and frequency of communication with each other, their personal working environment, changes in the mode and frequency of assessments, the provision of feedback to students and their families, and perceptions of the quality of student learning.

  This research question is addressed primarily in Chapter 4, sections 4.2 *Impact of the pandemic on classroom teaching and learning*, 4.3 *Communication, feedback and Assessment*, and 4.8 *Inequalities in teaching and learning during the pandemic*.

- *What were the impacts of the COVID-19 pandemic on school staff and students, and how were these mitigated by measures within countries?*

  This question focuses on the personal experiences of the stakeholders (school teachers and students) affected by the changes in schooling during the pandemic. Included in this are, for example, questions of physical, social, and emotional well-being associated with the disruption and the levels of perceived workload and stress. The question also relates to the provision and nature of support made available for schools, teachers, and students as well as, respondents' perceptions of the availability of and use of support.

  This research question is addressed primarily in Chapter 4, sections 4.4 *Help and support for teaching and learning*, 4.5 *Well-being of students and teachers* and is further addressed in Section 4.8 *Inequalities in teaching and learning during the pandemic*.

- *What did schools do to support students' return to regular schooling, what were the persisting changes and their implications for schooling in the future?*

  The intention of REDS has been to consider the immediate impacts of the COVID-19 pandemic on education but also with an eye to the future. This research question addresses the dual perspectives of what was happening within schools to help prepare students' return to regular schooling, and in what ways the experience of schooling during the pandemic may positively impact future schooling. The impacts on future schooling may relate to actions taken within schools during the pandemic that respondents perceived to be positive; and reflections on the experience of managing during the pandemic may result in school systems and school communities being better prepared should similar disruptions occur in the future.

  Relevant to this research question are reports of the types of support made available to students and teachers for the return to regular schooling, school-level preparations and preparedness for any future similar educational disruptions, and changes in priority for aspects of student learning and welfare following the experience of the pandemic. This research question is addressed primarily in Chapter 4, sections 4.6 *Transitioning students back to school* and 4.7 *Academic progress, preparedness for future disruptions, and persisting changes*.

Defining the COVID-19 disruption period

Explicit in the REDS overarching research question, and implicit in the four consequent research questions, is the idea that the COVID-19 pandemic resulted in a period of "disruption" to regular schooling within countries. While the term disruption may be sufficient as a broad description of the period, there has been a great variety in the nature of the school responses to the pandemic across and even within countries. Consequently, the term disruption alone was not sufficient to ensure consistency of interpretations of the period across countries, within countries and across participants within countries. The solution we implemented in REDS was to operationalize the concept of the disruption as a defined "reference period".

For REDS, the reference period of the COVID-19 disruption was defined as:

> *The first period of time in a country after the beginning of the pandemic, during which most schools were closed for the majority of students, and teaching and learning took place mostly outside of school buildings.*

It is important to note that the above definition does not specify dates (as they could vary across countries), nor does it specify the modes of learning (e.g., computer-delivered or otherwise) during the period. The definition hinges on the two key conditions of: i) school closures; and ii) the consequence that teaching and learning took place outside the physical location of the school. The definition includes the flexibility derived from the two qualifiers that the closures need only to apply to *most schools*, and that teaching and learning took place *mostly* outside of school buildings. This allowed for the possibility that during the disruption period, there were still some schools that remained open under some circumstances (such as for specific grade levels or for other specified groups of students).

Within REDS, the period of *COVID-19 disruption*, (also referred to in this report as the "disruption", "disruption period", or "reference period") is to be interpreted consistently according to the above definition. The term is used explicitly in aspects of the conceptual framework and questionnaire instruments, and is assumed to be understood when considering all other aspects of the study, such as when interpreting the research questions and reported outcomes.

Each questionnaire included an adaptable definition of the COVID-19 disruption as part of the introduction. The definition could be adapted by national centres (to be used consistently within a country) regarding the time-period and the national characterization of the essence of *most* schools being *mostly* closed.

When REDS was being developed, we had assumed that, within countries, there would be a single period of COVID-19 disruption. What subsequently transpired was that many countries experienced more than one period of disruption, with variations in the measures taken within countries across those different periods. In REDS, the definition of the period of COVID-19 disruption within countries includes the specification of the reference time-period. While we acknowledge this may not represent all periods of disruption within each country, it does, however, maximize the consistency with which respondents can reference the first period of disruption within their countries. Section 4.1 *National contexts* and Section 4.2 *Impact of the pandemic on classroom teaching and learning* present extensive details of the characteristics of the reference period within each country.

Below is an example of the characterization of the period of COVID-19 disruption taken from the teacher questionnaire. The terms appearing in square brackets […] are those that the national research coordinator within each country was required to adapt according to their national context.

Reference period: The [COVID-19 disruption]

Many questions in this survey focus on a specific time period, referenced in this questionnaire as the "[COVID-19 disruption]". You will remember that [most] schools in [country] closed for [the majority of students] in the last school year between [choose a date or approximate time range such as "mid-March"] and [choose a date or approximate time range such as "mid-May"]. Teaching and learning occurred [mostly] outside of school buildings in this period. When responding with regard to the [COVID-19 disruption], please refer to this period.

2.2 Research themes and respondents in the REDS conceptual framework

The REDS conceptual framework was structured according to the application of eight research themes applied across the four respondent groups. The eight research themes reflect perspectives that are relevant across the REDS research questions, with most themes addressing content relevant to more than one research question. Table 2.1 shows the eight REDS research themes together with the REDS questionnaire that contained content that addressed that theme.

Table 2.1 shows that, while the majority of REDS themes were applicable across all instruments, themes 1 and 2 that related primarily to contextual background were to be addressed only at the most relevant levels of context—at the national and school levels—to build a picture of the overarching administrative and organizational changes during the disruption, and at the school, teacher, and student level when considering individual respondent's background. Content associated with theme 5, teacher professional support, was not addressed from the perspective of the students. Theme 8, persisting changes following the disruption, was not addressed at the national level.

In the future, there may be opportunity to collect data from national systems about the ongoing impact of changes in policy and practice during the COVID-19 pandemic on schooling, and preparedness for future disruptions. However, given the timing of the REDS data collection relative to the period of disruption and the focus within systems on real-time management of the disruption, the emphasis of this theme focused on the experiences within schools of the disruption

Table 2.1: REDS questionnaires that addressed the eight REDS research themes

Theme	System-level question topics	School question topics	Teacher question topics	Student question topics
1. Manifestations of the reference period within countries	Yes	Yes	No	No
2. School/teacher/student background	No	Yes	Yes	Yes
3. Impact on classroom teaching learning	Yes	Yes	Yes	Yes
4. Assessment of student learning and provision of feedback to students	Yes	Yes	Yes	Yes
5. Teacher professional support	Yes	Yes	Yes	No
6. Home engagement/support	Yes	Yes	Yes	Yes
7. Well-being	Yes	Yes	Yes	Yes
8. Persisting changes following the disruption	No	Yes	Yes	Yes

and the perspectives of members within school communities on how the experience may affect their future practices. While it could be argued that perspectives on all themes could have been addressed in all questionnaires, we chose to limit the focus to those areas where respondents were most likely to feel able to respond and where the respondents' perspectives were most directly relevant to the theme.

The topics under each theme were shaped by the degree of influence, and relevance of experience of the respondents at each level. The focus of topics at the level of the national centre was on the nature of the system-level responses to the COVID-19 disruption, including policy responses and the provision of resources and support to schools, teachers, students, and their families. The focus of the school (principal)-level topics was on the individual school responses during the disruption period, including changed arrangements to teaching and learning programmes, expectations of teachers and students, and perceptions of the need for and provision of resourcing support associated with teaching and learning, and staff, student, and family well-being. At the level of the teachers, the focus was on teachers' responses to the period of disruption, with respect to their teaching practices and their perceptions of the impact of the disruption on themselves and their students. The focus of the topics across the themes in the student questionnaire was on the students' individual experiences of the changes to their schooling, both from the perspectives of changes in work practices and students' perceptions of the personal impacts of these changes.

2.3 Description of the eight REDS research themes

In this section we describe the eight REDS research themes together with the topics included at the respondent level under each theme.

1. Manifestations of the reference period within countries

This theme is closely related to the research question addressing *the education system-level responses to the COVID-19 pandemic*. The theme provides a framework for reporting of descriptive profiles of high-level national responses during the period of disruption (due to and including school closures). Questions relating to this theme were addressed to national centres and schools only. They addressed topics associated with the organizational arrangements governing school operation during the period of disruption and the degree to which schools and systems held authority over these arrangements.

At the national level

In order to capture the essence of the period of disruption, national centres were asked to write a continuous prose description of the reference period in their country including: key dates, school closures (including partial closures), variations in the application of requirements to schools across the country, general expectations of schools regarding remote teaching and learning, ongoing consequences for schooling in the country and aspects of practices introduced during the disruption that might inform future practices in regular schooling.

National centres were further asked explicitly to report on the distribution of responsibility for establishing guidelines for teaching and learning, and the degree of autonomy schools had regarding teaching and learning at the target grade. In both cases these were asked about "in general" and "during the COVID-19 disruption".

At the school level

Topics of interest at the school level focused on the organizational changes that took place during the COVID-19 disruption including the dates when schools' normal operations were most severely disrupted. Additional topics addressed the individual school arrangements during the period of disruption, including the degree and nature of any school closure, the amount of lesson time available to students in the target grade, and the capacity of the school to deliver remote teaching to students.

2. School/teacher/student background

Measuring the experience of the COVID-19 educational disruption across subgroups is one of

the primary purposes of REDS. Section 4.8 *Inequalities in teaching and learning during the pandemic* makes use of respondent background data through the lens of inequality, however, the collection of respondent background data was also key to REDS to ensure that the REDS database contain data to support future secondary analyses of differences across subgroups. The REDS questionnaires collect background information from schools (including principals), teachers, and students. All respondents' age and gender were measures of interest. Of specific interest regarding teachers were the subjects they taught, their years of experience teaching, and their level of seniority in their school.

At the school level, principals were asked to provide information about the school size (and class sizes within the school), school management and funding structure, and school demographic profile by student socioeconomic status, special need status, language background, and single-parent background (this last category being regarded with particular relevance to the level of support that may be available in the home for students completing classes at home).

Students were asked a set of questions relating to their socioeconomic status (number of books in the home, parental education, and occupation) and which language they speak at home. Additionally, students were asked questions associated with their home resources for learning, specifically the number of Information and communications technology (ICT) devices used in their home, and finally a question outlining the composition of the people who live at home with them (parents/guardians, older and younger siblings, grandparents, and others). This final question included in the framework referenced the availability of support (such as from adults or older siblings) and potential distractions (such as from a need to assist younger siblings) that students may encounter when engaging in home learning. Of additional interest were students' experiences of using technologies for school and schoolwork before and during the period of disruption, including their ICT self-efficacy, which can contribute to students' capacity to manage ICT-mediated learning.

3. Impact on classroom teaching and learning

This research theme is closely related to the research question addressing t*he impacts of the COVID-19 pandemic on teaching and learning, and how these were mitigated by measures at the school level*. In developing the REDS conceptual framework, we did not make assumptions about the nature of classrooms beyond those imposed by the definition of the period of disruption, i.e., that teaching and learning *mostly* took place outside of school buildings for most students. We have not assumed that, for example, classes were conducted during the period of disruption remotely using computers. As such, the topics address the theme of classroom teaching and learning associated with a range of delivery modes, including ICT-based and non-ICT-based.

At the national level

Topics at the national level focused on the nature of resources provided to schools and students before, and during the period of disruption, as well as any associated policy expectations or requirements relating to the use of resources.

At the school level

At the school level, topics focused on the provision of digital infrastructure resources and support for staff and students before, and during the period of disruption, changes in time allocations for teachers to complete aspects of their work, and additional support for students with special needs, and their teachers.

At the teacher level

At the teacher level, topics addressed the practical aspects of teachers' delivery of classes and teacher's perceptions of the impact of the disruption on their classes. The practical aspects of classroom teaching included the mode of teaching (e.g., computer-based or non-computer-based), teachers' home working circumstances that may impact on their classroom teaching, changes to teachers' planning and delivery of curriculum in their lessons, and changes in the time spent on different teaching activities during classes.

Topics relating to teachers' perceptions of the impact of the disruption included teachers' perceptions of changes in the quality of teaching and learning during the disruption, teachers'

perceptions of their capacity to support students' specific needs, and teachers' perceptions of student engagement in their learning.

At the student level

Topics of interest at the student level related to students' experiences of "classroom" learning, included the methods they use to communicate with teachers and classmates, how they receive or access learning materials, the nature of the learning activities they participated in, the frequency with which students used different learning materials, and their perceptions of their learning progress and the challenges associated with learning during the period of disruption.

4. Assessment of student learning and provision of feedback to students

This theme is most closely related to the research question addressing *the impacts of the COVID-19 pandemic on teaching and learning, and how these were mitigated by measures at the school leve*l, although the use of assessment information to support planning is also relevant to the two research questions addressing the *impact of the pandemic on staff and students and the support for students to return to regular schooling*.

In the REDS conceptual framework, the assessment of student learning refers to teachers', schools' and systems' capacity to make judgements of where students are in their learning (Masters, 2014), and consequently to make use of that information. Under research theme 4, assessment information is assumed to be relevant for a broad range of purposes within and across national contexts. For example, assessment information may be used by teachers to inform their teaching, provided to students to support their learning, or used by teachers, schools and systems to better understand and monitor student learning outcomes. The establishment of assessment of student learning and provision of feedback to students as a research theme includes all these possible uses of assessment information.

At the national level

Topics at the national level focused on the policies and practices relating to mandated assessments across learning areas, and any changes in these policies and practices associated with the disruption.

At the school level

Of interest in REDS was how the role of assessment was maintained and perceived during the period of disruption. At the school level, topics focused on the schools' expectations of teachers to assess student learning outcomes with reference to a broad range of methods. In addition, there was interest in whether schools changed the nature or emphasis of assessment during the period of disruption and what expectations there were of teachers to provide feedback to students with reference to a variety of methods, including those necessitated by remote teaching and learning.

At the teacher level

At the teacher level, topics addressed assessment and providing feedback to students, both during the disruption, and as a comparison, before the disruption. Assessment-related topics included teachers' perceptions of changes in their assessment practices during the period of disruption, their perceptions of the quality of the assessment information they were able to collect, and their capacity to assess the full breadth of their curriculum for all students. Topics associated with the provision of feedback to students included the method of providing feedback, the breadth of feedback, the amount of feedback, and the frequency with which feedback is provided.

At the student level

Students' experiences of completing schoolwork and receiving feedback from teachers during the period of disruption were the focus of this area. Topics included students' perceptions of

the amount of work they submitted to their teachers (by subject), students' perceptions of the type and amount of feedback they received on their schoolwork, students' perceptions of the availability of learning support from their teachers, and students' perceptions of their learning progress.

5. Teacher professional support

The change of teaching and learning across schools brought about by the COVID-19 disruption necessitated rapid changes in teaching practices by many teachers across countries. As a consequence, a research theme in REDS was associated with the nature of professional support needed by and made available to teachers to help them adapt to the new ways of working. This research theme is most closely related to the two research questions relating to *the impact of the pandemic on teaching and learning and on staff and students*, however, it also is relevant to the research question associated with *persisting challenges and implications for the future*.

At the national level

At the national level, topics focused on system-level direction or guidance about teaching and learning practices during the COVID-19 disruption provided to schools and teachers, and whether specific policies or plans were developed (or already existed) regarding professional development associated with teachers use of ICT in their teaching.

At the school level

At the school level, topics focused on changes in teachers' access to and use of professional support resources and opportunities associated with aspects of teaching that were likely to have been affected by the disruption (such as remote teaching pedagogy), and the degree to which the school felt supported by external people or organizations.

At the teacher level

Teachers were the focus of the theme relating to teacher professional support. Of interest were topics associated with teachers' experiences of engaging in professional learning activities, before and during the disruption, and by topic and learning mode. Of additional interest were teachers' perceptions of changes associated with the disruption in the time they spent collaborating with their peers.

6. Home engagement/support

While it was not feasible in REDS to include a questionnaire for students' parents/guardians, it was possible to collect evidence from the existing four questionnaires associated with the nature and level of engagement and support for students' learning available to them at home. This was of particular interest given the emerging policy and research concerns relating to the potential for existing educational inequities associated with students' access to home support and resources to be exacerbated during the period of disruption when students had limited or no physical access to their school buildings, in-person support or other learning and support resources. This research theme related in particular to the two research questions associated with the *impact of the disruption on teaching and learning and on staff and students*.

At the national level

At the national level, topics focused on the provision of any support or resources that could be used by students and their families at home to assist students working remotely (i.e., outside of school buildings).

At the school level

Topics at the school level focused on the schools' means and frequency of communication with students and their families during the period of disruption, the provision of information and

support to families across a range of educational and health-related topics, both before and during the period of disruption, and changes in schools' provision of support services to families during the period of disruption.

At the teacher level

Of interest from teachers was the extent to which they provided support or information to students and their families about topics associated with schooling, well-being and other support services, and teachers' perceptions of changes in the methods they use to communicate with their students' families during the disruption in comparison to before the disruption.

At the student level

The questions relating to students' background (described under research theme 2) included aspects of students' socioeconomic status, language background, access to ICT resources, and household composition. The theme of home engagement/support when applied to students extends to include the actions of people in students' homes that may influence students' capacity to manage their schoolwork. Topics of interest included the availability of people in the students' homes to help them with their schoolwork, the nature of the help that students received with their schoolwork from others, and the degree to which the students' home environment provided space and opportunity for students to work at home.

7. Well-being

At the forefront of discussions on the impact of the COVID-19 disruption on schools was, and continues to be, the impact of the changed conditions in schools on the physical, social, and emotional well-being of school staff, students, and their families. There are aspects of the changed conditions associated with well-being that are common across members of school communities, but also some that are specific to the different levels of respondent in REDS. Data collected under the well-being research theme is intended to capture an overarching picture of the factors associated with individual well-being, but also what was being done within schools and school systems to support the well-being of school staff, students, and their families. This theme relates directly to the research question addressing the *impacts of the COVID-19 pandemic on school staff and students, and how these were mitigated by measures within countries*.

At the national level

Topics of focus at the national level related to the existence of centralized policy and resource support measures associated with well-being. These topics included plans or policies relating to the prevention of the spread of disease within schools, provision of additional non-teaching time for teachers to manage the changed arrangements, and collection and monitoring of data on the impact of the COVID-19 disruption on students' and teachers' physical and emotional well-being.

At the school level

At the school level, topics of interest focused on the schools' plans and provisions of resources to support student and staff well-being. These topics included changes in the allocation of time available for teachers to complete different aspects of their work, the provision of additional support for teachers to work with students with special needs or vulnerable students, the provision of support services to school staff, changes in the provision of support services available for students, and principals' perceptions of factors with potential deleterious effects on students.

At the teacher level

Topics of interest at the teacher level focused on the impact of changed working conditions for teachers on their well-being. These topics included teachers' perceptions of aspects of their physical, social, and emotional well-being during the COVID-19 disruption, teachers' reports of changes in the workload across aspects of their work during the disruption, and teachers'

perceptions of the degree to which they felt supported by others during the disruption.

At the student level

At the student level, topics of interest focused on students' access to support resources and their perceptions of the impact of the COVID-19 disruption on aspects of their personal well-being. The topics at this level comprised students' reported access and use of well-being support information from their school, students' reported feelings of concern during the disruption, the degree to which students felt supported by and connected to their school during the disruption, students' engagement in physical social well-being maintenance behaviours, changes to students' family circumstances during the disruption, and the availability of and use of additional resources for students with special needs.

8. Persisting changes following the disruption

This research theme is directly relevant to the research question addressing the actions of schools *to support students' return to regular schooling and the persisting changes in schools and their implications for schooling in the future*.

Under this theme, the potential impact of the experience of the disruption on future schooling are considered from two perspectives: i) Changes that happened during the disruption that respondents perceived to be positive and may contribute to improvements in regular schooling in the future; and ii) Changes that may result in school systems and school communities being better prepared should similar disruptions occur in the future.

At the national level

At the time REDS was developed, the focus of questions at the national level was on the immediate centralized response and support provided during the period of disruption. The emphasis of the research theme associated with persisting changes was on the actions taking place within schools to support the transition to regular schooling, and the perceptions of respondents within schools to what was being done. As a result, the theme of persisting changes following the disruption was not addressed at the national level in REDS.

At the school level

Topics of interest at the school level included principals' perceptions of the level of preparedness for the school to engage in remote teaching in the future; actions undertaken by schools to prepare for future disruptions; changes to school policies and procedures in response to the disruption; changes in school priorities regarding teaching, learning, assessment, and well-being resulting from the disruption; principals' beliefs about the impact of the disruption on student learning outcomes; changes of provisions to teaching and learning programmes and well-being support offered to students following the disruption to support the transition back to regular schooling.

At the teacher level

Topics of interest at the teacher level included teachers' actions to support students' transition back to regular classes, teachers' perceptions of the impact of the disruption on students' learning progress and students' capacity to study, and teachers' beliefs about the importance of a range of approaches for their teaching in the future.

At the student level

At the student level, topics of interest included students' perceptions of schooling following the period of disruption, students' perceptions of their learning skills following the disruption, and students' feelings of preparedness to engage in learning in a similar future disruption.

References

Fickermann, D., & Edelstein, B. (Eds.). (2020). *„Langsam vermisse ich die Schule …“*. Waxmann Verlag GmbH. https://doi.org/10.31244/9783830992318

Fraillon, J., Ainley, J., Schulz, W., Duckworth, D., & Friedman, T. (2019). *IEA International Computer and Information Literacy Study 2018 assessment framework*. Springer International Publishing. https://link.springer.com/book/10.1007%2F978-3-030-19389-8

Garet, M., Rickles, J., Bowdon, J., & Heppen, J. (2020). *National survey on public education's response to COVID-19: First look brief* (p. 8). American Institutes for Research (AIR). https://www.air.org/sites/default/files/National-Survey-on-Public-Educations-Coronavirus-Pandemic-Response-First-Look-July-2020.pdf

Hamilton, L. S., Grant, D., Kaufman, J. H., Diliberti, M. K., Schwartz, H. L., Hunter, G. P., Setodji, C. M., & Young, C. J. (2020). *COVID-19 and the state of K–12 schools: Results and technical documentation from the spring 2020 American Educator Panels COVID-19 surveys*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA168-1.html

Jackson, D., & Garet, M. (2020). *Voices of school district leaders: National survey of public education's response to COVID-19* (p. 5). American Institutes for Research (AIR). https://www.air.org/sites/default/files/Voices-of-School-District-Leaders-July-2020.pdf

Julius, J., & Sims, D. (2020). *Schools' responses to Covid-19: Support for vulnerable pupils and the children of keyworkers* (Schools' Responses to Covid-19:). National Foundation for Educational Research (NFER). https://www.nfer.ac.uk/schools-responses-to-covid-19-support-for-vulnerable-pupils-and-the-children-of-keyworkers

Lucas, M., Nelson, J., & Sims, D. (2020). *Schools' responses to Covid-19: Pupil engagement in remote learning* (Schools' Responses to Covid-19, p. 40). National Foundation for Educational Research (NFER). https://www.nfer.ac.uk/schools-responses-to-covid-19-pupil-engagement-in-remote-learning

Masters, G. N. (2014). *Assessment: Getting to the essence*. Centre for Assessment Reform and Innovation (CARI). https://research.acer.edu.au/cgi/viewcontent.cgi?article=1018&context=ar_misc

Mullis, I. V. S., & Martin, M. O. (Eds.). (2017). *TIMSS 2019 Assessment Frameworks*. TIMSS & PIRLS International Study Center. http://timssandpirls.bc.edu/timss2019/frameworks

Mullis, I. V. S., & Martin, M. O. (Eds.). (2019). *PIRLS 2021 Assessment Frameworks*. TIMSS & PIRLS International Study Center. https://pirls2021.org/frameworks/

Sharp, C., Sims, D., & Rutt, S. (2020). *Schools' responses to Covid-19: Returning pupils to school* (Schools' Responses to Covid-19, p. 29). National Foundation for Educational Research (NFER). https://www.nfer.ac.uk/return-of-pupils-to-school-schools-responses-to-covid-19/

Schulz, W., Ainley, J., Fraillon, J., Losito, B., & Agrusti, G. (2016). *IEA International Civic and Citizenship Education Study 2016 assessment framework*. Springer International Publishing. https://doi.org/10.1007/978-3-319-39357-5

Walker, M., Sharp, C., & Sims, D. (2020). *Schools' responses to Covid-19: Job satisfaction and workload of teachers and senior leaders* (Schools' Responses to Covid-19). National Foundation for Educational Research (NFER). https://www.nfer.ac.uk/schools-responses-to-covid-19-job-satisfaction-and-workload-of-teachers-and-senior-leaders/

Woessmann, L. (2020). Follow-up costs of not learning: What we can learn from research on coronavirus-related school closures. ifo Institute. *ifo Schnelldienst*, *73*(06), 38–44.

CHAPTER 3

Methods, procedures, and data

Sebastian Meyer, Karsten Penon, Clara Wilsher Beyer, Sabine Meinck, Anja Waschk

Chapter highlights

This chapter comprises the methods and procedures used to collect, analyze, and report the results of REDS.

- There were various technical challenges due to the survey being conducted during a global pandemic, yet, despite the challenges, 11 countries responded to a call to participate and contribute to the REDS international database.
- Due to varying country situations, the questionnaires were developed and administered in both online and paper formats. Participating countries administered questionnaires to national research coordinators, school principals, teachers, and students between December 2020 to July 2021 (with some countries opting out of the teacher or student questionnaire option, see Section 3.3).
- Several of the participating countries, had never taken part in an international large-scale assessment before, consequently, REDS was also a capacity and building exercise in survey administration.
- Rigorous sampling, data cleaning and processing steps were a key component of REDS, with large random probability samples of schools, students, and teachers used to collect data. All school samples were selected centrally at IEA. Implementing the sampling plan was the responsibility of the national research coordinator (NRC) in each participating country (see Section 3.5). NRCs were supported in this endeavor by the Sampling Unit of IEA Hamburg.
- The IEA Sampling Unit developed and provided Windows® Within-School Sampling Software (WinW3S) and data entry software to national centres, ensuring the application of state-of-the-art methodology. To ensure standardization, IEA provided comprehensive guidelines and trainings (in English and French) on survey operations procedures. It was imperative that the procedures were both feasible, given the constraints, yet also able to fulfill IEA quality requirements.
- Due to the accelerated timeline and the fluid and unpredictable global context in which REDS was implemented, REDS data are subject to some limitations. A major deviation from the regular practice of implementing large-scale assessments, was that no field trial and no translation verification were conducted. Constraints on comparability were carefully considered and discussed with stakeholders, experts, and participating countries. The constraints and limitations are highlighted throughout Chapter 4 of this report.

3.1 Introduction

Shortly after the start of the spread of COVID-19 around the world, multiple stakeholders in education voiced an urgent need to collect reliable and comparable survey data evaluating the impact of the pandemic on teaching and learning in a wide range of countries, and to do this as fast as possible. Usually, it takes several years to develop and implement a study of such scale. However, to accommodate the urgency to provide reliable data on the educational disruption, the period between the initiation of REDS and the writing of this report was set to one year. Implementing REDS in such a compressed timeframe was possible only by extensively streamlining measures and procedures and accepting a few shortcuts regarding the survey design, which are detailed later in this chapter. REDS adopted the IEA technical standards (Martin et al., 1999; Gregory & Martin, 2001, Wagemaker, 2020) but had to compromise some standards due to the time constraints. Similarly, some countries struggled to implement the survey according to the IEA standards, partly because of timing and partly because their education systems were under high stress due to the pandemic. In this chapter, we describe the methods and procedures implemented on the collection of the REDS data while taking into consideration the extraordinary circumstances of the survey. The potential constraints on validity and comparability are highlighted in their appropriate context.

3.2 Instrument development

Based on the conceptual framework (outlined in Chapter 2), the questionnaires were developed in a collaborative approach organized by IEA and led by the Australian Council for Educational Research (ACER), with involvement of experts from UNESCO, the European Commission Joint Research Centre (JRC), IEA, and the participating countries. This process was facilitated through virtual meetings and rapid parallel feedback rounds on instrument drafts.

REDS collected data on the following levels:

- System – Questionnaire completed under the oversight of the national centre.
- School – Questionnaire completed by or under the oversight of the school principal.
- Teacher – Questionnaire completed by teachers.
- Student – Questionnaire completed by students in the target grade.

The survey instruments include the concept of a *reference period* (see Chapter 2 for a detailed definition of this period). This is a common anchor across all questionnaires. Respondents were asked, for many questions,[2] to provide responses about their experience within the reference period and then to compare this experience to regular schooling. This approach was established as a way of asking questions about the time of disruption that is entirely inclusive of all the different forms of educational disruptions across countries.

Because teachers may have been teaching multiple subjects, classes, and grades during the COVID-19 disruption, each teacher was asked to focus their answers on a *target class*. Target classes were defined as the subject that they taught most in the target grade during the COVID-19 disruption.

3.3 Target populations

REDS comprised three different target populations: students, teachers, and schools. Not all countries covered all three populations: India and Uruguay did not survey students, and Rwanda focused exclusively on schools.

[2] There were also questions unrelated to the reference period, e.g., questions about the present time, or about persisting changes after transitioning back to school.

Students

The student target population was defined as all students enrolled in the grade that represents eight years of schooling, counting from the first year of ISCED level 1.[3]

Note that in most countries, the academic year changed between the reference period and the survey administration period. Hence, grade 8 students reflected on a situation they experienced in their seventh grade, whenever questions referred to the reference period.[4]

Teachers

The teacher target population consisted of all teachers who had taught students of the target population during the reference period and were still teaching at the same schools during survey administration.

Schools

The school target population comprised those schools where students of the above-described target population could be found. School principals responded to a questionnaire focusing on school-level responses on the educational disruption caused by the COVID-19 pandemic.

3.4 Sampling design and implementation

The international sampling strategy of REDS was a two-stage stratified random sample design with schools as the first sampling stage, and students and teachers as the second sampling stage. In most countries, the selection probability of schools was proportional to the number of target grade students, aiming for self-weighted samples of students (Meinck, 2020). India and the Russian Federation required additional sampling stages (regional units)[5]. For some countries, pre-existing samples from the International Civic and Citizenship Education Study (ICCS) 2022, Trends in International Mathematics and Science Study (TIMSS) 2019, or International Computer and Information Literacy Study (ICILS) 2018 were used to reduce the time needed for sampling activities (see Appendix A1, Table A1.1).

While REDS aimed for full coverage of the target populations, countries could decide to exclude specific types of schools or students from the survey (see Table 3.2 and Table A1.2 for details).

Stratification was used to improve the efficiency of the samples and to facilitate analyses by certain groups of schools. Commonly used stratification variables were urbanization, type of funding, and region. The variables used for stratification are shown in Appendix A1, Table A1.3.

The minimum school sample size was set to 150 schools per country. Using the WinW3S software certified and provided by IEA, within each participating school, 20 students and 20 teachers were randomly sampled from eligible individuals. In cases where there were fewer eligible students or teachers, all were selected. Denmark and Slovenia used a different within-school sampling approach for their students: they randomly selected a grade 8 class and within the selected class all students were asked to participate.

Student data were collected in eight countries, teacher data in ten countries and school data in all eleven countries (Table 3.1 and Table A1.4) resulting in achieved samples of 21,063 students, 15,004 teachers and 1,581 principals.

[3] The International Standard Classification of Education was developed by the UNESCO. More information can be found on http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

[4] In Kenya, the academic year had been extended as a reaction to the interruptions caused by COVID-19. Therefore, students in grade 7 during survey administration had already been in grade 7 during the reference period.

[5] This was necessary to keep budgetary burden for data collection reasonably low.

Table 3.1: *Achieved sample sizes*

Country	Responding students	Responding teachers	Responding principals
Burkina Faso	2 474	992	138
Denmark	1 431	458	60
Ethiopia	3 621	1 719	186
India	*n/a*	859	184
Kenya	1 570	773	102
Russian Federation	3 516	2 834	192
Rwanda	*n/a*	*n/a*	149
Slovenia	2 552	1 422	135
United Arab Emirates	2 988	2 661	172
Uruguay	*n/a*	713	113
Uzbekistan	2 911	2 573	150

Notes: *n/a = The country did not administer questionnaires to this target population.*

The data collected in all countries have been adjudicated by external experts in relation to threats to representativeness. Data meeting the expectations[6] were weighted to account for unequal selection probabilities caused by the sampling design. Non-response adjustments were computed to make up for non-participating units. Weights and adjustments were computed following standards specified in other large-scale assessments (Meinck, 2020), specifically those established in IEA's International Computer and Information Literacy Study. Readers are advised to refer to Chapter 7 of the ICILS Technical Report (Fraillon et al., 2020) for details.

Any analyses presented in this report referring to the data that met expectations used total weights to achieve unbiased estimates of the population features. Data not meeting the expectations remained unweighted, inferences to populations are not recommended.

Further details about the sampling design, the weighting procedure, and participation rates can be found in Appendix A1. Remarks concerning validity related to sampling yield and procedures will be presented in the last section of this chapter.

3.5 Data collection

The administration of REDS depended to a large extent on the contributions of the survey's national research coordinators and their staff. The IEA developed a set of procedures to assist NRCs with implementing the survey, with the goal to aid NRCs in the uniformity of their questionnaire administration activities. IEA designed these procedures to be flexible enough to simultaneously meet the needs of individual participants and adhere to IEA survey standards. The team began by referring to the procedures used in other IEA studies, such as IEA's Progress in International Reading Literacy Study (PIRLS), TIMSS, ICCS, and ICILS, and then tailored these procedures to suit the specific requirements of REDS. All national centres received guidelines on the survey operations procedures for each stage of the survey. The guidelines included advice on contacting schools, listing and sampling students or classes, preparing materials for data collection, administering the survey, and creating data files.

[6] Participation rates needed to be 65% or above per selection stage, rates below 65% were deemed unacceptable. Samples needed to be achieved by approved sampling procedures, samples achieved by unapproved sampling procedures were deemed unacceptable.

The role of the national research coordinators and their national centres

One of the first steps that all countries or education systems participating in REDS had to take when establishing the survey in their country was to appoint an NRC. The NRC acted as the main contact person for all those involved in REDS within the country and was the country representative at the international level.

NRCs oversaw the overall implementation of the survey at the national level. They also, where necessary, implemented and adapted the internationally agreed-upon procedures to their national context under the guidance of the international project staff and national experts.

To facilitate successful administration of REDS, the international team required the establishment of school coordinators within countries. Their work focused on preparing for and administering the data collection.

The role of the school coordinators

National centres identified and trained school coordinators for all participating schools. The school coordinator could be a teacher or other staff member in the school. In some cases, national centres appointed external individuals as school coordinators. The coordinators' responsibilities included:

- identifying eligible students/classes and teachers belonging to the target population to allow the national centre to perform within-school sampling;
- arranging the date(s) and modalities of the survey administration with the national centre;
- distributing questionnaires/cover letters with login details for the online questionnaires;
- working with the school principal and the effected teachers to plan and administer the student survey; and
- for paper-based survey administration: ensuring that all questionnaires are returned after the survey.

Manuals and documentation

The international study team released guidelines for the survey operations procedures to the NRCs in seven units. The material was organized and distributed chronologically according to the stages of the study.

The seven units and their accompanying software packages were:

1. The **General Guidelines**, which provided general information on the survey and described the roles and responsibilities of NRCs and the national staff.
2. The **School Coordinator Manual** (subject to translation), which described the role and responsibilities of the school coordinator.
3. The **IEA Within-School Sampling Manual**, which guided national centre staff through the activities within the national centre when working with the within-school sampling and tracking software (WinW3S).
4. The **Guidelines for Working with Schools**, which contained information about how to work with schools to plan for successful administration of the REDS questionnaires.
5. The **Guidelines for Instrument Preparation**, which described the processes involved in preparing the REDS questionnaires for production and use in the countries.
6. The **IEA Online Survey System Manual**, which described the procedures of creating online questionnaires.
7. The **Guidelines for Data Capture Procedures**, which contained the description of post-data collection activities.

Software

The international project team also supplied NRCs with software packages to assist with data collection. The software packages were:

- IEA Windows® Within-School Sampling Software (IEA WinW3S): This enabled the national centres to select students and teachers in each sampled school in agreement with sample design specifications and mandatory sampling algorithms. National centres further used WinW3S to track school, teacher, and student information; prepare the survey tracking forms; and assign questionnaires to students and teachers.
- IEA Online Survey System (IEA OSS): This software enabled verified text passages in the questionnaires to be transferred from the IEA translation system to online questionnaires, with these online versions then delivered to respondents.
- IEA Data Management Expert (IEA DME): This software facilitated the entering of paper questionnaire data. The IEA DME also allowed national adaptations to be made to the questionnaires and provided a set of data quality control checks.

In addition to preparing the software and manuals, IEA conducted data-management trainings designed to train national centre staff in required software programmes and procedures, i.e., IEA WinW3S and IEA DME.

Working with schools

In REDS, the within-school sampling process required close cooperation between the national centre and representatives from the schools. Figure 3.1 presents the major activities the national centres conducted when working with schools to list and sample students and teachers, track respondents, prepare for survey administration, and collect data. NRCs were responsible for contacting the schools and encouraging them to take part in the survey, a process that often involved obtaining support from national or regional educational authorities or other stakeholders, depending on the national context.

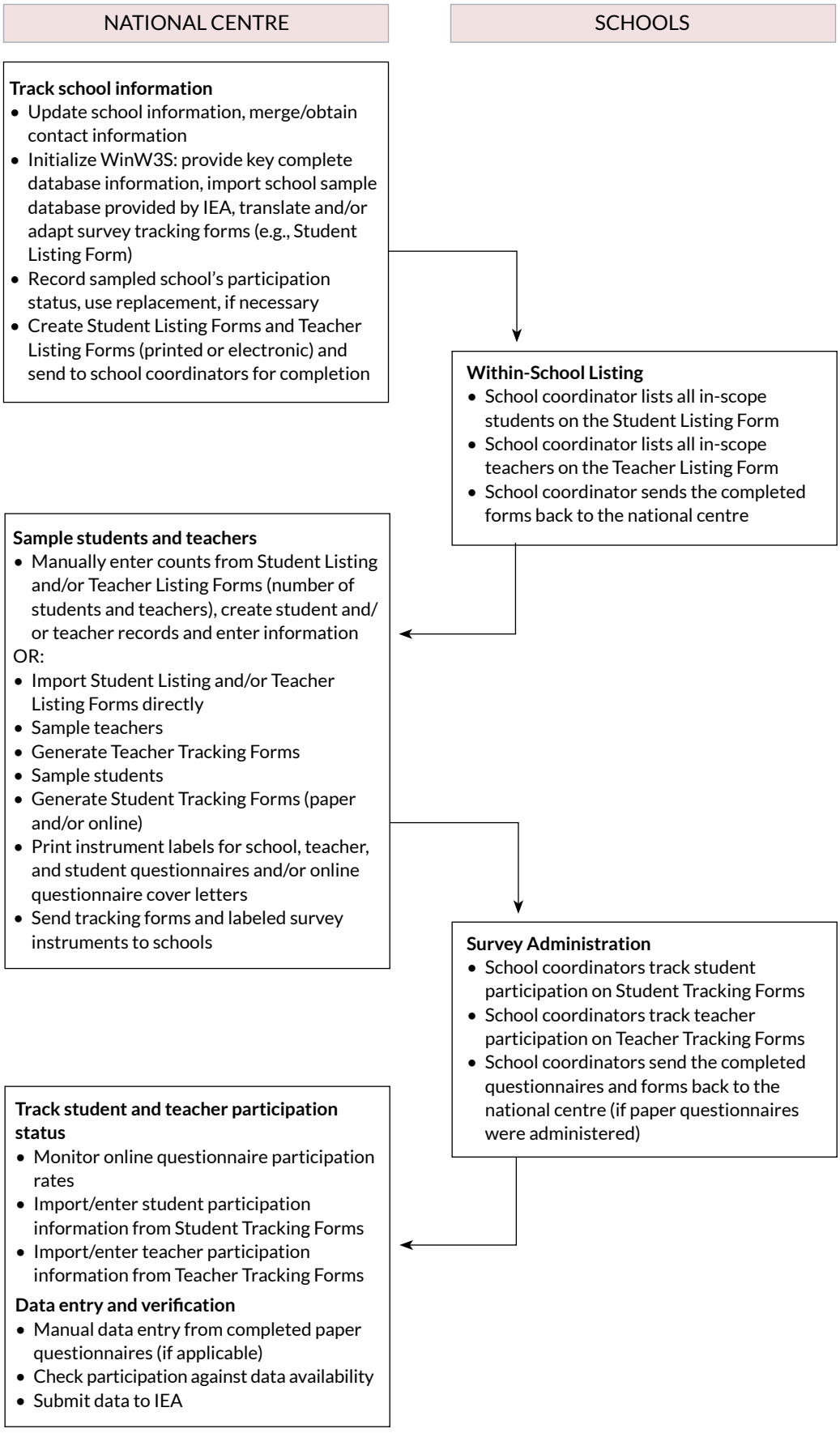
Delivery modes

By default, REDS stipulated the administration of the questionnaires online using the IEA Online Survey System (IEA OSS) software. The electronic versions of the REDS school, teacher, and student questionnaires could only be completed via the internet. Accordingly, the design ensured that online respondents needed only an internet connection and a standard internet browser. No additional software or particular operating system was required.

During the administration period, respondents could log in and out as many times as they needed and could resume answering the questionnaire at the question they had last responded to in their previous session. Answers were automatically saved whenever respondents moved to another question, and respondents could change any answer at any time before completing the questionnaire. During the administration, the national centre was available for support; the centre, in turn, could contact IEA if unable to solve a problem locally. Responses to the online questionnaires were not made mandatory, evaluated, or enforced in detail (e.g., using hard validations). Instead, some questions used soft validation, such as respondents being asked to give numerical responses to questions that had a minimum and maximum value—for example, the total number of students enrolled in a school.

Because the national centres were able to monitor the responses to the online questionnaires in real-time, they could send reminders to those schools which had respondents that had not responded in the expected period. Typically, in these cases, the national centres asked the school coordinators to follow up with those individuals who had not responded. Although countries using the online mode in REDS faced parallel workload and complexity before and during the data collection, they had the benefit of a reduction in workload afterwards. Because answers to online questionnaires were already in an electronic format and stored on servers maintained by IEA, there was no need for separate data entry.

Figure 3.1: *Major activities conducted by national centres when working with schools*



In some countries, the administration of online questionnaires was not feasible. The most frequently mentioned reason related to reduced internet accessibility. In these cases, schools were provided with paper questionnaires that were either administered by the school coordinator, or by data collectors hired by the national centre. The completed questionnaires were shipped back to the national centre where they were digitized, i.e., entered into a database. The IEA provided all countries with its Data Management Expert (DME), a software used for manual data entry in all IEA and several non-IEA studies (e.g., PISA). The software also includes a data verification and statistics module.

3.6 Data cleaning

The cleaning procedures used in ICILS were applied as a basis for the REDS study; accordingly, text passages from ICILS 2018 Technical Report (Schulz, 2020) were used as appropriate and are highlighted in the following section.

Preparing the REDS international database and ensuring its integrity was a complex endeavor, requiring extensive collaboration between IEA and the national centres. National centres in each participating country were responsible for submitting their national REDS data files to IEA. Depending on the delivery mode, once each country had either created their data files and submitted them to IEA (in the case of paper-administered questionnaires) or confirmed that their online data collection window had closed (in the case of online-administered questionnaires, in which case the IEA downloaded them from the central international server), data cleaning began. Data cleaning is an extensive process of checking data for inconsistencies and formatting the data to create a standardized output. The main goals of the data cleaning process were to ensure that:

- All information in the database conformed to the internationally defined data structure.
- The content of all codebooks and documentation appropriately reflected national adaptations to the questionnaires.
- All variables used for international comparisons were comparable across countries (after harmonization where necessary).
- All institutions involved in this process applied quality control measures throughout to assure the quality and accuracy of the REDS data.

Confirming the integrity of the national databases

The steps taken to ensure the integrity of the national databases varied according to the delivery mode and questionnaires administered. In each country that administered online questionnaires, the national centre sent confirmation to IEA that their data collection window had closed and that the data were ready to be downloaded from the central international server. IEA then downloaded raw data from the server. In each country that administered paper questionnaires, the completed instruments were entered into the DME and then exported for submission to IEA.

IEA then subjected these data to a comprehensive process of checking and editing, conducting the standardized cleaning procedures upon data and documentation submission.

IEA first imported and checked the data files provided by each country, and then applied a set of cleaning rules to verify the validity and consistency of the data, documenting any deviations from the international file structure. Having completed these steps, IEA staff sent cleaning queries to the national centres. These required the centres to either confirm the IEA's proposed data-editing actions or provide additional information to resolve inconsistencies. After all modifications had been applied, IEA rechecked all datasets. This process of editing the data, checking the reports, and implementing corrections was repeated as many times as necessary to help ensure that data were consistent within and comparable across countries.

Once the national databases had been verified and formatted according to international file formats, IEA produced data files containing information on the participation status of schools, students, and teachers in each country's sample. IEA then used this information, together with data captured by the software designed to standardize operations and tasks, to calculate sampling weights, population coverage, and school, teacher, and student participation rates. Appendix A1

provides details about the weighting procedures.

Data cleaning quality control

Because REDS was a complex survey with high standards for data quality, maintaining these standards required an extensive set of interrelated data checking and data cleaning procedures. To ensure all procedures were conducted in the correct sequence, that no special requirements were overlooked, and that the cleaning process was implemented independently of the persons in charge, the data quality control included the following steps:

- thorough testing of all data cleaning programmes,
- registering all incoming data and documents in a specific database,
- carrying out data cleaning according to strict rules, avoiding deviations from the cleaning sequence,
- documenting all systematic data recordings that applied to all countries: recorded in the REDS General Cleaning Documentation,
- logging every "manual" correction to a country's data files in a recoding script,
- repeating the data cleaning process, on completion of data cleaning for a country, and
- working closely with national centres at various steps of the cleaning process.

IEA compared national adaptations recorded in the documentation for the national datasets against the structure of the submitted national data files. IEA then recorded any identified deviations from the international data structure in the national adaptation database and in the REDS User Guide for the International Database. Whenever possible, IEA recoded national deviations to ensure consistency with the international data structure. However, if international comparability could not be guaranteed, IEA removed the corresponding data from the international database.

Prior to reporting the results, IEA reviewed key diagnostic statistics for each questionnaire variable to evaluate its plausibility across the participating countries. This variable-by-variable, country-by-country review used to detect unusual item properties or anomalous patterns played a crucial role in the quality assurance of the REDS data. Finding a faulty variable this late in the process is rare, but an unusual distribution could indicate a potential problem with either translation or printing. If such a variable was found, the country's questionnaire production documents (e.g., National Adaptation Forms) and printed questionnaires were examined for flaws or inaccuracies and, if necessary, the variable was removed from the international database for that country, and results omitted in this report.

Following the reviewing of variable statistics, the international REDS team met with external experts in August 2021 to conduct a formal adjudication of the data in preparation of the table production and report writing. During that meeting, decisions were made about any modifications needed to the data or if further analyses were required. Country reports about translation errors, printing issues, or other technical concerns were referenced. As a result of this process, the data were stabilized, and reporting and annotation schemes were agreed upon that would make readers aware of potential issues with the data.

3.7 Statistical analysis methods

As described above, REDS employed complex sampling procedures to obtain the school, student, and teacher samples, leading to unequal selection probabilities of the surveyed individuals. Total weights have been computed to account for this effect of the design and were used for any analysis presented in this report, allowing for obtaining unbiased estimates of population features (Lohr, 1999).

Moreover, it is not appropriate to apply formulae pertaining to simple random samples for obtaining standard errors for population estimates if data originates from complex samples. Replication (re-sampling) techniques provide tools to estimate the sampling variance of population estimates more appropriately for these samples (Gonzalez and Foy 2000). For REDS, we used the jackknife repeated replication (JRR) technique to compute standard errors for population

means, percentages, and any other population statistic (Wolter, 1985). To prepare datasets for this technique, primary sampling units were paired into variance zones following the approach outlined in ICILS (Schulz, 2020). Schools were the primary sampling units in all countries except the Russian Federation and India, where regional units comprised the first sampling stage.

Standard statistical software does not always include procedures for estimating population features and their sampling variance based on data from complex samples. For REDS, we mainly used the IEA International Database (IDB) Analyzer. This software takes the complex data structure automatically into account by using sampling weights for accurate estimation of population features, and by applying the JRR method for accurate estimation of standard errors. For the analysis presented in Chapter 4, Section 4.8, we used R macros developed by IEA, also accounting for the REDS design.

3.8 Limitations of REDS

Unlike other IEA surveys, REDS had to be prepared in a short period of time and was implemented in the midst of a global context that was a considerable challenge for survey administration. This situation led to constraints on the comparability and representativeness of the REDS data and are detailed in the following section.

Instrument development

Normally, the production of the international version of the survey instruments is an endeavor that can take up to a year, a time span not available to the REDS international consortium. Instead, the first version of the international questionnaires was compiled in the months of September and October 2020. This was done while the recruitment of additional participants was ongoing. The questionnaires required small adjustments to increase relevance for countries in which remote online teaching was not possible. This led to two slightly different versions of the questionnaires (see REDS User Guide).

All countries' national adaptations have been verified by IEA to ensure the international comparability of all country data. However, it was not feasible to conduct a proper independent verification of each country's translation by trained or certified verifiers, as usually done in other IEA studies. It was also not possible to verify the layout of the national questionnaires by the international consortium within the given timeframe. Nevertheless, this did not mean that countries were left without advice during the preparatory phase. During each step of the process, countries were offered help whenever needed. In countries with little or no experience in conducting large-scale surveys, the consortium offered regular catch-up calls, which were used extensively.

Data collection

The urgency of data collection made it necessary to accept some compromises with regard to the usual procedures followed in IEA surveys, as specified in Wagemaker, 2020. In other IEA studies, procedures are trialed, staff are trained in a dedicated field trial phase, and items and response categories are tested and revised based on data collected from a small but robust sample of schools and individuals. The truncated REDS timeline prevented a full field trial data collection phase.

Furthermore, while the data collection period for the entire study stretched over eight months from December 2020 to July 2021, data were collected within three months for all countries except Denmark.[7] Considering the concept of the reference period introduced in Chapter 2, this means that for some REDS respondents (principals, teachers, and/or students), the referenced period may have been further in the past than for others. The exact time spans of the reference period and the data collection period is displayed in Chapter 4, Section 4.1 for each country.

[7] An exception was Denmark where data collection stretched from 14 December 2020 to 5 April 2021 to ensure high response rates despite repeated school closures.

Monitoring quality

An international quality control monitoring programme that included school visits was not feasible due to the pandemic.

Non-conformity of survey administration and reference period

In IEA surveys, respondents are usually asked about their experiences at present or in a very recent past. This was not necessarily true for REDS, because, at the time the survey was administered, the challenges caused by the pandemic during the reference period (i.e., the initial period of disruptions) may have had already transpired or been superimposed by later disruptions and the rapid developments in between those time points. Respondents however were asked about what they had experienced during that initial time of disruptions. We cannot disentangle from the data whether, and if so, to what amount, responses have been blurred by these later experiences.

Further, the length and position of the reference and data collection periods within the school year differs between countries. Repeated increases of COVID-19 infection rates during December 2020 and June/July 2021, caused repeated school closures, leading to prolonged or postponed data collection. Detailed information on the reference period, the data collection period, and on the school year, can be found for all countries in Chapter 4, Section 4.1.

Within-school sampling

The IEA usually requests that all study participants strictly follow all operations procedures, as stipulated by several survey operations procedures units. For example, countries must not use any other software packages than the ones provided by the IEA for key activities of the survey. However, to accommodate the specific national circumstances, the consortium allowed three countries—Burkina Faso, Ethiopia, and Kenya—to deviate from the defined within-school sampling procedures. By default, all countries were required to use the IEA's WinW3S software for sampling teachers and students. Proper usage of the software, however, required that national centres get in touch with schools more than once (see Figure 3.1), which was not feasible for the above-mentioned countries. They therefore opted for within-school sampling procedures outside the software that allowed them to contact schools only once. The employed procedures included a lottery on the day of survey implementation to select the within-school sample, leaving out absent students. Sampling teachers within schools was not necessary in the concerned countries, since all eligible teachers were surveyed. Only those teachers present at the day of the survey were considered. National centres could not provide information on the number of absent students and teachers, preventing accurate computation of selection probabilities, sampling weights, and participation rates. Hence, results based on student and teacher data in these countries represent only the experiences and opinions of the respondents and should not be used to infer on the target populations. This constraint is marked in all chapters presenting REDS results. Data remained unweighted and is reported without standard errors.

Exclusion rates

REDS aimed to fully cover the target populations in all countries. However, due to specific circumstances in the participating countries, it was not feasible to access all eligible students, teachers, and schools. Therefore, the national survey population had to be restricted in many countries. Affected schools, students, and teachers were removed from sampling frames prior to sample selection, i.e., had no chance of being selected for REDS. Hence, any outcome of REDS can only be representative for schools and individuals that were not excluded.

Types of excluded schools per country are listed in Appendix A1, Table A1.2; exclusion rates are listed in Table 3.2. The exclusion rates reached significant levels in some of the countries. Differences between the surveyed population and the internationally defined target population are more likely in countries with high exclusion rates. Rates exceeding 5% were annotated in all tables presenting related results in this report.

Participation rates

Achieving high participation rates is key in any large-scale survey, though challenging already under

Table 3.2: *Exclusion rates (%)*

Country	Students	Teachers	Schools
Burkina Faso	3.2	3.2	2.4
Denmark	3.9	5.9	16.0
Ethiopia	7.4	7.7	6.6
India	*n/a*	0.0	0.0
Kenya	16.0	16.0	29.3
Russian Federation	10.3	9.5	11.2
Rwanda	*n/a*	*n/a*	0.0
Slovenia	2.9	2.4	9.9
United Arab Emirates	1.1	1.1	3.0
Uruguay	*n/a*	0.8	9.1
Uzbekistan	12.0	4.0	5.9

Notes: *n/a = The country did not administer questionnaires to this target population.*

"normal" conditions (Meinck, Cortes & Tieck, 2017). The pandemic caused specific challenges on this aspect of REDS. The period between the end of year 2020 until the middle of year 2021 was marked by new outbreaks of COVID-19 in the participating countries, resulting in schools closing repeatedly, at least for some of the time in some surveyed regions, making it difficult to reach sampled schools and individuals.

Some countries suffered from low participation rates, especially at the school level and with teachers within schools. Overall participation rates ranged from 38% to close to 100% in the student survey, 27% to almost 100% in the teacher survey, and 40% to 100% in the school survey.

Detailed participation rates for all countries are given in Appendix A1, Tables A1.5 to A1.9.

Low participation rates can result in non-response bias under specific conditions. This is when relatively high levels of non-participation rates are combined with a relatively large difference between respondents and non-respondents in the variables of interest. If these conditions apply, there is a lack of representativeness of respondents for the underlying populations for the variable of interest. This risk may be larger for REDS than for other surveys, at least with respect to specific variables. Non-response might be directly related to the effects of the pandemic, for example, students might have been frightened to go to school because of the risk of infection and could therefore not be contacted to participate in the survey. Others may have not been reached because of a lack of electronic devices, a problem that may also have been applied to teachers or even school principals. These individuals may have likely responded systematically differently to parts of the REDS survey questionnaires, for example regarding their access to online learning. Weighting, especially non-response adjustments, tries to minimize the risk of non-response bias, but cannot be as efficient as sufficient participation rates. Participation rates below 85% per level (schools, teachers, and students within schools) or combined participation rates across levels of less than 75% are annotated in this report. Further, Denmark experienced particularly low participation rates for schools, students, and teachers, and Uruguay experienced particularly low participation rates for teachers. This data were therefore considered to carry high risks of bias and remained unweighted. Respondents represent only themselves, their data are accordingly interpreted in this report, and it is not recommended to infer from these samples on the respective target populations.

Standard error

All estimates of population features presented in this report are provided together with their standard errors. Higher standard errors indicate a higher level of impreciseness, or uncertainty, of the estimate.

For REDS, some standard errors are higher than usually found in IEA surveys. The following factors caused decreased sampling efficiency:

- additional cluster sampling stages needed in India and the Russian Federation beyond the regular two-stage sampling design,
- the occurrence of low sample sizes due to the small numbers of students or teachers within schools, and
- low participation rates contributing to low achieved sample sizes.

Readers of the report need to be aware that notable differences between estimates might not be significant if standard errors are high; in this case, differences might solely be caused by the random selection of participants.

References

Gonzalez, E.J., & Foy, P. (2000). Estimation of sampling variance. In M. O. Martin, K. D. Gregory, & S. E. Stemler (Eds.), *TIMSS 1999: Technical Report* (pp 203– 222). TIMSS & PIRLS International Study Center, Boston College. https://timss.bc.edu/timss1999i/pdf/T99_TR_Chap12.pdf

Gregory, K.D., & Martin, M.O. (2001). *Technical standards for IEA studies: an annotated bibliography*. International Association for the Evaluation of Educational Achievement (IEA). https://www.iea.nl/publications/study-reports/international-reports-iea-studies/technical-standards-iea-studies

Lohr, S.L. (1999) *Sampling: Design and Analysis*. Duxbury Press.

Martin, M.O., Rust, K., & Adams, R.J. (1999). *Technical standards for IEA studies*. International Association for the Evaluation of Educational Achievement (IEA). https://www.iea.nl/publications/iea-reference/technical-standards-iea-studies

Meinck, S., Cortes, D., Tieck, S. (2017). Evaluating the risk of nonresponse bias in educational large-scale assessments with school nonresponse questionnaires: a theoretical study. *Large-scale Assessments in Education* 5:3, 1–21. http://rdcu.be/oVhH

Meinck, S. (2020). Sampling, weighting, and variance estimation. In H. Wagemaker (Ed.), R*eliability and validity of international large-scale assessment. Understanding IEA's comparative studies of student achievement* (pp. 113–129). Springer. https://doi.org/10.1007/978-3-030-53081-5

Schulz, W. (2020). The reporting of ICILS 2018 results. In Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (Eds.), *IEA International Computer and Information Literacy Study 2018 Technical Report*. International Association for the Evaluation of Educational Achievement (IEA). https://www.iea.nl/publications/technical-reports/icils-2018-technical-report

Wagemaker, H. (2020, Eds.). *Reliability and validity of international large-scale assessment*. Springer. https://doi.org/10.1007/978-3-030-53081-5

Wolter, K.M. (1985). *Introduction to variance estimation*. Springer. https://doi.org/10.1007/978-0-387-35099-8

CHAPTER 4

International findings

4.1 National contexts

Agnes Stancel-Piątak, Emilie Franck, Alec I. Kennedy

Section highlights

The section provides insights into system-level measures taken in REDS countries to guide and support principals and teachers during the school disruptions caused by the COVID-19 pandemic. It draws on the information provided by the national research coordinators (NRC), supplemented by the data obtained from the World Health Organization (WHO) homepage.

The length of the reference period varied across and within countries.

- In most countries, the reference period lasted more than 7 months.
- In Denmark, India, the Russian Federation, Rwanda, the United Arab Emirates, and Uruguay, the length of school closures varied within country, with some grade levels, schools, or regions allowed to reopen earlier than others.

All countries participating in REDS, created policy and/or guideline documents to assist schools in responding to the COVID-19 disruption, including measures to ensure pedagogical continuity and hygiene measures for the eventual return to school.

- In decentralized school systems (e.g., Denmark), schools had the freedom to decide on the learning plans implemented during the disruption.
- In more centralized education systems, there was less freedom to deviate from required measures. However, in some countries, greater autonomy was granted to schools to adapt measures to their specific context (e.g., Rwanda, Slovenia, and Uruguay).
- In many of the countries with longer disruption periods, assessments had to be postponed.

Several resources were made available to schools to support learning during school closures.

- While the availability of digital resources varied across countries prior to the COVID-19 disruption, all countries made them available during school closures, if possible, either by strengthening existing infrastructures or designing new materials.
- A number of countries noted that when students had limited access to digital materials, other resources were made available (e.g., paper-based materials, television, or radio broadcasts).

4.1 Introduction

The ways education systems have responded to the COVID-19 pandemic were anchored in their local national contexts, and shaped, by the consequent guidance provided at the national level. Within countries, schools have different levels of responsibility and freedom for decision-making, depending on the level of centralization of the relevant education system (or systems). This section addresses the REDS research question: *Within countries, what were the education system-level responses to the COVID-19 pandemic?* and provides insights into system-level measures taken in REDS countries to guide and support principals and teachers during the disruptions caused by the COVID-19 pandemic. It draws on the information provided by the NRCs collected via the national questionnaire as well as during an additional review round and supplemented by data obtained from the World Health Organization (WHO).

In contrast to other sections in the REDS report, the results from the country questionnaire are presented separately for each country, providing a frame for the interpretation of the comparative results reported in other sections of this report. Countries' overviews reported in this section describe the national policy advice and expectations associated with practical and organizational changes in schooling resulting from the disruption. It pertains, for example, to the implementation of school closures in countries. A major topic is the policy guidance on approaches to teaching (such as remote teaching) as well as with respect to changes to teacher contact hours. The data presented were reported by the national centres. Further sections will elaborate on principals' and teachers' views on these topics.

Importantly, this section provides detailed information on the country specific **reference period** as defined in Chapter 2 of this report. The reference period was used to establish the time-period within each country that respondents were to consider when answering the questions. It was broadly defined as the first period experienced within each country when, in response to the COVID-19 pandemic, *most* schools were closed to the *majority* of students. In some education systems, school holidays took place during the reference period (see Appendix A2, Table A2.1), which might have had an indirect impact on the actual duration of the school disruption. A detailed discussion of the definition of the reference period is included in Chapter 2.

The information on the reference period is supplemented by the number of positive tested cases recorded in each of the countries between January 2020 and July 2021. As the numbers obtained from the WHO home page (WHO, 2021) are not adjusted by the number of tested persons or the number of false positive and negative cases, they should not be interpreted as infection rates of the real COVID-19 cases, but rather provide insights on the empirical basis that governments had access to for their decision-making process. It can be assumed that, in many cases, school closures were not solely related to the number of positive cases, but, presumably, rather to other political and global events.

The specific concepts reviewed in the countries' overview pertain to centralization and accountability mechanisms, provision of resources and professional development to support remote learning and teaching, and social distancing and hygiene measures that were developed and implemented during the reference period for possible school re-opening. The concept of centralization is often researched in combination with the concept of accountability. International studies imply that higher degrees of school autonomy combined with higher degrees of accountability improve educational outcomes such as performance (Parveva et al., 2020). In some education systems, the COVID-19 pandemic affected the autonomy and accountability mechanisms countries usually have in place. Consequently, those differences are made explicit in this section by providing a comparative view on the autonomy and accountability mechanisms prior and during the COVID-19 pandemic as reported by the national research coordinators.

Burkina Faso

The COVID-19 situation in Burkina Faso and its impact on the education system

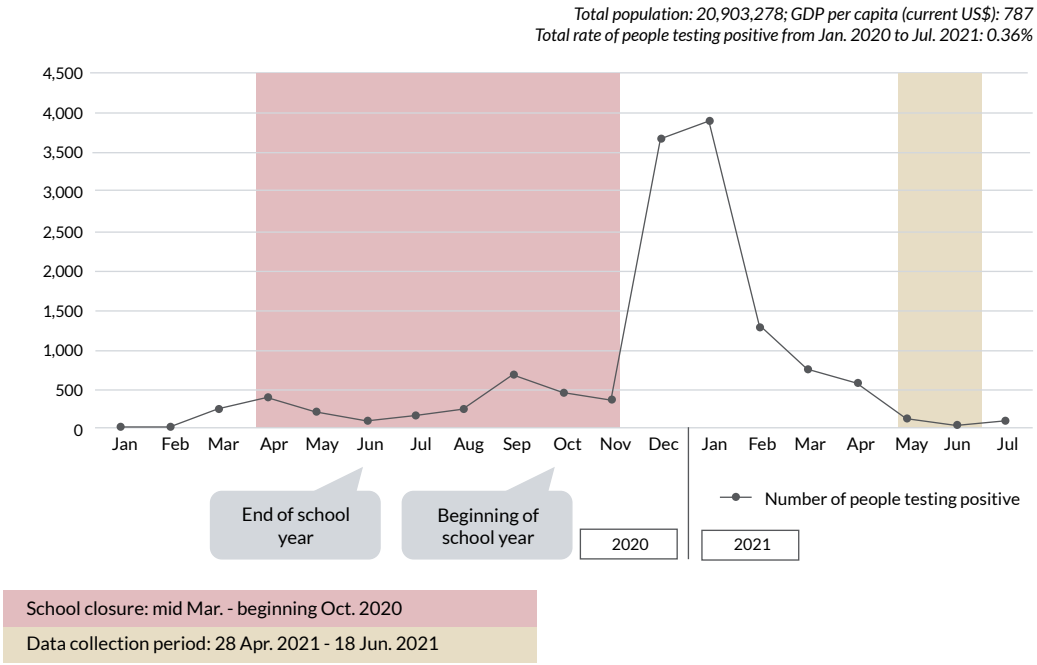
In February 2020, Burkina Faso reported its first case of COVID-19. Starting in mid-March, the government banned the physical attendance of students in all schools. Schools remained closed for most students until the end of June (the end of the academic school year for 2019-2020). The number of people testing positive remained stable at a low level during the entire school disruption period. Students were allowed to return to schools at the start of the new school year (October 2020, Figure 4.1.1). The re-opening of schools in October coincided with a substantial increase in the number of people testing positive in December and January. The number of people testing positive decreased substantially after January 2021. **The reference period in Burkina Faso consisted of 7.5 months of school disruption** (see Figure 4.1.1). School closure rules were taken at the national level, meaning that they applied to all schools in the country. The regular summer holidays start at the beginning of July and last until October, however, the 2019-2020 school year was prolonged by a month, while the school year 2020-2021 started a few weeks earlier (mid-September), meaning the summer holiday period was reduced by about two months in total.

Centralization and accountability in Burkina Faso

Burkina Faso can be characterized as a centralized education system as the national Ministry of Education is primarily responsible for providing schools with guidance and directions concerning teaching and learning practices. More precisely, the Ministry of Education provides instructions to the different regional governments, which are then passed on to the individual provinces within that region who are responsible for overseeing the schools. This did not change during the COVID-19 disruption. Only private schools gained slightly more autonomy to decide on teaching and learning practices during the pandemic.

During the school disruption, the final examinations were deferred by almost one month (from mid-July to the end of July). Other than that, there were no planned assessments in Burkina Faso, neither were additional assessments organized to follow up on student learning progress and attendance nor on students'/teachers' emotional and physical health.

Figure 4.1.1: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Burkina Faso*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); World Health Organization (WHO, 2021); United Nations (UN, 2019).

Provision of resources and professional development

The Ministry of Education provided all schools with, amongst others, "a response plan regarding educational continuity" that gave guidance and directions on how to continue teaching and learning during the COVID-19 disruption (Ministry of Education, 2020). The main resources schools were provided with to facilitate remote learning were radio transmissions, television broadcasts (accessible via the website of the Ministry of Education), and paper-based materials. The first two of these were already available to schools before the COVID-19 pandemic, whereas the paper-based resources were mainly introduced and provided to schools during the pandemic. The Response Plan prepared by the Ministry of Education (2020) explicitly addressed the need to provide schools and teachers with digital resources and support measures that could enable them to develop remote learning strategies. These included the provision of computer equipment and other ICT resources, internet connectivity, video conferencing software, and support for teachers on how to use the resources and develop digital learning materials. The provision of formal support for the development of digital resources for education was a direct response to the COVID-19 disruption. Furthermore, teachers were strongly encouraged to collaborate with each other during the pandemic.

Social distancing and hygiene measures for in-person schooling

The Ministry of Education provided schools with a number of health and safety guidelines as they made plans to reopen for physical attendance. These included expanding the hygiene facilities (soap/sanitizer), increasing cleaning on school premises, enforcing social distancing between students and adults, and providing the option of continued remote learning for students.

Denmark

COVID-19 situation in Denmark and its impact on the education system

On February 26, 2020, the first Danish citizen tested positive for COVID-19. Denmark reacted quickly to stop the spread of the virus, enacting several lockdown measures, including the closure of schools affecting all grades starting on March 16. On April 15, this rule was adjusted, allowing students from grades 0-5 to attend schools physically. Approximately a month later, all students were allowed to go back to schools on May 18. The decision to reopen schools was made partly out of concern for children's learning and wellbeing, concern for parents' ability to work, and because of the relatively low number of people testing positive (see Figure 4.1.2). On December 16, 2020, schools were again closed for physical attendance due to the rising number of people testing positive, hitting its highest point in December, with 1.4% of the population testing positive. During this time, teachers were asked to conduct their courses remotely, as they were doing during the first closure period. Students from grades 0-4 were allowed to return to school on February 8, 2021, while remote learning continued for students in higher grades until March 19, 2021. **The reference period in Denmark is defined as the first lockdown, lasting slightly more than 2 months** (see Figure 4.1.2).

School closure rules were taken at the national level and applied to all schools. However, the rules were broad, allowing space for individual schools to interpret them to their context.

Centralization and accountability in Denmark

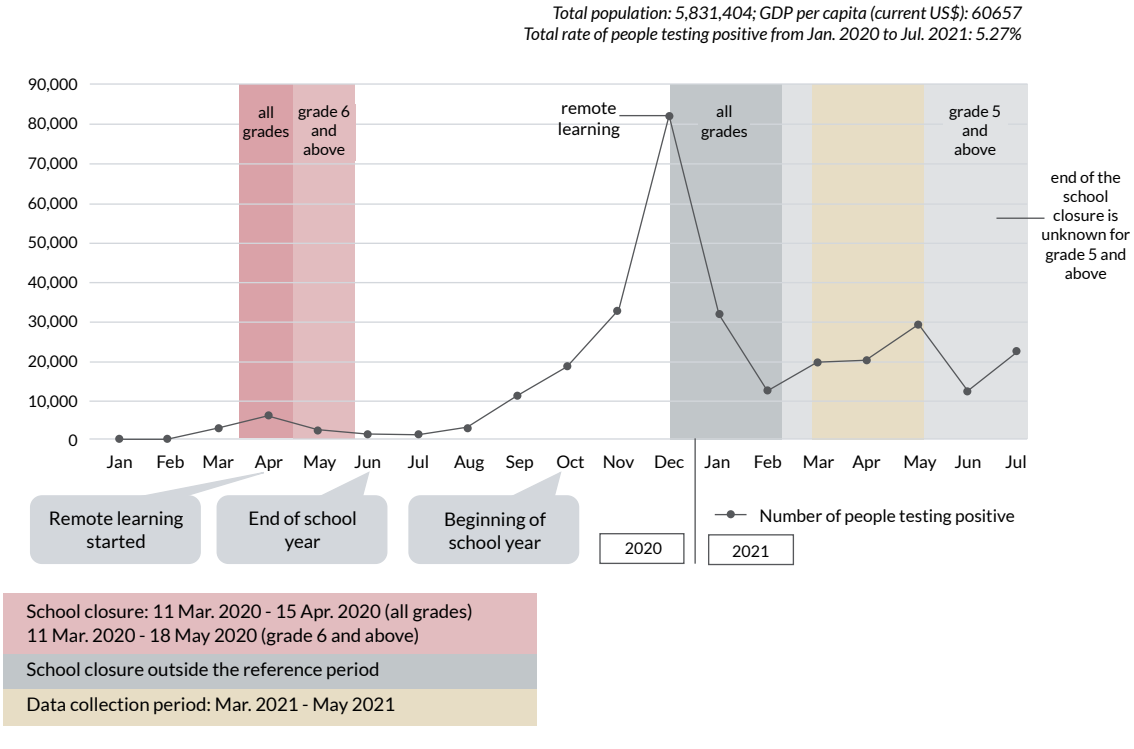
Denmark is known as a decentralized education system, meaning that compared to a centralized system, schools have a greater degree of discretion to establish guidance and directions concerning teaching and learning at school (OECD, 2017). This did not change during the COVID-19 disruption, and schools continued to operate autonomously. The Ministry of Education developed an executive order regarding emergency teaching, in which it is stated that the institution or school must organize emergency teaching according to the individual student's needs, to the best extent possible. Hence, each school was able to decide how to best handle their situation.

Despite the COVID-19 disruption, schools in Denmark were able to organize assessments as planned. Additional assessments to follow up on possible gains or losses in learning outcomes of students were not organized at the national level. Denmark's Ministry of Education did seek to recruit researchers to investigate how the COVID-19 crisis affected students' and teachers' emotional health as well as students' physical health.

Provision of resources and professional development

Schools were not provided with additional resources during the COVID-19 disruption. Importantly, formal support for developing digital learning practices was already granted before the COVID-19 disruption. As such, digital resources (such as virtual learning environments or learning management systems), digital lessons, digital learning materials, digital devices for students and teachers to use in remote learning were already available, alongside paper-based resources. Since schools operate autonomously, they were not required to use any of these resources in response to the COVID-19 disruption. The only requirement that schools were obliged to fulfill was to conduct students assessment as planned. Although there was little obligatory guidance from the national ministry, they still recommended that schools implement the use of home access to school-based digital education resources, physically distribute learning materials, support teachers to use computer and other ICT equipment in remote teaching, and provide digital learning materials. Moreover, the national authorities also highlighted the importance of supporting students that were falling behind during the COVID-19 disruption.

Figure 4.1.2: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Denmark*



Notes: Details on the interpretation are provided in the introduction of this section. The end date of the second school closure is missing for grade 5 and above.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Social distancing and hygiene measures for in-person schooling

Although schools had much autonomy during the COVID-19 disruption, national authorities implemented policies regarding social distancing and hygiene measures. Schools in which physical attendance was allowed after the disruption were required to implement greater access to hygiene facilities (soap/sanitizer), increased cleaning on school premises, social distancing between students and adults, and continued remote learning options for students. Other measures that were recommended, but not required, were varying school starting times for different groups of students, smaller class sizes, and supplementing face-to-face teaching with remote teaching. Measures such as increasing the number of staff or splitting up the break times between classes for different groups of students were not referred to in any policies or plans.

Ethiopia

COVID-19 situation in Ethiopia and its impact on the education system

On March 13, 2020, the first person tested positive for COVID-19 in Ethiopia. On March 16, all schools were closed. School closures continued for the rest of school year 2019-20, and into the beginning of school year 2020-21. In November 2020, after eight months, schools reopened. To ensure that the most important pedagogical content was covered in the classroom, the curriculum for the school year 2020-21 was adjusted. **The reference period in Ethiopia consisted of 7.5 months of school disruption** (see Figure 4.1.3). During the reference period, the number of people testing positive steadily increased until August 2020. At the time of schools reopening, Ethiopia had already started to see a decline in the number of people testing positive.

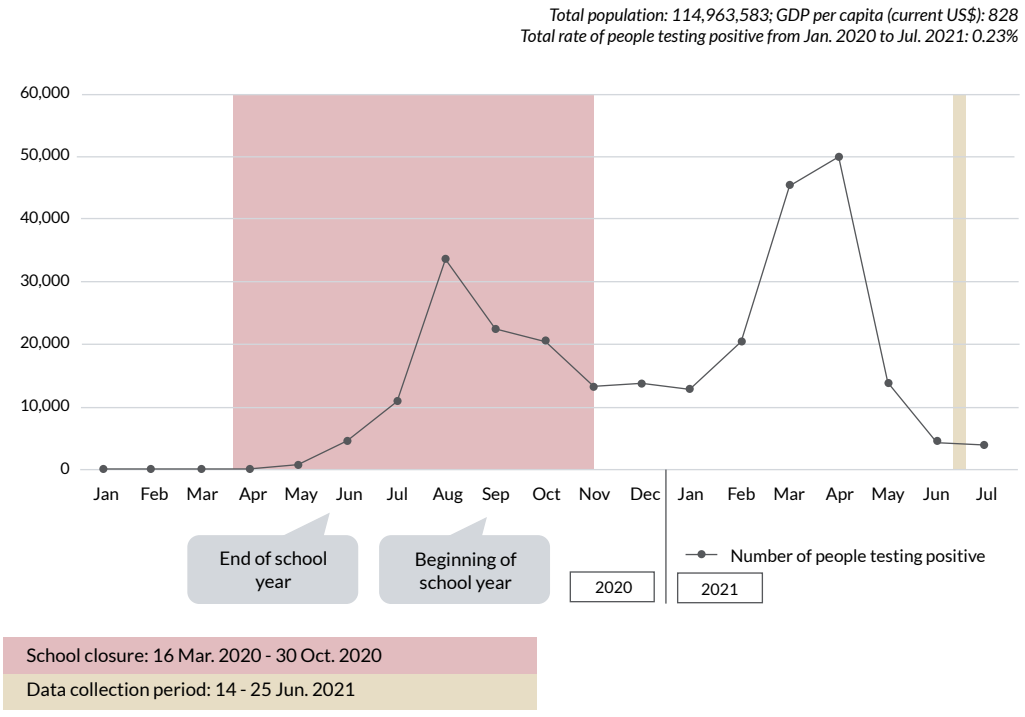
Decisions on school closure and reopening were made at the national level, meaning that all schools were obligated to follow them. However, some districts granted flexibility to certain schools that needed more time to prepare for reopening, so that they could implement measures to adhere to the rules that governed reopening.

Centralization and accountability in Ethiopia

In Ethiopia, the way in which teaching and learning practices are organized is determined by the Ministry of Education and the Regional Education Bureaus. More precisely, the Ministry of Education is responsible for designing the curriculum and national policies. Regional Education Bureaus are responsible for implementing the education policies formulated at the national level. This task division continued to exist during the COVID-19 pandemic. As a response to the COVID-19 disruption, the Ministry of Health and Attorney General also developed guidelines and regulations for schools and students. In addition, Ethiopian schools have some degree of autonomy concerning the implementation of the outlined curriculum and national policies. For example, schools can adjust school schedules in response to the capacity and resources of their classrooms. This autonomy was also granted to schools during the COVID-19 disruption.

Planned assessments were postponed to a later date due to the disruption. Additional assessments to measure the impact of the COVID-19 disruption on students' academic outcomes, as well as students' and teachers' physical and emotional wellbeing, were not implemented.

Figure 4.1.3: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Ethiopia*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Provision of resources and professional development

The government delivered a number of documents to local authorities and schools in which regulations, guidance, and priorities on how to react to the pandemic were set out. In regard to the provision of resources; schools received access to paper-based resources, formative assessments, and access to television broadcasts to continue learning during the COVID-19 disruption. Moreover, in cities with internet access, schools used the Telegram app [8] to send students reading materials, notes, and assignments. In comparison to public schools, private schools made greater efforts to reach their students by sending materials and assignments home through parents. In contrast to the other resources mentioned, radio or audio broadcasts to support teaching and

[8] Telegram is an instant messaging application. https://telegram.org/

learning were already available prior to the pandemic. Schools that had access to these resources were required to use them to enhance remote learning practices. Furthermore, schools were requested to ensure the following priorities were implemented: providing support for students that are falling behind, facilitating collaborations between teachers, providing guidance to schools on how to support parents/guardians, supporting safe working environments and/or healthy work practices, and ensuring social and emotional support for teachers. Professional development courses for teachers, students, or parents to develop their ICT-related competencies were not prioritized.

Social distancing and hygiene measures for in-person schooling

The Ethiopian government established a number of measures for the reopening of schools in November 2020. These included varied school starting and break times for different groups of students, increased hygiene facilities and cleaning on school premises, social distancing rules between students (and adults), and smaller class sizes. Making remote learning available, implemented blended learning practices, and increasing the number of staff were recommended but not required.

India

COVID-19 situation in India and its impact on the education system

On January 27, 2020, the first Indian citizen tested positive for COVID-19. A lockdown was imposed by the government on March 24, which prohibited all students from physically attending schools. Starting in mid-October 2020, schools slowly reopened in most states. However, this largely applied to students enrolled in grades 8 to 12. For students in lower grades, remote learning continued in most of the states. **The reference period in India consisted of at least 7 months of school disruption** (see Figure 4.1.4). During the reference period, the number of people testing positive steadily rose and didn't start to decline until October 2020.

Decisions regarding school closure were made at both the national and state level. However, during the pandemic, several documents providing guidelines on the reopening of schools, the facilitation of remote learning, the maintenance of the mental health and well-being of students, among others, were laid out at the central-level and then localized by the States, Union Territories, and schools, giving them a certain degree of flexibility. During school closures, many schools had to abruptly shift to remote teaching practices. However, this also enlarged the digital inequity within the country, since many schools were not prepared and students (especially in rural areas) did not have the means to access digital materials. Numerous other approaches were thus taken to enable learning during school closures, through online, television, radio, and paper-based programmes and materials. Most teachers–except those teaching in elite schools–used mobile phones as their main teaching device, which led to various challenges. These challenges included low attendance, class disruptions due to poor internet quality, and students getting distracted easily, etc. Due to the COVID-19 disruption, in many states, orders were issued to cancel the end of year examinations and promote all students up to grade 8.

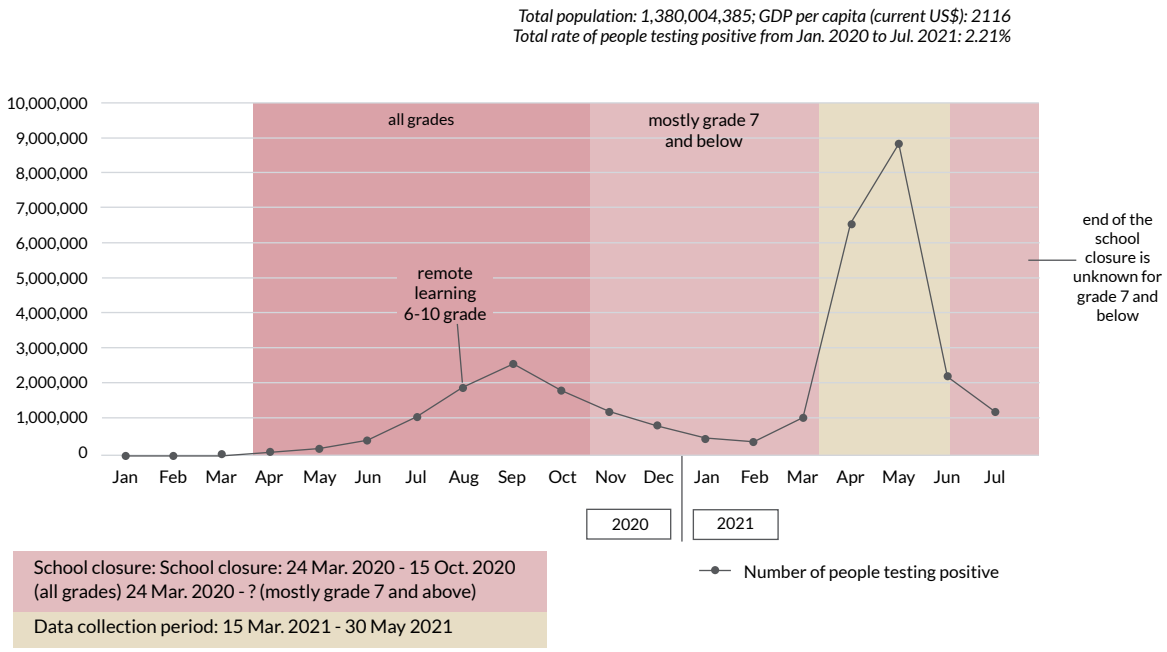
Centralization and accountability in India

Schools in India are very diverse in terms of the school board, management, and funding, which affects the type of guidance and autonomy schools receive. Schools can differ based on the school board they are affiliated with (e.g., The Central Board of Secondary Education, The State Board, The Indian Certificate of Secondary Education, International Baccalaureate, etc.), the type of management they have (central, state, or private), and the type of financial support they receive (fully funded by central/state or unaided/self-financing). Consequently, decisions regarding the teaching and learning practices are a shared responsibility of the Ministry of Education, the Indian States, and the local bodies, depending on the type of school. During the COVID-19 disruption, this remained a shared responsibility. Guidelines were provided by the Ministry of Education, which were adopted by the States based on the severity of the pandemic. The degree of autonomy schools had before and during the COVID-19 disruption was similar and depended on the funding body and management type. Schools that are funded centrally or managed by the central

government received lesser autonomy. Schools that receive state funding (including privately managed) experienced some degree of autonomy. Schools that are self-funded kept a relatively high level of autonomy in determining their teaching and learning practices.

Due to the pandemic, the scheduled term-end assessments in the domains of language, mathematics, sciences, human sciences, and IT were cancelled or postponed. However, some state and private managed schools conducted formative assessments in certain parts of the country. To monitor the impact of the COVID-19 disruption on students' learning progress, the Ministry of Education provided guidelines for assessing students after the reopening of schools. However, flexibility was built into the assessment schedules as many schools remained closed as the country dealt with a second wave. Furthermore, rapid assessment-based surveys were conducted by different agencies to monitor the pandemic's impact on student achievement and school attendance.

Figure 4.1.4: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in India*



Notes: Details on the interpretation are provided in the introduction of this section. The end date of the reference period is missing for grade 7 and below.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Provision of resources and professional development

The Ministry of Education, States, and Boards provided schools with guidance, plans, and rules on how to address the challenges to school education as a result of the COVID-19 disruption (e.g., India Report - Digital education, 2020). Most schools were already making use of the large set of digital resources that were available prior to the COVID-19 pandemic, such as digital lessons or learning materials, television and radio broadcasts, and paper-based resources. However, some additional digital resources were provided to schools during the COVID-19 disruption. These included virtual learning environments or learning management systems, virtual assessments, and digital devices for teachers and students who did not have their own devices at home to use for remote teaching. Schools were required to use all the above-mentioned digital and paper-based resources, and this was advocated both by the Ministry of Education and the States. Furthermore, schools were requested to ensure the following priorities were given: professional development for teachers' general and pedagogical use of ICT, support for students who were falling behind, support for safe working environments and/or healthy work practices, and socioemotional support for teachers. Collaborations amongst teaching staff, guidance for schools

on how to support parents/guardians, the development of ICT-related competencies in students, and the use of ICT to improve communication with parents, were also implied to be necessary in the Ministry of Education's guidance documentation.

Social distancing and hygiene measures for in-person schooling

A number of rules regarding social distancing and hygiene measures accompanied the reopening of schools. Schools where physical attendance was allowed again were required to implement varied school starting and break times for different groups of students, increased hygiene facilities and cleaning on school premises, social distancing rules between students (and adults), smaller class sizes, the option of continued remote learning for students, and supplementing face-to-face teaching with remote learning. Smaller class sizes were recommended but not required.

Kenya

COVID-19 situation in Kenya and its impact on the education system

On March 13, 2020, the first confirmed citizen tested positive for COVID-19 in Kenya. Shortly after, in the week of March 16, the Kenyan government decided to prohibit the physical attendance at schools for all students. **The length of the reference period in Kenya is unknown, as this information was not provided on the questionnaire** (see Figure 4.1.5)[9]. During the reference period, the number of people testing positive generally varied from month to month. Decisions on school closure were taken by the national government and, consequently, affected all schools. To ensure pedagogical continuity, remote learning practices were adopted by means of radio and television broadcasts and other online platforms. However, many students from poor, vulnerable, and marginalized households could not access learning through these new mediums, which raised concerns with respect to the socio-economic equity of learning opportunity. To address these equity concerns, the Ministry of Education administered a survey to assess the extent of access to e-learning content. Moreover, when schools eventually reopened, they were asked to review the learning material that should have been covered during the period of school closures to ensure all students had access to the learning.

Centralization and accountability in Kenya

Kenya is a centralized education system, in which the Ministry of Education is responsible for establishing directions and guidance for teaching and learning at school, meaning that schools have little autonomy to make these decisions on their own. This remained the case during the COVID-19 disruption. Plans and policies regarding the appropriate response to the COVID-19 disruption were provided by the National Ministry.

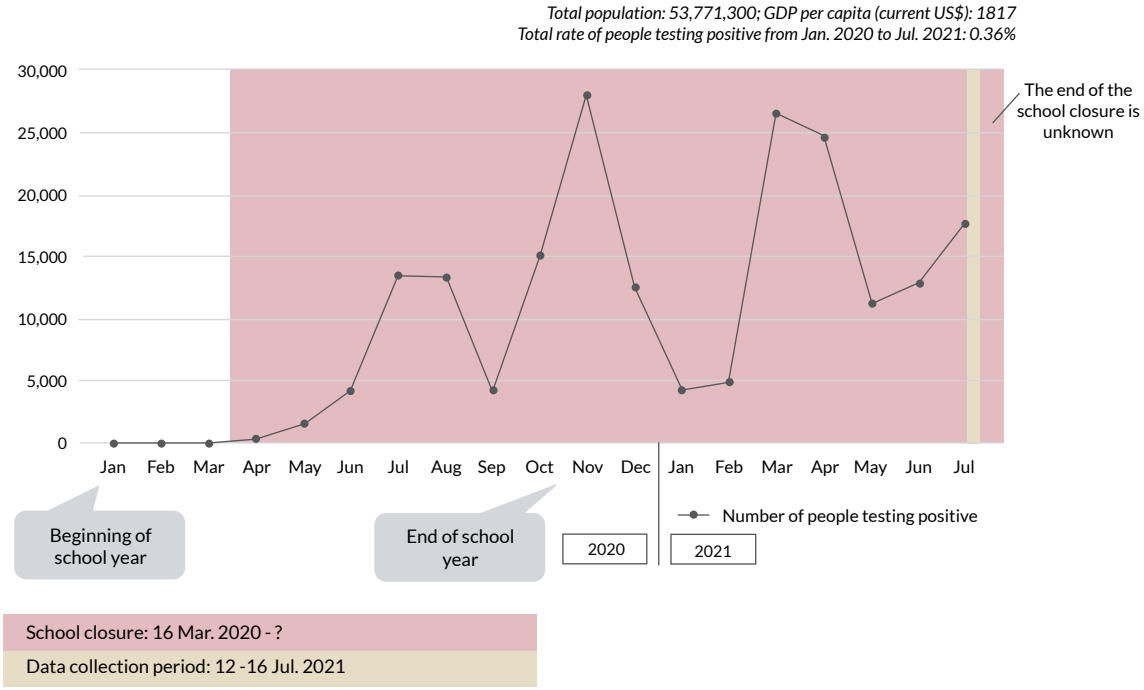
Planned assessments were postponed due to the pandemic. To monitor the impact of the COVID-19 crisis on students' learning process, mandated special assessments in all subjects were taken. Moreover, sample-based or census data were collected to monitor the overall impact of the disruption on student achievement.

Provision of resources and professional development

To support the instruction and learning of students during the COVID-19 pandemic, a number of resources were formally provided to schools, which were not available prior to the pandemic. Specifically, the government provided schools with resources to arrange remote learning through both radio and television broadcasts and other virtual learning environments or learning management systems. Schools were required to use the available resources (i.e., television/radio broadcasts or online platforms). Apart from the formal support concerning the above-mentioned resources, plans and documents created by the government to address the COVID-19 disruption also emphasized the need for the following resources: provision of computer equipment and other ICT resources for teachers and students, maintenance of computer equipment and other ICT resources, internet connectivity, and development and provision of digital learning materials. Moreover, the provision of computer equipment and other ICT resources to schools, support

[9] The exact end date of the reference period is missing.

Figure 4.1.5: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Kenya*



Notes: Details on the interpretation are provided in the introduction of this section. The exact end date of the reference period is missing.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

for teachers in using computer resources and other ICT for remote teaching, and paper-based resources were implicitly recommended. It was also noted that there was formal support by government agencies both before and during the disruption to develop digital resources for learning.

Social distancing and hygiene measures for in-person schooling

A number of measures related to social distancing and hygiene were implemented by the government and obligatory for schools to implement after face-to-face schooling resumed. These included varied school starting times and breaks for different groups of students, increased hygiene facilities and cleaning on school premises. Other highly recommended measures were social distancing between adults and students, increasing the number of staff, continued remote learning options for students, and supplementing face-to-face teaching with remote teaching.

The Russian Federation

COVID-19 situation in the Russian Federation and its impact on the education system

In March 2020, during a meeting of Russia's nationwide anti-coronavirus task force it was recommended to temporarily transfer the educational process to distance learning, if necessary. On March 23, most schools were closed, and distance learning commenced. A federal sanction allowed schools to reopen on April 12, but different regions could extend and establish their own lockdown periods. **The reference period in the Russian Federation lasted for less than one month** (see Figure 4.1.6).[10] The number of people testing positive remained stable, at a low level through September 2020, before starting to rise in the winter months. School closure rules were taken at the national level and applied to all schools.

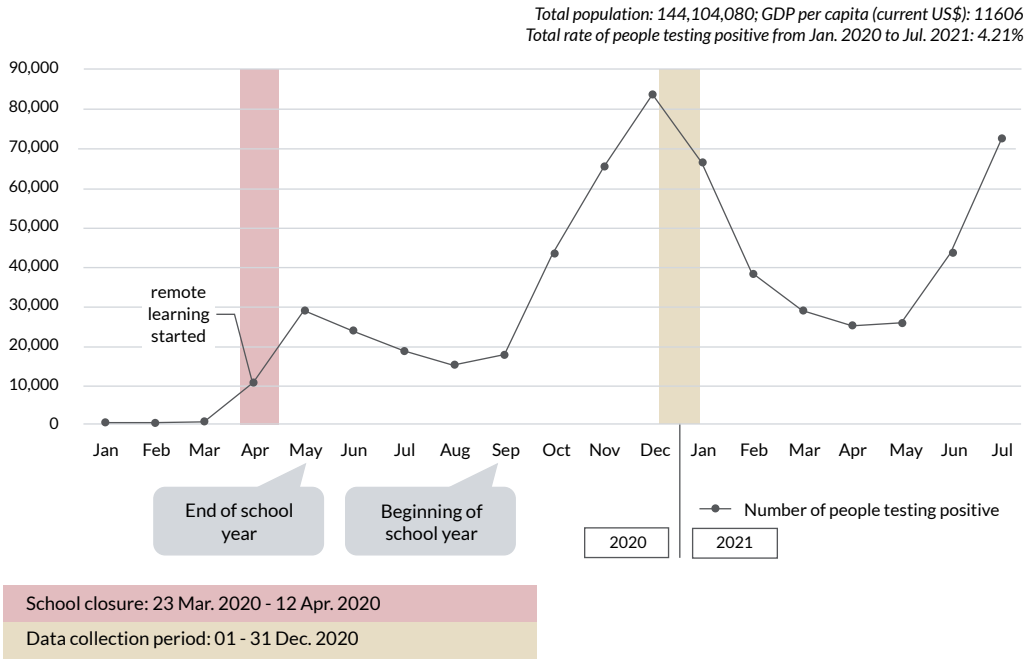
[10] There was flexibility granted to regions to extend the school closure period based on local circumstances.

Centralization and accountability in the Russian Federation

The Russian Federation is characterized as a centralized education system, where the responsibility for establishing directions and guidance for teaching and learning at the federal level primarily rests with the Ministry of Education of the Russian Federation and the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing. During the COVID-19 disruption, plans and policies were developed at the national, state/provincial, and local levels (Ministry of Education of the Russian Federation, 2020). Schools had some autonomy regarding the establishment of directions and guidance for teaching and learning, with private schools having complete or a high level of autonomy to make decisions over teaching and learning.

Assessments, which had been scheduled, were eventually postponed. The Basic State Examination (OGE) and State Graduation Examination were administered between June 8 and July 31. Data on student achievement, student attendance, and student/teacher physical health were collected in order to monitor the impact of the pandemic on students and teachers. In September 2020, national assessments, which had been postponed, were administered in all schools across multiple subjects to identify specific areas impacted by the disruption.

***Figure 4.1.6:** Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in the Russian Federation*



Notes: Details on the interpretation are provided in the introduction of this section. There was flexibility granted to regions to extend the school closure period based on local circumstances.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Provision of resources and professional development

A set of documents were shared with schools to provide them with direction for teaching and learning during the disruption period (Ministry of Education of the Russian Federation, 2020; Federal Service for Supervision of Education and Science, 2021). Additionally, prior to the pandemic, a National Project "Education" for 2019-2024 had already provided some guidelines for setting up online learning environments and building the capacities of schools to use technology (Ministry of Education of the Russian Federation, 2019). While virtual learning environments, assessments of student learning, and television and radio broadcasts to support learning had mostly been available before the COVID-19 disruption, a number of additional resources were

provided specifically for the pandemic, including, digital lessons or learning materials, paper-based materials, and digital devices for students and teachers to be used for remote learning. All resources were freely available to the public to benefit both teachers and students. Plans and policies explicitly mentioned professional development for teachers' use of ICT, development of ICT-related competencies in students, use of ICT to improve communication with parents, support of students that were falling behind, collaboration among teaching staff, guidance for schools about how to support parents/guardians, and social-emotional support for teachers as priority areas.

Social distancing and hygiene measures for in-person schooling

When returning to schools, a number of precautionary health measures were emphasized such as varied school start and break times for different groups of students, increased hygiene facilities (soap/sanitizer) and cleaning on school premises, social distancing between students and adults, continued remote learning options for students, and other infection control measures (e.g., mandated wearing of masks). Additionally, smaller class sizes and more staff were implicitly recommended in school guidance.

Rwanda

COVID-19 situation in Rwanda and its impact on the education system

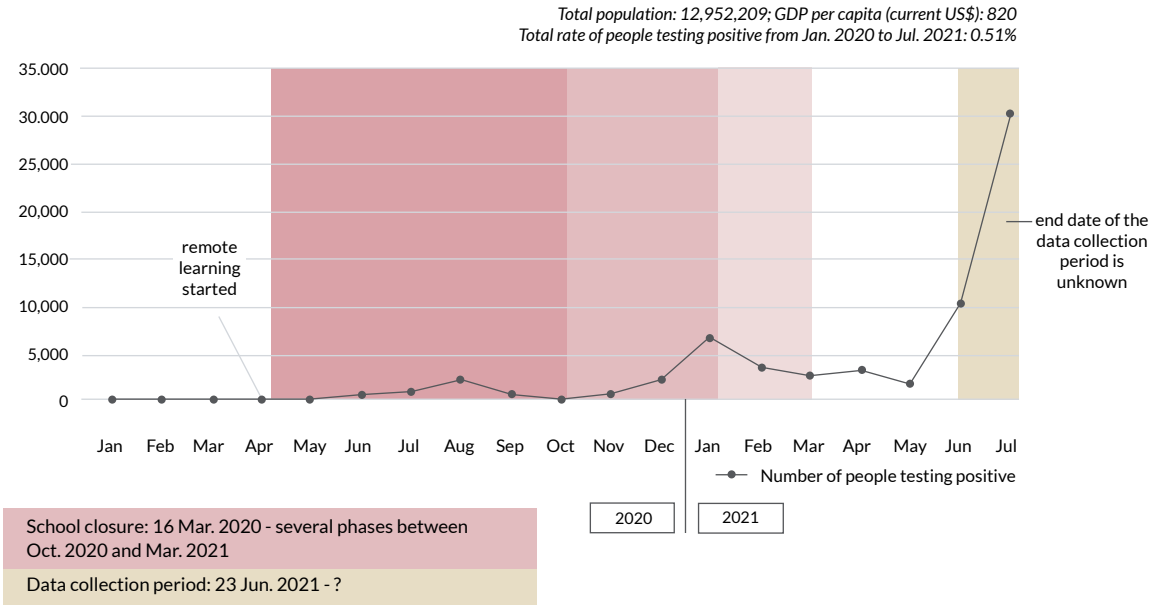
On March 14, 2020, Rwanda reported its first confirmed case of COVID-19. Shortly after, the government decided to prohibit the physical attendance of students in all schools (public, private, and government aided) starting on March 16. School reopening was completed in several phases that took place between October 2020 and March 2021. **The reference period in Rwanda for the majority of schools consisted of 8 months of school disruption** (see Figure 4.1.7). The number of people testing positive during the reference period steadily rose until August 2020, but eventually began to fall as reopening phases started to take place. In January 2021, however, the number of people testing positive reached a second peak after some schools had already reopened. School closure rules during the reference period were taken at the national level, meaning that they applied to all schools.

Centralization and accountability in Rwanda

Under normal circumstances, the Ministry of Education establishes guidelines concerning teaching and learning. During the COVID-19 disruption, the responsibility was, however, shared among several authorities. The Rwanda Biomedical Centre and Ministry of Health were involved in these decisions by providing guidelines regarding health and safety issues at school. Local governments were also involved to monitor activities at the school level and to ensure that the COVID-19 measures were respected (e.g., no social gatherings at school). While local governments generally have a high level of autonomy regarding decisions on teaching and learning, the health measures introduced during the pandemic brought some limitations on the types of teaching and learning that local governments could allow.

During the school closures, no assessments were scheduled. However, students were provided access to online self-assessments using multiple choice questionnaires. To follow up on students' learning loss or gains, special assessments in all subjects were carried out after schools reopened, with a stronger focus given to core subjects such as Mathematics, English, Biology, Physics and Chemistry. Furthermore, data were collected on student achievement, student attendance, and students' and teachers' physical health to monitor the impact of the COVID-19 crisis.

Figure 4.1.7: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Rwanda*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Provision of resources and professional development

A number of resources were made available to schools to facilitate instruction and learning during the COVID-19 disruption. While digital lessons/learning materials and assessments of student learning were already available to schools prior to the pandemic, virtual learning environments and learning management systems, paper-based resources, digital devices for teachers, and television and radio broadcasts were expanded during the disruption. Furthermore, some teachers needed to receive ICT devices to increase their capacity to deliver instruction using technology. Schools were not required to use the above-mentioned digital resources, as the Ministry of Education was not able to provide them to all schools. However, some form of remote learning was encouraged for all schools. In addition, plans and policies explicitly stated the priority to support the professional development of teachers in the use of ICT for learning.

Social distancing and hygiene measures

Schools were required to implement a number of health and safety measures upon the return of students to in-person learning. These measures included varied break times between classes, increased hygiene facilities and cleaning in schools, social distancing between students and adults, smaller class sizes, increased number of staff, and infection control (e.g., mandated wearing of masks). Policies further recommended (but not required) were varied school start times, continued remote learning options for students, and supplementing face-to-face teaching with remote teaching.

Slovenia

COVID-19 situation in Slovenia and its impact on the education system

On March 4, 2020, the first case of COVID-19 was confirmed in Slovenia. Nearly two weeks later, on March 16, 2020, all elementary schools were closed. Schools reopened prior to the end of the school year, with students returning sometime between May 18 and June 3 depending on their grade level. **The reference period of school disruption in Slovenia lasted for approximately 3 months** (see Figure 4.1.8). During this time, the number of people testing positive stayed relatively low, however, between September 2020 to March 2021, Slovenia experienced a rapid rise in the

number of people testing positive.

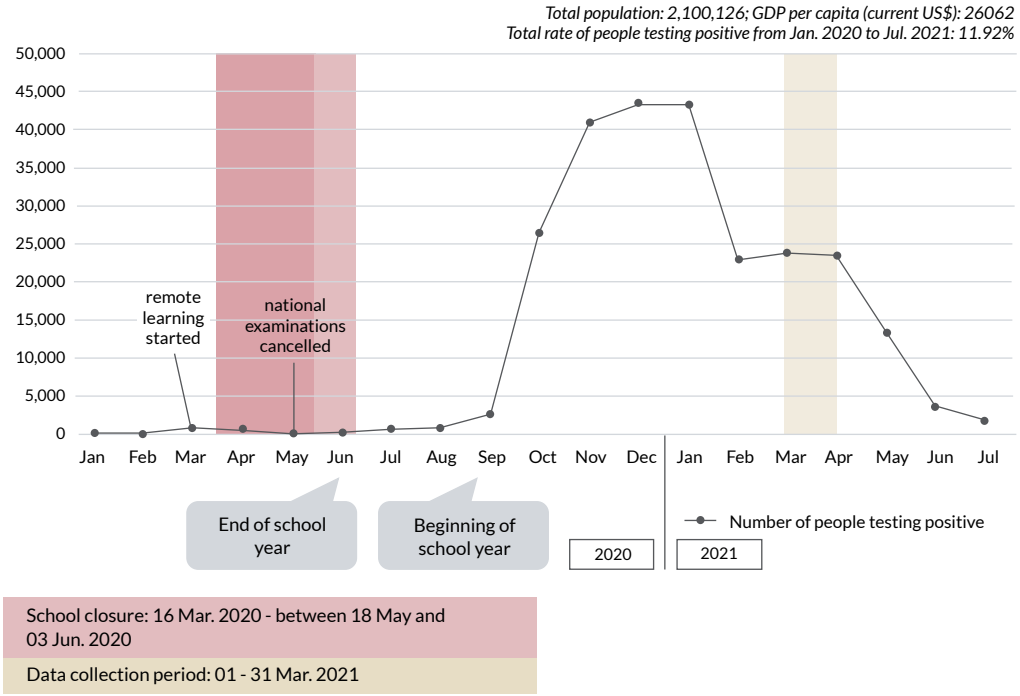
School closure rules were established at the national level and applied to all schools, both public and private. The school year 2019-20 was not prolonged and ended as prescribed.

Centralization and accountability in Slovenia

Slovenia is characterized as a centralized education system[11], and the national Ministry of Education, Science and Sport is the primary authority on education although municipalities are central to the provision of public compulsory education. The Ministry defines the policies and other rules related to education, as well as the general curriculum. The National Education Institute is primarily responsible for providing schools with guidance and directions concerning teaching and learning practice (and to prepare syllabuses for each subject). This did not change during the COVID-19 disruption. The Ministry sent organizational and health guidance via circular letters, and the National Institute of Education prepared documents related to subject-specific curriculum/syllabuses. Despite this, public schools were granted slightly more autonomy to decide on teaching and learning practices during the pandemic in the sense that schools and teachers had more opportunity to provide instruction when they wanted and assess students in the ways they felt appropriate. The National Education Institute supported schools and teachers with different guidance on the aforementioned topics during this period.

In Slovenia, the national assessment planned for grades 6 and 9 were cancelled for the school year 2019-20. National assessments resumed for the school year 2020-21 with some new rules and guidance to accommodate health and safety during the pandemic. Alongside the national assessments for the first time, a student questionnaire (which was not mandatory for students) was administered and linked to assessment results to gather better insights into learning loss. No sample-based or census data were collected to monitor the impact of the COVID-19 disruption on students and teachers. Descriptive data were collected by the media, some faculty members, and the National Institute for Education at the end of the school year 2019-20 to get a sense of the impact of the pandemic, however, they were not representative of the entire population.

Figure 4.1.8: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Slovenia*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

[11] Compulsory basic education in Slovenia is organized as integrated primary and lower secondary education, i.e., as a single structure nine-year basic school.

Provision of resources and professional development

Schools regularly received messages and guidance from both the Ministry of Education, Science and Sport and the National Institute of Education (2020). A number of resources to support remote learning were already available to schools before the pandemic, such as virtual learning environments or learning management systems and a system for reporting student grades. While virtual learning environments were already available prior to the COVID-19 disruption, their use increased with the enforcement of remote learning. Digital lessons or learning materials were developed by different stakeholders (e.g., teachers), as well as some publishing houses that shared electronic and interactive materials nationally during this time. Furthermore, digital devices were often issued by the school/state to those without access to a computer or the internet. Physical distribution of paper-based materials was also offered to homes with no computer/internet or to families who were not easily contactable. National television broadcasts were also used to support learning with content linked to syllabuses. Schools were required to use the above-mentioned resources to support remote learning, with the use of student assessments intended to happen once schools reopened. Guidance from the Ministry of Education, Science and Sport and National Education Institute explicitly stated the need to provide schools and teachers with several digital resources (e.g., internet connectivity, video conferencing, school-hosted online portals, etc.) as well as support measures enabling them to develop remote learning strategies. Professional development aimed at supporting the use of ICT in remote learning was explicitly emphasized in the guidance. Formal support measures for the development of digital resources (e.g., e-textbooks, open educational resources) had always been available, even prior to the pandemic. In addition, the University of Maribor established a joint educational support centre to assist and provide guidance on the successful implementation of distance education (collecting materials produced for all school subjects at the level of compulsory education; providing individual help, explanations, and cooperation between students and teachers).

Social distancing and hygiene measures for in-person schooling

When students returned to the school building, a number of measures were taken, these included increased hygiene facilities (soap/sanitizer) and cleaning on school premises, and infection control measures (e.g., mandated wearing of masks). In addition to the required measures, recommendations were made to implement varied school starting and break times for different groups, social distancing between students and adults, and continued remote learning options for students.

United Arab Emirates

COVID-19 situation in the United Arab Emirates and its impact on the education system

On January 29, 2020, the first case of COVID-19 in the United Arab Emirates (UAE) was announced. In late March, the Ministry of Education announced that all schools should close. The number of people testing positive was relatively low at the time. Students continued their schooling through distance learning. On August 30, ISCED 1 (ages 6-10) students returned for face-to-face instruction, while ISCED 2 and 3 (ages 11-18) continued with distance learning. However, after a surge in cases over the winter break, starting from January 2021 (the winter term) all schools had to revert to distance learning. **The reference period in the UAE consisted of about 10 months of school disruption for students in ISCED 2 and 3. For ISCED 1 students, the reference period consisted of about 5 months** (Figure 4.1.9). School closure rules, for the most part, were the same for both public and private schools. However, exceptions were made for some private school students to return to in-person learning earlier in 2021 while most public school students remained in distance learning.

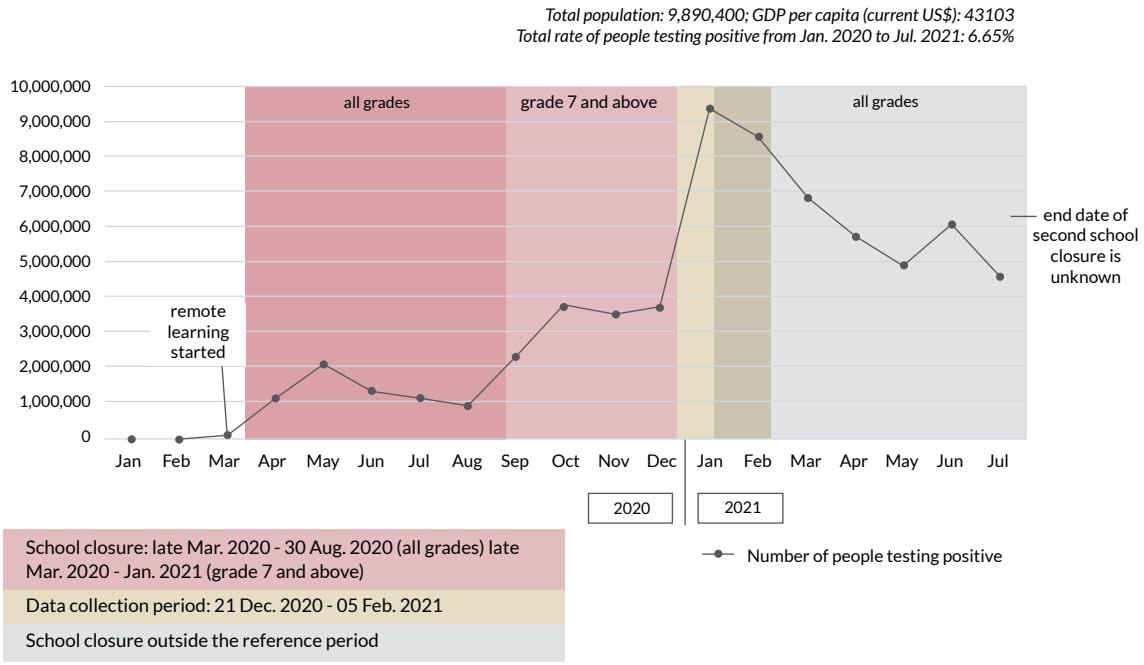
Centralization and accountability in the United Arab Emirates

The UAE is characterized as a centralized education system, with all public schools in the UAE managed under the authority of the Ministry of Education. While still receiving general education policy and directions from the Ministry of Education, private schools also have different

authorities based on the Emirate.[12] With this arrangement, private, special education, and charter schools had slightly more autonomy to make decisions over teaching and learning than public schools ("some autonomy" vs. "little or no autonomy"). This arrangement mostly held during the COVID-19 disruption. However, it was noted that private schools received more restrictions and guidance than usual from the central authorities regarding the specific modes of instruction (e.g., compulsory distance or hybrid learning) and health protocols (i.e., cleaning protocols, class sizes, social distancing, etc.) aimed at limiting the spread of COVID-19. Yet, private schools were still granted flexibility in creating reopening plans to accommodate the different types of schools and their capacities.

In public schools, regularly mandated assessments took place as scheduled. For private schools, school-based mandated summative assessments were discouraged due to integrity issues (assessment reliability and validity), but schools could ultimately make the final decision. The central authorities did not mandate any additional special assessments to monitor the impact of the COVID-19 disruption on learning progress. However, data on student attendance and student/teacher physical health were collected for this purpose. Public and private schools were encouraged to use diagnostic and formative assessments to measure learning gaps and develop interventions.

***Figure 4.1.9:** Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in the United Arab Emirates*



Notes: Details on the interpretation are provided in the introduction of this section. The end date of the second school closure is missing.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

[12] Abu Dhabi Department of Education and Knowledge (ADEK) in Abu Dhabi, Knowledge and Human Development Authority (KHDA) in Dubai, Sharjah Private Education Authority (SPEA) in Sharjah, and the Ministry of Education (MOE) managing the remaining Emirates.

Provision of resources and professional development

A number of documents were created by central authorities to provide guidance and outline plans for delivering instruction during the COVID-19 disruptions for both public and private schools (e.g., ADEK, 2020). In addition, a number of resources were made available to assist with the transition to distance learning that occurred during the academic year 2019-20. In public schools, the Ministry of Education had already begun a digital learning project (Alef Education) for a few years in some schools.[13] Several questionnaires were sent to schools to determine any additional needs. The Ministry of Education also provided laptops, online assessments, and Microsoft Teams to all students and teachers. For private schools, only schools with more resources had digital learning resources in place prior to the disruption, consequently, many resources had to be created and made available to those schools that had nothing in place. For instance, ADEK partnered with external providers to build a unified virtual learning environment for all private schools to access and use for free. In addition, a platform for private school teachers was created to facilitate the sharing of digital lessons and materials. Finally, private school students without digital devices were provided with tablets to be able to participate in distance learning, and paper-based materials were also physically distributed, if required. Many of the above-mentioned resources were required to be used by both public and private schools. Furthermore, policies and plans either explicitly or implicitly emphasized the needs for the provision and maintenance of digital resources to support distance learning. Across both public and private schools, plans or policies developed to address the COVID-19 disruption included professional development for teachers' use of ICT, development of ICT-related competencies in students, use of ICT in communicating with parents, support of students falling behind, collaboration among teaching staff, and social-emotional support for teachers, among others.

Social distancing and hygiene measures for in-person schooling

When preparing school return plans, both public and private schools were required to consider health and safety measures depending on school size and the return model (i.e., full face-to-face or partial face-to-face teaching, or distance learning). These measures included varied school starting times and varied school break times for different groups of students, increased hygiene facilities (soap/sanitizer) and cleaning on school premises, social distancing between students and adults, smaller class sizes, continued remote learning options for students, supplementing face-to-face teaching with remote teaching, and infection control measures (e.g., mandated wearing of masks). Furthermore, the Private School Reopening Policies and Guidelines document also explicitly mentioned the recruitment of classroom assistants and increasing the number of staff at schools (ADEK, 2020).

Uruguay

COVID-19 situation in Uruguay and its impact on the education system

In Uruguay, schools were closed on March 16, 2020. Schools outside metropolitan areas reopened between April and June 2020, and all public and private schools reopened on June 29. **The reference period of school disruption in Uruguay lasted for 4 months** (see Figure 4.1.10). During the reference period, the number of people testing positive stayed at a relatively low level, although it began to rise between December 2020 and March 2021. Decisions over school closures were made at the national level and applied to both public and private schools. Before October 13, 2020, attendance in-person was not mandatory. After this date, compulsory

[13] Alef Education is a global education technology company whose mission is to transform K-12 school systems with technology-enable learning experiences. More information can be found on their website: https://www.alefeducation.com/

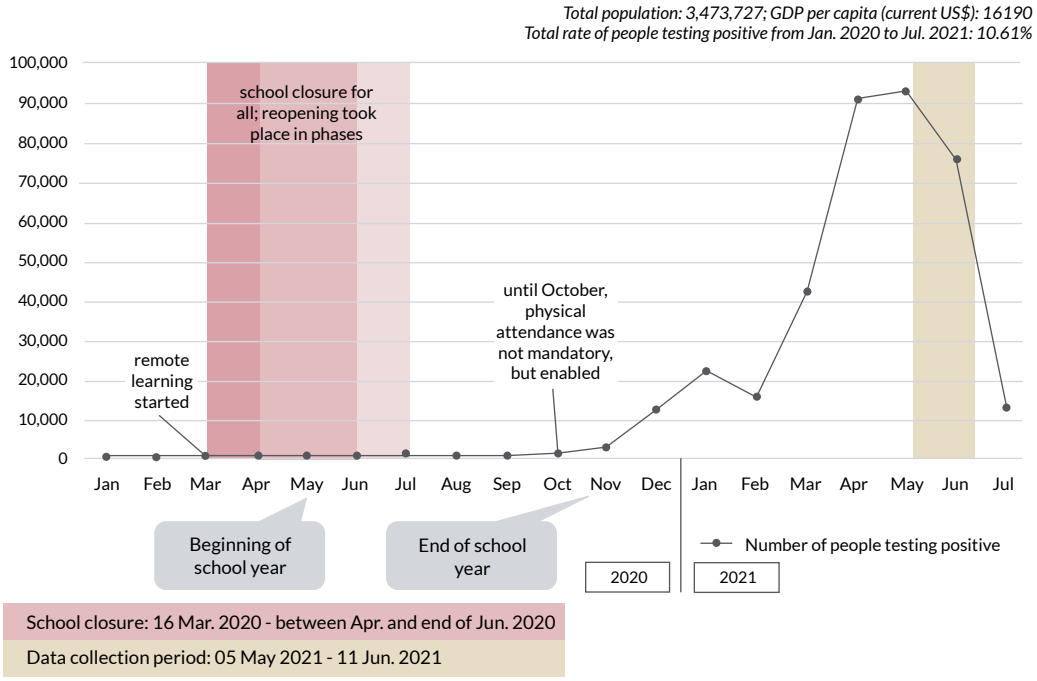
attendance was required, with some exceptions.

Centralization and accountability in Uruguay

Uruguay is characterized as a centralized education system, and the National Public Education Administration (ANEP) oversees all public schools and provides directions and guidance for teaching and learning at schools. This did not change during the COVID-19 disruption. However, during the pandemic, both public and private schools were provided with greater autonomy to decide on teaching and learning practices. While general guidelines and recommendations for the use of online education during school closures were provided to public schools, teachers were able to decide how to implement and adapt remote learning to fit the needs and context of their students. Private schools had a high level of autonomy to make decisions regarding teaching and learning during the COVID-19 disruption.

In Uruguay, mandated assessments in language arts, foreign language, and mathematics took place as scheduled. The science assessment, however, ended up being cancelled. No additional assessments were mandated, however, sample-based or census data on student achievement and attendance were collected to be used to monitor the COVID-19 disruption's impact on students and teachers.

Figure 4.1.10: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Uruguay*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

Provision of resources and professional development

Since 2007, Uruguay has had a plan in place that supports the use of technology in education: Plan Ceibal. The plan was created to promote digital inclusion and equal opportunities in education with the aim of providing a personal computer to every student in primary and middle public schools, internet access to all schools, and a comprehensive set of educational resources and pedagogical services and programmes. During the COVID-19 disruption, Plan Ceibal adapted and strengthened their services to teachers, students, and families, launching Ceibal en Casa (Ceibal at home). Students and teachers were given access to virtual learning environments, math platforms, a national digital library, as well as training and support. Families were provided content and guidance on how to support pedagogical continuity as well as socioemotional support. In

addition to the digital resources provided by Plan Ceibal, paper-based resources and television broadcasts were made available during the COVID-19 disruptions. Some school buildings remained open to provide food or paper-based learning materials to students in need. The plans or policies provided to schools required the use of online learning resources, but also explicitly emphasized many of the above-mentioned resources (including non-digital means to access education). Plans or policies also explicitly stated the following priorities: support of students that were falling behind, and collaboration among teaching staff. Furthermore, the following aspects were implicitly referenced in central plans or policies, professional development for teachers' general use of ICT, professional development for teachers' pedagogical use of ICT, and development of ICT-related competencies in students.

Social distancing and hygiene measures for in-person schooling

As students returned to schools for face-to-face instruction, guidance emphasized a number of protective health measures including varied school starting and break times between classes for different groups of students, increased hygiene facilities (soap/sanitizer) and cleaning on school premises, social distancing between students and adults, smaller class sizes, continued remote learning options for students, and infection control measures (e.g., mandated mask wearing).

Uzbekistan

COVID-19 situation in Uzbekistan and its impact on the education system

Uzbekistan confirmed its first case of COVID-19 on March 15, 2020. In response, the government of Uzbekistan announced the closure of all schools beginning on March 18. At the time, there were a relatively low number of people testing positive (see Figure 4.1.11). Schools would gradually reopen during the fall/autumn of 2020, allowing discretion to families to assess their situation and decide whether they would send their children back to school. **The reference period of school disruption in Uzbekistan lasted for 8 months**.

Centralization and accountability in Uzbekistan

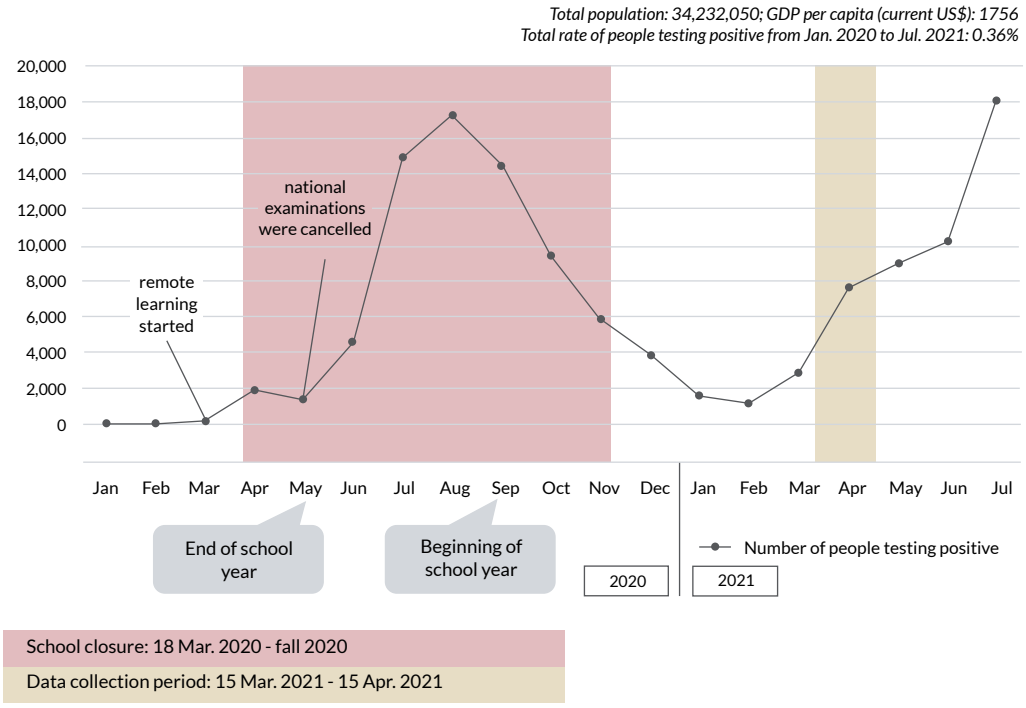
Uzbekistan is characterized as a centralized education system, with the Ministry of Public Education typically responsible for all aspects of school education. This slightly changed during the COVID-19 disruption. During the disruption, district councils or commissions with the input of sanitary and epidemiological centres, district public education, and district administration were able to make decisions over the learning format taking place in their schools. Therefore, responsibility for establishing directions and guidance for teaching and learning in schools was shared across multiple authorities (both national and local).

In Uzbekistan, mandated assessments took place as scheduled during the disruption. Furthermore, no special assessments were required to monitor the impact of the COVID-19 disruption on learning progress. However, sample-based or census data on student achievement, attendance, student emotional and physical health, and teacher physical health were collected and used for this purpose.

Provision of resources and professional development

A number of decisions by the Republican Special Commissions, published as orders by the Minister of Public Education, outlined plans to address the COVID-19 disruption to school education (Cabinet of Ministers of the Republic of Uzbekistan, 2020). Prior to the COVID-19 pandemic, the public education system already used some online information systems and websites, however, some other sources were newly introduced during the disruption. Beginning in March 2020, teachers and other specialists in public education were encouraged to begin preparing television and video lessons. Television lessons were broadcast across six TV channels of the National TV and Radio Company. Digital lessons or learning materials, physically distributed materials, assessments for student learning, and television broadcasts were all required during the disruption. A number of priorities were set through plans and policies aimed at addressing the COVID-19 disruption to education, such as professional development for teachers' use of ICT, developing student ICT-related competencies, use of ICT to improve communication with

Figure 4.1.11: *Monthly numbers of new people testing positive for COVID-19 from January 2020-July 2021, school closure, and data collection periods in Uzbekistan*



Notes: Details on the interpretation are provided in the introduction of this section.
Data Sources: The World Bank (2021); WHO (2021); UN (2019).

parents, support of students falling behind, collaboration among teaching staff, guidance for schools on how to support parents/guardians, and social-emotional support for teachers. These continued to be priorities for Uzbekistan as they entered the 2020-21 academic year.

Social distancing and hygiene measures for in-person schooling

To provide guidance to schools planning to reopen for face-to-face learning, several health safety measures were emphasized as requirements for schools. These measures included varied school starting and break times for different groups of students, increased hygiene facilities (soap/sanitizer), extended cleaning on school premises, social distancing between students and adults, smaller class sizes, continued remote learning options, supplementing face-to-face teaching with remote teaching, and infection control measures (e.g., mandated wearing of masks).

References

Please note: All country-specific documents that are cited in this section available in Appendix A2 Table A2.1(in the column: Documents and Publications).

Parveva, T., Horváth, A., Krémó, A., & Sigalas, E; Monseur, C. (2020). *Equity in school education in Europe: Structures, policies and student performance*. Education, Audiovisual and Culture Executive Agency, European Commission. http://doi.org/10.2797/880217

OECD, (2017). *The funding of school education: Connecting resources and learning*. OECD https://doi.org/10.1787/9789264276147-en

The World Bank. (2021). Population, total. Data. Retrieved September 15, 2021, from https://data.worldbank.org/indicator/SP.POP.TOTL

World Health Organization. (2021). WHO Coronavirus (COVID-19) Dashboard. Retrieved September 1, 2021, from https://covid19.who.int/info/

United Nations. (2019). Undata. Record view. Per capita GDP at current prices - US dollars. United Nations. Retrieved June 16, 2021, from http://data.un.org/Data.aspx?q=GdP&d=SNAAMA&f=grID%3A101%3BcurrID%3AUSD%3BpcFlag%3A

4.2 Impact of the pandemic on classroom teaching and learning

Mojca Rožman, Sabine Meinck, Minge Chen

Section highlights

Teaching and learning continued for the most part during the disruption and for most schools, remote instruction was not yet an integral approach to teaching. However, teachers, principals, and students needed to adapt to alternative teaching and learning methods with COVID-19 disrupting how schools around the world operate.

- Teachers in India, the Russian Federation, Slovenia, the United Arab Emirates, Uzbekistan and responding teachers in Denmark and Uruguay offered either online, or offline teaching, or a combination of both to their students. In Burkina Faso, and Ethiopia, most of the responding teachers did not do any remote teaching.
- The majority of students in the participating countries, except for responding students in Burkina Faso and Ethiopia, reported having their lessons outside the school building.
- Taking into account the duration of the disruption and the reliance on remote teaching and learning within this period, most responding students in Burkina Faso, about half in Ethiopia and a fifth in Kenya were not doing any schoolwork for at least four months.

A range of resources was needed to implement remote teaching and learning.

- The majority of students reported that smartphones and a good internet connection were available during the disruption.
- Most school principals reported that the capacity to deliver remote teaching was at least somewhat limited by a lack of student access to digital devices. Furthermore, many reported on a lack of teacher technical skills and experience in remote teaching pedagogy, as somewhat limiting.
- Most schools offered one-to-one support to all students, except for schools in Ethiopia, and Kenya.

Students and teachers reported on their perspectives on the impact of the disruption.

- Students reported they made more progress in certain subjects compared to before the disruption. At the same time, about half of the students across the participating countries agreed that it became more difficult to know how well they were progressing.
- Most teachers across the countries reported on using more time to adapt and plan lessons in comparison to before the disruption, and they were able to deliver enough content for students to meet the requirements of the curriculum.
- Many teachers across countries reported on a decrease in student learning and engagement during the period of disruption.

Introduction

This section provides information about the impact of the COVID-19 pandemic on classroom teaching and learning. The unexpected circumstances caused by the pandemic forced many schools around the world to close their doors to regular face-to-face teaching. Nevertheless, schools across many countries strove to find ways to continue teaching and learning by adapting their usual delivery methods. Schools needed to adjust rapidly to the new situation by identifying alternative approaches to teaching and learning, and where necessary, mobilizing additional resources. Fundamentally, schools needed to address the issues of how communication could take place between teachers and students and how suitable teaching and learning materials could be selected, sourced, and made available to students. The exact nature of these challenges varied according to the nature of the alternative teaching and learning methods (in particular, whether ICT-based delivery could be used as the core approach) and the individual circumstances of countries, and schools within countries.

This section addresses the REDS research question: *What were the impacts of the COVID-19 pandemic on teaching and learning*, and how were these mitigated by measures at the school level. It describes the conditions and the impact of the pandemic on classroom teaching and learning from the perspectives of principals, teachers, and students. It reports on the implementation of school closures, the nature of available resources, and changed approaches to teaching. The section is structured in three parts: school closure and remote teaching, study- and work environment, and general impact.

School closure and remote teaching

The COVID-19 pandemic affected countries at different points in time and with varying intensity. In Ethiopia, India, and Slovenia, school closures were governed by the same set of national rules. In Ethiopia, schools had to close from mid-March until November, in India from the end of March until mid-October, and in Slovenia from mid-March until the end of May (for details see Section 4.1).

In the remaining countries, there was the possibility for variations in the school disruption periods. REDS therefore asked school principals to report on the beginning and end of the disruption period. The available response options for the beginning of the disruption were the months January to August and for the end, March to October[14], as the intention was to define the initial disruption period. Of note, it turned out that the initial disruption period lasted longer than October 2020 in Kenya and Uzbekistan (see Section 4.1). As data collection took place in late 2020, although not stated in the questionnaire, it is assumed that all dates refer to the year 2020. In addition, school principals could indicate each time point, if the period started or ended "early," "mid," or "late" in the month. Based on these two responses, a duration in months for each school was calculated and recoded into the following categories: "less than two months," "two months or longer but less than three months," "three months or longer but less than four months," and "four months or longer."

Table 4.2.1 presents the modal months for the beginning and end of the disruption period, reported by principals across most countries. In all participating countries the disruption for most schools started in March, except for the Russian Federation where the disruption started in April in most schools. For about half of the participating schools in Denmark the disruption ended in May, the same applied to about half of the schools in the Russian Federation. In Burkina Faso and the United Arab Emirates the disruption period in schools most frequently ended in June, Uruguay in July, Uzbekistan in September, Kenya and Rwanda in October.

The distribution of the duration of the reference period is presented in Figure 4.2.1. According to the responses from the National Research Coordinators, the duration of the reference period in Ethiopia and India was more than four months, and in Slovenia between three and four months (see Section 4.1).

[14] Data collection was planned to start in November 2020. Therefore, the month October was the last possible response option for the end of the disruption in the school questionnaire, assuming at that time the disruption had ended already.

Table 4.2.1: *Most frequent school responses for beginning, and end of the disruption period*

Country	Beginning of disruption period (most frequent response category and %)		End of disruption period (most frequent response category and %)	
Burkina Faso	March	99 (1.0)	June[o]	76 (5.2)
Ethiopia[j]	*k*		*k*	
India	*k*		*k*	
Kenya[g,j]	March	83 (4.4)	October	64 (6.6)
Russian Federation[j]	April	52 (5.8)	May	48 (4.7)
Rwanda	March	76 (3.3)	October	85 (2.9)
Slovenia[g,j]	*k*		*k*	
United Arab Emirates	March	62 (5.0)	June	26 (5.0)
Uruguay[g,j]	March	78 (3.6)	July	64 (6.3)
Uzbekistan[j]	March	64 (5.0)	September	65 (4.7)
Data may not be representative of target population				
Denmark[g,j]	March	69	May	47

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

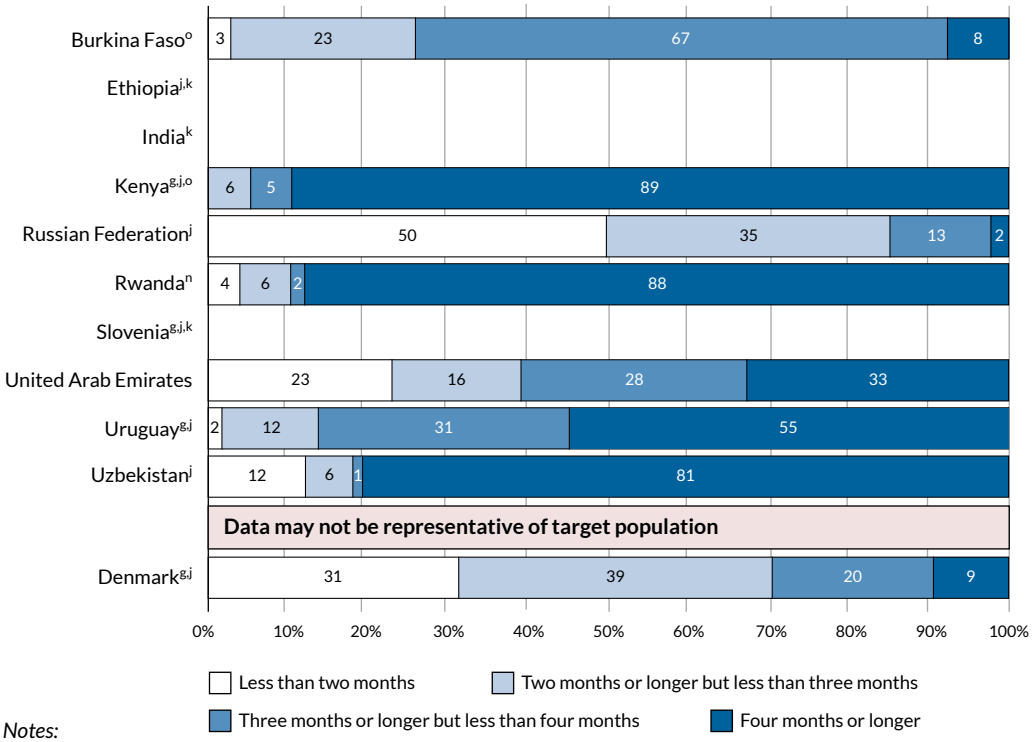
o Data are available for at least 50% but less than 70% of the respondents.

As reported by principals, the duration of this period varied between schools and across countries. In Burkina Faso, the duration was less than four months for the majority of schools. In Kenya, Rwanda, Uruguay, and Uzbekistan, most schools reported a duration of four months or more. In Denmark, almost two thirds of responding principals reported that the disruption lasted less than three months, in the Russian Federation this was true for more than 80% of schools. The distribution of the duration of school closures in the United Arab Emirates was evenly spread, for one third of schools, it lasted four months or longer, for slightly less than one third it lasted between three and four months. For Ethiopia, India, and Slovenia this information is not available from the dataset as the question regarding the start and end point of the disruption was not administered.

The school closures created the need to use alternative modes and teaching approaches other than regular face-to-face teaching. Teachers' perspectives provided valuable insights into the nature of the alternative teaching methods that were used. As noted in Chapter 3, it is likely that many teachers taught a number of different classes (different class groups, subjects and grade levels). To prevent teachers from being uncertain about how to accommodate variations in the methods and modes they used across their classes, the teacher questionnaire asked teachers to consider the same one class (target class) when responding to the questions. At the beginning of the questionnaire, teachers were asked to identify the subject that they taught most in the target grade before the COVID-19 disruption started. They were asked to think specifically of that class whenever they came across the term "your class" within the questionnaire.

REDS asked teachers if they were teaching their class remotely during the COVID-19 disruption. The available response options were "yes, using online methods only," "yes, using online and offline methods," "yes, using offline methods only," and "no." Online methods were specified as relating to computer-based methods and offline to non-computer based, such as, sending paper materials to students' homes or telephone-based teaching. In Table 4.2.2 the distribution of teachers' responses is presented. Almost all teachers in the participating countries reported engaging in remote teaching. Remote teaching was less frequently reported among teachers in India (61%)

Figure 4.2.1: *Distribution of duration of disruption period as reported by principals*



Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

o Data are available for at least 50% but less than 70% of the respondents.

and the responding teachers in Ethiopia (39%). In Burkina Faso, 96% of the responding teachers reported no engagement in remote teaching at all. More than half of the teachers in Slovenia, the United Arab Emirates, Uzbekistan, and the responding teachers in Denmark reported using online methods only. Teachers in the Russian Federation and responding teachers in Uruguay reported mostly using a combination of online and offline methods.

Remote learning was not part of the daily routine for most schools before the COVID-19 disruption. With severely limited options for face-to-face teaching, teachers around the world had to adapt their teaching to use different modes and methods, an adjustment that may have caused an increase in the time required for lesson preparation and other work-related tasks such as communication with parents and peers, in addition to, or possibly instead of, time spent in direct teaching with students. REDS aimed to investigate how much time teachers spent teaching on a typical day, both, before and during the reference period, and whether teaching was conducted remotely or face-to-face on school grounds. Teachers were asked approximately how many minutes they spent teaching students before and during the COVID-19 disruption. Teachers could respond using the following response options rounding to the nearest 60 minutes excluding breaks: "NA," "60 minutes," "120 minutes," "180 minutes," "240 minutes," "300 minutes," or "300 minutes or more." In Table 4.2.3 the percentages of teachers that spent four hours (240 minutes) or more teaching students on a typical day before and during the COVID-19 disruption are presented.

Between about half and three quarters of the teachers in most countries were teaching a total of four full hours or more a day before the disruption. Exceptions in both directions were from respondents in Ethiopia (39%), and Denmark (84%). Overall, Table 4.2.3 shows a decrease in face-to-face teaching in all countries. The percentages of teachers reporting teaching more than four hours face-to-face substantially decreased during the disruption compared to before

Table 4.2.2: *Percentages of teachers teaching their class remotely*

Country	Using online methods only		Using online and offline methods		Using offline methods only		**No** remote teaching	
India	20	(5.6)	31	(4.4)	21	(7.8)	29	(7.2)
Russian Federation[i]	35	(2.1)	56	(2.1)	8	(1.2)	1	(0.3)
Slovenia[g]	63	(1.9)	28	(1.9)	7	(0.8)	2	(0.5)
United Arab Emirates	81	(1.1)	16	(0.9)	1	(0.2)	2	(0.7)
Uzbekistan	58	(1.8)	30	(1.5)	11	(1.2)	2	(0.3)
Data may not be representative of target population								
Burkina Faso	0		1		2		96	
Denmark[g,i]	74		19		2		6	
Ethiopia[i]	2		9		28		61	
Kenya[i]	*e*		*e*		*e*		*e*	
Uruguay[g]	26		71		2		1	

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

the disruption in all participating countries. Numerous teachers seem to have applied remote teaching practices during the disruption in many countries. More than half of the teachers in the Russian Federation and United Arab Emirates and about half or more of responding teachers from Denmark and Uruguay reported teaching remotely more than four hours a day during the disruption. Despite this, between about 20% and 40% of teachers in six out of the ten countries reported to have retained substantial face-to-face teaching hours on school grounds. It should be noted that the responses about the time teaching through face-to-face or remote mode during the disruption are not necessarily mutually exclusive. It could have happened that teachers were teaching students that were present on school grounds and at the same time students who virtually attended the lesson.

Little remote teaching was conducted in Burkina Faso as can be seen from Table 4.2.2, consequently very few responding teachers reported teaching four hours or more a day during the disruption, but also only very few kept teaching their students on school grounds for substantial amounts of time. Interestingly, in India, where more than two thirds of teachers reported teaching remotely, the percentage of teachers teaching four hours or more, whether remote or face-to-face is rather low (about 7%), suggesting that teaching time may have been reduced during the reference period. An increase of teachers that were teaching four hours or more during the disruption (remotely or face-to-face) was observed in the Russian Federation and the United Arab Emirates, and a decrease in Slovenia and for respondents from Kenya.

Students were also asked about where they attended lessons during the disruption. The available response options were "I continued to come to school for all my lessons," "I did not come to school for any of my lessons and attended my lessons from a place away from my school," "I came to school for some lessons but attended most lessons in a place away from my school," "I came to school for most lessons but attended some lessons in a place away from my school," and "I came to school for about half of my lessons and attended other lessons in a place away from my school." These responses were then recoded into two categories, "half or more lessons at school" and "most or all lessons in a place away from school." Another response option "I did not do any schoolwork during the COVID-19 disruption" was made available for Burkina Faso, Ethiopia, and Kenya upon their request. Students in Burkina Faso, Ethiopia, and Kenya who chose this option skipped all questions related to learning during the reference period, a fact annotated in all the following tables. In all other countries, it was assumed all students engaged in some kind of learning during the reference period.

Table 4.2.4 presents the percentages of students who reported attending lessons at school or in a place away from school during the disruption. The majority of students in participating countries reported spending most lessons in a place away from school, with the exception of responding students in Burkina Faso and Ethiopia. Consistent with their teachers and principals, most responding students in Burkina Faso reported doing no schoolwork during the disruption. In Ethiopia, about one third of responding students reported attending most lessons away from school and slightly less than half reported that they did not do any schoolwork. About one fifth of students in the United Arab Emirates, Uzbekistan, and responding students in Ethiopia reported attending half or more lessons at school.

Taking into account the duration of the disruption as presented in Section 4.1 together with the information on school's engagement with remote teaching and learning during this period of physical school closures, it becomes evident that students in participating countries were differently affected. According to the national context surveys (Section 4.1), the responses from the principals on the duration of the disruption (Figure 4.2.1), and teacher responses (Table 4.2.2), reported that remote or on-site schooling was offered universally in Denmark, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan during school closures. In contrast, in Burkina Faso, most of the responding teachers did not teach remotely and most of the responding students did not do any schoolwork for about four months. Moreover, 61% of responding teachers and 44% of responding students in Ethiopia did not engage in any teaching or schoolwork during the physical school closures. For the majority of schools, the disruption lasted seven months (see Section 4.1). In Kenya, about one fifth of responding students did not

Table 4.2.3: *Percentages of teachers spending* ***240 minutes or more*** *teaching students on a typical day before and during the COVID-19 disruption*
Response categories were: (1) NA (2) 60 minutes (3) 120 minutes (4) 180 minutes (5) 240 minutes (6) 300 minutes and (7) 300 minutes or more

Country	Before the COVID-19 disruption through face-to-face teaching on school grounds		During the COVID-19 disruption through remote teaching (with students at home/not on school grounds)		During the COVID-19 disruption through face-to-face teaching on school grounds	
India	52	(8.4)	4	(1.5)	3	(1.0)
Russian Federation[i]	62	(1.5)	64	(1.9)	29	(1.8)
Slovenia[g]	74	(1.3)	18	(1.6)	*k*	
United Arab Emirates	67	(1.2)	51	(1.7)	38	(2.7)
Uzbekistan	49	(2.7)	31	(1.7)	21	(1.4)
Data may not be representative of target population						
Burkina Faso	49		2[n]		9[n]	
Denmark[g,i]	84		49		30	
Ethiopia[i]	39		11		20	
Kenya[i]	67		4		23	
Uruguay[g]	50		72		*k*	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

engage in any schoolwork during school closures, and according to the majority of the principals, the disruption lasted more than four months, hinting to severely limited learning continuity for affected students. Responses from Kenyan teachers regarding their engagement during the disruption are not available. For India, only teacher responses are available. A bit less than one third of teachers in India did not teach remotely during the disruption, with the average duration of the disruption recorded as around seven months.

These results show that a substantial number of responding students in Burkina Faso, Ethiopia and one fifth of responding students in Kenya were without any schoolwork for at least four months. Further, learning opportunities decreased substantially in India for more than half a year, as one out of three teachers were not teaching. Together with Rwanda, Burkina Faso, Ethiopia, Kenya, and India are from the countries participating in REDS-those with the lowest gross domestic product (see country profiles in Section 4.1). REDS therefore presents evidence that the disruption caused a large disadvantage on many students, especially in low-income countries.

Study and work environment

As described earlier in this section, remote teaching and learning was relatively widespread in the participating countries. ICT resources are essential for students participating in online remote learning, and all students, regardless of their learning medium, can benefit from having a place to study and access the materials they need to complete their schoolwork. REDS asked students about the availability of the following ICT resources; computers, tablets, and smartphones, ("yes" or "no"), internet connection ("yes, it worked well all the time," "yes, it worked well most of the time," "yes, but it did not work well," or "no"), a place to study and lack of things needed to complete schoolwork ("never or hardly ever," "sometimes," "most of the time," or "always").

Table 4.2.5 shows the percentages of students that had access to specific resources out of the ones that did schoolwork during the disruption. The table has two parts, the first relating to ICT resources and the second access to a quiet space to work and adequate resources to complete their schoolwork at home.

Smartphones and a well working internet connection were available to the vast majority of students in the Russian Federation, Slovenia, the United Arab Emirates, Uzbekistan, and responding students in Denmark. Apart from Uzbekistan, in these countries, computers were also available to almost all students. In Burkina Faso, Ethiopia, and Kenya, computers, tablets and a well working internet connection were not available for most responding students. About 10% of the responding students in Burkina Faso, 28% in Ethiopia, and 43% in Kenya had the opportunity to use smartphones. A quiet space to work with a desk and a chair were available to the majority of students in participating countries at least most of the time, with the exception of Burkina Faso, Ethiopia, and Kenya, where less than one third of responding students reported having these available at least most of the time.

More than 10% of students in all participating countries reported not having the necessary resources needed to complete schoolwork, at least most of the time. This was reported by more than 20% of responding students in Burkina Faso, Ethiopia, and Kenya, where the disruption placed an even greater relative disadvantage on students.

Teachers were asked to report on their personal working circumstances. This was of particular interest in REDS given that many teachers may have been spending at least some of their time teaching from locations outside the school buildings (e.g., from home). Teachers were asked to indicate whether each of a set of different working conditions was applicable all the time, part of the time, or if it did not apply to them during the disruption. The percentages of teachers (out of the teachers that were teaching their class remotely) to whom the conditions applied at least part of the time are presented in Table 4.2.6.

The majority of teachers in India, Slovenia, the United Arab Emirates, Uzbekistan, and responding teachers in Denmark and Ethiopia, reported that schools provided them with office infrastructure to assist with teaching from home, at least part of the time. However, many teachers reported experiencing challenges in their personal working circumstances. For example, many teachers reported having pre-school or school-aged children at home. About one third to one half of teachers

Table 4.2.4: *Percentages of students attending lessons at school or in a place away from school during the COVID-19 disruption*

Country	Half or more lessons at school		Most or all lessons in a place away from school		**No** schoolwork during the COVID-19 disruption	
Russian Federation[h]	7	(0.7)	93	(0.7)	*l*	
Slovenia[g]	*k*		*k*		*k*	
United Arab Emirates	19	(1.6)	81	(1.6)	*l*	
Uzbekistan[h]	18	(1.1)	82	(1.1)	*l*	
Data may not be representative of target population						
Burkina Faso	4		12		85	
Denmark	8		92		*l*	
Ethiopia[h,n]	20		36		44	
Kenya[h,n]	6		73		21	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

l This response option was not available for students in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.5: *Percentages of students having access to the following resources at home during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Yes and (2) No; (1) Yes, it worked well all the time (2) Yes, it worked well most of the time (3) Yes, but it did not work very well and (4) No

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students who had the following resources available							
		Desktop or laptop computers		Tablet devices		Smart phones		Internet that **worked well all or most of the time**	
Russian Federation[h]	*a*	82	(1.2)	35	(1.3)	96	(0.4)	87	(0.8)
Slovenia[g]	*a*	95	(0.5)	49	(1.1)	95	(0.5)	91	(0.6)
United Arab Emirates	*a*	89	(0.7)	69	(1.3)	82	(0.9)	92	(0.6)
Uzbekistan[h]	*a*	39	(1.6)	32	(1.5)	93	(0.7)	80	(1.6)
Data may not be representative of target population									
Burkina Faso	85	6		6		9		5	
Denmark	*a*	99		61		95		93	
Ethiopia[h]	44[n]	8		5		28		12	
Kenya[h]	21[n]	7		7		43		17	

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.5: *Percentages of students having access to the following resources at home* ***most of the time or always*** *during the COVID-19 disruption (part 2 of 2)*
Response categories were (1) Never or hardly ever (2) Sometimes (3) Most of the time and (4) Always

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption		Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students to whom the following applied **most of the time or always** to their learning at home			
			Had a quiet space to work with a desk and chair		Did **not** have the things needed to complete schoolwork at home	
Russian Federation[h]	*a*		83	(1.0)	13	(0.8)
Slovenia[g]	*a*		78	(1.0)	14	(0.8)
United Arab Emirates	*a*		69	(1.2)	15	(0.6)
Uzbekistan[h]	*a*		82	(1.0)	15	(0.9)
Data may not be representative of target population						
Burkina Faso	85		22		26	
Denmark	*a*		81		11	
Ethiopia[h]	44[n]		30		27	
Kenya[h]	21[n]		29		36	

Notes:
Standard errors appear in parentheses.
a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.
n Data are available for at least 70% but less than 85% of the respondents.

in participating countries reported they were at least part of the time frequently interrupted by other people when teaching or preparing lessons. In Ethiopia, more than two thirds of responding teachers supported this statement. While the majority of teachers from participating countries reported that it was at least part of the time easy to balance teaching with other responsibilities at home, more than 10% of teachers in every country reported that they did not find this balance easy.

Schools had to remain flexible and often offered different arrangements to support teaching and learning during the disruption. School principals were asked if changes had been made to specific school policies and procedures during or following the disruption. The percentages of schools reporting on such changes are presented in Table 4.2.7. The majority of schools varied the school starting and break times between classes for different groups of students. More than four out of five schools in India, Rwanda, the United Arab Emirates and Uruguay reported

Table 4.2.6: *Percentages of teachers to whom the following working conditions applied* ***all of the time or part of the time*** *during the COVID-19 disruption*
Response categories were: (1) Yes, all of the time (2) Yes, part of the time and (3) No

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers with the following personal working circumstances **all of the time or part of the time**				
		School provided the office infrastructure to assist with teaching from home	One or more children at home who would normally be in childcare or pre-school	One or more school-aged children at home who were being taught by remote learning	Frequently interrupted by other people in household when teaching or preparing lessons	Felt it was easy to balance teaching work with other responsibilities at home
India	29 (7.2)	77 (4.6)	51 (3.9)	67 (4.7)	55 (4.9)	85 (4.8)
Russian Federation[i]	1 (0.3)	32 (2.2)	25 (1.5)	38 (1.4)	44 (1.8)	53 (1.7)
Slovenia[g]	2 (0.5)	55 (2.9)	21 (1.5)	48 (1.8)	50 (1.8)	73 (1.3)
United Arab Emirates	2 (0.7)	75 (1.5)	23 (1.1)	45 (1.3)	30 (1.0)	84 (1.2)
Uzbekistan	2 (0.3)	91 (1.1)	29 (1.4)	67 (1.6)	30 (1.4)	85 (1.0)
Data may not be representative of target population						
Burkina Faso	96	0	20	26	42	58
Denmark[g,i]	6	88	20	46	45	77
Ethiopia[i]	61	75	65	61	68	88
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	*k*	*k*	51	60

Notes:
Standard errors appear in parentheses.
e Due to an adaptation error data cannot be reported.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.

implementing smaller class sizes, a measure less common in other countries. At the same time, a few schools across countries increased the number of teachers. The exceptions to this are Rwanda and Ethiopia, where almost half of the schools or more reported this. Supplementing face-to-face teaching with remote teaching and continued remote learning options for students were commonly implemented across countries, but with large variations between schools within and across countries. An exception is Burkina Faso, where mostly no teaching and learning took place during the disruption.

REDS also asked school principals, if their schools' capacity to deliver remote teaching was limited by certain factors. The available response options were "substantially limited," "somewhat limited," and "not limited." The percentages of schools whose principals reported being at least somewhat limited by the specific factors are presented across the three parts of Table 4.2.8. It must be noted that the presented percentages are out of the schools offering teaching and learning provisions during the disruption. Although most students reported on having a well working internet connection available in all countries, except for responding students in Burkina Faso, Ethiopia, and Kenya (Table 4.2.5), it can be observed that in all countries except the United Arab Emirates (48%) and Denmark (27%) more than two thirds of the school principals reported that remote teaching was at least somewhat limited by a lack of students' access to the internet. Similarly, 77% or more of school principals reported that remote teaching was at least somewhat limited by lack of students' access to digital devices in all countries except the United Arab Emirates (50%) and Denmark (24%). Moreover, principals perceived a lack of teachers' access to digital devices as limiting their school's capacity to deliver remote teaching. In four of the eleven countries, more than half the principals that filled out the questionnaires, reported this as a limitation. Lack of school learning platforms and learning materials were also perceived to be a limitation for remote teaching by more than half the principals in seven of the 11 countries.

In addition, reliability of internet services for students and teachers were reported as a limitation for remote teaching across participating countries. Moreover, privacy or online safety concerns, difficulty distributing hard-copy resources, and an inability to communicate with students and their families were factors reported as at least somewhat limiting the capability to teach remotely in many of the participating countries.

In the third part of Table 4.2.8 a similar pattern was observed. Many of the school principals in participating countries reported remote teaching being somewhat limited by specific factors, especially by lack of teachers' technical skills and their experience in remote teaching pedagogy.

Online remote teaching depends on ICT resources. REDS asked school principals about their school's provision of resources during the disruption period. To each of the statements, principals could respond "yes, this was already provided before the COVID-19 disruption," "yes, this was provided during the COVID-19 disruptions," or "no." In Table 4.2.9 the percentages of schools (out of the schools offering teaching and learning provisions during the disruption) that provided ICT resources before or during the disruption are presented.

Digital devices for some or all students and virtual learning environments or learning management systems seemed to be provided by most of the responding schools in Denmark, and most schools in the Russian Federation, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan. Principals in less than one third of schools in Ethiopia, India, Kenya, Rwanda, and in 14% of responding schools in Denmark reported that internet access was made available for some or all students.

REDS was interested in collecting data on the support provided by schools for students to access lessons and learning materials remotely. School principals were asked if their schools provided a range of support resources to all students, to some students, or to none. In both parts of Table 4.2.10 the percentages of schools providing resources to all or some students are presented. In many schools in the participating countries, the learning materials were physically distributed. The lowest percentages (about 30%) were observed in Kenya, Rwanda, and Uzbekistan, while almost all schools in Ethiopia reported to have distributed materials physically. Live virtual lessons and teaching support were very common in most schools providing remote teaching in the participating countries, except for Kenya and Rwanda. One-to-one support was available

Table 4.2.7: *Percentages of schools that made specific changes to school policies and procedures during or following the COVID-19 disruption*
Response categories were: (1) Yes and (2) No

Country	Varied school starting times for different groups of students	Varied break times between classes for different groups of students	Smaller class sizes	Increased number of staff	Continued remote learning option for students	Supplementing face-to-face teaching with remote teaching
Burkina Faso	17 (3.7)	12 (3.0)	26 (6.1)	8 (2.0)	5 (2.1)	7 (1.9)
Ethiopia[j]	73 (4.9)	70 (3.9)	72 (3.7)	49 (5.3)	46 (3.9)	53 (5.3)
India	67 (7.7)	68 (5.0)	82 (7.0)	36 (8.3)	68 (8.4)	73 (8.6)
Kenya[g,j]	48 (6.9)	55 (6.4)	51 (6.6)	17 (3.9)	22 (5.1)	30 (5.3)
Russian Federation[j]	74 (5.6)	71 (5.1)	15 (4.7)	6 (2.6)	63 (5.3)	61 (5.3)
Rwanda	74 (3.4)	66 (3.7)	82 (3.5)	67 (3.8)	51 (4.6)	51 (4.4)
Slovenia[g,j]	39 (3.6)	62 (4.8)	37 (5.5)	11 (2.7)	48 (5.1)	36 (4.7)
United Arab Emirates	77 (4.6)	83 (4.5)	96 (1.2)	33 (5.4)	96 (1.6)	85 (4.0)
Uruguay[g,j]	96 (2.2)	68 (6.7)	93 (1.8)	12 (3.4)	89 (4.1)	93 (3.6)
Uzbekistan[j]	83 (4.7)	85 (4.4)	63 (4.6)	41 (5.7)	72 (5.9)	76 (4.4)
Data may not be representative of target population						
Denmark[g,j]	80[n]	76[n]	57[n]	41[n]	23[n]	53[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.8: *Percentages of schools whose capacity to deliver remote teaching was* ***substantially limited or somewhat limited*** *(part 1 of 3)*
Response categories were: (1) Substantially limited (2) Somewhat limited and (3) Not limited

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting being **substantially limited or somewhat limited** by the following factors				
		Lack of student access to digital devices	Lack of teacher access to digital devices	Lack of student access to the internet	Lack (or poor quality) of Learning Management Systems or school learning platforms	Lack of learning materials for remote teaching
Burkina Faso	92 (2.5)	*d*	*d*	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	80 (5.4)	79 (5.5)	73 (5.9)	*k*	72 (6.3)
India	28 (8.0)	97 (1.7)	57 (10.1)	92 (5.2)	*k*	65 (7.6)
Kenya[g,j]	47 (5.2)	90 (7.4)	77 (9.7)	91 (7.3)	87 (7.9)	71 (10.1)
Russian Federation[j]	*c*	80 (4.4)	39 (5.4)	81 (3.7)	70 (5.7)	57 (5.6)
Rwanda	70 (3.8)	92 (5.0)	66 (7.5)	96 (3.1)	79 (6.7)	68 (7.9)
Slovenia[g,j]	*c*	92 (2.7)	42 (4.3)	77 (5.2)	73 (4.7)	67 (5.4)
United Arab Emirates	*c*	50 (5.9)	25 (5.1)	48 (5.6)	25 (4.1)	33 (5.1)
Uruguay[g,j]	*c*	80 (5.4)	35 (4.8)	79 (5.3)	38 (4.1)	42 (6.8)
Uzbekistan[j]	*c*	77 (3.6)	48 (5.1)	73 (4.4)	50 (4.7)	48 (5.0)
Data may not be representative of target population						
Denmark[g,j]	*c*	24[n]	2[n]	27[n]	40[n]	48[n]

Notes:
Standard errors appear in parentheses.
c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.
d Number of schools too small to report percentages.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.
n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.8: *Percentages of schools whose capacity to deliver remote teaching was* ***substantially limited or somewhat limited*** *(part 2 of 3)*
Response categories were: (1) Substantially limited (2) Somewhat limited and (3) Not limited

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting being **substantially limited or somewhat limited** by the following factors									
		Reliability and/or capacity of internet services for students		Reliability and/or capacity of internet services for teachers		Privacy/online safety concerns		Difficulty distributing hard-copy resources		Inability to communicate with students and families	
Burkina Faso	92 (2.5)	*d*		*d*		*d*		*d*		*d*	
Ethiopia[j]	44 (4.3)	70 (5.9)		74 (6.2)		63 (6.8)		70 (5.9)		87 (4.3)	
India	28 (8.0)	93 (2.9)		83 (7.0)		74 (9.8)		68 (8.2)		89 (4.4)	
Kenya[g,j]	47 (5.2)	91 (7.3)		85 (7.8)		72 (10.5)		84 (7.9)		80 (9.7)	
Russian Federation[j]	*c*	90 (3.1)		69 (4.8)		45 (5.8)		53 (6.1)		76 (5.1)	
Rwanda	70 (3.8)	96 (3.0)		87 (5.7)		81 (5.8)		85 (5.7)		88 (5.6)	
Slovenia[g,j]	*c*	93 (2.6)		59 (4.9)		79 (4.2)		68 (5.2)		83 (4.2)	
United Arab Emirates	*c*	53 (6.3)		37 (5.8)		48 (5.3)		65 (4.7)		33 (5.1)	
Uruguay[g,j]	*c*	63 (5.9)		46 (4.8)		58 (5.7)		52 (6.1)		53 (4.8)	
Uzbekistan[j]	*c*	66 (3.7)		54 (5.2)		41 (4.8)		89 (2.9)		70 (4.5)	
Data may not be representative of target population											
Denmark[g,j]	*c*	54[n]		22[n]		22[n]		60[n]		18[n]	

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.8: *Percentages of schools whose capacity to deliver remote teaching was* ***substantially limited or somewhat limited*** *by the following factors (part 3 of 3)*
Response categories were: (1) Substantially limited (2) Somewhat limited and (3) Not limited

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting being **substantially limited or somewhat limited** by the following factors									
		Lack of teacher technical skills to manage remote teaching		Lack of teacher experience in remote teaching pedagogy		Large class sizes		Concerns about providing equitable teaching to all students		Policies that limit the use of online tools	
Burkina Faso	92 (2.5)	*d*		*d*		*d*		*d*		*d*	
Ethiopia[j]	44 (4.3)	67 (6.2)		68 (5.9)		71 (5.6)		70 (6.1)		70 (6.6)	
India	28 (8.0)	62 (9.0)		61 (7.9)		66 (8.6)		73 (10.1)		77 (8.5)	
Kenya[g,j]	47 (5.2)	80 (8.9)		81 (8.2)		72 (10.7)		75 (10.3)		86 (8.0)	
Russian Federation[j]	*c*	82 (4.1)		80 (4.0)		43 (5.2)		64 (6.3)		69 (5.1)	
Rwanda	70 (3.8)	86 (5.6)		82 (5.9)		76 (7.7)		78 (7.0)		73 (6.6)	
Slovenia[g,j]	*c*	94 (3.1)		96 (2.9)		61 (4.1)		96 (2.9)		83 (4.2)	
United Arab Emirates	*c*	52 (5.0)		49 (5.3)		47 (5.5)		55 (4.4)		50 (5.4)	
Uruguay[g,j]	*c*	85 (6.1)		91 (3.1)		35 (4.3)		70 (4.8)		44 (5.2)	
Uzbekistan[j]	*c*	61 (5.2)		50 (5.6)		58 (4.7)		47 (5.3)		33 (5.0)	
Data may not be representative of target population											
Denmark[g,j]	*c*	60[n]		78[n]		20[n]		72[n]		40[n]	

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.9: *Percentages of schools providing the following resources* ***before or during*** *the COVID-19 disruption*
Response categories were: (1) Yes, this was already provided before the COVID-19 disruption (2) Yes, this was provided during the COVID-19 disruption and (3) No

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting availability of the following resources **before or during** the COVID-19			
		Internet access for some or all students	Digital devices for some or all students	Virtual Learning Environment or Learning Management System	Software or programmes to ensure online security and safety
Burkina Faso	92 (2.5)	*d*	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	17 (4.6)	20 (4.8)	*k*	15 (4.2)
India	28 (8.0)	32 (8.2)	34 (8.8)	*k*	31 (7.8)
Kenya[g,j]	47 (5.2)	13 (5.5)	28 (6.5)	18 (8.0)	19 (8.2)
Russian Federation[j]	*c*	46 (5.3)	62 (5.5)	82 (5.0)	50 (5.0)
Rwanda	70 (3.8)	29 (7.3)	29 (7.1)	41 (6.9)	32 (7.6)
Slovenia[g,j]	*c*	83 (3.8)	83 (4.3)	90 (2.4)	80 (3.6)
United Arab Emirates	*c*	73 (4.1)	74 (4.1)	96 (2.1)	93 (2.1)
Uruguay[g,j]	*c*	62 (6.1)	70 (5.4)	94 (2.8)	27 (5.0)
Uzbekistan[j]	*c*	85 (3.2)	61 (5.7)	79 (4.4)	70 (4.4)
Data may not be representative of target population					
Denmark[g,j]	*c*	14[n]	94[n]	96[n]	64[n]

Notes:
Standard errors appear in parentheses.
c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.
d Number of schools too small to report percentages.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.
n Data are available for at least 70% but less than 85% of the respondents.

to all or some students in the vast majority of schools, except in Ethiopia and Kenya. Recorded lessons were rarely available to all or some students in Kenya but were available in most schools in the other participating countries. Support for using audio or video lessons by external providers (internet-streamed, terrestrial/digital television, and radio broadcast) were commonly available to all or some students in most schools from participating countries, however with a large varying focus on specific lesson types in different countries.

General impact

The teaching and learning during the COVID-19 disruption deviated largely from teaching and learning in regular schooling before the disruption. Schools adapted to the changing circumstances with different speeds, based on the school and student resources available. Accessible resources varied between schools, teachers, and students across and within participating countries, as described previously. This section sheds some light on students', teachers', and schools' perspectives on the impact of the adjustments that were implemented to teaching and learning during the COVID-19 disruption across the participating countries.

REDS asked students about changes in their perceptions of certain aspects of their schoolwork during the COVID-19 disruption. The available response options were "increased during the COVID-19 disruption," "did not change during the COVID-19 disruption," and "decreased during the COVID-19 disruption." Table 4.2.11 presents the percentages of students who reported an increase in certain aspects of their schoolwork from students who reported doing schoolwork during the disruption period. Increased motivation to complete schoolwork ranged from 14% for responding students in Denmark to 46% for students in Uzbekistan. Similarly, across countries about one fifth of students reported an increase in their ability to keep up with schoolwork, increased confidence in completing schoolwork, increased capacity to plan the completion of schoolwork, and an increased quality of their schoolwork. The highest percentage of students that reported an increase in all the mentioned aspects relating to schoolwork was observed in Uzbekistan. While it is pleasing that some students within countries reported that the experience of remote learning positively influenced their schoolwork, there remained large proportions of students for whom this was not true.

Additionally, students were asked about their agreement with statements regarding their learning progress, the available response options were "strongly agree," "agree," "disagree," and "strongly disagree." Table 4.2.12 shows the percentages of students that agreed or strongly agreed with the statements, out of the ones that did schoolwork during the disruption. More than half of the students from the Russian Federation, Slovenia, the United Arab Emirates, and responding students from Ethiopia agreed or strongly agreed that they learned as much as before the disruption as they did during. These percentages are lower for responding students in Burkina Faso (27%), Denmark (39%), and Kenya (30%). The distribution of responses is similar for students who agreed with the statement that they made more progress in some subjects compared to before the disruption. While these responses suggest that remote learning worked well for many students in terms of learning outcomes, there were also notable proportions of students in all countries disagreeing with these statements. Furthermore, about half of the students across countries agreed, it became more difficult to use teacher's feedback to improve their own work and more difficult to know how well they were progressing. The last aspect was especially present in Denmark, where more than two thirds of responding students agreed with this statement.

The COVID-19 disruption required teachers to adapt their teaching to function effectively under the changed conditions. REDS asked teachers to express their agreement with statements regarding their planning and delivery of curriculum content to their class during the disruption the available response options were "strongly agree," "agree," "disagree," and "strongly disagree." The percentages of teachers agreeing or strongly agreeing with the statements are presented in the two parts of Table 4.2.13. Out of the teachers that taught remotely, most teachers in India, the United Arab Emirates, and responding teachers in Burkina Faso reported being able to deliver the curriculum content at the same pace as before the disruption. In all countries, more than half of the teachers reported they reduced the curriculum content to the most essential elements. This was especially the case in Slovenia and for responding teachers from Uruguay. The majority

Table 4.2.10: *Percentages of schools that made the following resources available to* ***all or some students*** *during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Yes, to all students (2) Yes, to some students and (3) No

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting availability of the following resources to **all or some students**			
		Physically distributed learning materials	Live virtual lessons delivered by students' teachers	Live virtual teaching support by students' teachers outside of scheduled lesson times	One-to-one support
Burkina Faso	92 (2.5)	*d*	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	92 (2.9)	68 (5.3)	61 (5.8)	45 (6.7)
India	28 (8.0)	72 (7.3)	74 (4.5)	75 (4.7)	82 (7.5)
Kenya[g,j]	47 (5.2)	29 (8.9)	9 (4.6)	9 (4.5)	15 (5.7)
Russian Federation[j]	*c*	66 (4.6)	88 (4.3)	90 (3.9)	99 (0.5)
Rwanda	70 (3.8)	30 (7.6)	28 (6.2)	31 (8.0)	64 (7.7)
Slovenia[g,j]	*c*	69 (5.3)	92 (2.5)	84 (3.3)	100 (0.0)
United Arab Emirates	*c*	52 (5.4)	100 (0.3)	98 (0.9)	97 (1.5)
Uruguay[g,j]	*c*	68 (6.8)	98 (1.3)	76 (5.5)	92 (3.5)
Uzbekistan[j]	*c*	35 (5.2)	75 (4.8)	72 (5.1)	95 (2.1)
Data may not be representative of target population					
Denmark[g,j]	*c*	94[n]	100[n]	86[n]	100[n]

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.10: *Percentages of schools that made certain resources available to* ***all or some students*** *during the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Yes, to all students (2) Yes, to some students and (3) No

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption		Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting availability of the following resources to **all or some students**					
			Recorded lessons created by teachers		Support to use internet-streamed audio or video lessons		Support to use audio or video lessons provided as terrestrial/digital television or radio broadcasts	
Burkina Faso	92	(2.5)	*d*		*d*		*d*	
Ethiopia[j]	44	(4.3)	56	(6.3)	24	(6.4)	60	(5.6)
India	28	(8.0)	78	(7.8)	83	(4.3)	65	(10.4)
Kenya[g,j]	47	(5.2)	12	(4.9)	19	(8.3)	30	(7.3)
Russian Federation[j]	*c*		77	(4.7)	81	(4.5)	69	(5.4)
Rwanda	70	(3.8)	62	(7.7)	49	(7.5)	50	(7.9)
Slovenia[g,j]	*c*		91	(2.8)	96	(1.4)	63	(5.9)
United Arab Emirates	*c*		95	(2.0)	98	(0.7)	63	(5.7)
Uruguay[g,j]	*c*		78	(6.3)	68	(5.6)	11	(3.5)
Uzbekistan[j]	*c*		92	(3.0)	97	(1.6)	97	(2.0)
Data may not be representative of target population								
Denmark[g,j]	*c*		71[n]		76[n]		65[n]	

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

of teachers in most countries also reported that they followed the regular curriculum content without change. Together, these findings suggest that, while most teachers did not deviate from the regular curriculum content during the disruption, they also choose to focus on the essential core elements of the curriculum in their teaching during the disruption period. Furthermore, most teachers in most countries reported that they also taught highly modified components of the practical curriculum. These data suggest that there may have been less breadth in the curriculum being delivered within subjects during the disruption period than during regular schooling.

Most teachers across countries reported using more time to adapt and plan lessons in comparison to before the disruption. However, most teachers expressed that they were able to deliver enough content for students to meet the requirements of the curriculum. The responses point to a high engagement of many teachers across countries who addressed the challenges of the pandemic with adjusted content and methods of teaching to cope with the altered circumstances caused by the disruption.

REDS further inquired about teachers' impressions regarding the quality of teaching and learning of their class during the disruption. They were asked to express their agreement with different statements using the following response option "strongly agree," "agree," "disagree," or "strongly disagree." In Table 4.2.14 the percentages of teachers teaching remotely that agreed or strongly agreed with the statements are presented. More than half of teachers in India, the Russian Federation, the United Arab Emirates, and Uzbekistan reported that they were able to teach to the same standard as before the COVID-19 disruption. Less than half of responding teachers in the remaining countries expressed agreement with this statement, ranging between 22% in Uruguay and 49% in Ethiopia. In all countries only about, or significantly less than, half of the teachers reported their students to have shown the same rate of learning growth as before the disruption, with the lowest rate in Uruguay, where just 9% of responding teachers expressed agreement with this statement. More than half of teachers across participating countries agreed that their students were able to access necessary teaching and learning resources. Burkina Faso is an exception to this, where only 42% of responding teachers expressed their agreement. Most teachers across countries agreed that the materials they provided enabled students to work independently.

To assess whether the changed teaching and learning arrangements might have influenced student learning engagement, REDS asked teachers to report on the changes regarding specific aspects of student learning and engagement in their class in comparison with the time before the disruption. The available response options were "substantially increased," "increased to some degree," "did not change," "decreased to some degree," and "substantially decreased." In Table 4.2.15 the percentages of teachers reporting a decrease in specific aspects of learning and engagement are presented. Teachers from participating countries who were teaching their class remotely during the disruption reported a decrease in student attendance, which is in line with the difficult schooling situation caused by school closures. In addition, more than half of the teachers in the Russian Federation and Uzbekistan, most teachers from Slovenia, and most responding teachers from Burkina Faso, Denmark, Ethiopia, and Uruguay reported decreases in student learning. Student engagement during lessons was also reported by teachers as having decreased. About half or more of teachers in all countries except India reported decreases in student engagement. In India, this was reported by approximately one fifth of teachers. Many teachers further reported that the amount of work students produced decreased (ranging from 30% of teachers in India to 79% in Slovenia). Finally, about one fifth of teachers from participating countries reported on a decrease in student discipline. These results reflect the effects of the changed teaching and learning conditions across countries during the pandemic on teachers' perceptions of their students' productivity and motivation. Regarding learning and learning growth overall, teachers seem to have more pessimistic views than their students. While most teachers in most countries reported students' learning decreasing during the disruption period (see table 4.2.15), most students in most countries reported that they made more progress in some subjects during the period of disruption than before the disruption (see table 4.2.12).

Changes in teachers' workload associated with the disruption were also of interest in REDS. School

Table 4.2.11: *Percentages of students reporting an* ***increase*** *in the following aspects of their schoolwork during the COVID-19 disruption*
Response categories were: (1) Increased during the COVID-19 disruption (2) Did not change during the COVID-19 disruption and (3) Decreased during the COVID-19 disruption

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students reporting an **increase** during the COVID-19 disruption in the following aspects of their schoolwork				
		Motivation to complete schoolwork	Ability to keep up with schoolwork	Confidence in completing schoolwork	Capacity to plan the completion of schoolwork	The quality of my schoolwork
Russian Federation[h]	*a*	30 (0.9)	32 (1.0)	36 (1.1)	37 (1.0)	37 (1.1)
Slovenia[g]	*a*	17 (0.9)	20 (1.0)	22 (1.0)	27 (1.2)	23 (1.1)
United Arab Emirates	*a*	31 (1.5)	33 (1.2)	38 (1.3)	34 (1.6)	37 (1.3)
Uzbekistan[h]	*a*	46 (1.4)	43 (1.3)	49 (1.3)	48 (1.3)	37 (1.2)
Data may not be representative of target population						
Burkina Faso	85	19	15	23	11	17
Denmark	*a*	14	26	17	24	16
Ethiopia[h]	44[n]	26	29	30	28	26
Kenya[h]	21[n]	19	22	24	20	19

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.12: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about their learning progress during the COVID-19 disruption*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students **agreeing or strongly agreeing** with the following statements about their learning progress during the COVID-19 disruption			
		I learned about as much as before the COVID-19 disruption	I made more progress in some subjects than before the COVID-19 disruption	It became more difficult to use my teachers' feedback to improve my work	It became more difficult to know how well I was progressing
Russian Federation[h]	*a*	65 (1.0)	66 (1.1)	51 (1.2)	50 (1.3)
Slovenia[g]	*a*	53 (1.2)	65 (1.0)	49 (1.1)	60 (1.0)
United Arab Emirates	*a*	63 (1.1)	67 (1.2)	45 (1.1)	52 (1.0)
Uzbekistan[h]	*a*	83 (1.3)	66 (1.3)	45 (1.3)	47 (1.3)
Data may not be representative of target population					
Burkina Faso	85	27	35	43	50
Denmark	*a*	39	56	56	73
Ethiopia[h]	44[n]	52	50	53	54
Kenya[h]	21[n]	30	34	57	57

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.13: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements regarding the delivery and planning of curriculum content to their class during the COVID-19 disruption (part 1 of 2)*

Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements				
		I followed the regular curriculum content without change	I was able to deliver the curriculum content at the same pace as I did before the COVID-19 disruption	I reduced the curriculum content to the most essential elements	I was able to teach curriculum content relating to practical skills and activities	I taught highly modified practical components of the curriculum content
India	29 (7.2)	82 (5.9)	71 (8.6)	76 (4.2)	68 (10.2)	65 (10.3)
Russian Federation[i]	1 (0.3)	55 (1.5)	52 (1.8)	54 (1.8)	60 (1.7)	49 (1.5)
Slovenia[g]	2 (0.5)	28 (1.4)	13 (1.2)	89 (1.3)	35 (1.5)	87 (1.7)
United Arab Emirates	2 (0.7)	65 (1.4)	62 (1.7)	53 (1.9)	76 (1.8)	74 (2.8)
Uzbekistan	2 (0.3)	78 (1.6)	69 (1.7)	46 (1.5)	82 (1.4)	69 (1.6)
Data may not be representative of target population						
Burkina Faso	96	77	38	56	68	61
Denmark[g,i]	6	44	20	72	47	79
Ethiopia[i]	61	47	49	71	69	64
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	22	18	88	*k*	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.2.13: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements regarding the delivery and planning of curriculum content to their class during the COVID-19 disruption (part 2 of 2)*

Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements				
		I had to modify the curriculum content for individual students in new ways for the COVID-19 disruption	It took time to adapt my lessons to a new delivery mode	I spent more time planning lessons than before the COVID-19 disruption	I developed lessons with content that was outside the formal curriculum	I was able to deliver enough content to my students to meet the requirements of the curriculum
India	29 (7.2)	64 (8.2)	77 (7.4)	80 (3.9)	70 (4.6)	81 (6.5)
Russian Federation[i]	1 (0.3)	62 (1.8)	90 (1.0)	87 (1.4)	51 (1.9)	87 (1.1)
Slovenia[g]	2 (0.5)	90 (1.1)	93 (1.1)	94 (0.7)	42 (2.0)	88 (1.2)
United Arab Emirates	2 (0.7)	81 (1.3)	81 (1.1)	83 (2.2)	63 (1.5)	92 (2.0)
Uzbekistan	2 (0.3)	82 (1.2)	77 (1.3)	79 (1.0)	39 (1.5)	81 (1.3)
Data may not be representative of target population						
Burkina Faso	96	34	84	68	26	74
Denmark[g,i]	6	80	87	79	30	61
Ethiopia[i]	61	67	78	63	57	64
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	86	80	92	42	79

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Table 4.2.14: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements about the quality of teaching and learning in their class during the COVID-19 disruption*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements			
		I have been able to teach to the same standard as before the COVID-19 disruption	My students have shown the same rate of learning growth as before the COVID-19 disruption	My students have been able to access the necessary teaching and learning resources	The materials I have provided to my students have enabled them to work independently
India	29 (7.2)	66 (9.0)	49 (8.6)	59 (9.6)	73 (8.4)
Russian Federation[i]	1 (0.3)	60 (1.9)	32 (1.9)	75 (1.8)	89 (0.8)
Slovenia[g]	2 (0.5)	32 (1.8)	19 (1.1)	90 (0.9)	98 (0.6)
United Arab Emirates	2 (0.7)	77 (2.3)	59 (2.0)	93 (0.9)	96 (0.6)
Uzbekistan	2 (0.3)	58 (1.8)	55 (1.5)	72 (1.5)	91 (0.7)
Data may not be representative of target population					
Burkina Faso	96	44	31	42	65
Denmark[g,i]	6	35	29	80	91
Ethiopia[i]	61	49	41	55	58
Kenya[i]	***e***	***e***	***e***	***e***	***e***
Uruguay[g]	1	22	9	52	80

Notes:
Standard errors appear in parentheses.
e Due to an adaptation error data cannot be reported.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

principals were asked about changes in the allocation of time given to teachers for typical work activities compared to before the disruption, the available response options were "substantially increased," "increased to some degree," "did not change," "decreased to some degree," and "substantially decreased." In Table 4.2.17 the percentages of schools reporting an increase in the time allocated for teacher activities (out of the schools that offered teaching during disruption) are presented. An increase of time is observed in many schools across countries for all typical teacher activities (i.e., delivering teaching, preparing lessons, assessing student task completion, and professional development). The percentages of schools reporting increases are especially high in the Russian Federation, Slovenia, and Uruguay, but smallest in Kenya. Finally, a positive finding is that the time allocated for professional development activities significantly increased across countries, signaling teachers had opportunities to develop specific skills, an effect that will likely endure beyond the disruption.

Table 4.2.15: *Percentages of teachers reporting* **a decrease to some degree or substantial decrease** *in aspects of student learning and engagement in comparison with the time before the COVID-19 disruption*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting **a decrease to some degree or substantial decrease** in the following aspects				
		Student attendance	Student learning	Student engagement during lessons	The amount of work students produced	Student discipline
India	29 (7.2)	25[n] (3.1)	30[n] (3.0)	21[n] (2.6)	30[n] (3.8)	47[n] (4.6)
Russian Federation[i]	1 (0.3)	47 (1.8)	53 (2.0)	58 (1.6)	43 (2.0)	32 (1.7)
Slovenia[g]	2 (0.5)	50 (2.1)	82 (1.3)	75 (2.0)	79 (1.8)	25 (1.4)
United Arab Emirates	2 (0.7)	38 (2.2)	37 (1.6)	47 (1.7)	42 (1.6)	20 (1.5)
Uzbekistan	2 (0.3)	56 (1.9)	53 (1.7)	55 (1.7)	45 (1.7)	34 (1.8)
Data may not be representative of target population						
Burkina Faso	96	68	64	64	64	20
Denmark[g,i]	6	25	64	62	54	23
Ethiopia[i]	61	51	55	49	48	37
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	85	78	79	67	30

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.2.16: *Percentages of principals reporting an* ***increase*** *in the time allocated to teachers for certain activities in comparison to before the COVID-19 disruption*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals reporting an **increase** in time allocated to teachers for the following activities			
		Delivering teaching	Preparing lessons	Assessing student task completion	Professional development activities
Burkina Faso	92 (2.5)	*d*	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	46 (6.2)	44 (6.1)	27 (6.4)	37 (5.9)
India	28 (8.0)	41 (7.5)	48 (7.6)	37 (8.8)	41 (7.6)
Kenya[g,j]	47 (5.2)	8 (4.0)	12 (4.6)	8 (4.0)	12 (5.0)
Russian Federation[j]	*c*	55 (5.4)	93 (2.8)	95 (1.5)	53 (5.5)
Rwanda	70 (3.8)	43 (8.0)	39 (7.9)	38 (7.3)	38 (7.5)
Slovenia[g,j]	*c*	33 (4.0)	96 (2.0)	87 (3.9)	70 (5.3)
United Arab Emirates	*c*	51 (5.8)	79 (4.5)	73 (5.0)	72 (4.4)
Uruguay[g,j]	*c*	46 (5.5)	85 (5.6)	80 (4.2)	61 (6.4)
Uzbekistan[j]	*c*	49 (5.2)	59 (5.3)	42 (4.7)	13 (3.1)
Data may not be representative of target population					
Denmark[g,j]	*c*	18[n]	49[n]	27[n]	*k*

Notes:
Standard errors appear in parentheses.
c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.
d Number of schools too small to report percentages.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.
n Data are available for at least 70% but less than 85% of the respondents.

4.3 Communication, feedback, and assessment

Minge Chen, Alec I. Kennedy, Sabine Meinck, Mojca Rožman

Section highlights

As schools switched from traditional in-person instruction to remote learning due to the COVID-19 pandemic, they were faced with the challenge of maintaining contact with their staff, students, and families.

Schooling communities found new ways to maintain contact during the disruption.

- Most students in the countries where all students continued to complete schoolwork during the COVID-19 disruption, reported that they engaged in some form of online communication with teachers and classmates.
- In most countries, students received school-related information and learning materials online. However, in some countries, students reported that delivery or pickup options were used.
- In most countries, many teachers reported that the time spent in communication with parents increased during the disruption. Communication with parents/guardians mainly took place online or over the phone as opposed to in-person.

Teachers continued to provide feedback to students.

- Many students in the countries where all students continued to complete schoolwork during the COVID-19 disruption reported receiving feedback from teachers on their schoolwork through multiple methods: verbally, scores/grades, or written.
- Teachers in most of the countries where all students continued to complete schoolwork during the COVID-19 disruption reported that the frequency and amount of feedback that they provided students increased.

Assessments of students learning were still expected during the COVID-19 disruption.

- In almost all participating countries, teachers reported that it was necessary to adapt the assessments that had been commonly used prior to the disruption. Teachers noted difficulties in assessing students with special needs or practical aspects of student work.
- In most countries, many schools reported that there was a shift in focus from summative to formative assessments, a change from grading students to offering more informal feedback, and a reduction in reporting requirements.

Introduction

School closures (partial and complete) and the transition to various methods of remote teaching and learning obliged schools to adapt the ways in which schools, teachers, students, and families communicated. Before the COVID-19 disruption, digitalization in teaching and learning had already been integrated into traditional schooling, especially in more developed countries (Fraillon et al., 2020). The COVID-19 pandemic urgently accelerated the need for many countries to make more extensive use of ICT-based communication across members within school communities. Given the lack of face-to-face options during school closures and due to social distancing measures, many countries' schools turned to digital methods to communicate information, offer feedback, and assess student learning (World Bank, 2020). REDS is interested in understanding how this transition took place in all participating countries, regardless of their existing digital infrastructure or the degree to which they consequently relied on implementing ICT-based or non-ICT-based solutions. REDS investigated how various stakeholders implemented and experienced these changes within the participating countries. This section begins with presenting how students maintained contact with school staff during the COVID-19 disruption, then it reports on how teachers' and principals' communication with other school staff, families, and students changed during the disruption, finally, it examines the ways in which teachers provided student feedback and assessed student learning.

This section addresses the REDS research question: *What were the impacts of the COVID-19 pandemic on teaching and learning*, and how were these mitigated by measures at the school level. It focuses on the means of communication among students, parents, and schools, as well as on feedback mechanisms and assessment.

Communication

With face-to-face communication much more difficult in remote learning contexts than in regular schooling; students, teachers, parents, and schools all had to adjust the ways in which they remained connected during the COVID-19 disruption. In REDS, students were asked how they communicated with their teachers and classmates during the disruption. The means of communication listed in the study include videoconferencing, emails, phone calls, and general communication via computer. When asked about how often they communicated with teachers and classmates through various means, students reported their experiences according to four response categories ("often," "sometimes," "rarely," and "never"). Table 4.3.1 reports only the percentages of students responding that used each mode of communication either "sometimes" or "often." In Denmark, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan[15], over half of students (or responding students, in the case of Denmark) used video conferencing to communicate with their classmates during lessons at least sometimes, or a computer to share ideas on schoolwork. In those same countries, except for Denmark, nearly two thirds of students reported using email to communicate with their teachers, with individual videoconferencing sessions with their teachers being less common. The percentages of students who reported communicating with teachers over the phone varied across countries. Fewer than 15% of students in Slovenia as well as students responding to the survey in Denmark and Burkina Faso reported using the telephone to communicate with their teacher, while, in Uzbekistan, 81% of students said that they, at least sometimes, had a phone conversation with a teacher. A notable portion of student respondents in Burkina Faso (85%), Ethiopia (44%), and Kenya (21%) reported that they did not do any schoolwork during the COVID-19 disruption. In these countries, only very small proportions of the remaining student respondents (<25%) reported having used the internet or telephone to communicate with their teachers and classmates.

As many school buildings were shut down due to the COVID-19 pandemic, schools needed to find ways to provide materials or communicate information to their students. Students were asked to report on the frequency with which they received materials or information through various forms of communication. Students reported on their experiences via four response categories

[15] In Denmark, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan, it was assumed all students engaged in some schoolwork during the reference period.

Table 4.3.1: *Students communicating with their teachers and classmates* ***sometimes or often*** *(part 1 of 2)*
Response categories were: (1) Never (2) Rarely (3) Sometimes and (4) Often

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students using the following methods to communicate with their teachers and classmates **sometimes or often**			
		Videoconferencing with the whole class for an entire lesson or period	Videoconferencing with the whole class for part of my normal lessons	Videoconferencing with my teacher and small groups of students	Sharing ideas about our schoolwork with other students using a computer
Russian Federation[h]	*a*	52 (3.2)	39 (2.4)	39 (2.2)	57 (1.2)
Slovenia[g]	*a*	78 (1.2)	66 (1.4)	46 (1.5)	57 (1.2)
United Arab Emirates	*a*	83 (1.1)	68 (1.2)	57 (1.4)	73 (1.1)
Uzbekistan[h]	*a*	50 (2.0)	49 (1.8)	52 (1.8)	65 (1.4)
Data may not be representative of target population					
Burkina Faso	85	2	4	5	16
Denmark	*a*	81	88	70	88
Ethiopia[h]	44[n]	8	7	8	10
Kenya[h]	21[n]	7	8	9	15

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.1: *Students communicating with their teachers and classmates* ***sometimes or often*** *(part 2 of 2)*
Response categories were: (1) Never (2) Rarely (3) Sometimes and (4) Often

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students using the following methods to communicate with their teachers and classmates **sometimes or often**		
		Individual videoconferencing (e.g. using Zoom, MS Teams) with a teacher	Communicating with a teacher using emails	Having a phone conversation with a teacher
Russian Federation[h]	*a*	24 (1.5)	65 (2.4)	47 (1.5)
Slovenia[g]	*a*	22 (1.0)	66 (1.2)	12 (0.9)
United Arab Emirates	*a*	36 (1.2)	57 (1.5)	37 (1.4)
Uzbekistan[h]	*a*	53 (2.0)	64 (1.5)	81 (1.0)
Data may not be representative of target population				
Burkina Faso	85	7	8	13
Denmark	*a*	28	20	9
Ethiopia[h]	44[n]	8	9	20
Kenya[h]	21[n]	8	13	23

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

("often," "sometimes," "rarely," and "never"). Table 4.3.2 reports the share of students providing a positive response to each type of question ("often" or "sometimes"). In Denmark, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan, the majority of students (or student respondents, in Denmark) reported that they received instructional videos. Receiving information/materials related to schoolwork through the radio or television was much less common in these countries, with the exception of Uzbekistan (73%). In Burkina Faso, Ethiopia, and Kenya, of the student respondents who were doing schoolwork during the COVID-19 disruption, less than half reported receiving information or materials through short instructional videos or through the radio or television. However, the radio or television delivery method was more commonly reported to be used in this set of countries.

Students were also asked how they continued to receive materials for their lessons during the COVID-19 disruption through one of the following modes: delivery (through post, school staff, or community member), collection directly from school, through a school-based online platform, email, or other online methods (e.g., cloud-based shared folders). Students reported on their experiences via three response categories ("often," "sometimes," and "never"). Table 4.3.3 reports the percentages of students providing a positive response ("often" or "sometimes"). In the countries where all students were reported to be doing schoolwork during the disruption, a large majority of students (or student respondents in Denmark) reported receiving lesson materials through school-based online platforms, email (except Denmark, 31%), or other online methods. A slight majority of students in Uzbekistan also reported having the materials delivered to them (62%) or picking up materials from their school (50%). Over half of the students in the United Arab Emirates also reported picking up materials directly from school (52%). Fewer than half of the student respondents in Burkina Faso, Ethiopia, and Kenya, who were doing schoolwork during the COVID-19 disruption, reported receiving materials through any of these means.

Teachers were asked how the amount of time they spent communicating with their students and colleagues changed during the COVID-19 disruption. India, Burkina Faso, and Ethiopia had a noticeable portion of teachers (or teacher respondents, in Burkina Faso and Ethiopia) that did not teach their classes remotely during the COVID-19 disruption (29%, 96%, and 61%, respectively). The following results represent only the responses of the remaining teachers. Respondents reported on their experiences using five response categories ("substantially increased," "increased to some degree," "did not change," "decreased to some degree," and "substantially decreased"). Table 4.3.4 displays the percentages of teachers reporting any increase. More than two thirds of the teachers engaging in remote teaching in India, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan, reported they spent more time communicating with parents during the disruption. More than half of the teacher respondents engaged in remote teaching during the reference period in Burkina Faso, Denmark, and Ethiopia supported this statement. The results suggest that the workloads associated with communication with parents increased for many teachers in all participating countries. In contrast, in all countries except Slovenia, fewer than half of the teachers reported spending more time communicating with their colleagues during the disruption. This is consistent with the increased demands to deal with the changed settings regarding schooling, coordinate with work colleagues, support students and their families, and exchange ideas and experiences with peers.

To compare principal and teacher perceptions of changes in workload, REDS also asked principals how the amount of time allocated to teachers for communication with students, parents, and colleagues changed during the COVID-19 disruption. Burkina Faso (92%), Ethiopia (44%), India (28%), Kenya (47%), and Rwanda (70%) had a noticeable portion of principals report that they did not offer teaching and learning provisions during the COVID-19 disruption. The following results represent only the schools that reported offering teaching and learning provisions during the disruption. Principals reported their experiences using the same five response categories related to the change in time as were used by teachers (see above). Table 4.3.5 shows the percentages of principals reporting an increase in the allocated time. Response patterns varied largely across countries. In Slovenia, the Russian Federation, the United Arab Emirates, Uzbekistan, and Denmark, higher percentages of principals (or principal respondents, in Denmark) reported increasing the time allocated for staff to provide feedback to students, compared to the share

Table 4.3.2: *Percentage of students receiving materials or information from their school* ***sometimes or often***
Response categories were: (1) Never (2) Rarely (3) Sometimes and (4) Often

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students receiving materials or information via the following methods from their school **sometimes or often**	
		Receiving short instructional videos	Receiving information/materials related to schoolwork through Radio or TV
Russian Federation[h]	*a*	77 (1.5)	27 (1.3)
Slovenia[g]	*a*	60 (1.8)	19 (0.9)
United Arab Emirates	*a*	78 (1.0)	25 (1.1)
Uzbekistan[h]	*a*	75 (1.3)	73 (1.2)
Data may not be representative of target population			
Burkina Faso	85	13	43
Denmark	*a*	52	17
Ethiopia[h]	44[n]	12	19
Kenya[h]	21[n]	16	47

Notes:
Standard errors appear in parentheses.
a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.
n Data are available for at least 70% but less than 85% of the respondents.

of principals reporting that they allocated more time for meetings with school staff or parent/guardians. This suggests that maintaining the provision of feedback to students might have been a priority for principals, possibly because of the additional challenges imposed by remote learning. Notably, almost all principals in Slovenia and the Russian Federation said that more time was allocated to teachers' feedback to students than before the disruption. Responses regarding time allocation for teachers to take part in meetings with school staff, and/or parents/guardians, again varied greatly among countries. Relatively high percentages of principals in Slovenia reported increases, versus relatively low percentages (31% or less) in Ethiopia, Kenya, Rwanda, and Uzbekistan reporting an increase in time allocation for this purpose. Only 2% of principal respondents in Denmark noted that they increased the time allocated for teachers to meet with other school staff or parents/guardians.

Table 4.3.3: *Students receiving materials* ***sometimes or often*** *for their lessons*
Response categories were: (1) Never (2) Sometimes and (3) Often

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students receiving materials **sometimes or often** for their lessons in the following ways				
		Delivery by post, school staff or another member of the community	Students collecting them directly from the school	Via a school-based online platform	By email	By other online methods (e.g. cloud-based shared folders)
Russian Federation[h]	*a*	42 (1.3)	12 (1.0)	73 (2.0)	79 (1.5)	67 (1.2)
Slovenia[g]	*a*	14 (1.1)	12 (1.0)	94 (0.7)	76 (1.4)	49 (1.5)
United Arab Emirates	*a*	39 (1.3)	52 (1.4)	81 (1.0)	69 (1.3)	72 (1.1)
Uzbekistan[h]	*a*	62 (1.5)	50 (1.7)	78 (1.6)	72 (1.7)	95 (0.5)
Data may not be representative of target population						
Burkina Faso	85	7	21	10	11	5
Denmark	*a*	5	29	92	31	82
Ethiopia[h]	44[n]	37	47	*k*	14	*k*
Kenya[h]	21[n]	24	28	16	16	16

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.4: *Percentages of teachers reporting an* ***increase*** *in time spent on communication*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting an **increase** in time spent on the following communication activities per week.			
		Communicating with parents	Meeting with other teachers of my subject (in person or remotely)	Meeting or working with teachers at the target grade (in person or remotely)	Meetings of the whole school teaching staff (in person or remotely)
India	29 (7.2)	77 (5.5)	42 (7.4)	39 (7.5)	36 (7.2)
Russian Federation[i]	1 (0.3)	68 (1.9)	38 (1.6)	40 (1.9)	38 (1.9)
Slovenia[g]	2 (0.5)	72 (1.7)	75 (1.5)	57 (1.7)	61 (2.2)
United Arab Emirates	2 (0.7)	74 (1.4)	50 (1.5)	43 (1.6)	44 (2.0)
Uzbekistan	2 (0.3)	74 (1.8)	34 (1.5)	31 (1.7)	22 (1.2)
Data may not be representative of target population					
Burkina Faso	96	62	37	16	21
Denmark[g,i]	6	57	12	16	9
Ethiopia[i]	61	54	40	45	37
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	43	41	39

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

In addition to questions on how teachers maintained contact with students, teachers were also asked to reflect on how their communication with parents changed during the COVID-19 disruption. Table 4.3.6 presents the percentages of teachers who reported that their use of the following means of communication increased: internet (e.g., the school's email system or intranet, SMS or messaging services, social media, and video calls), telephones, postal service, and face-to-face meetings. In the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan, where almost all teachers reported engaging in remote teaching during the COVID-19 disruption, most teachers reported an increase in their use of many of the listed internet-based methods of communication with parents. One exception is that less than half of the teachers in Slovenia (31%) reported an increase in using social media to communicate with parents. In Denmark and Uruguay, relatively fewer teacher respondents reported an increase in their use of the internet to communicate with parents. For Denmark, this finding may be related to an already relatively high level of such uses before the COVID-19 pandemic (Fraillon et al., 2020). However, a noticeable portion of Danish teacher respondents (60%), reported using video calls more frequently when communicating with parents. Also, among the teachers in India, and teacher respondents in Burkina Faso and Ethiopia who participated in remote teaching, a majority reported that they increased their use of the internet to communicate with parents. More generally, across all countries, the frequency of the non-internet-based methods of communicating, such as using the postal service and face-to-face meetings was reported by relatively fewer teachers as having increased during the COVID-19 disruption. However, of the teachers who engaged in remote teaching, significant numbers of teachers in India and teacher respondents in Ethiopia reported to have met parents more often in person than before the pandemic. Similarly, about half of the teachers in India and Uzbekistan, and teacher respondents in Burkina Faso and Ethiopia, reported using postal services to communicate with parents more frequently. It is also interesting to note that in the majority of countries, teachers reported using telephones more frequently except for teacher respondents in Denmark (48%), and Uruguay (43%).

Feedback

The transition to remote learning, confronted many teachers with challenges regarding how feedback on their students' schoolwork would be provided. REDS asked students how they received feedback from their teachers on their schoolwork during the COVID-19 disruption. Specifically, they were asked whether they received any of the following types of feedback on their schoolwork from their teachers; spoken, written, scores/grades, or recorded. Students reported their experiences using four response categories ("never," "for some of my schoolwork," "for most of my schoolwork," and "for all or almost all of my schoolwork"). Table 4.3.7 reports the percentages of students who responded, "for most of my schoolwork" or "for all or almost all of my schoolwork." In the countries where all students were reported to have been doing schoolwork during the disruption, the large majority (>80%) of students (or student respondents, in Denmark) reported receiving their teachers' feedback through scores/grades and written feedback. In these countries, half or more of students (or student respondents, in Denmark) also reported that they received spoken feedback (individually or in groups) and feedback recorded on a school-based learning management system. Student respondents in Burkina Faso, Ethiopia, and Kenya (where not all students were reported to have been doing schoolwork during the disruption) reported experiencing each of the above-mentioned forms of feedback less frequently than the students (and student respondents) in countries where all students were reported to have been doing schoolwork during the disruption.

Teachers were also asked to reflect on the changes they made in regard to how they provided feedback to students during the COVID-19 disruption. Specifically, they were asked whether the frequency of using certain forms of feedback increased and whether their workload associated with providing student feedback increased during the disruption period. Teachers reported their experiences using five response categories ("substantially increased," "increased to some degree," "did not change," "decreased to some degree," and "substantially decreased"). Table 4.3.8 presents percentages of teachers reporting increases. Among the teachers (or teacher respondents) who engaged in remote teaching, in almost all the participating countries between about a

Table 4.3.5: *Percentages of schools reporting an* ***increase*** *in time allocated to teachers for communication*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of schools reporting an **increase** in time allocated to teachers for the following activities		
		Meetings with school staff	Parent/guardian meetings	Providing student feedback
Burkina Faso	92 (2.5)	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	37 (5.8)	27 (5.5)	34 (5.9)
India	28 (8.0)	43 (7.5)	43 (7.7)	38 (7.9)
Kenya[g,j]	47 (5.2)	5 (3.2)	4 (3.1)	12 (5.1)
Russian Federation[j]	*c*	34 (5.6)	29 (5.5)	86 (4.3)
Rwanda	70 (3.8)	31 (6.6)	31 (7.3)	40 (7.4)
Slovenia[g,j]	*c*	70 (5.1)	81 (3.7)	91 (3.5)
United Arab Emirates	*c*	50 (5.1)	51 (5.5)	72 (3.7)
Uruguay[g,j]	*c*	68 (4.0)	34 (6.8)	70 (6.6)
Uzbekistan[j]	*c*	10 (3.8)	10 (3.9)	43 (4.3)
Data may not be representative of target population				
Denmark[g,j]	*c*	2[n]	2[n]	39[n]

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.6: *The* **increase** *in time teachers spent on communicating with parents/guardians of students in their class in comparison with before the COVID-19 disruption (part 1 of 2)*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting an **increase** in the frequency of use of the following means of communication with parents/guardians				
		The school's email system	The features within the school's Learning Management System/ school intranet	SMS or messaging (outside of the school's learning management system)	Social media sites (outside of the school's learning management system)	Postal service
India	29 (7.2)	75 (3.8)	*k*	85 (5.7)	86 (2.8)	42 (7.5)
Russian Federation[i]	1 (0.3)	77 (2.2)	59 (2.2)	79 (1.2)	76 (1.6)	33 (1.7)
Slovenia[g]	2 (0.5)	91 (0.8)	80 (1.3)	54 (1.8)	31 (1.5)	13 (1.1)
United Arab Emirates	2 (0.7)	78 (2.1)	72 (1.9)	59 (1.9)	58 (2.1)	26 (1.2)
Uzbekistan	2 (0.3)	61 (2.0)	70 (1.7)	83 (1.5)	81 (1.7)	57 (1.8)
Data may not be representative of target population						
Burkina Faso	96	65	62	91	70	47
Denmark[g,i]	6	32	54	33	16	1
Ethiopia[i]	61	55	54	63	61	48
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	41[n]	58[n]	69[n]	30[n]	4[n]

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.6: *The* **increase** *in time teachers spent on communicating with parents/guardians of students in their class in comparison with before the COVID-19 disruption (part 2 of 2)*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting an **increase** in the frequency of use of the following means of communication with parents/guardians			
		Video calls	Telephone calls	Face-to-face meetings at school	Face-to-face meetings outside of the school
India	29 (7.2)	81 (5.2)	84 (5.6)	42 (8.4)	46 (6.8)
Russian Federation	1 (0.3)	67 (2.4)	86 (1.2)	8 (1.0)	8 (1.3)
Slovenia	2 (0.5)	62 (1.9)	67 (1.8)	4 (0.6)	4 (0.5)
United Arab Emirates	2 (0.7)	71 (1.2)	63 (1.7)	11 (0.8)	9 (0.7)
Uzbekistan	2 (0.3)	75 (1.6)	88 (1.3)	10 (1.0)	9 (0.9)
Data may not be representative of target population					
Burkina Faso	96	53	83	41	31
Denmark	6	60	48	1	1
Ethiopia	61	52	66	50	41
Kenya	*e*	*e*	*e*	*e*	*e*
Uruguay	1	34*n*	43*n*	8*n*	3*n*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.7: *Percentages of students receiving their teachers' feedback to* ***some or most or all, or almost all of their schoolwork*** *(part 1 of 2)*
Response categories were: (1) Never (2) For some of my schoolwork (3) For most of my schoolwork and (4) For all or almost all of my schoolwork

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students reporting receiving teachers' feedback to **some or most, or all or almost all of their schoolwork** using the following methods		
		Spoken feedback given to them individually	Spoken feedback given to small groups	Spoken feedback given to the whole class
Russian Federation[h]	*a*	62 (1.1)	50 (1.4)	61 (1.6)
Slovenia[g]	*a*	68 (1.3)	72 (1.0)	83 (1.1)
United Arab Emirates	*a*	78 (0.9)	77 (1.0)	90 (0.8)
Uzbekistan[h]	*a*	81 (1.0)	82 (1.5)	84 (0.9)
Data may not be representative of target population				
Burkina Faso	85	21	21	24
Denmark	*a*	75	68	65
Ethiopia[h]	44[n]	43	44	45
Kenya[h]	21[n]	30	32	32

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.7: *Percentages of students receiving their teachers' feedback to* ***some or most, or all or almost all of their schoolwork*** *using the following methods (part 2 of 2)*
Response categories were: (1) Never (2) For some of my schoolwork (3) For most of my schoolwork and (4) For all or almost all of my schoolwork

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students reporting receiving teachers' feedback to **some or most, or all or almost all of their schoolwork** using the following methods		
		Scores/grades	Written feedback on their work	Written or spoken feedback recorded through the school-based learning management apps
Russian Federation[h]	*a*	91 (0.8)	83 (0.9)	56 (1.7)
Slovenia[g]	*a*	90 (0.9)	93 (0.7)	79 (1.0)
United Arab Emirates	*a*	92 (0.7)	87 (0.8)	77 (1.1)
Uzbekistan[h]	*a*	94 (0.6)	90 (0.7)	*k*
Data may not be representative of target population				
Burkina Faso	85	28	31	13
Denmark	*a*	84	94	80
Ethiopia[h]	44[n]	54	46	*k*
Kenya[h]	21[n]	43	37	24

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

quarter to a half reported an increase in providing verbal feedback to students during lessons, either individually or to small groups, including for observed performance on practical tasks. An exception was in Denmark, where a smaller percentage (20% or less) of teacher respondents reported increases in their provision of verbal feedback to students. More than half of the teachers who engaged in remote teaching in India, the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan reported an increase in their provision of feedback via email, other messaging tools, or the schools' learning management system. This finding was also true for teacher respondents in Uruguay.

Teachers' workload associated with providing student feedback–which includes the frequency, the amount, and the time invested in providing feedback during the COVID-19 disruption–is presented in the second part of Table 4.3.8. Fewer than half of teachers in India as well as teacher respondents in Burkina Faso and Ethiopia reported an increase in their workload overall. In contrast, the majority of the teachers from the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan, and teacher respondents in Uruguay, reported increases. In Denmark, the percentage of teacher respondents reporting an increase in their workload associated with providing feedback tended to be the lowest among the participating countries.

Assessment

A further challenge to teachers during the COVID-19 disruption was the assessment of student learning. Given that most classrooms transitioned to remote learning, paper-based assessments may have become more difficult to administer and/or supervise. Therefore, teachers might have had to adjust the ways in which they assessed student learning. To have a better understanding of how student assessments were impacted by the pandemic, teachers were asked whether there were any changes related to the assessments they used and how the assessments they adopted during the disruption performed in terms of adequately measuring student learning progress. Teachers reported their experiences using four response categories ("strongly agree," "agree," "disagree," and "strongly disagree"). Table 4.3.9 reports the share of teachers that agreed or strongly agreed with each statement. In the majority of countries, nearly half or, in some cases, more than half of teachers or teacher respondents who remained active during the COVID-19 disruption, reported that they continued using the same types of assessments and that their students completed assessment tasks with the same regularity. An exception was Slovenia, where only 17% of teachers used the same types of assessments and 23% reported that students completed assessment tasks with the same regularity as before the disruption. The United Arab Emirates and Burkina Faso were also slight exceptions, with relatively lower percentages of teachers or teacher respondents, respectively, agreeing that they used the same assessments or gave the assessments with the same regularity, respectively. Across all countries that participated in the study, well over 60% of teachers or teacher respondents reported that they had to adapt these assessments to fit the new mode of delivery.

When asked about the performance of the assessments used during the disruption, in most countries, nearly half or, in some cases, more than half of teachers or teacher respondents reported that the assessments performed well. Specifically, they agreed that the assessments adopted during the disruption allowed them to appropriately monitor student learning and that the results from these assessments were an accurate reflection of progression in their students' learning over the COVID-19 disruption. Two slight exceptions to this pattern were Slovenia and Denmark, where less than 30% of teachers (or teacher respondents, in Denmark) agreed with the latter statement. Despite many teachers agreeing that student assessments performed well, a large portion of teachers and teacher respondents from the countries claimed that the disruption made the assessment of students with special needs and practical aspects of student work (e.g., science experiments, art projects, music performances) more difficult. Further, Burkina Faso (47%) and Denmark (42%) were the only countries where less than half of teacher respondents reported having adequate time to conduct assessments of their students.

Table 4.3.8: *Teachers reporting an* ***increase*** *in providing feedback to students in their class in comparison with before the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting an **increase** in the following aspects of feedback				
		Individualised verbal feedback on tasks during lessons	Verbal feedback to small groups during lessons	Feedback delivered via students' school emails or messaging	Feedback delivered through students' accounts on the school Learning Management System	Feedback on observed performance on practical tasks (e.g. science experiments, art projects, music performances)
India	29 (7.2)	48 (8.6)	48 (8.6)	52 (7.7)	*k*	38 (8.4)
Russian Federation[i]	1 (0.3)	26 (1.3)	28 (1.5)	64 (1.6)	54 (2.1)	38 (1.6)
Slovenia[g]	2 (0.5)	24 (1.8)	22 (2.3)	76 (1.8)	69 (1.9)	46 (1.7)
United Arab Emirates	2 (0.7)	60 (2.2)	51 (1.4)	69 (1.2)	80 (1.1)	49 (1.8)
Uzbekistan	2 (0.3)	56 (2.4)	47 (2.4)	58 (1.5)	69 (1.8)	44 (1.5)
Data may not be representative of target population						
Burkina Faso	96	41	39	34	38	20
Denmark[g,i]	6	17	20	31	46	12
Ethiopia[i]	61	47	42	35	*k*	31
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	36	28	80	88	*k*

Notes:
Standard errors appear in parentheses.
e Due to an adaptation error data cannot be reported.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.

Table 4.3.8: *Teachers reporting an* ***increase*** *in providing feedback to students in their class in comparison with before the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers reporting an **increase** in the following aspects of feedback			
		The frequency with which I gave feedback to students	The amount of feedback I provided to students	The time between students submitting work and my feedback to students on their work	The time it took me to explain my feedback to students
India	29 (7.2)	48 (7.1)	50 (8.3)	43 (7.0)	47 (8.3)
Russian Federation	1 (0.3)	62 (2.1)	66 (1.8)	63 (1.8)	66 (2.0)
Slovenia	2 (0.5)	68 (1.6)	69 (1.4)	51 (1.7)	73 (1.5)
United Arab Emirates	2 (0.7)	56 (1.7)	62 (1.8)	51 (1.2)	56 (1.6)
Uzbekistan	2 (0.3)	69 (1.6)	72 (1.8)	68 (1.7)	75 (1.5)
Data may not be representative of target population					
Burkina Faso	96	39	36	44	41
Denmark	6	40	35	27	45
Ethiopia	61	42	41	41	43
Kenya	*e*	*e*	*e*	*e*	*e*
Uruguay	1	70	74	60	77

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Table 4.3.9: *Teachers* ***agreeing or strongly agreeing*** *with statements on the assessment of student learning in their class during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements			
		I used the same types of assessment of students' learning that I typically used before the COVID-19 disruption	The assessments I used during the COVID-19 disruption allowed me to appropriately monitor student learning	Assessing students with special needs was more difficult than before	Assessing the practical aspects of student work (e.g. science experiments, art projects, music performances) was especially difficult
India	29 (7.2)	55 (7.0)	57 (8.3)	85 (4.0)	70 (6.8)
Russian Federation[i]	1 (0.3)	66 (1.3)	70 (1.6)	63 (1.6)	80 (1.7)
Slovenia[g]	2 (0.5)	17 (1.5)	58 (1.6)	83 (1.2)	75 (1.7)
United Arab Emirates	2 (0.7)	34 (1.3)	79 (1.1)	66 (1.4)	76 (1.7)
Uzbekistan	2 (0.3)	66 (1.5)	71 (1.4)	75 (1.2)	73 (1.0)
Data may not be representative of target population					
Burkina Faso	96	51	47	78	71
Denmark[g,i]	6	46	65	76	87
Ethiopia[i]	61	47	52	67	58
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	*k*	*k*	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.3.9: *Teachers* ***agreeing or strongly agreeing*** *with statements on the assessment of student learning in their class during the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements			
		I had adequate time to conduct assessments of my students	Students completed assessment tasks with the same regularity as before the COVID-19 disruption	I adapted assessments used before the COVID-19 disruption to suit the changed delivery mode as required	Students' overall results from assessments are an accurate reflection of progression in their learning over the COVID-19 disruption period
India	29 (7.2)	77 (4.9)	40 (8.1)	79 (6.1)	64 (8.9)
Russian Federation[i]	1 (0.3)	53 (1.9)	61 (1.8)	82 (1.0)	48 (2.1)
Slovenia[g]	2 (0.5)	53 (1.6)	23 (1.6)	91 (0.7)	28 (1.3)
United Arab Emirates	2 (0.7)	79 (1.6)	58 (1.5)	91 (0.9)	60 (1.2)
Uzbekistan	2 (0.3)	89 (0.8)	73 (1.6)	83 (1.2)	74 (1.3)
Data may not be representative of target population					
Burkina Faso	96	47	29	71	64
Denmark[g,i]	6	42	53	87	29
Ethiopia[i]	61	62	45	65	52
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	*k*	*k*	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Principals were asked about their expectations regarding assessment of student learning during the COVID-19 disruption. Specifically, they were asked whether the following forms of assessments were expected in their schools: informal feedback to students about their learning progress, formative and diagnostic assessments, summative assessments, national testing, evaluation of submitted samples of student work, performance, and practical assessments. Principals reported their expectations using three response categories ("expected and required," "expected but not required," and "not expected"). The first part of Table 4.3.10 reports the percentages of principals who answered that an assessment was at least expected. In most countries, the majority of principals (or principal respondents in Denmark) in schools that continued to offer teaching and learning provisions during the COVID-19 disruption, expected each of the above-mentioned forms of assessments to take place in their schools during COVID-19 disruption. The Russian Federation (38%), Rwanda (40%), Slovenia (36%), Uruguay (25%), and Denmark (33%), were exceptions, where fewer principals (or principal respondents in Denmark) stated that there were expectations for national testing to take place in their schools.

Principals were also asked about expectations regarding the administration and recording of student assessments (see the second part of Table 4.3.10). The majority of principals in all countries reported that there were expectations for keeping records of student learning progress. This was especially true in the Russian Federation, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan, where over 90% of principals agreed that this was the case. Further, in several countries, more than half of principals (or principal respondents in Denmark) stated that tests were expected to be conducted online during the COVID-19 disruption. However, this was not the case in Ethiopia (25%), Kenya (37%), and Burkina Faso (34%). In these countries, it was more common for principals of schools that continued operating during the disruption to set expectations for paper-based assessments. While most countries favored one type of assessment (i.e., online vs paper-based), in India and the Russian Federation, similar percentages of principals reported that there were expectations for both types of assessments.

Principals were also asked whether their schools implemented some policy changes related to student assessments and reporting. Specifically, they were asked whether they shifted the focus from summative to formative assessments, changed from grading students to more informal feedback, changed requirements to participate in national testing, or reduced the scope of reporting requirements. Principals could choose one of three response categories ("to a large extent," "to some extent," or "not at all"). Table 4.3.11 reports the share of principals who reported that changes had been made either "to a large extent" or "to some extent." For almost all countries, in schools that continued to offer teaching and learning services during the COVID-19 disruption, over half or about half of principals (or principal respondents in Denmark) reported that their schools shifted the focus from summative to formative assessments and changed from grading students to providing more informal feedback. Burkina Faso was an exception to this pattern, where well below half of principals noted these shifts. In all countries except Kenya (48%), 50% or more principals reported that their schools reduced the scope of reporting requirements. Also, most principals reported that their schools changed the requirements for participating in national testing programmes, except in Kenya (45%) and Uruguay (23%).

References

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2020). *Preparing for life in a digital world: IEA international computer and information literacy study 2018 International Report*. Springer Nature. https://link.springer.com/book/10.1007%2F978-3-030-38781-5

World Bank. (2020). *How countries are using edtech (including online learning, radio, television, texting) to support access to remote learning during the COVID-19 pandemic* (Online brief). The World Bank. Retrieved September 23, 2021 from https://www.worldbank.org/en/topic/edutech/brief/how-countries-are-using-edtech-to-support-remote-learning-during-the-covid-19-pandemic

Table 4.3.10: *Principals' expectations of the assessment of student learning during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Expected and required (2) Expected but not required and (3) Not expected

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals **expecting** teachers to assess student learning in the following ways									
		Informal feedback to students about their learning progress		Formative and diagnostic assessment approaches (during learning)		Summative assessments (at the end of topics or periods of learning)		National (i.e., provincial or regional) testing		Evaluation of submitted samples of student work	
Burkina Faso	92 (2.5)	*d*		*d*		*d*		*d*		*d*	
Ethiopia[j]	44 (4.3)	87 (3.5)		76 (6.2)		82 (5.9)		66 (6.4)		75 (6.5)	
India	28 (8.0)	95 (2.5)		92 (3.4)		86 (6.1)		65 (9.3)		85 (5.7)	
Kenya[g,j]	47 (5.2)	57 (7.9)		57 (8.2)		55 (7.9)		51 (7.8)		58 (7.9)	
Russian Federation[j]	*c*	93 (3.1)		100 (0.3)		98 (1.8)		38 (5.5)		99 (0.9)	
Rwanda	70 (3.8)	79 (6.5)		76 (6.7)		74 (7.1)		40 (8.5)		67 (7.4)	
Slovenia[g,j]	*c*	99 (0.5)		*k*		58 (5.1)		36 (5.7)		66 (4.7)	
United Arab Emirates	*c*	99 (0.4)		100 (0.0)		100 (0.0)		78 (4.7)		100 (0.0)	
Uruguay[g,j]	*c*	83 (3.1)		95 (4.1)		93 (4.1)		25 (5.5)		95 (4.1)	
Uzbekistan[j]	*c*	65 (5.5)		63 (5.6)		74 (4.1)		49 (5.0)		86 (3.6)	
Data may not be representative of target population											
Denmark[g,j]	*c*	92[n]		65[n]		80[n]		33[n]		98[n]	

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.10: *Principals' expectations of the assessment of student learning during the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Expected and required (2) Expected but not required and (3) Not expected

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of principals **expecting** teachers to assess student learning in the following ways			
		Conduct tests online	Conduct tests with students responding on paper	Performance and practical assessments	Keep records of student learning progress
Burkina Faso	92 (2.5)	d	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	25 (5.0)	78 (5.9)	75 (5.5)	68 (5.9)
India	28 (8.0)	82 (7.3)	77 (7.7)	79 (7.4)	80 (10.4)
Keny[g,j]	47 (5.2)	37 (9.9)	55 (7.9)	52 (8.1)	58 (8.4)
Russian Federation[j]	*c*	86 (3.6)	90 (3.3)	94 (3.2)	100 (0.0)
Rwanda	70 (3.8)	65 (8.0)	47 (8.5)	53 (8.5)	72 (7.1)
Slovenia[g,j]	*c*	65 (4.4)	27 (5.4)	82 (4.0)	98 (1.0)
United Arab Emirates	*c*	97 (1.6)	63 (4.0)	95 (1.7)	100 (0.0)
Uruguay[g,j]	*c*	82 (5.6)	61 (7.0)	93 (2.2)	99 (0.8)
Uzbekistan[j]	*c*	92 (2.5)	35 (4.4)	76 (4.4)	92 (2.8)
Data may not be representative of target population					
Denmark[g,j]	*c*	67[n]	18[n]	39[n]	80[n]

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.3.11: *Percentages of schools implementing policy changes related to assessment and reporting implementing the changes to* ***a large or to some extent***
Response categories were: (1) To a large extent (2) To some extent and (3) Not at all

Country	Percentage of schools **not** offering teaching and learning provisions during the COVID-19 disruption	Out of the schools offering teaching and learning provisions during the COVID-19 disruption: Percentage of schools implementing the following policy changes related to assessment and reporting implementing the changes **to a large or to some extent**			
		Shifting the focus from summative to formative assessments	Changing from grading students to providing more informal feedback	Changing requirements to participate in national testing programmes	Reducing the scope of reporting requirements
Burkina Faso	92 (2.5)	*d*	*d*	*d*	*d*
Ethiopia[j]	44 (4.3)	89 (3.0)	80 (4.8)	66 (5.6)	80 (5.0)
India	28 (8.0)	80 (6.6)	86 (5.7)	*k*	79 (7.3)
Kenya[g,j]	47 (5.2)	48 (8.0)	50 (8.0)	45 (8.2)	48 (7.5)
Russian Federation[j]	*c*	95 (0.9)	67 (5.8)	80 (4.2)	53 (5.2)
Rwanda	70 (3.8)	67 (7.6)	79 (6.6)	54 (8.4)	60 (7.5)
Slovenia[g,j]	*c*	94 (1.8)	100 (0.0)	*k*	*k*
United Arab Emirates	*c*	88 (2.9)	84 (3.7)	55 (3.7)	75 (3.4)
Uruguay[g,j]	*c*	98 (1.3)	90 (3.9)	23 (5.0)	62 (6.3)
Uzbekistan[j]	*c*	91 (2.7)	80 (4.0)	73 (4.8)	89 (3.4)
Data may not be representative of target population					
Denmark[g,j]	*c*	53[n]	55[n]	57[n]	65[n]

Notes:

Standard errors appear in parentheses.

c This question was not administered in this country assuming all schools offered some teaching and learning during the COVID-19 disruption.

d Number of schools too small to report percentages.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

4.4 Help and support for teaching and learning

Sabine Meinck, Mojca Rožman, Minge Chen

Section highlights

Receiving and providing help and support for teaching and learning was assumed by many people to be a critical coping strategy in light of the educational disruptions due to the COVID-19 pandemic. This section describes the support mechanisms that were implemented in the participating educational systems during the reference period. It shows how students, parents or guardians, teachers, and schools were supported and offered support.

Students received support from various persons on various topics.

- Most students from most of the participating countries received help from parents or guardians and their teachers with various topics related to learning.
- A quarter to up to half of the students in all participating countries reported they had, at least sometimes, no one at all available who could help them with their schoolwork.
- Most students from most countries reported to have been in good contact with their teachers, which left a significant number of students lacking these fundamental preconditions of learning.

Many teachers have acknowledged their role as important supporters of their students and families.

- Coinciding with students' reports, a majority of teachers in most of the countries said they provided support on multiple topics regarding learning and beyond.
- The vast majority of teachers in all the participating countries agreed that it was difficult to provide lower achieving and vulnerable students with the support they required.
- Significantly less than half of the teachers across countries undertook professional development before the pandemic on topics with increased importance during school closures.

Principals provided and received tailored support.

- A majority of schools increased the use of tools and activities around remote schooling, with the exception of those in Burkina Faso, Ethiopia, Kenya, and Rwanda.
- Countries varied largely regarding their provision of support services for students.
- A vast majority of schools in most countries participating in REDS provided support to parents or guardians on various topics related to organizing and implementing learning activities.
- Most principals felt supported by their educational authorities.

Introduction

The COVID-19 pandemic emerged suddenly, and the implemented measures severely disrupted peoples' lives. In such situations of crisis, it is natural for human beings to seek and provide help and support to each other. REDS investigated how this applied to the various stakeholders within the education system. This section reports on students that received help, and what kind and intensity of support was provided to them. It further investigates how principals supported teachers at their school, and how both principals and teachers supported students and their families during the reference period, but also examines who supported schools. In reference to the REDS research questions, this section addresses the question: *How the effects of the COVID-19 pandemic on teaching and learning were mitigated by measures of help and support*.

Help and support for students

Many students worldwide could not go to school for significant periods of time during the COVID-19 pandemic. As shown in previous sections of the report, learning activities therefore had to be relocated to another place, mostly the homes of the students. Lacking direct contact and supervision from their teachers, other people became important sources of support when students needed help with issues surrounding learning, be it access to study materials, use of digital devices, or structuring their school day. REDS asked students which persons were available to help them with their schoolwork at home, and with what frequency ("never," "sometimes," or "often or always"). Table 4.4.1 presents the accumulated percentages of students that responded that specific persons were at least sometimes available and could help, out of those students engaging in schoolwork during the reference period as indicated in the column labelled "Percentages of students doing no schoolwork at all during the COVID-19 disruption". As shown in the table, parents or guardians of the vast majority of students in most of the countries were at least sometimes available and could help. However, from the few participating students in Burkina Faso who actually engaged in some schoolwork during the reference period, only half said their parents could help. Further, in all participating countries, frequently, older siblings and other people were available too, according to respondents' answers. Of note, a significant number of students reported they had, at least sometimes, no one at all available who could help them with their schoolwork. This applied to a quarter, up to half of the students in all participating countries. Overall, students from Uzbekistan reported the highest levels of support for remote schooling from different groups of people.

Students who engaged in learning during the disruption were further asked how much help they received for specific topics. The response options were "none," "a small amount," "a moderate amount," or "a lot" of help. Table 4.4.2 is divided into two parts and presents the percentages of students who reported not receiving help at all with specific topics. About one fifth of the students or even more reported a lack of help for many of the topics REDS asked about. This is true for, receiving help to find or access their schoolwork on computer, help to use the school computer system, help to do research, and teaching of additional skills. One third or more of the students in all countries received no help at all with planning their schoolwork, except for Uzbekistan, where only 16% supported this statement. Reassuringly, relatively few students indicated they got no help with issues that may have occurred more frequently. Only around 10% of the students in most of the participating countries received no guidance with their schoolwork when needed. However, between 20% and 30% of student respondents in Burkina Faso, Ethiopia, and Kenya reported this. Similarly, less than a third of students in most countries received no study advice or tips (exception: Danish respondents–44%) or were not encouraged to stay on task.

It should be noted some findings can mean different things; students may not have needed help (and therefore not received it), and potential sources of support may have been available but not been able to help for lack of knowledge or other reasons. For example, students in Burkina Faso, Ethiopia, and Kenya used online learning modes rarely, so only few would have needed help with it.

Table 4.4.1: *Persons helping students with their schoolwork at home* ***sometimes or often, or always***
Response categories were: (1) Never (2) Sometimes (3) Often or always

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students reporting the following persons were **sometimes or often, or always** available and could help							
		Their parent(s) or guardian(s)		Older siblings		Other people		No one	
Russian Federation[h]	*a*	87	(0.7)	43	(1.1)	49	(1.2)	32	(1.2)
Slovenia[g]	*a*	90	(0.6)	51	(1.3)	53	(1.2)	34	(1.1)
United Arab Emirates	*a*	87	(0.8)	53	(1.6)	54	(1.2)	40	(1.1)
Uzbekistan[h]	*a*	92	(0.7)	81	(1.1)	79	(1.1)	32	(1.4)
Data may not be representative of target population									
Burkina Faso	85	53		77		63		24	
Denmark	*a*	87		48		28		51	
Ethiopia[h]	44[n]	74		70		47		37	
Kenya[h]	21[n]	83		78		51		41	

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.2: *Students receiving* ***no help at all*** *with their schoolwork at home (part 1 of 2)*
Response categories were: (1) None (2) A small amount (3) A moderate amount and (4) A lot

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students receiving **no help at all** with the following topics			
		Find or access their schoolwork on computer	Help to use the school computer systems	Explanations of their schoolwork when needed	Help to do research
Russian Federation[h]	*a*	28 (1.1)	38 (1.1)	12 (0.8)	22 (0.7)
Slovenia[g]	*a*	31 (1.2)	38 (1.3)	13 (0.7)	26 (0.9)
United Arab Emirates	*a*	22 (0.9)	24 (0.8)	10 (0.6)	22 (0.8)
Uzbekistan[h]	*a*	27 (1.6)	23 (1.4)	8 (0.7)	20 (1.2)
Data may not be representative of target population					
Burkina Faso	85	82	85	21	36
Denmark	*a*	36	49	9	29
Ethiopia[h]	44[n]	74	73	27	42
Kenya[h]	21[n]	79	85	23	39

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.2: *Students receiving* ***no help at all*** *with their schoolwork at home (part 2 of 2)*
Response categories were: (1) None (2) A small amount (3) A moderate amount and (4) A lot

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students receiving **no help at all** with the following topics			
		Help to plan their schoolwork for the day	Study advice or tips	Encouragement to stay on task	Teaching of additional skills
Russian Federation[h]	*a*	41 (1.1)	15 (0.8)	27 (0.9)	30 (1.1)
Slovenia[g]	*a*	44 (1.0)	29 (0.9)	26 (0.9)	38 (1.0)
United Arab Emirates	*a*	32 (0.9)	14 (0.7)	15 (0.9)	24 (1.0)
Uzbekistan[h]	*a*	16 (0.9)	8 (0.5)	10 (0.7)	21 (0.9)
Data may not be representative of target population					
Burkina Faso	85	43	33	11	59
Denmark	*a*	59	44	31	47
Ethiopia[h]	44[n]	32	19	31	51
Kenya[h]	21[n]	48	28	34	30

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Teachers were supposed to remain the main source of support for student learning during the COVID-19 pandemic. However, teachers were most often, and for a significant amount of time, in a situation where they could not be in physical contact with their students. They frequently had to find ways to overcome this barrier as shown in previous sections of this report. REDS asked students, in their perspective, how successful teachers had been at helping and supporting them during the reference period. Table 4.4.3 presents the percentages of students who "agreed" or "strongly agreed" with various statements related with teachers' help and support, out of those students who engaged in schoolwork during the reference period (the remaining response options were "disagree" and "strongly disagree").

A precondition for helping students is to establish contact with them. A vast majority of students in the Russian Federation, Slovenia, the United Arab Emirates, Uzbekistan as well as student respondents from Denmark agreed that their teachers made it clear how to best contact them and were available for help when needed (Table 4.4.3, part 1). About as many students in these countries reported that their teachers gave feedback they could understand. Further, two thirds or more students in those countries agreed that their teachers made a special effort to keep in contact with them. In contrast, less than a third of the student respondents engaging in schoolwork supported those statements in Burkina Faso, and a bit more than a third in Kenya, while half of the respondents in Ethiopia agreed.

These results show that most students felt well-supported, at least regarding the aspects investigated in REDS, by their teachers. However, the results also provide evidence that some students lacked this support. This applied to only a few in some of the countries, but a significant number of students in others. For example, half of the respondents in Ethiopia did not know how to contact their teachers, and as many did not receive understandable feedback. It is possible that those students felt and were left behind.

A positive relationship between teachers and their students may favorably impact their academic, behavioural, and socioemotional skills (Davis, 2003). It can be assumed this applies also or particularly in times of crisis. REDS asked students about their relationships with their teachers (Table 4.4.3, part 2). Reassuringly, most students in all participating countries agreed that they had a good relationship with their teachers during the reference period. However, in Burkina Faso and Kenya, half or even more than half of the respondents did not support this statement. Further, more than two thirds of the students in most countries said their teachers showed interest in their learning and encouraged them to learn, again with slightly lower support for these statements in Burkina Faso and Kenya.

Finally, largely varying percentages of students reported their teachers adapted their schoolwork to meet their individual needs, ranging from as few as 28% of respondents in Burkina Faso up to 79% in Uzbekistan.

Teachers' perspectives on help and support for students

This section presents teachers' views on several aspects of help and support during the COVID-19 disruption. Note that all teachers' results presented in this section take into account exclusively teachers who stated to have been teaching their class remotely during the COVID-19 disruption. This is indicated in the respective column in Tables 4.4.4 to 4.4.6.

Complementing the statements of students in the previous section, teachers have been asked whether and to what extent ("to a large extent," "to some extent," "to a small extent," or "not at all") they provided various support or information to students and their families. The percentages of teachers providing support at least to some extent for the specific topics are presented in Table 4.4.4. As is evident from the table, many teachers have acknowledged and engaged in their role as important sources of support for their students and families with regard to learning during the reference period. More than half of teachers in all countries reported to have provided information on study skills and strategies, ranging from 59% of active teachers in Denmark to 91% in the United Arab Emirates. More than two thirds of the teachers in all countries reported providing information on how to access to learning material. Fewer teachers supported students with the organization of school days, ranging from 40% of teachers in Uzbekistan to 81% in the United Arab Emirates.

Table 4.4.3: *Students receiving support from their teachers (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students **agreeing or strongly agreeing** with the following statements							
		My teachers were available when I needed their help		My teachers made it clear how to best contact them		My teachers gave me feedback that I could understand		My teachers made a special effort to keep in contact with me	
Russian Federation[h]	*a*	82	(1.0)	86	(0.7)	83	(0.8)	63	(1.2)
Slovenia[g]	*a*	89	(0.7)	86	(0.8)	83	(1.0)	70	(1.1)
United Arab Emirates	*a*	91	(0.7)	88	(0.8)	89	(0.7)	77	(1.0)
Uzbekistan[h]	*a*	94	(0.6)	91	(0.7)	88	(0.8)	88	(1.0)
Data may not be representative of target population									
Burkina Faso	85	29		31		33		26	
Denmark	*a*	88		86		84		63[n]	
Ethiopia[h]	44[n]	55		56		54		51	
Kenya[h]	21[n]	37		39		41		35	

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.3: *Students receiving support from their teachers (part 2 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students **agreeing or strongly agreeing** with the following statements							
		My teachers showed interest in my learning		I had a good relationship with my teachers		My teachers encouraged me to learn		My teachers adapted my schoolwork to meet my individual needs	
Russian Federation[h]	*a*	68	(1.1)	86	(0.9)	65	(1.3)	46	(1.2)
Slovenia[g]	*a*	75	(1.0)	87	(0.8)	67	(1.1)	50	(1.3)
United Arab Emirates	*a*	89	(0.7)	90	(0.7)	90	(0.6)	73	(1.0)
Uzbekistan[h]	*a*	92	(0.6)	93	(0.7)	92	(0.7)	79	(1.0)
Data may not be representative of target population									
Burkina Faso	85	40		45		73		28	
Denmark	*a*	75[n]		81		52[n]		42	
Ethiopia[h]	44[n]	67		68		71		57	
Kenya[h]	21[n]	48		50		62		35	

Notes:

Standard errors appear in parenthesis.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3 Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

While these results are encouraging, it remains concerning that there were still teachers who provided very little support or none at all. Students of those teachers may have missed support needed during the pandemic.

Finally, relatively few teachers in most countries, at least to some extent, provided advice on how to access financial support (last column of Table 4.4.4). This is not too much of a surprise, as this topic is not directly related to teaching and learning, which teachers likely see as their main responsibility. However, a significant portion of teachers adopted a broader role and mission, at least during the reference period. Remarkably, two thirds of teachers in India provided such advice, half of the teachers in Ethiopia and Uzbekistan, and about a third from the Russian Federation, Slovenia, and the United Arab Emirates. In comparison, almost no teacher respondents from Denmark reported giving advice on this topic, which may be due to the strong state-run social safety system in place, that Danish citizens can rely on.

Attending to the specific needs of diverse groups of students may be time-consuming and often a challenge (Heacox, 2002). REDS aimed to understand how the support of students changed during the pandemic. For example, some students had no or only limited access to digital devices and therefore could not participate in online lessons (see Table 4.2.5). REDS asked teachers to specify whether they found it difficult to support specific groups of students. Table 4.4.5 presents the percentages of teachers agreeing or strongly agreeing to various respective statements (the remaining response options were "disagree" and "strongly disagree"), out of the teachers who taught their class remotely during the disruption. The vast majority of teachers in all the participating countries agreed that it was difficult to provide lower achieving and vulnerable students with the support they required. Fewer teachers from the United Arab Emirates supported these statements (54% and 66% for the respective statements). These results indicate that lower achieving and vulnerable students may have been more lacking in support than others.

Further, about two thirds or more of the teachers in most countries reported that they had not enough time to provide differential teaching to suit the individual needs of their students (exceptions: United Arab Emirates – 39%, Uzbekistan – 48%).

Finding it difficult to attend to the needs of specific groups of students may be related to the specific circumstances of the pandemic, but also to a lack in abilities and skills of teachers regarding this task. In 2019, on average, across more than 60 educational systems, two thirds of grade 8 students had mathematics and science teachers indicating a need for professional development on the topic of addressing individual students' needs (Mullis et al., 2020). There was little variation on this across the countries, indicating this is a global topic of concern. REDS asked teachers who had taught their class remotely during the disruption whether they undertook professional learning in working with diverse and vulnerable students prior to the pandemic, with the following response options "yes, before the COVID-19 disruption," "yes, during or after the COVID-19 disruption," and "no, I have never undertaken professional learning in this area." The percentages of teachers who attended such professional development before the disruption are shown in Table 4.4.6. With very few exceptions, less than half or even fewer teachers reported to have undertaken such training. Professional development in the topic of teaching classes in which students have a wide range of achievement was slightly more common than training on working with vulnerable students.

Lacking physical supervision of teachers, resilient and perseverant students may have been more able to stay on task than their peers. This is another feature of students that may have been important during remote schooling. The percentages of teachers reporting they undertook professional learning or strengthening their skills to stimulate this trait in their students before the disruption varied largely among countries, ranging from 20% or fewer respondents in Burkina Faso, Denmark, and Slovenia, to 60% in Uzbekistan.

It is widely accepted that students' well-being is a prerequisite of learning. During the COVID-19 pandemic, students' well-being was at least potentially jeopardized by the various effects of the pandemic. To name just a few of those effects, students could not or not easily meet with friends, they may even have not been allowed to leave their homes due to quarantine measures or fear of infection risks, some may have suffered by financial or emotional difficulties within their families.

Table 4.4.4: *Teachers providing support to students and their families during the COVID-19 disruption* ***to a large or some extent***
Response categories were (1) To a large extent (2) To some extent (3) To a small extent and (4) Not at all

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers providing support or information about the following topics **to a large or some extent**			
		Study skills and strategies	Organization of school days	Access to learning material	Advice about how to access financial support
India	29 (7.2)	75 (8.3)	65 (9.2)	75 (7.8)	66 (4.3)
Russian Federation[i]	1 (0.3)	76 (1.4)	74 (1.3)	87 (1.1)	30 (1.6)
Slovenia[g]	2 (0.5)	83 (1.4)	75 (1.5)	96 (0.6)	30 (1.6)
United Arab Emirates	2 (0.7)	91 (0.8)	81 (1.0)	94 (0.5)	32 (1.6)
Uzbekistan	2 (0.3)	84 (1.6)	40 (1.8)	89 (0.9)	55 (1.8)
Data may not be representative of target population					
Burkina Faso	96	76	45	71	19
Denmark[g,i]	6	59	74	84	2
Ethiopia[i]	61	69	62	65	54
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	71	*k*	82	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.4.5: *Teachers' capacity to support students during the COVID-19 disruption*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements		
		It was difficult to provide lower achieving students with the learning support they required	It was difficult to provide vulnerable students with the support they required	I did not have enough time to provide differentiated teaching to suit the individual needs of my students
India	29 (7.2)	89 (3.4)	90 (3.5)	78 (4.3)
Russian Federation[i]	1 (0.3)	78 (2.1)	78 (1.7)	67 (2.3)
Slovenia[g]	2 (0.5)	93 (0.7)	96 (0.6)	67 (1.5)
United Arab Emirates	2 (0.7)	54 (1.5)	66 (1.5)	39 (1.5)
Uzbekistan	2 (0.3)	82 (1.1)	85 (0.9)	48 (1.4)
Data may not be representative of target population				
Burkina Faso	96	86	79	68
Denmark[g,i]	6	85	92	68
Ethiopia[i]	61	74	72	67
Kenya[i]	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	*k*	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

As a result, students' well-being became a focus during the pandemic, and previous opportunities to develop related skills within teaching personnel could have paid off during the educational disruption. Between as few as 16% (Burkina Faso) and 52% (Uzbekistan) of the teachers in the countries reported to have been trained in this topic, certainly a percentage worth being increased at least in some countries in the future.

Overall, teachers in the United Arab Emirates and Uzbekistan reported more professional development opportunities than teachers in other countries before the disruption. Vice versa, the percentages of teachers in Burkina Faso, Denmark, and Slovenia who undertook professional development in the investigated areas were the smallest.

Schools providing and receiving help and support

Principals play an important role in the educational system. Among other tasks, they implement with varying levels of autonomy strategies devised by higher educational authorities, they provide leadership in pedagogy, but also coordinate teaching and learning at their schools. The demands on filling these roles increased suddenly and significantly at the beginning of the pandemic. Without precedent, with relatively little external guidance, and constantly and rapidly changing requirements, they had to implement measures to decrease infection risks. These measures were for example full or partial school closures, and later, various health/sanitation practices to reestablish face-to-face learning. At the same time, they had to advise teachers on how to continue schooling, often in a remote format.

REDS asked school principals whether the use of resources and activities related to remote teaching had increased at their schools, the response options were "substantially increased," "increased to some degree," "not relevant in our school neither before nor during the COVID-19 disruption," "decreased to some degree," and "substantially decreased." The percentages of principals reporting increases are presented in Table 4.4.7. Nearly all schools in the Russian Federation, Slovenia, the United Arab Emirates, and Uruguay reported to have increased access to the use of online platforms and tools for self-directed or collaborative learning, access to tools that help teachers with remote learning, and professional development activities focused on delivering remote teaching. In the same countries, almost as many schools increased the use of resources for effective remote teaching pedagogy (between 77% in Uruguay and 99% in Slovenia), and for peer collaboration opportunities (between 73% in the Russian Federation and 98% in Slovenia). In Uzbekistan, around three quarters of the schools amplified the use of the mentioned resources, and about half of the principals in India and Rwanda indicated this as well. On the other hand, about a quarter of the schools or less in Ethiopia and Kenya increased related activities and the use of resources, and even fewer schools in Burkina Faso.[15] Finally, many Danish participating principals indicated an increased use of the mentioned tools, half reported to have seen an increase of peer collaboration opportunities, but very few said that professional development focusing on delivering remote teaching increased during the disruption.

Principals were further asked about changes in the support services they provided to parents and guardians on specific topics. Anticipating the specific needs of some groups of students, REDS asked if schools changed their support services for students with special needs (in the case they accommodate such students), students whose home language is not the language of instruction, and the overall provision of support services. Table 4.4.8 presents the percentages of principals who reported that providing a support service "substantially increased" or "increased to some degree" during the COVID-19 disruption (further available response options were "did not change," "decreased to some degree," and "substantially decreased"). The responses varied largely across countries, and less so by topic. Support services for learners with a mother tongue different to the language of instruction were increased less often than those for students with special needs, or other support services. Out of the schools accommodating students with special needs, more than half increased their support in the Russian Federation, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan. The same countries showed a medium to high increase

[15] Most principals indicated for all questions that they are "not relevant in their school neither before nor during the COVID-19 disruption" in Burkina Faso.

Table 4.4.6: *Teachers' professional development in selected areas* ***before*** *the COVID-19 disruption*

Response categories were: (1)Yes, before the COVID-19 disruption (2)Yes, during or after the COVID-19 disruption (3) No, I have never undertaken professional learning in this area

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers who undertook professional learning in the following areas **before** the COVID-19 disruption			
		Working with vulnerable students	Teaching classes in which the students have a wide range of achievement	Developing student resilience	Student well-being
India	29 (7.2)	34 (7.6)	42 (6.1)	32 (6.5)	43 (4.7)
Russian Federation[i]	1 (0.3)	27 (1.3)	38 (1.7)	28 (1.6)	19 (1.3)
Slovenia[g]	2 (0.5)	39 (1.9)	20 (1.2)	14 (1.4)	30 (1.6)
United Arab Emirates	2 (0.7)	49 (1.6)	54 (1.5)	42 (1.5)	47 (1.4)
Uzbekistan	2 (0.3)	30 (1.5)	60 (1.5)	61 (1.9)	52 (1.3)
Data may not be representative of target population					
Burkina Faso	96	7	11	9	16
Denmark[g,i]	6	20	17	14	35
Ethiopia[i]	61	28	45	27	39
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	k	35	*k*	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.4.7: *Percentages of schools that* ***increased*** *the use of resources and activities during the COVID-19 disruption*
Response categories were: (1) Not relevant in our school neither before nor during the COVID-19 disruption (2) Substantially increased (3) Increased to some degree (4) Did not change (5) Decreased to some degree and (6) Substantially decreased

Country	Access to and use of online platforms and tools for self-directed or collaborative learning	Access to tools that help teachers with remote teaching	Professional development activities focused on delivering remote teaching	Resources for effective remote teaching pedagogy	Peer collaboration opportunities
Burkina Faso	7 (3.2)	1 (0.8)	4 (2.3)	6 (3.1)	10 (3.3)
Ethiopia[j]	15 (3.2)	17 (3.4)	28 (5.0)	22 (4.5)	25 (4.5)
India	61 (5.6)	62 (5.2)	52 (7.3)	51 (7.0)	58 (5.9)
Kenya[g,j]	26 (5.9)	27 (5.6)	29 (5.9)	25 (5.5)	26 (5.4)
Russian Federation[j]	85 (4.4)	91 (3.2)	81 (4.0)	89 (3.3)	73 (5.3)
Rwanda	54 (4.3)	47 (4.5)	50 (4.1)	52 (4.4)	46 (4.1)
Slovenia[g,j]	89 (3.5)	92 (2.3)	99 (0.5)	99 (0.7)	98 (1.3)
United Arab Emirates	98 (1.4)	99 (0.6)	98 (1.2)	98 (0.8)	78 (5.3)
Uruguay[g,j]	98 (1.4)	95 (2.2)	92 (2.8)	77 (5.9)	95 (2.3)
Uzbekistan[j]	76 (4.8)	85 (4.1)	60 (5.6)	78 (3.9)	70 (4.8)
Data may not be representative of target population					
Denmark[g,j]	78[n]	84[n]	25[n]	21[n]	55[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.8: *Percentages of schools providing* ***increased*** *support to parents and guardians during the COVID-19 disruption*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Support services for students with special needs		Support services for students whose home language is not the language of instruction at school		Overall provision of support services	
Burkina Faso	6	(1.7)	3	(1.5)	5	(2.4)
Ethiopia[j]	35	(5.4)	25	(4.3)	40	(5.4)
India	*k*		*k*		*k*	
Kenya[g,j]	14	(3.9)	21	(4.4)	24	(4.7)
Russian Federation[j]	68	(5.6)	36	(4.8)	71	(4.8)
Rwanda	36	(4.3)	27	(3.8)	33	(4.0)
Slovenia[g,j]	88	(3.7)	67	(5.7)	83	(4.8)
United Arab Emirates	83	(6.0)	63	(5.5)	81	(5.3)
Uruguay[g,j]	62	(8.1)	*k*		45	(6.5)
Uzbekistan[j]	76	(6.8)	41	(5.4)	64	(5.4)
Data may not be representative of target population						
Denmark[g,j]	41[n]		25[n]		23[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

in overall support levels at their schools. Respondents in Burkina Faso, Denmark, Ethiopia, and Kenya indicated generally low levels of an increase in support.

As observed, the requirements for principals and teachers to fulfill their roles changed, whereas parents/guardians faced an actual role change. Suddenly they had to assume at least in parts tasks and responsibilities regarding their children's learning that usually lie with their teachers. They had to help their children organize their school day, encourage them to find materials, use digital devices, explain their schoolwork and so on (see also the section around Table 4.4.2). All this, without being trained, and perhaps in addition to managing their own job, and caring for multiple siblings. Hence, many parents or guardians needed to receive help and support with these tasks. As presented in Table 4.4.4, they received some help from their children's teachers, but they also received support from their child's school. School principals were asked if their school provided any specific support measures for parents or guardians, the available response options were "yes, this was also provided before the COVID-19 disruption," "yes, this was only provided during the COVID-19 disruption," and "no." The percentages of principal's reporting on the provision of support before or during the reference period is presented in the two parts of Table 4.4.9. A vast majority of schools in most countries participating in REDS provided support to parents and guardians on topics surrounding the planning of the school day, provision of learning materials, how to help children with specific aspects of their schoolwork, the amount of work that can reasonably be expected per day, but also on emotional support and support services available to families and children. Lower levels of support could be observed in Rwanda and yet even lower levels in Kenya, where around half of the schools stated they provided these supports. In Burkina Faso, however, for most topics only a quarter of principals reported to providing support to parents/guardians.

Finally, REDS gave school principals a voice to report how well-supported they felt by educational authorities and other people related with their schools, as presented in Table 4.4.10, the response options were "very well," "somewhat," and "not at all." In most countries, more than three quarters of principals felt at least "somewhat" supported by their national education authority. Still about two thirds of the principals felt supported by their authorities in Burkina Faso and Ethiopia, and less so in Kenya (59%) and India (43%), the latter however reporting relatively high support levels from provincial education authorities. Provincial educational authorities also played a role in many other countries, a significant source of schools' support, according to principals' reports. In nine out of the eleven countries, however, only about half or even much fewer principals felt supported by teacher unions. Also, parents or guardians and the local community provided important support to many schools in the participating countries, ranging from one third of principal respondents in Burkina Faso stating this, to about three quarters or more in Denmark, India, Rwanda, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan. It should be noted though that this leaves a substantial number of principals who didn't feel supported at all by the various stakeholders. Further, there is large variation between countries regarding the percentages of principals who felt very well-supported, or somewhat supported (not tabulated in this report). In-depth analysis may reveal further significant information for political stakeholders in the participating countries.

References

Davis, H. A. (2003). Conceptualizing the role and influence of student teacher relationships on children's social and cognitive development. *Educational Psychologist*, *38*(4), 207–234. https://doi.org/10.1207/S15326985EP3804_2

Heacox, D. (2002). *Differentiating instruction in the regular classroom. How to reach and teach all learners, grades 3-12*. Minneapolis: Free Spirit Publishing. https://www.thefreelibrary.com/Differentiating+Instruction+in+the+Regular+Classroom%3a+How+to+Reach...-a0160812886

Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. (2020). *TIMSS 2019 International Results in Mathematics and Science*. Boston College, TIMSS & PIRLS International Study Center website: https://timssandpirls.bc.edu/timss2019/international-results/

Table 4.4.9: *Percentages of schools providing support to parents and guardians* ***before or during*** *the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Yes, this was also provided before the COVID-19 disruption (2) Yes, this was only provided during the COVID-19 disruption and (3) No

Country	Advice on how to plan the school working day		Advice on how to help their children prepare study plans		Advice on the amount of work that can be reasonably expected per day		Advice on how to help children with specific aspects of their schoolwork		Information about the curriculum content that students would be covering	
Burkina Faso	25	(4.2)	38	(5.7)	26	(4.3)	45	(5.7)	27	(5.1)
Ethiopia[j]	83	(3.0)	83	(4.1)	79	(3.8)	83	(3.5)	78	(4.5)
India	85	(4.0)	79	(8.9)	86	(6.9)	81	(8.1)	88	(4.3)
Kenya[g,j]	55	(6.1)	62	(5.5)	51	(6.1)	56	(6.1)	53	(6.2)
Russian Federation[j]	100	(0.2)	100	(0.0)	100	(0.2)	100	(0.3)	100	(0.2)
Rwanda	72	(3.6)	83	(3.1)	60	(3.7)	79	(3.4)	68	(4.1)
Slovenia[g,j]	100	(0.0)	99	(0.7)	96	(1.5)	99	(0.6)	99	(0.6)
United Arab Emirates	97	(0.8)	98	(1.1)	98	(0.2)	99	(0.8)	100	(0.0)
Uruguay[g,j]	86	(3.9)	77	(4.6)	83	(5.3)	93	(2.1)	87	(3.9)
Uzbekistan[j]	86	(4.0)	95	(3.1)	83	(4.3)	92	(3.6)	91	(3.7)
Data may not be representative of target population										
Denmark[g,j]	80[n]		86[n]		98[n]		94[n]		94[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.9: *Percentages of schools providing support to parents and guardians* ***before or during*** *the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Yes, this was also provided before the COVID-19 disruption (2) Yes, this was only provided during the COVID-19 disruption and (3) No

Country	Provision of teaching materials and worksheets		Explanation of changes in assessment		Expectations regarding safe and respectful online behaviour		Information about providing emotional support to their children		Information about support services available to families and children	
Burkina Faso	22	(5.9)	29	(4.5)	9	(2.8)	33	(4.9)	23	(4.8)
Ethiopia[j]	87	(3.3)	77	(4.5)	46	(4.9)	86	(2.3)	90	(2.1)
India	88	(5.1)	78	(7.9)	72	(8.5)	78	(8.1)	78	(6.8)
Kenya[g,j]	43	(5.5)	48	(6.4)	39	(6.1)	61	(5.6)	52	(5.9)
Russian Federation[j]	100	(0.3)	93	(2.9)	100	(0.0)	100	(0.3)	100	(0.0)
Rwanda	63	(4.1)	64	(3.8)	69	(4.0)	76	(3.5)	76	(3.4)
Slovenia[g,j]	89	(2.3)	98	(1.4)	97	(1.2)	99	(0.8)	98	(1.2)
United Arab Emirates	93	(2.1)	98	(1.8)	100	(0.0)	100	(0.0)	98	(1.2)
Uruguay[g,j]	90	(4.0)	94	(2.8)	94	(2.0)	85	(4.6)	94	(2.2)
Uzbekistan[j]	69	(5.1)	88	(4.2)	91	(3.9)	95	(3.4)	93	(3.4)
Data may not be representative of target population										
Denmark[g,j]	94[n]		73[n]		94[n]		88[n]		80[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3 Table, 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.4.10: *Percentages of schools feeling* ***very well or somewhat*** *supported by people or organizations during the COVID-19 disruption*
Response categories were: (1) Very well (2) Somewhat (3) Not at all

Country	National education authority	Provincial education authority	Teacher unions	Parents/guardians	The local community
Burkina Faso	63 (6.9)	61 (6.8)	16 (3.7)	35 (5.3)	34 (4.8)
Ethiopia[j]	67 (5.3)	72 (5.0)	70 (4.8)	60 (4.5)	79 (4.3)
India	43 (6.9)	74 (7.4)	59 (8.2)	77 (6.8)	71 (7.8)
Kenya[g,j]	59 (6.5)	52 (6.3)	27 (5.9)	68 (4.7)	53 (6.0)
Russian Federation[j]	83 (4.3)	89 (3.4)	48 (5.4)	83 (4.1)	51 (6.1)
Rwanda	89 (2.7)	73 (3.9)	52 (4.7)	75 (3.6)	77 (3.5)
Slovenia[g,j]	83 (4.1)	98 (1.2)	28 (5.2)	88 (3.3)	77 (4.6)
United Arab Emirates	92 (2.4)	90 (2.7)	34 (4.9)	97 (1.7)	84 (4.8)
Uruguay[g,j]	81 (4.6)	*k*	45 (6.1)	92 (2.5)	*k*
Uzbekistan[j]	94 (2.0)	96 (1.9)	86 (3.3)	84 (4.0)	76 (5.4)
Data may not be representative of target population					
Denmark[g,j]	76[n]	76[n]	50[n]	88[n]	51[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

4.5 Well-being of students and teachers

Mojca Rožman, Sabine Meinck, Minge Chen

Section highlights

The severe limitations posed on public life in many countries and the uncertainty on how to deal with the new situation of the pandemic might have not only affected teaching and learning, but also the well-being of students and teachers. In addition, in a time with uncertainty in different domains, tailored support might have helped to cope with the changing conditions.

In REDS, students reported on the negative effects on their emotional well-being, but also on the supportive structures in place.

- Many students felt lonelier, a vast majority, missed contact with their classmates, many were worried about how the disruption impacted their learning and will affect their future education.
- Many students reported that they felt fit and healthy and had supportive classmates.
- The consequences of the disruption did not seem to affect the feeling of school belonging too severely, with about two thirds or more students in six out of eight countries reporting that they still felt part of the school.

Teachers reported on the negative effects on their well-being, their perspective on the implemented measures at school, and their ability to cope with the changes.

- Many teachers across countries reported they had concerns about catching COVID-19 at work. They felt fatigue most of the time, their sleeping patterns were interrupted, and they felt isolated whilst working at home.
- Most teachers agreed that they were satisfied with the infection control protocols implemented at their school.
- The majority of teachers across countries agreed, however, that they were able to cope with changes in teaching and learning methods, and they were able to meet the requirements of their job.

Support was available for many teachers and students.

- The majority of teachers agreed that they felt supported by the school leadership, their colleagues, and by their social network outside of school.
- Most teachers and schools provided various information related to well-being. This was generally confirmed by responses of the support recipients (teachers and students) in most countries.

Introduction

As a response to the pandemic, many countries introduced limitations to public life such as school closures, working from home, travel restrictions, etc. and as such public life was severely limited in many places around the world. These limitations and the uncertainty about their duration, followed by constant changes to the restrictions, affected many people world-wide and can be assumed to have affected the well-being of students and teachers as well. In an unpredictable time regarding many aspects of life, the right support could have helped to cope with the changed and changing conditions. This section focuses on the emotional and physical well-being of students and teachers, and the support provided for well-being. The section addresses the REDS research question: *what were the impacts of the COVID-19 pandemic on school staff and students, and how were these mitigated by measures within countries*.

Emotional and physical well-being of students

Due to the COVID-19 disruption, several measures within schools and in daily life were introduced. The school closures might have differently impacted various groups of students. REDS asked students whether specific statements about learning at home during the COVID-19 disruption, applied to them, with the following response options available "never or hardly ever," "sometimes," "most of the time," and "always." The percentages of students to whom the statements applied at least most of the time are presented in Table 4.5.1. These statements are intended to describe the learning conditions that students faced during remote learning and are specially focused on pandemic related challenges. Of note, for Burkina Faso, Ethiopia, and Kenya the percentages are out of the responding students who did some schoolwork during the disruption.

More than half of students in the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan felt safer at home than they usually do at school. The percentages are lower for responding students in Burkina Faso (37%), Denmark (44%), Ethiopia (27%), and Kenya (24%). More than half of students were at least most of the time happy to be at home in the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan. The same held true for responding students in Denmark. However, only less than one third of responding students in Burkina Faso, Ethiopia, and Kenya supported this statement. A large percentage of responding students from Burkina Faso (35%) and Ethiopia (47%) had to look after siblings, potentially leaving less time for schoolwork. About one fifth of students in the United Arab Emirates and responding students in Denmark missed meals at home because they rely on meals offered at school.

Students had to organize their daily routine anew during the disruption. REDS asked students to indicate their level of agreement with statements about their emotional and physical well-being and provided the following response options "strongly agree," "agree," "disagree," and "strongly disagree." In the two parts of Table 4.5.2 the percentages of students agreeing or strongly agreeing with the statements are presented. On one hand, many students reported increased physical activities. Between a third of responding students in Burkina Faso and three quarters of students in Uzbekistan, agreed that they exercised more than usual during the disruption. Further, many students across countries were able to do more than their usual outside of school activities. A majority of students in all participating countries reported that they felt fit and healthy. On the other hand, roughly around half of the students felt more lonely than usual and got upset over things that would not have normally bothered them. Similarly, about half of the students across countries reported feeling angry more often than usual, and that they did not sleep as well as before the disruption. Friends and family are very important for adolescents, likely even more when their usual routines and school contacts are disturbed. However, a quarter to a little less than half of the students across countries did not feel like contacting friends. This is in line with the finding that most students agreed that they were more worried than usual about their friends and family getting sick. Finally, 66% (Slovenia) up to 82% (Uzbekistan) of students reported using social media a lot more than before the disruption, except for responding students from Burkina Faso, Ethiopia, and Kenya, where less than half of the students indicated this.

Table 4.5.1: *Percentages of students who reported on various impacts of learning at home* ***most of the time or always***
Response categories were: (1) Never or hardly ever (2) Sometimes (3) Most of the time and (4) Always

Country	Percentage of students doing **no** schoolwork at all during the COVID-19 disruption	Out of the students doing schoolwork during the COVID-19 disruption: Percentage of students to whom the following applied to their learning at home **most of the time or always**			
		Felt safer at home than usually at school	Were happy to be at home	Had to look after siblings	Missed meals at home because students rely on the meals offered at school
Russian Federation[h]	*a*	63 (1.1)	63 (1.1)	16 (0.8)	7 (0.7)
Slovenia[g]	*a*	53 (1.0)	62 (1.2)	18 (0.8)	11 (0.8)
United Arab Emirates	*a*	57 (1.0)	55 (1.1)	25 (1.0)	21 (0.9)
Uzbekistan[h]	*a*	55 (1.3)	31 (1.2)	15 (1.0)	*k*
Data may not be representative of target population					
Burkina Faso	85	37	18	35	5
Denmark	*a*	44	50	8	21
Ethiopia[h]	44[n]	27	22	47	13
Kenya[h]	21[n]	24	17	28	13

Notes:

Standard errors appear in parentheses.

a This question was not administered in this country assuming all students engaged in some schoolwork during the COVID-19 disruption.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.2: *Percentages of students* ***agreeing or strongly agreeing*** *with statements regarding their well-being during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I exercised (including walking) more than usual		I was able to do more of my usual outside of school activities		I felt fit and healthy		I felt more lonely than usual		I got upset over things that would not have normally bothered me	
Russian Federation[h]	49	(1.3)	63	(1.1)	75	(0.9)	38	(1.2)	34	(1.1)
Slovenia[g]	61	(1.3)	53	(1.2)	75	(0.9)	53	(1.2)	51	(1.3)
United Arab Emirates	67	(1.0)	47	(1.1)	63	(1.2)	56	(1.0)	57	(1.1)
Uzbekistan[h]	77	(1.3)	57	(1.6)	90	(0.6)	46	(1.5)	46	(1.3)
Data may not be representative of target population										
Burkina Faso	38		32		65		64		58	
Denmark	46[n]		23[n]		60[n]		58[n]		46[n]	
Ethiopia[h]	56		43		63		62		61	
Kenya[h]	63		39		57		63		60	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.2: *Percentages of students* ***agreeing or strongly agreeing*** *with statements regarding their well-being during the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I felt angry more often than usual		I did not feel like contacting my friends		I was more worried than usual about my friends and family getting sick		I used social media a lot more than before the COVID-19 disruption		I did not sleep as well as before the COVID-19 disruption	
Russian Federation[h]	36	(1.3)	27	(0.8)	71	(1.2)	70	(1.0)	28	(1.1)
Slovenia[g]	49	(1.1)	37	(1.1)	62	(1.1)	66	(0.9)	39	(1.2)
United Arab Emirates	51	(1.4)	46	(1.2)	78	(0.9)	74	(0.9)	47	(1.1)
Uzbekistan[h]	40	(1.5)	47	(1.5)	86	(0.8)	82	(1.0)	43	(1.3)
Data may not be representative of target population										
Burkina Faso	55		35		84		20		51	
Denmark	48[n]		24[n]		58[n]		69[n]		37[n]	
Ethiopia[h]	51		35		71		45		49	
Kenya[h]	53		43		79		44		37	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Another question asked students to indicate the level of agreement they had with statements about how they felt during the disruption, with the following response options available "strongly agree," "agree," "disagree," and "strongly disagree." In the three parts of Table 4.5.3 the percentages of students agreeing or strongly agreeing with the statements are shown. Many students reported on negative effects of the disruption. More than half of students across the countries agreed that they felt anxious about the changes in their schooling. The exception is Denmark, where a bit less than one third of responding students agreed to this statement. The lower percentage in Denmark might be partially explained by the shorter duration of the initial disruption compared to other countries (see Table 4.2.1 and Figure 4.2.1). Many students across countries consistently reported they felt overwhelmed by the happenings around the world and on the local level due to the pandemic, they were worried about how the disruption affected their learning and the effects to their future education.

While most students across countries missed their usual contact with classmates, more than half of the students had one or more teachers to whom they felt comfortable to ask for help. An exception to this is Burkina Faso, where only one fourth of responding students reported this. About half of the students from participating countries could not get their usual level of support from non-teaching staff but felt supported by their school. There are lower percentages of responding students that reported feeling supported by the school in Burkina Faso (32%) and Kenya (34%). The consequences of the disruption did not affect too severely the feeling of school belonging, with about two thirds or more students in six out of eight countries still feeling part of the school during the disruption.

More than two thirds of responding students in Burkina Faso, Ethiopia, Kenya and students from the United Arab Emirates and Uzbekistan agreed that they were worried about catching COVID-19. The percentage was a bit lower for responding students in Denmark (41%), students from the Russian Federation (53%), and Slovenia (39%). In addition, about two thirds or more of students across countries agreed that classmates were supportive of each other. This percentage was lower for responding students from Burkina Faso (40%) and Kenya (48%). Lastly, about half of students across the countries agreed that they found it difficult to concentrate on their schoolwork.

As indicated above, family plays an important supportive role in a child's life. REDS inquired about the family situation of the student respondents. They were asked if they were affected by specific situations during the COVID-19 disruption, with the response options "yes" or "no." The percentages of students with affirmative responses are presented in Table 4.5.4. The percentages of students who had one or both parents lose their job were rather low, except for responding students in Ethiopia and Kenya, and students from Uzbekistan. There were about one third of affected responding students in Ethiopia and students in Uzbekistan, and almost two thirds of responding students in Kenya. About half or more students reported that their families had to be more careful with money than usual, with the exception of responding students in Denmark (15%), students from the Russian Federation (26%), and Slovenia (25%). About half of the responding students in Denmark, Ethiopia, Kenya, and students in the United Arab Emirates, and Uzbekistan reported that one or both of their parents had to work from home, whereas the percentages in the rest of the countries were a bit lower. In addition, students across participating countries often reported that their parents were stressed about their job.

Emotional and physical well-being of teachers

Teachers' well-being was affected by the disruption as well. REDS asked teachers to indicate their level of agreement on statements about their well-being during the disruption by the following response options "strongly agree," "agree," "disagree," or "strongly disagree." As the statements were mostly about work, the percentages are reported out of the teachers that did teach their students remotely during the disruption. The results are presented in Table 4.5.5. More than half to almost all teachers across the countries reported they had concerns about catching COVID-19 at work. The percentage was especially high for responding teachers in Burkina Faso (97%), India

Table 4.5.3: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about how they felt during the COVID-19 disruption (part 1 of 3)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I felt anxious about the changes in my schooling		I felt overwhelmed by what was happening in the world due to the COVID-19 pandemic		I felt overwhelmed by what was happening in my local area due to the COVID-19 pandemic		I was worried about how the disruption affected my learning		I was worried about how this disruption will affect my future education	
Russian Federation[h]	56	(1.2)	69	(1.1)	44	(1.3)	64	(1.2)	67	(1.1)
Slovenia[g]	58	(1.3)	50	(1.3)	54	(1.3)	59	(1.3)	63	(1.3)
United Arab Emirates	70	(1.1)	75	(1.0)	65	(1.0)	74	(1.1)	74	(1.0)
Uzbekistan[h]	70	(1.4)	90	(0.7)	78	(1.4)	80	(1.0)	80	(1.0)
Data may not be representative of target population										
Burkina Faso	85		90		87		89		90	
Denmark	30[n]		59[n]		47[n]		65[n]		56[n]	
Ethiopia[h]	73		70		73		82		81	
Kenya[h]	71		67		64		80		81	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.3: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about how they felt during the COVID-19 disruption (part 2 of 3)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I missed the usual contact with my classmates	I had one or more teachers whom I felt comfortable to ask for help	I could not get my usual level of support from non-teaching support staff	I felt supported by my school	I still felt part of the school
Russian Federation[h]	72 (1.1)	76 (0.8)	49 (1.1)	59 (1.5)	64 (1.4)
Slovenia[g]	72 (1.0)	73 (1.2)	43 (1.1)	52 (1.4)	65 (1.0)
United Arab Emirates	78 (0.9)	79 (1.0)	48 (1.0)	80 (1.0)	79 (1.0)
Uzbekistan[h]	93 (0.7)	83 (1.0)	58 (1.2)	90 (0.7)	88 (0.8)
Data may not be representative of target population					
Burkina Faso	86	24	64	32	55
Denmark	81[n]	76[n]	51[n]	60[n]	72[n]
Ethiopia[h]	80	57	56	60	77
Kenya[h]	80	43	55	34	61

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.3: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about how they felt during the COVID-19 disruption (part 3 of 3)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I was worried about catching COVID-19		My classmates were supportive of each other		I found it difficult to concentrate on my schoolwork	
Russian Federation[h]	53	(1.3)	73	(0.9)	44	(1.3)
Slovenia[g]	39	(1.2)	65	(1.2)	56	(1.3)
United Arab Emirates	73	(1.1)	84	(0.8)	57	(1.2)
Uzbekistan[h]	78	(1.0)	90	(0.8)	47	(1.2)
Data may not be representative of target population						
Burkina Faso	92		40		61	
Denmark	41[n]		72[n]		66[n]	
Ethiopia[h]	78		62		63	
Kenya[h]	81		48		64	

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.
n Data are available for at least 70% but less than 85% of the respondents.

(95%), the United Arab Emirates (85%), and Uzbekistan (88%). About half to two thirds of the teachers across participating countries felt fatigue most of the time, more than a third to two thirds stated their sleeping patterns were interrupted, and about as many felt isolated whilst working at home. More than four out of five teachers in India felt they needed assistance to support their well-being, and more than half of the teachers in most other countries agreed to this statement, too. Some negative effects were not as strong for responding teachers in Denmark, but in general, many teachers across the countries reported on various negative effects of the disruption affecting their well-being.

Furthermore, teachers reported their level of agreement on statements regarding their ability to cope with the demands of work-related and private responsibilities, that had changed due to the school closures and may have been more conflicting than before the pandemic. The following response options were available "strongly agree," "agree," "disagree," and "strongly disagree." As before, the statements were mostly about work and the percentages reported are out of the teachers that taught their students remotely during the disruption. The results are presented in Table 4.5.6 in two table parts. Despite the negative effects of the pandemic on students' and teachers' well-being that are reported above, the majority of teachers seemed to develop coping strategies allowing them to address the challenges successfully. About two thirds or more teachers in seven out of ten countries reported being able to balance the needs of their work and personal responsibilities. More than half of the teachers across the countries felt in control of their working environment when they were working from home, and almost as many had time to socially interact with their colleagues. The last point was not true for Denmark, as only one fifth of the responding teachers agreed with the statement. More than two thirds of teachers across all countries agreed or strongly agreed that they were able to cope with changes in teaching and learning methods, and they were able to meet the requirements of their job.

Similarly, high agreement levels can also be observed for other statements. A vast majority of teachers in most participating countries reported they knew where to find assistance to support their well-being (exception: responding teachers from Burkina Faso–53%), they were able to use their own methods to cope with stress, and they were able to maintain their normal exercise and health routine. For the last statement, less agreement was observed for responding teachers from Denmark (52%) and Uruguay (31%). In general, most teachers across countries agreed that they were satisfied with the infection control protocols implemented at their school. This percentage was the lowest for responding teachers from Burkina Faso (65%). Still there are at least one fifth of teachers that were not satisfied with the infection control protocols in Burkina Faso, Denmark, and Ethiopia which shows some room for improvement.

Support for well-being

The modifications in teaching and learning applied during the disruption affected teachers' and students' routines. Under such circumstances, support that is not directly related to teaching and learning might be a crucial factor that could reduce the negative effects of the pandemic on students' and teachers' well-being. REDS asked teachers about their agreement regarding the support offered or given to them by others during the disruption. The available response options were "strongly agree," "agree," "disagree," and "strongly disagree."

In the two parts of Table 4.5.7 the percentages of teachers that agreed or strongly agreed to a specific statement are presented. The vast majority of teachers agreed that they felt supported by the school leadership. This percentage was lower for responding teachers in Burkina Faso (51%), Ethiopia (69%), and Kenya (70%). Very similar patterns for teacher agreement about being supported by their colleagues, and by their social network outside of school could be observed (see second part of Table 4.5.7). There were more variations across countries regarding the reported support provided by the education systems and by the local community, the percentages being generally a bit lower for responding teachers from Burkina Faso and Denmark, and teachers in the Russian Federation, Slovenia, and Uruguay (the statement about local community support was not administered in Uruguay). Three out of four teachers agreed with the statement that the set of support mechanisms offered by their school was sufficient, except for responding teachers in Burkina Faso (29%), Ethiopia (54%), and Kenya (51%). More than half of the teachers in India,

Table 4.5.4: *Percentages of students who were affected by different situations*
Response categories were: (1) Yes and (2) No

Country	One or both of my parents/ guardians lost their job		Our family had to be more careful with money than usual		One or both of my parents/guardians had to work from home		One or both of my parents/guardians were stressed about their job	
Russian Federation[h]	11	(0.9)	26	(1.1)	34	(1.2)	38	(1.2)
Slovenia[g]	8	(0.6)	25	(0.9)	38	(1.2)	31	(1.0)
United Arab Emirates	14	(0.8)	49	(1.2)	48	(1.4)	43	(1.2)
Uzbekistan[h]	37	(1.6)	63	(1.3)	53	(1.5)	53	(1.4)
Data may not be representative of target population								
Burkina Faso	16		72		28		53	
Denmark	9[n]		15[n]		60[n]		41[n]	
Ethiopia[h]	36		68		55		69	
Kenya[h]	63		83		62		80	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.5: *Negative effects during the COVID-19 disruption on teachers' well-being*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers **agreeing or strongly agreeing** with the following statements				
		I had concerns about catching COVID-19 at work	I felt fatigued most of the time	My sleep patterns were interrupted	I felt isolated whilst working at home	I felt I needed assistance to support my well-being
India	29 (7.2)	95 (1.0)	51 (4.1)	69 (4.6)	69 (3.8)	85 (2.7)
Russian Federation[i]	1 (0.3)	69 (2.3)	64 (2.1)	53 (2.1)	59 (2.2)	49 (2.1)
Slovenia[g]	2 (0.5)	55 (1.7)	58 (1.7)	44 (2.1)	37 (1.8)	47 (2.0)
United Arab Emirates	2 (0.7)	85 (0.9)	62 (1.4)	62 (1.5)	53 (1.4)	57 (2.2)
Uzbekistan[j]	2 (0.3)	88 (0.9)	49 (1.9)	43 (1.8)	44 (1.9)	50 (1.9)
Data may not be representative of target population						
Burkina Faso	96	97	50	47	84	79
Denmark[g,i]	6	56	46	33	60	28
Ethiopia[i]	61	68	57	59	67	69
Kenya[i]	*e*	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	*k*	71	61	52	60

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.5.6: *Teachers' abilities to cope with the changing job requirements during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers who **agreed or strongly agreed** with statements about their well-being during the COVID-19 disruption									
		I was able to balance the needs of my work and personal responsibilities		I felt in control of my working environment when I was working from home		I had time to interact socially with my colleagues		I was able to cope with changes in teaching and learning methods		I was able to meet all the requirements of my job	
India	29 (7.2)	83	(5.1)	83	(4.0)	76	(7.3)	94	(2.2)	84	(5.0)
Russian Federation[i]	1 (0.3)	68	(1.8)	74	(1.5)	62	(1.7)	89	(1.4)	90	(0.9)
Slovenia[g]	2 (0.5)	58	(1.7)	75	(1.0)	56	(1.9)	91	(0.8)	88	(1.2)
United Arab Emirates	2 (0.7)	72	(1.3)	81	(1.0)	52	(1.8)	94	(0.9)	92	(0.9)
Uzbekistan	2 (0.3)	87	(1.4)	80	(0.9)	69	(1.6)	93	(0.8)	88	(0.8)
Data may not be representative of target population											
Burkina Faso	96	89		54		65		70		68	
Denmark[g,i]	6	63		65		20		93		70	
Ethiopia[i]	61	78		74		58		79		69	
Kenya[i]	*e*	*e*		*e*		*e*		*e*		*e*	
Uruguay[g]	1	53		52		41		90		81	

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Table 4.5.6: *Teachers' abilities to cope with the changing job requirements during the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers who **agreed or strongly agreed** with statements about their well-being during the COVID-19 disruption							
		I knew where to find assistance to support my well-being		I was able to use my own methods to cope with stress		I was able to maintain my normal exercise and health routines		I was satisfied with the infection control protocols being implemented at my school	
India	29 (7.2)	93	(3.0)	85	(8.5)	82	(4.8)	91	(4.7)
Russian Federation[i]	1 (0.3)	77	(1.4)	61	(2.0)	67	(1.9)	89	(0.8)
Slovenia[g]	2 (0.5)	83	(1.7)	73	(1.1)	64	(1.6)	85	(1.3)
United Arab Emirates	2 (0.7)	87	(1.0)	88	(1.4)	58	(1.7)	91	(1.0)
Uzbekistan	2 (0.3)	93	(0.6)	89	(0.7)	92	(0.8)	94	(0.7)
Data may not be representative of target population									
Burkina Faso	96	53		87		76		65	
Denmark[g,i]	6	75		80		52		73	
Ethiopia[i]	61	75		72		75		73	
Kenya[i]	*e*	*e*		*e*		*e*		*e*	
Uruguay[g]	1	64		66		31		*k*	

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Uzbekistan, and responding teachers in Ethiopia, and Kenya reported they felt the need to ask for professional support outside their school.

In relation to the topic of well-being, school principals were asked if they provided different types of specific support services for staff during the COVID-19 disruption, using the response options "yes" or "no." The percentage of schools where a specific support service was offered is presented in the two parts of Table 4.5.8. In general, very little support was offered by schools in Burkina Faso. This finding is in line with the low percentage of schools offering any remote teaching and learning during the disruption. Schools across the participating countries mostly used a peer support system. Especially schools from the United Arab Emirates and Uzbekistan, which offered different types of support for their staff in many schools, and to a smaller extent also those from India and Slovenia. For example, formal support networks, accommodations for teachers, professional association links, access to physical activity resources, access to nutritional information, online well-being management programmes, and training in the support of social and emotional health of others. The support offered least frequently in schools across participating countries during the disruption were informal/social events. The scope and type of support mechanisms varied greatly among countries and schools.

Giving information about support options can provide an increase in the use of the support available and reduce the negative effects of the disruption. REDS asked teachers to what extent they provided support or information about specific topics to students in their reference class and their families during the disruption. The response options were "to a large extent," "to some extent," "to a small extent," and "not at all." The percentages of teachers, out of those teaching remotely during the disruption, that provided information at least to some extent to students in their class are reported in Table 4.5.9. Between half of the responding teachers in Uruguay and 84% of teachers in Uzbekistan, provided at least to some extent information on emotional well-being. The percentages of teachers providing information about health (including information on COVID-19) were also very high, except for responding teachers in Denmark (40%) and Uruguay (46%). This finding may indicate that schools were used as knowledge multipliers in some, but less so, in other countries. About two thirds or more of responding teachers in Burkina Faso, Ethiopia, and teachers in India, the United Arab Emirates, and Uzbekistan reported to have informed students and their families about nutrition. Information on access to welfare agencies was the most shared resource by teachers in India (61%) and responding teachers in Ethiopia (55%), almost half of the teachers in the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan delivered respective support, but much less in the remaining countries.

To complement the information from schools and teachers, students were asked if their school or teachers gave them information on well-being related topics during COVID-19 disruption, and respondents had the following response options "yes, and it was helpful," "yes, but it was not helpful," and "no." The percentages of students who reported receiving helpful information are presented in two parts of Table 4.5.10. From students' perspective across the participating countries, the most helpful information was health advice about COVID-19, the fewest of the responding students that reported receiving helpful information on this topic were in Burkina Faso (45%) and Denmark (34%). Moreover, more than 40% of students reported receiving helpful information about healthy working habits and maintaining physical fitness, except for responding students in Burkina Faso for both topics ,and Kenya for the last topic only. About 40% of the students or more across the Russian Federation, United Arab Emirates, Uzbekistan, and responding students from Ethiopia and Kenya reported receiving helpful information about looking after their emotional well-being, personal safety, healthy eating, and how to find people who can provide well-being advice. The percentages of responding students receiving helpful information on these topics in Burkina Faso, Denmark, and students in Slovenia were about one third or less. It seems that some schools and teachers adopted responsibilities beyond those related to teaching and learning. This might have been particularly important and helpful in the time of the pandemic.

To round off the snapshot, school principals were asked if there were changes in their school's use of certain support resources for students in comparison to before the disruption. The following response options were available "substantially increased," "increased to some degree," "did not change," "decreased to some degree," and "substantially decreased." In the two parts of Table 4.5.11

Table 4.5.7: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements about the support offered or given to them by others during the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I felt supported by the school leadership		I felt supported by my colleagues		I felt supported by the education system		I felt that the set of support mechanisms offered by my school were sufficient	
India	85	(6.5)	90	(4.4)	81	(5.2)	76	(4.6)
Russian Federation[i]	89	(1.2)	91	(0.8)	49	(2.1)	75	(1.6)
Slovenia[g]	87	(1.6)	96	(0.6)	*k*		76	(1.6)
United Arab Emirates	88	(1.1)	96	(0.5)	90	(1.5)	85	(1.1)
Uzbekistan	94	(0.7)	96	(0.5)	93	(0.7)	89	(1.0)
Data may not be representative of target population								
Burkina Faso	51		61		43		29	
Denmark[g,i]	89		95		41		79	
Ethiopia[i]	69		56		63		54	
Kenya[i]	70		76		71		51	
Uruguay[g]	90		93		41		74	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.5.7: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements about the support offered or given to them by others during the COVID-19 disruption (part 2 of 2)*

Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I felt supported by my social network outside of school		I felt supported by the local community		I felt I needed to ask for professional support outside of my school	
India	85	(5.1)	79	(5.2)	71	(5.8)
Russian Federation[i]	91	(0.8)	32	(2.4)	46	(1.7)
Slovenia[g]	92	(0.9)	*k*		13	(1.1)
United Arab Emirates	89	(0.9)	80	(1.7)	36	(1.1)
Uzbekistan	92	(0.6)	83	(0.9)	54	(1.8)
Data may not be representative of target population						
Burkina Faso	70		35		43	
Denmark[g,i]	93		48		19	
Ethiopia[i]	66		63		59	
Kenya[i]	82		62		71	
Uruguay[g]	95		*k*		35	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.5.8: *Percentages of schools that provided different types of support for school staff (part 1 of 2)*
Response categories were: (1) Yes and (2) No

Country	Formal support networks such as an employee assistance programme	Peer support system	Accommodations for teachers who are primary carers and have children at home	Professional association links and information such as mental health services	Access to physical activity resources
Burkina Faso	4 (2.0)	5 (2.2)	1 (1.1)	1 (0.5)	5 (2.9)
Ethiopia[j]	43 (5.5)	54 (5.7)	45 (4.9)	40 (4.7)	42 (4.1)
India	53 (7.5)	63 (6.9)	48 (6.2)	35 (8.1)	49 (6.8)
Kenya[g,j]	36 (5.4)	38 (5.2)	9 (2.9)	19 (5.2)	20 (5.7)
Russian Federation[j]	27 (4.2)	92 (2.1)	52 (4.9)	47 (5.5)	41 (5.5)
Rwanda	47 (4.7)	49 (4.3)	19 (3.4)	26 (3.4)	37 (4.1)
Slovenia[g,j]	26 (4.2)	54 (5.3)	59 (5.2)	54 (5.9)	73 (5.2)
United Arab Emirates	76 (3.6)	93 (2.2)	75 (4.6)	63 (4.4)	68 (5.3)
Uruguay[g,j]	24 (4.9)	60 (5.5)	37 (5.0)	37 (6.6)	14 (3.7)
Uzbekistan[j]	86 (3.5)	95 (2.3)	29 (4.3)	53 (5.2)	73 (4.6)
Data may not be representative of target population					
Denmark[g,j]	24[n]	75[n]	39[n]	29[n]	16[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.8: *Percentages of schools that provided different types of support for school staff (part 2 of 2)*
Response categories were: (1) Yes and (2) No

Country	Access to nutritional information and support	Online well-being management programmes and resources	Informal/social events such as book club	Training in the support of social and emotional health of others
Burkina Faso	6 (2.3)	13 (3.8)	4 (1.8)	5 (2.1)
Ethiopia[j]	41 (4.5)	15 (3.4)	36 (3.9)	49 (5.3)
India	58 (6.8)	52 (9.1)	34 (7.8)	52 (8.0)
Kenya[g,j]	25 (5.6)	30 (5.6)	8 (2.9)	25 (6.0)
Russian Federation[j]	40 (5.2)	35 (4.9)	9 (2.7)	21 (3.5)
Rwanda	29 (3.5)	46 (3.8)	25 (3.6)	35 (3.6)
Slovenia[g,j]	38 (6.2)	49 (5.3)	40 (5.7)	31 (5.6)
United Arab Emirates	60 (5.4)	93 (2.6)	65 (5.2)	84 (3.2)
Uruguay[g,j]	15 (4.0)	56 (5.6)	29 (5.1)	34 (7.2)
Uzbekistan[j]	64 (4.9)	82 (4.5)	53 (5.6)	87 (3.4)
Data may not be representative of target population				
Denmark[g,j]	8[n]	14[n]	42[n]	10[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.9: *Teachers providing support to students and their families during the COVID-19 disruption to* ***some or to a large extent***
Response categories were: (1) To a large extent (2) To some extent (3) To a small extent and (4) Not at all

Country	Percentage of teachers **not** teaching their class remotely during the COVID-19 disruption	Out of the teachers teaching their class remotely during the COVID-19 disruption: Percentage of teachers providing support or information about the following topics **to some or to a large extent**			
		Emotional well-being	Health (including information about the COVID-19 pandemic)	Nutrition	Access to welfare agencies
India	29 (7.2)	76 (8.3)	89 (2.8)	84 (3.0)	61 (8.0)
Russian Federation[i]	1 (0.3)	73 (1.3)	73 (1.6)	45 (2.0)	49 (1.7)
Slovenia[g]	2 (0.5)	80 (1.5)	75 (1.5)	43 (1.9)	45 (1.6)
United Arab Emirates	2 (0.7)	81 (2.2)	83 (2.3)	70 (1.6)	44 (1.4)
Uzbekistan	2 (0.3)	84 (1.1)	92 (0.7)	81 (1.2)	47 (1.4)
Data may not be representative of target population					
Burkina Faso	96	76	87	65	29
Denmark[g,i]	6	65	40	14	6
Ethiopia[i]	61	62	76	68	55
Kenya[i]	*e*	*e*	*e*	*e*	*e*
Uruguay[g]	1	51	46	21	*k*

Notes:

Standard errors appear in parentheses.

e Due to an adaptation error data cannot be reported.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.5.10: *Percentages of students who received helpful information on selected topics from their school or teachers (part 1 of 2)*
Response categories were: (1) Yes and it was helpful (2) Yes but it was not helpful and (3) No

Country	Looking after my emotional well-being		Looking after my personal safety		Healthy eating		How to find people who can provide well-being advice	
Russian Federation[h]	41	(1.4)	54	(1.5)	42	(1.5)	44	(1.3)
Slovenia[g]	27	(1.2)	32	(1.1)	30	(1.5)	30	(1.2)
United Arab Emirates	56	(1.3)	75	(1.1)	69	(1.6)	59	(1.2)
Uzbekistan[h]	80	(1.0)	77	(1.1)	82	(1.1)	64	(1.5)
Data may not be representative of target population								
Burkina Faso	19		32		30		25	
Denmark	24[n]		17[n]		18[n]		21[n]	
Ethiopia[h]	47		66		62		52	
Kenya[h]	37		49		46		40	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.5.10: *Percentages of students who received helpful information on selected topics from their school or teachers (part 2 of 2)*
Response categories were: (1) Yes and it was helpful (2) Yes but it was not helpful and (3) No

Country	Health advice about COVID-19		Healthy working habits		Maintaining physical fitness	
Russian Federation[h]	73	(1.2)	57	(1.0)	49	(1.2)
Slovenia[g]	44	(1.3)	43	(1.1)	47	(1.2)
United Arab Emirates	84	(1.2)	71	(1.2)	71	(1.1)
Uzbekistan[h]	84	(1.0)	79	(1.2)	85	(1.1)
Data may not be representative of target population						
Burkina Faso	45		26		26	
Denmark	34[n]		42[n]		36[n]	
Ethiopia[h]	61		52		58	
Kenya[h]	58		42		41	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

the percentages of schools reporting an increase in the specific use of different support resources are presented. The largest increase across countries can be observed for social and emotional support and telephone counselling sessions. Across the countries, many principals reported on the increased use of information sheets about coping with stress and support from counselors and guidance officers. The least used resource across countries were home visits by teachers or specialist school staff. Except for India (46%), less than a third of the principals reported increases for this activity, likely due to the recommended distance measures to minimize infection risks. A lower increase in various support resources was observed in Burkina Faso and the largest in Uzbekistan.

Table 4.5.11: *Percentages of principals reporting an* ***increase*** *in their school's use of different support resources for students in comparison with the time before the COVID-19 disruption (part 1 of 2)*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Links to mental health support		Information sheets about coping with change/stress/isolation		Work with local support agencies to meet basic needs of students		Social and emotional support	
Burkina Faso	8	(2.8)	16	(3.3)	6	(1.9)	14	(3.5)
Ethiopia[j]	47	(4.7)	57	(4.6)	26	(4.6)	51	(4.7)
India	46	(5.9)	44	(4.5)	51	(5.7)	52	(5.2)
Kenya[g,j]	25	(5.4)	35	(5.7)	29	(5.0)	33	(6.0)
Russian Federation[j]	36	(4.1)	76	(4.3)	83	(3.9)	86	(4.0)
Rwanda	34	(3.8)	45	(4.0)	41	(4.1)	51	(4.0)
Slovenia[g,j]	42	(3.9)	63	(5.1)	87	(3.9)	69	(4.5)
United Arab Emirates	64	(5.5)	71	(4.2)	96	(1.9)	87	(5.3)
Uruguay[g,j]	29	(6.7)	46	(6.7)	51	(4.9)	75	(4.4)
Uzbekistan[j]	74	(4.9)	76	(4.9)	85	(4.7)	85	(3.9)
Data may not be representative of target population								
Denmark[g,j]	15		19		29		35	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

Table 4.5.11: *Percentages of principals reporting an* ***increase*** *in their school's use of different support resources for students in comparison with the time before the COVID-19 disruption (part 2 of 2)*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Counselors and guidance officers		Home visits by teachers or specialist school staff		Telephone counselling sessions	
Burkina Faso	10	(2.9)	5	(1.6)	18	(3.7)
Ethiopia[j]	44	(4.9)	30	(5.1)	33	(3.7)
India	44	(5.1)	46	(7.0)	56	(5.1)
Kenya[g,j]	37	(6.3)	9	(3.1)	7	(2.5)
Russian Federation[j]	62	(5.3)	21	(5.2)	97	(1.3)
Rwanda	36	(3.8)	31	(3.3)	50	(4.6)
Slovenia[g,j]	82	(5.1)	10	(2.9)	88	(3.5)
United Arab Emirates	72	(6.3)	12	(3.9)	77	(5.1)
Uruguay[g,j]	60	(5.4)	28	(5.1)	79	(3.7)
Uzbekistan[j]	76	(5.0)	31	(4.5)	93	(3.0)
Data may not be representative of target population						
Denmark[g,j]	19[n]		27[n]		65[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Section 4.6 Transitioning students back to school

Minge Chen, Alec I. Kennedy, Sabine Meinck, Mojca Rožman

Section highlights

As students return to schools for face-to-face instruction, it is imperative for teachers and principals to pay close attention to the academic, social, and mental needs of their students to support their long-term development and growth. This section describes the experiences of students as they made their transition back to school after the initial round of school closures caused by the COVID-19 pandemic. It also describes the methods that schools implemented to facilitate the transition of students back to regular lessons, as reported by teachers and principals.

Students were generally excited to return to school but had to adjust to several changes.

- In most countries, the majority of students reported that they returned to school more motivated and were excited to see and catch up with friends.
- Half or more students reported that it was difficult to manage the new health-related measures at their school.
- Over half of students across all countries reported their classes rushed through new materials, while also reviewing work that was done during the disruption.
- In several countries, most teachers reported that students found it difficult to re-adjust to the classroom setting.

Many schools assessed for and addressed diminished progress in learning after students returned to school.

- In almost all countries, most teachers reported that student learning had not progressed as expected and that students were less focused and efficient in the classroom.
- Upon return, the majority of teachers and principals reported that they assessed student learning progress both during and following the COVID-19 disruption and, in many countries, provided targeted teaching.

Many schools assessed and supported student well-being as they returned to school.

- In most countries, most students reported they were asked about their well-being and were reminded about available counseling services.
- In almost all countries, teachers and principals reported that numerous resources were provided to students and families regarding aspects of their well-being.

Introduction

School closures can have several adverse consequences on students and their communities (UNESCO, 2020). The loss of learning opportunities as a result of school closures, and the transition to remote learning can potentially have both immediate and long-term negative impacts on student development and growth (Kuhfeld et al., 2020; World Bank, 2020; Lewis et al., 2021). Furthermore, to many students and families, schools are an important resource for socializing, food, and childcare and the removal of such an important resource may have long-term negative impacts on student well-being (Vinson & Naftzger, 2021; Taylor et al., 2017). To mitigate the long-term consequences of school closures, it is vital that schools pay close attention to these particular student needs as they reopen from extended shutdowns. This section examines the perspectives of students, teachers, and principals on the transition back to school after the disruption and how schools supported student learning and well-being during this time. This section addresses the research question: *What did schools do to support students' return to regular schooling?*

Students' feelings about transitioning back to regular lessons

Students were asked about their experiences as they returned to school after the COVID-19 disruption to their schooling. Specifically, they were asked about their motivation to learn, their learning progress, and their attitudes toward the modified face-to-face learning environment. Students reported on their experiences via four response categories ("strongly agree," "agree," "disagree," and "strongly disagree"). Table 4.6.1 reports the share of students responding either that they "agree" or "strongly agree." In general, the majority of students had a positive attitude toward going back to school. Students reported that they were more motivated to learn and excited to catch up with friends. In all countries, most students and student respondents agreed that they felt safe at school. Furthermore, students and student respondents tended to notice that classmates were friendlier, and that teachers seemed more caring towards them compared to before the COVID-19 disruption. Slovenia was an exception to this last pattern, as less than half of students agreed that their classmates were friendlier (40%) and that their teachers seemed more caring (42%). Similarly, in Denmark, an even smaller portion of student respondents indicated that their classmates were friendlier (33%) and that their teachers seemed more caring than before (33%). As a highlight, more than four out of five Uzbek students agreed to these statements (see Table 4.6.1 part 1).

A relatively smaller portion of students reported negative attitudes towards the adjustments they had to make upon returning to school. The percentages of students that were worried about catching COVID-19 at school varied greatly across countries. The share of students and student respondents concerned about the risks of catching COVID-19 at school ranged from one in three (Slovenia and Denmark) to four out of five (Burkina Faso and Kenya). These patterns are aligned with the concerns of teachers (see Table 4.5.5) and may be related to infection protocols implemented in schools, general infection risks in countries, or other objective and subjective factors that are not necessarily school-related. Between about half (Russian Federation) and four out of five (Burkina Faso) students or student respondents found it hard to manage the COVID-19 routines at school (e.g., wearing a mask, keeping distance to others, etc.). One third to about half of the students or student respondents found it hard to concentrate during class time, and half to two thirds stated they had to complete more assessments than usual (see Table 4.6.1 part 2).

Teachers also shared their perspectives on students' transition back to the classroom. Specific statements about students were presented to them, and responses were collected via four response categories ("strongly agree," "agree," "disagree," and "strongly disagree"). Table 4.6.2 reports the share of teachers responding either that they "agree" or "strongly agree." Varying percentages of teachers and teacher respondents reported that their students had difficulties in effectively interacting with their classmates, readjusting to the classroom setting, and seemed to be more anxious than they were before the COVID-19 disruption, with very similar patterns across items within countries. For example, in India and Kenya, at least 80% of teachers or teacher respondents, respectively, agreed with these statements, while this held true in many other countries for around 50-60% of teachers or teacher respondents. Denmark stood out as an outlier

Table 4.6.1: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about their experiences returning to school after the COVID-19 disruption (part 1 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I was more motivated to learn when school reopened than at any other time		I was excited to catch up with friends		My classmates were friendlier than before the COVID-19 disruption		My teachers seemed more caring toward me than they were before the COVID-19 disruption		I felt safe at school	
Russian Federation[h]	57	(1.1)	86	(0.7)	52	(1.2)	47	(1.3)	57	(1.2)
Slovenia[g]	45	(1.4)	72	(0.9)	40	(1.2)	42	(1.4)	55	(1.2)
United Arab Emirates	76	(1.0)	84	(0.9)	56	(0.9)	63	(1.4)	66	(1.4)
Uzbekistan[h]	96	(0.4)	89	(0.8)	88	(0.6)	81	(0.8)	76	(1.2)
Data may not be representative of target population										
Burkina Faso	84		96		69		75		53	
Denmark	61[n]		89[n]		33[n]		33[n]		72[n]	
Ethiopia[h]	86		79		66		65		70	
Kenya[h]	85		81		56		77		68	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.1: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about their experiences returning to school after the COVID-19 disruption (part 2 of 2)*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I worried a lot about catching COVID-19 at school		I found it hard to manage the COVID-19 routines at school (e.g. wearing a mask, keeping distance to others)		I found it hard to concentrate during class time		I had to complete more assessments than usual	
Russian Federation[h]	43	(1.0)	44	(1.4)	36	(1.1)	44	(1.1)
Slovenia[g]	33	(1.3)	55	(1.2)	50	(1.1)	58	(1.2)
United Arab Emirates	70	(1.1)	56	(1.1)	51	(1.4)	60	(1.2)
Uzbekistan[h]	69	(1.3)	56	(1.4)	36	(1.2)	56	(1.3)
Data may not be representative of target population								
Burkina Faso	87		80		55		48	
Denmark	35[n]		63[n]		50[n]		46[n]	
Ethiopia[h]	74		64		56		65	
Kenya[h]	83		75		48		71	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.2: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements with respect to their class when they returned to regular lessons at school after the COVID-19 disruption*

Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Students did not interact as effectively with their classmates as they did before the COVID-19 disruption		Students found it difficult to re-adjust to the classroom setting		Students seemed to be more anxious than they were before the COVID-19 disruption		Students seemed pleased to be back in their classrooms	
India	84	(3.3)	82	(3.6)	82	(3.8)	88	(3.5)
Russian Federation[i]	53	(2.0)	61	(1.9)	48	(2.2)	95	(0.7)
Slovenia[g]	53	(1.7)	54	(2.0)	38	(2.1)	94	(0.7)
United Arab Emirates	57	(2.1)	47	(2.6)	60	(1.2)	87	(0.7)
Uzbekistan	52	(1.7)	60	(1.7)	55	(1.6)	91	(0.7)
Data may not be representative of target population								
Burkina Faso	63		60		59		72	
Denmark[g,i]	25		42		16[n]		97[n]	
Ethiopia[i]	61		71		60		72	
Kenya[i]	85		87		80		89	
Uruguay[g]	57		44		63		93	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

as fewer teacher respondents agreed with these statements (25%, 42%, and 16%, respectively). Importantly, three quarters or more teachers and teacher respondents reported that students seemed pleased to be back in the classrooms across the participating countries.

Support for students' learning after their return to school

As students returned to regular lessons, teachers and schools may have adjusted classroom activities to address diminished learning progress. Students were asked whether they agree with the respective statements regarding their classroom activities. Students reported on their experiences via four response categories ("strongly agree," "agree," "disagree," and "strongly disagree"). Table 4.6.3 reports the percentages of students who "strongly agree" or "agree." The majority of students reported that teachers spent time reviewing the material that was covered during the COVID-19 disruption, with lower agreement levels from respondents in Burkina Faso, Denmark, Ethiopia, and Kenya. However, more than half of the students and student respondents across all countries also reported that they rushed through a lot of the new schoolwork. Further, it was noted by a smaller proportion of students and student respondents (about 40-60%) that their classroom was less well-behaved than before the COVID-19 disruption. Students from Denmark (26%), the Russian Federation (34%) and Uzbekistan (38%) reported less well-behaved classrooms. The provision of extra tuition is perceived as an important measure to make up for diminished learning progress during the school closures. REDS provides evidence that this measure was implemented frequently. Specifically, more than half of student in the Russian Federation, Slovenia, the United Arab Emirates, and even larger shares of students, or student respondents, in Kenya and Uzbekistan reported using such measures. Fewer student respondents in Burkina Faso (14%), Denmark (23%), and Ethiopia (44%) reported having extra tuition available to them to assist in catching up on schoolwork.

Teachers were asked to share their observations and opinions related to their students' learning, engagement, and motivation when they returned to the classroom. Specific statements were presented to them, and responses were collected via four response categories ("strongly agree," "agree," "disagree," and "strongly disagree"). Table 4.6.4 reports the share of teachers that were in agreement. A majority of teachers and teacher respondents were concerned about their students' learning progress due to the impact of the COVID-19 disruption, agreeing that they had not advanced to the extent that they would normally have expected at the particular time of the year. In addition, half or more of teachers and teacher respondents in all countries tended to agree that students were less engaged, less focused, and less efficient in class compared to how they were before the COVID-19 disruption. One clear exception is Denmark, where only 34% of teacher respondents reported that students were less engaged, 36% reported that students were less focused, and 41% reported that students worked more slowly on tasks than they did before the COVID-19 disruption. Also, teachers in the United Arab Emirates and Uruguay agreed to these statements to a lesser extent than teachers in other countries.

Teachers were further asked to what extent they made extra effort to assess and address diminished learning progress of students. Teachers reported using three response categories ("yes, to a large extent," "yes, to some extent," and "no"). Table 4.6.5 reports the percentages of teachers responding that they did implement the specific method at least to some extent. Almost all teachers and teacher respondents reported that they had assessed their students' academic achievement following the COVID-19 disruption, with some lower percentages from respondents in Denmark and Burkina Faso (63%). After assessing student learning during the disruption, most teachers and teacher respondents reported doing targeted teaching directed towards learning areas where student achievement had not progressed to the desired extent or to students whose progress during the COVID-19 disruption was less than would have been expected. Burkina Faso was an exception, where a relatively smaller portion of teacher respondents (57% and 47%, respectively) responded that they had implemented targeted teaching towards either group of students.

Like teachers, principals were also asked whether they implemented specific methods to assess and address student diminished learning progress. Principals answered the questions by choosing one of two response categories ("yes" or "no"). Table 4.6.6 reports the share of principals affirming

Table 4.6.3: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about their school and classroom experiences after the COVID-19 disruption*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	My teachers went over the work we did during the COVID-19 disruption		We rushed through a lot of new schoolwork		My class was less well-behaved than before the COVID-19 disruption		Extra tuition was available to catch up on schoolwork	
Russian Federation[h]	80	(1.1)	61	(0.9)	34	(1.2)	55	(1.7)
Slovenia[g]	84	(1.0)	64	(1.0)	47	(1.1)	66	(1.2)
United Arab Emirates	83	(1.1)	61	(1.7)	43	(1.2)	59	(1.1)
Uzbekistan[h]	91	(1.2)	86	(0.8)	38	(1.3)	83	(1.3)
Data may not be representative of target population								
Burkina Faso	63		53		44		14	
Denmark	59[n]		51[n]		26[n]		23[n]	
Ethiopia[h]	53		59		55		44	
Kenya[h]	58		75		61		71	

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.
n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.4: *Percentages of teachers* ***agreeing or strongly agreeing*** *with statements with respect to their classroom environment when they returned to regular lessons at school after the COVID-19 disruption*

Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	Students had not progressed to the extent that I would have normally expected at this time of year		Students were not as engaged in schoolwork as they were before the COVID-19 disruption		Students found it difficult to focus on tasks that they were assigned		Students worked more slowly on tasks than they did prior to the COVID-19 disruption	
India	93	(1.5)	90	(2.6)	85	(4.6)	80	(4.4)
Russian Federation[i]	81	(1.5)	73	(2.0)	74	(2.0)	70	(2.1)
Slovenia[g]	87	(1.1)	79	(1.8)	77	(2.0)	71	(1.6)
United Arab Emirates	52	(1.6)	49	(1.8)	44	(2.0)	53	(2.0)
Uzbekistan	80	(1.3)	60	(2.0)	68	(1.6)	70	(1.4)
Data may not be representative of target population								
Burkina Faso	83		76		81		64	
Denmark[g,i]	72[n]		34[n]		36		41[n]	
Ethiopia[i]	65		58		71		65	
Kenya[i]	93		88		88		87	
Uruguay[g]	80		48		55		54	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.5: *Percentages of teachers using methods to facilitate students' learning after their return to school* ***to a large or some extent***
Response categories were: (1) Yes, to a large extent (2) Yes, to some extent and (3) No

Country	Assessments of students' achievements following the COVID-19 disruption		Targeted teaching directed to learning areas where student achievement had not progressed to the desired extent		Targeted teaching directed to students whose progress during the COVID-19 disruption was less than would have been expected	
India	84	(6.8)	82	(7.2)	84	(7.2)
Russian Federation[i]	98	(0.4)	95	(0.7)	95	(0.7)
Slovenia[g]	96	(0.6)	92	(1.2)	89	(1.1)
United Arab Emirates	94	(0.7)	89	(0.9)	87	(0.9)
Uzbekistan	98	(0.4)	96	(0.6)	96	(0.4)
Data may not be representative of target population						
Burkina Faso	63		57		47	
Denmark[g,i]	63		81		71	
Ethiopia[i]	82		76		80	
Kenya[i]	83		89		90	
Uruguay[g]	94		93		95	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

the statement ("yes"). Consistent with the responses from teachers, the majority of principals (or principal respondents in Denmark) reported that their schools had assessed their students' academic performance following the COVID-19 disruption and that targeted teaching was directed towards learning areas where student achievement had not progressed to the desired extent or whose progress during the COVID-19 disruption was less than would have been expected (see Table 4.6.6 part 1).

In addition, principals were also asked whether additional efforts were made to help students make up for any learning interrupted by the disruption. More than half of the principals (or principal respondents in Denmark) reported that their schools had reviewed student progression to the next level in school, especially in the Russian Federation (98%), Slovenia (97%), and the United Arab Emirates (92%). A relatively smaller percentage of principals (or principal respondents in Denmark) reported that their schools provided supplementary staff or tutoring (either within or outside of school) to help students catch up. Ethiopia and Uzbekistan were two exceptions to this pattern. In contrast to other countries, significantly more principals in Ethiopia (72%) and Uzbekistan (79%) reported that their schools did provide supplementary staff or tutoring to assist in classes where students were judged to require additional support. Furthermore, in Uzbekistan, 80% of principals reported that their schools had partnered with external educational services (e.g., tutoring) to help students catch-up. More than half of the principals (or principal respondents in Denmark) in most countries, reported that remote teaching was adopted to supplement face-to-face teaching. However, in Burkina Faso (11%), Kenya (34%), the Russian Federation (28%), and Slovenia (29%), fewer principals noted that this was the case (see Table 4.6.6 part 2).

Supporting students' well-being after their return to regular schooling

Student well-being was another concern as schools transitioned back to regular lessons. Students were asked if they understood the changes made to the arrangements in the school and about their experiences with the non-academic services that their school provides (i.e., school counseling and food services). Students were asked whether they agree with the respective statements by choosing the following response categories "strongly agree," "agree," "disagree," and "strongly disagree." Table 4.6.7 reports the percentages of students who "strongly agree" or "agree." Overall, most students and student respondents understood the changed arrangements in their school. Furthermore, while many students and student respondents reported that they were asked about their well-being by school staff (other than their teacher) and/or were reminded about the availability of school counselors and support officers at their schools, this was the most prevalent in Uzbekistan where at least four out of five students agreed that this was the case (86% and 80%, respectively). Finally, a relatively smaller portion of students and student respondents agreed that accessing free lunch and/or breakfast was easier than before the COVID-19 disruption.

Teachers were asked to what extent they made extra effort to assess and address student well-being upon their return to school. Teachers reported using three response categories ("yes, to a large extent," "yes, to some extent," and "no"). Table 4.6.8 reports the percentages of teachers responding that they did implement the specific method at least to some extent. Overall, teachers invested additional time to assess and support their students' well-being. The large majority of teachers and teacher respondents reported spending time talking with students about their well-being. After assessing student well-being, a smaller proportion, but still more than half, of teachers and teacher respondents reported referring some students to well-being support within or outside of school. However, it is noted that in Burkina Faso, Denmark, Slovenia, and the United Arab Emirates only about a third or fewer teachers (or teacher respondents, in Burkina Faso and Denmark) reported referring some students to agencies outside the school. These low reports do not necessarily reflect a worrisome finding as, in some of these countries, schools may be the primary provider of well-being support to students, and as a policy, might not refer students to services outside the school if they are even available.

Like teachers, principals were also asked whether their schools provided support for students' social and emotional well-being to facilitate regular (face-to-face) teaching. Principals reported using two response categories ("yes" or "no"). The percentages of principals confirming they

Table 4.6.6: *Percentages of schools using methods to support students' learning after their return to school (part 1 of 2)*
Response categories were: (1) Yes and (2) No

Country	Assessments of students' achievement following the COVID-19 disruption		Targeted teaching directed to learning areas where student achievement had not progressed to the desired extent		Targeted teaching directed to students whose progress during the COVID-19 disruption was less than would have been expected	
Burkina Faso	45	(6.2)	42	(5.3)	29	(5.1)
Ethiopia[j]	64	(4.9)	51	(4.0)	66	(5.1)
India	80	(7.0)	74	(7.3)	75	(7.0)
Kenya[g,j]	67	(6.3)	66	(5.7)	66	(5.5)
Russian Federation[j]	99	(0.6)	95	(2.4)	86	(3.7)
Rwanda	76	(3.7)	73	(3.9)	74	(3.7)
Slovenia[g,j]	99	(1.0)	96	(2.0)	94	(2.1)
United Arab Emirates	96	(0.9)	88	(2.5)	91	(2.2)
Uruguay[g,j]	98	(0.9)	88	(4.5)	96	(2.3)
Uzbekistan[j]	96	(3.0)	88	(4.3)	92	(3.3)
Data may not be representative of target population						
Denmark[g,j]	44[n]		53[n]		61[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.6: *Percentages of schools using methods to support students' learning after their return to school (part 2 of 2)*
Response categories were: (1) Yes and (2) No

Country	Provision of supplementary staff or tutoring to assist in classes where students were judged to require additional support	Reviews of student progression to the next level of school	Supplementing face-to-face teaching with remote teaching	Partner with external educational services such as tutoring services to help students catch-up
Burkina Faso	34 (5.6)	64 (5.4)	11 (3.9)	29 (5.5)
Ethiopia[j]	72 (4.3)	72 (3.9)	46 (4.3)	64 (4.7)
India	41 (8.6)	73 (8.3)	60 (9.5)	56 (7.8)
Kenya[g,j]	45 (5.7)	62 (5.4)	34 (5.8)	39 (6.0)
Russian Federation[j]	13 (3.7)	98 (1.8)	28 (4.4)	13 (3.5)
Rwanda	63 (4.2)	70 (3.7)	48 (4.4)	64 (3.6)
Slovenia[g,j]	34 (4.8)	97 (1.7)	29 (4.2)	16 (4.1)
United Arab Emirates	54 (5.9)	92 (1.6)	85 (3.2)	31 (4.7)
Uruguay[g,j]	62 (6.1)	73 (7.4)	75 (6.5)	21 (5.1)
Uzbekistan[j]	79 (4.7)	58 (5.1)	70 (5.1)	80 (4.3)
Data may not be representative of target population				
Denmark[g,j]	39[n]	41[n]	46[n]	17[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.7: *Percentages of students* ***agreeing or strongly agreeing*** *with statements about their school experiences after the COVID-19 disruption*
Response categories were: (1) Strongly agree (2) Agree (3) Disagree and (4) Strongly disagree

Country	I understood the changed arrangements in my school		Staff from my school other than my teacher came to my class to ask about our well-being		We were reminded that school counselors and support officers were available for individual appointments		It was easier for me to access free lunches and/or breakfast than before the COVID-19 disruption	
Russian Federation[h]	86	(0.8)	48	(1.7)	45	(1.7)	24	(1.2)
Slovenia[g]	91	(0.6)	45	(1.1)	52	(1.0)	36	(1.2)
United Arab Emirates	90	(0.6)	55	(1.5)	66	(1.1)	54	(0.9)
Uzbekistan[h]	94	(0.5)	86	(0.8)	80	(1.1)	*k*	
Data may not be representative of target population								
Burkina Faso	88		68		39		13	
Denmark	89[n]		28[n]		33[n]		17[n]	
Ethiopia[h]	77		50		54		42	
Kenya[h]	88		62		63		41	

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.
n Data are available for at least 70% but less than 85% of the respondents.

made a specific provision are presented in Table 4.6.9. The majority of principals (or principal respondents, in Denmark) reported that their schools had set up additional tools to monitor students' health and safety, especially in the United Arab Emirates (96%) and Uzbekistan (97%). Also, the majority of principals (or principal respondents, in Denmark) across most of the countries reported that their schools had developed and implemented additional social or emotional learning interventions, implemented student behavioural interventions, and provided activities through which students needed to cooperate with each other. Burkina Faso was one exception to this pattern, where less than half of the principals reported that their schools implemented such strategies (see Table 4.6.9 part 1).

Approximately half of principals, or in some cases more, responded that their schools offered specific support for family well-being (e.g., counseling services, food programmes, contacting outside agencies to assist families who need help, etc.). However, there were some exceptions. In Burkina Faso and Denmark, only a small share of principals (or principal respondents in Denmark) reported that their schools offered additional support for families regarding student well-being or reported that their schools organized for other agencies to provide counselling services for families where it was thought to be needed. In Burkina Faso (7%), Denmark (13%), Ethiopia (20%), and Uruguay (32%), fewer principals (or principal respondents in Denmark) reported that their schools provided nutrition for students (e.g., through lunch programmes). It was also true in Denmark (2%), Burkina Faso (7%), Kenya (24%), Ethiopia (32%), and the Russian Federation (32%), that fewer principals (or principal respondents in Denmark) contacted agencies that provide food and other essentials to assist families who required help. Several countries were very active in providing support for families. For example, a large majority of principals (greater than 80%) in the United Arab Emirates, Uzbekistan, and Uruguay mentioned offering additional support to families regarding student well-being. Four out of five principals in Uzbekistan noted that they organized for other agencies to provide counseling for families. The Russian Federation and Rwanda had over 80% of principals respond that they provided nutrition to students through lunch programmes (see Table 4.6.9 part 2).

References

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impact of COVID-19 school closures on academic achievement. *Educational Researcher*, *49*(8), 549-565. https://doi.org/10.3102/0013189X20965918

Lewis, K., Kuhfeld, M., Ruzek, E., & McEachin, A. (2021). *Learning during COVID-19: Reading and math achievement in the 2020-21 school year*. Center for School and Student Progress, NWEA Research https://www.nwea.org/content/uploads/2021/07/Learning-during-COVID-19-Reading-and-math-achievement-in-the-2020-2021-school-year.research-brief-1.pdf

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child development*, *88*(4), 1156-1171. https://doi.org/10.1111/cdev.12864

UNESCO. (2020). *Adverse consequences of school closures*. UNESCO. Retrieved September 16, 2021, from https://en.unesco.org/covid19/educationresponse/consequences

Vinson, M. & Naftzger, N. (2021). *Social-emotional supports for students during COVID-19*. American Institute of Research. Retrieved September 16, 2021, from https://www.air.org/sites/default/files/Social-Emotional-Supports-for-Students-During-COVID-19-Feb-2021.pdf

World Bank. (2020). The COVID-19 pandemic: Shocks to education and policy responses. World Bank. https://openknowledge.worldbank.org/handle/10986/33696

Table 4.6.8: *Percentages of teachers using methods to support students' well-being after their return to school* ***to a large or some extent***
Response categories were: (1) Yes, to a large extent (2) Yes, to some extent and (3) No

Country	Spending time talking with students about their well-being		Referral of some students to well-being support available within the school		Referral of some students to additional well-being support from agencies outside the school	
India	78	(9.3)	70	(9.7)	64	(7.5)
Russian Federation[i]	80	(1.6)	59	(1.7)	44	(1.6)
Slovenia[g]	97	(0.7)	65	(1.9)	26	(1.2)
United Arab Emirates	91	(0.9)	76	(1.2)	38	(1.4)
Uzbekistan	96	(0.5)	82	(0.8)	78	(1.2)
Data may not be representative of target population						
Burkina Faso	67		53		28	
Denmark[g,i]	91		55		38	
Ethiopia[i]	80		77		63	
Kenya[i]	93		86		60	
Uruguay[g]	93		*k*		*k*	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

Table 4.6.9: *Percentages of schools making provisions to support the social and emotional well-being of students to facilitate regular (face-to-face) teaching (part 1 of 2)*

Response categories were: (1) Yes and (2) No

Country	Developing and implementing additional social or emotional learning interventions	Additional monitoring of students' health and safety	Implementing interventions related to student behaviour	Providing activities through which students need to co-operate with each other
Burkina Faso	16 (3.9)	51 (6.4)	42 (6.2)	37 (5.5)
Ethiopia[j]	62 (4.4)	76 (4.3)	75 (4.1)	51 (5.4)
India	71 (8.0)	81 (6.0)	74 (8.9)	72 (7.6)
Kenya[g,j]	73 (5.7)	82 (4.6)	83 (4.8)	78 (4.4)
Russian Federation[j]	54 (5.6)	86 (3.6)	91 (2.8)	79 (3.9)
Rwanda	74 (3.8)	85 (3.3)	87 (2.7)	73 (3.6)
Slovenia[g,j]	47 (4.9)	72 (4.7)	58 (4.7)	74 (4.7)
United Arab Emirates	90 (2.6)	96 (1.5)	87 (3.7)	92 (2.3)
Uruguay[g,j]	71 (4.7)	74 (5.9)	79 (5.2)	70 (5.6)
Uzbekistan[j]	97 (1.5)	97 (1.9)	94 (1.9)	91 (2.7)
Data may not be representative of target population				
Denmark[g,j]	44[n]	71[n]	56[n]	64[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.6.9: *Percentages of schools making provisions to support the social and emotional well-being of students to facilitate regular (face-to-face) teaching (part 2 of 2)*

Response categories were: (1) Yes and (2) No

Country	Offering additional support to families regarding student well-being	Organising for other agencies to provide counselling for families where it is thought to be needed	Providing nutrition for students (e.g. lunch programmes)	Contacting agencies that provide food and other essentials to assist families who need help
Burkina Faso	14 (5.5)	8 (2.5)	7 (2.5)	7 (2.9)
Ethiopia[j]	65 (4.2)	45 (5.0)	20 (4.4)	32 (5.2)
India	72 (9.0)	54 (9.9)	65 (7.8)	52 (9.2)
Kenya[g,j]	55 (6.2)	49 (6.0)	50 (5.9)	24 (4.6)
Russian Federation[j]	62 (5.5)	41 (4.8)	86 (3.1)	32 (4.7)
Rwanda	63 (3.8)	59 (4.4)	81 (3.3)	53 (4.6)
Slovenia[g,j]	54 (3.8)	59 (5.9)	53 (5.5)	44 (5.6)
United Arab Emirates	92 (2.1)	49 (5.3)	44 (4.9)	39 (4.7)
Uruguay[g,j]	80 (4.2)	49 (5.9)	32 (5.5)	45 (4.6)
Uzbekistan[j]	90 (3.5)	82 (4.4)	54 (5.8)	78 (4.6)
Data may not be representative of target population				
Denmark[g,j]	42[n]	40[n]	13[n]	2[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

4.7 Academic progress, preparedness for future disruptions, and persisting changes

Sabine Meinck, Mojca Rožman, Minge Chen

Section highlights

Pandemics, extreme weather conditions, strikes and other crises are likely to impact educational systems in the future. This section highlights students, teachers, and schools perceived preparedness for future disruptions.

Students had to work independently during school closures.

- A majority of students across countries reported that they felt confident in many aspects of their schoolwork, except in Burkina Faso, Ethiopia, and Kenya.
- Between 20% to 80% of students in the countries participating in REDS felt unprepared for future school closures.

REDS provides evidence regarding the openness of teachers towards innovation and shifting priorities in their profession.

- Nearly all teachers in all participating countries believed that information and communication technology will be important for their work at schools in the future.
- Teachers supported a shift in focus towards student well-being.

Preparedness of schools for future disruptions varies substantially across countries.

- While it was common that schools prepared learning materials, information, and transition plans for future disruptions, in some countries, a few schools didn't prepare any of these resources.
- In most countries, half, or more schools shifted their priorities regarding topics of higher importance during school closures (e.g., students' and teachers' well-being).
- In six out of the eleven participating countries, about half or more of schools felt either not well prepared or not prepared at all for future disruptions.

Many principals reported that students' learning outcomes decreased.

- Between one quarter and over three quarters of principals in all REDS countries supported this statement in general.
- Most principals in each country believed that previously low-achievers and other vulnerable students did not progress as much as before the educational disruptions.

Introduction

The COVID-19 pandemic caused a severe disruption in education all over the world, forcing schools, teachers, students, and parents to try out new teaching and learning approaches. This provided an opportunity for developments, innovations, changes, and improvements that may endure into the future. Capitalizing on the responses of students, teachers, and principals from up to 11 countries, this section will provide answers to the following questions: *What changes persisted after the reference period and are likely to be retained after the pandemic? Have priorities shifted due to the experiences made during the pandemic? What measures will make it into a post-Covid world (i.e., means of communication, help, support, teaching and learning approaches, etc.)? Have schools implemented changes so that they are prepared for future disruptions?* While some changes could be seen as improvements, others will come with substantial challenges. REDS asked, students about their confidence in being prepared for learning in the future, teachers about their opinions on the likelihood of the persistence of new teaching approaches and communication tools, and principals about the shifts in priorities and preparedness for future disruptions. Principals also voiced their opinions on changes in performance progress of the different groups of students.

Students' preparedness for learning in the future

When schools closed and moved to remote learning, students were suddenly tasked to work more independently. Working independently is a skill that becomes increasingly important as children grow up, and a push towards its acquisition can be seen as a positive side effect of the disruption. REDS asked students how confident they felt about several aspects of their schoolwork at the time of data collection (i.e., some weeks or months after the reference period). Table 4.7.1 shows the percentages of students who felt "very confident" or "confident" regarding individual learning-related skills that became essential during the disruption. Students could also choose "not very confident" and "not at all confident" as response options. The first part of the table presents students' confidence related to managing and evaluating the learning process. Reassuringly, more than 80% of students felt confident to complete their schoolwork independently, with the exception of Burkina Faso, Ethiopia, and Kenya, where only two thirds or fewer of the respondents supported this statement. The response patterns for the remaining statements (feeling confident to plan when to do schoolwork on their own, assessing their learning progress, and seeking assistance from others when needed) displayed in part 1 of Table 4.7.1 are similar, but the respective percentages are slightly smaller. Notably, responding students in Denmark reported considerably less confidence in assessing their learning progress compared to the three other aspects presented.

More variety in students' confidence can be obtained from the second part of Table 4.7.1, where the focus is on more technical skills. Again, more than 80% of responding students in Denmark, and students in the Russian Federation, Slovenia, the United Arab Emirates, and Uzbekistan reported they felt confident finding learning resources on their own. However, just half of the participants from Ethiopia and Kenya claimed this, and only one out of four respondents in Burkina Faso. Further, nearly all students in Denmark, Slovenia, and the United Arab Emirates felt confident to use a learning management system or school learning platform, while only two thirds of the Russian students and very few student respondents from Burkina Faso and Kenya.[16] In line with information from principals presented in Table 4.2.9, these results indicate that the use of such learning management systems or platforms varied widely across countries, but not within countries. Confidence in using videoconferencing software varied as much and very similarly within and between countries, indicating confidence of most students in some countries with this mode of learning versus medium or low proportions of students who reported respective confidence in other countries.

[16] Note that Uzbekistan and Ethiopia did not administer this question.

Students were asked to assess their overall preparedness for learning from home in case of future disruptions, with the following response options "very well prepared," "well prepared," "not very prepared," and "not prepared at all." The last column in the second part of Table 4.7.1 presents the percentages of students responding they felt well or very well prepared if their school building closed for an extended period in the future. The results provide an important indicator of whether, from the perspectives of students, stakeholders in the education systems participating in REDS have learned from the disruption and how successful they implemented measures mitigating future shutdowns. About three quarters of students in the Russian Federation, Slovenia, and the United Arab Emirates felt very well or well prepared for future school closures. This also applies to 82% of respondents in Denmark. Only about half of Uzbek students and Ethiopian respondents felt the same, while just one out of three or even one out of five student respondents in Kenya and Burkina Faso, respectively, agreed they felt prepared for future disruptions. A significant portion of students in all participating countries did not feel very prepared or not prepared at all for similar educational disruptions in the future. This finding uncovers a need for further research on identifying those students and develop tailored measures to support them.

Enduring new teaching practices

The International Computer and Information Literacy Study (ICILS) conducted in 2018 (Fraillon et al., 2019) provided evidence on the state of information and communications technology (ICT) use and teachers' attitudes and confidence towards that use in 14 countries. Even though the countries participating in REDS were not all the same, it may be justifiable to make cautious comparisons regarding changes related to COVID-19, as all countries were affected by the pandemic. According to Fraillon et al. (2019), frequent use of ICT when teaching was only reported by less than half of the teachers in the countries participating in ICILS 2018, with considerable variations across educational systems. Further, the authors of that study report reported that a majority of targeted teachers lacked confidence in the use of online discussions, online collaboration, and the use of learning management systems, all tools that became highly important during the pandemic. Finally, a significant number of teachers expressed reservations due to negative effects of ICT. In summary, ICILS 2018 provided evidence that many teachers worldwide had reservations regarding using ICT for teaching and learning. Data collected in REDS seems to indicate a change regarding these attitudes. Table 4.7.2 shows the percentages of teachers believing certain practices or procedures will be "somewhat" or "very" important in the future (disregarding those who found them "not at all important"). Nearly all teachers in all participating countries believed that ICT will be at least somewhat important for their prospective work at schools. Of note, this applies to all countries, whether high percentages of their teachers reported to have been equipped with, have frequently used or/and liked ICT, or were confident with its use. Investigated practices were a blend of online learning and face-to-face teaching, submitting student work for assessment online, administering regular digital communication with students and parents, putting into practice new educational digital tools, implementing procedures for personal data security, and incorporating cyber safety (Table 4.7.2). The table presents the percentages of teachers believing these practices will be "very important" or "somewhat important," leaving extremely few teachers saying these practices will be "not at all important" in the future.

Moreover, nearly all teachers in all countries stated that they believed that new approaches to teaching and learning will be at least somewhat important in the future, indicating a remarkable openness of teachers for innovation within their profession (Table 4.7.2, part 1).

Finally, again as many teachers claimed, an increased shift in focus to student well-being was necessary (Table 4.7.2, part 2), revealing this is an issue with high emphasis in times of crisis, and acknowledging the importance of the interrelation between students' well-being and learning progress.

Table 4.7.1: *Percentages of students feeling* ***confident or very confident*** *about learning in the future (part 1 of 2).*
Response categories were: (1) Very confident (2) Confident (3) Not very confident and (4) Not confident at all

Country	Students feeling **confident or very confident** about the following aspects of their schoolwork			
	Completing schoolwork independently	Planning when to do schoolwork on their own	Assessing their learning progress	Seeking assistance from others when they need it
Russian Federation[h]	82 (0.8)	77 (0.9)	70 (1.2)	77 (0.7)
Slovenia[g]	82 (0.8)	75 (0.8)	74 (0.9)	80 (0.8)
United Arab Emirates	85 (0.8)	84 (0.8)	80 (0.9)	81 (1.0)
Uzbekistan[h]	89 (0.8)	87 (1.0)	89 (0.7)	84 (0.9)
Data may not be representative of target population				
Burkina Faso	45	43	35	75
Denmark	82[n]	79[n]	51[n]	78[n]
Ethiopia[h]	62	67	65	58
Kenya[h]	68	72	66	69

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.1: *Percentages of students feeling* ***confident or very confident and well or very well prepared*** *about learning in the future (part 2 of 2).*
Response categories were: (1) Very confident (2) Confident (3) Not very confident and (4) Not confident at all; (1) Not prepared at all (2) Not vey prepared (3) Well prepared and (4) Very well prepared

Country	Students feeling **confident or very confident** about the following aspects of their schoolwork						Students feeling **well or very well prepared** for learning from home if their school building closed for an extended period in the future	
	Finding learning resources on their own		Using a learning management system or school learning platform		Using videoconferencing software			
Russian Federation[h]	84	(0.9)	69	(1.2)	66	(1.8)	73	(1.1)
Slovenia[g]	89	(0.6)	90	(0.7)	92	(0.6)	79	(0.9)
United Arab Emirates	86	(0.8)	88	(0.9)	90	(0.8)	71	(1.3)
Uzbekistan[h]	90	(0.7)	*k*		69	(1.7)	55	(1.4)
Data may not be representative of target population								
Burkina Faso	27		8		6		21	
Denmark	84[n]		93[n]		94[n]		82[n]	
Ethiopia[h]	50		*k*		27		49	
Kenya[h]	52		24		20		35	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

k This item was not administered in this country.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.2: *Percentages of teachers believing certain practices or procedures will be* ***somewhat or very important*** *in future (part 1 of 2)*
Response categories were: (1) Very important (2) Somewhat important and (3) Not at all important

Country	New approaches to teaching and learning		A blend of online learning and face-to-face teaching		Submission of student work for assessment online		Regular digital communication with students	
India	97	(0.8)	92	(1.9)	90	(2.4)	94	(1.6)
Russian Federation[i]	97	(0.5)	88	(1.2)	86	(1.1)	87	(1.3)
Slovenia[g]	98	(0.4)	90	(1.4)	91	(1.1)	95	(0.6)
United Arab Emirates	99	(0.2)	93	(0.7)	97	(0.4)	98	(0.3)
Uzbekistan	98	(0.4)	86	(1.1)	86	(1.0)	93	(0.7)
Data may not be representative of target population								
Burkina Faso	95		94		89		92	
Denmark[g,i]	99		76		95		91	
Ethiopia[i]	91		75		71		78	
Kenya[i]	97		95		93		93	
Uruguay[g]	97		90		94		94	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Table 4.7.2: *Percentages of teachers believing certain practices or procedures will be* ***somewhat or very important*** *in future (part 2 of 2)*
Response categories were: (1) Very important (2) Somewhat important and (3) Not at all important

Country	New educational digital tools that I learned to use	Regular digital communication with parents	Implementing procedures for personal data security and cyber safety	An increased shift in focus to student well-being
India	96 (1.2)	90 (3.4)	92 (3.9)	94 (1.6)
Russian Federation[i]	96 (0.6)	89 (1.2)	96 (0.6)	94 (0.9)
Slovenia[g]	99 (0.4)	96 (0.6)	97 (0.6)	96 (0.7)
United Arab Emirates	99 (0.2)	98 (0.4)	99 (0.2)	99 (0.2)
Uzbekistan	98 (0.5)	95 (0.6)	97 (0.4)	98 (0.3)
Data may not be representative of target population				
Burkina Faso	92	91	95	97
Denmark[g,i]	98	92	96	100
Ethiopia[i]	87	77	80	87
Kenya[i]	94	92	95	92
Uruguay[g]	99	80	96	97

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

i More than 5% of targeted teachers were excluded. See Chapter 3, Table 3.1 for details.

Preparedness of schools for future disruptions

While writing this report, the COVID-19 pandemic, and its effects on educational systems around the world is ongoing. Further, school closures may be needed to mitigate infection risks in many countries. Moreover, disruptions may become more likely, for example, due to the increasing effects of climate change. Hence, it would be desirable to prepare schools in the best ways possible for future educational disruptions. REDS asked principals whether they took specific actions to prepare for future remote teaching ("yes" or "no"). Table 4.7.3 shows the results of this investigation, giving rise to a widely varying picture. Accordingly, most schools in the Russian Federation, Slovenia, the United Arab Emirates, Uruguay, and Uzbekistan adapted the existing curriculum plans for remote teaching. Only about half of the schools in Ethiopia, India, Kenya, and Rwanda did this, and just 11% of schools in Burkina Faso. The percentages of schools who had compiled teaching resources for parents and guardians to support their child's learning outside the school varied greatly among countries, from almost all schools in the United Arab Emirates to 12% in Burkina Faso. This large variation among countries could also be observed with regard to the preparation of paper-based material for use in remote teaching. Both parts of Table 4.7.3 provide information on various actions regarding preparedness for online learning, such as preparation of digital materials, ensuring transition from classroom-based to online learning, access to digital learning opportunities, and training for teachers. While most if not all schools in Slovenia, the United Arab Emirates, and Uzbekistan reported related measures, more than or about half of the schools in Denmark, India, Kenya, the Russian Federation, Rwanda, and Uruguay claimed to be prepared. In Ethiopia, about a quarter of schools or less took respective actions, while it was 10% or less in Burkina Faso.

REDS further asked whether schools changed their priorities regarding a broad variety of selected topics, covering health and well-being, but also preconditions of teaching and learning. The percentages of schools who reported they "substantially increased" or "increased to some degree" their priorities are displayed in Table 4.7.4. Other response options were "did not change," "decreased to some degree," and "substantially decreased." About half or more of the principals in all countries reported an increased priority of developing and implementing new social or emotional learning interventions, except for Danish' participating principals. Also, a large majority of principals in most countries reported increased priorities for ensuring students health and safety, promoting student and staff well-being, and engaging with families. Some more variety between countries could be observed regarding the topics displayed in the second part of Table 4.7.4, still with a medium to high agreement on increases in priority of implementing interventions related to student behaviour, promoting student engagement in learning, addressing disparities in academic performance among students, and supporting professional learning for teachers. Notably, more than 90% of the principals in Slovenia and the United Arab Emirates increased the priority of planning for future school closures or other emergencies, while just two thirds or fewer principals stated this in other countries.

Principals were asked, overall, how prepared they feel their school is for providing remote teaching if their school building was closed to students for an extended period in the future. About half or more schools in six out of the eleven participating countries reported they didn't feel well prepared or not prepared at all, as shown in Table 4.7.5. Close to all principals stated this in Burkina Faso and Kenya, and about half of the principals in Ethiopia, India, the Russian Federation and Rwanda. Interestingly, significantly higher percentages of Russian students felt prepared than Russian schools (compare with Table 4.7.1). Further, almost all or all schools felt well or even very well prepared in Denmark, Slovenia, and the United Arab Emirates. In Uruguay and Uzbekistan, this also applied to a majority of schools. The results reveal important evidence to be considered by policy-makers in some countries, however, preparing their schools for future educational disruptions has not yet concluded in many schools.

Table 4.7.3: *Percentages of schools that took specific actions to prepare for remote teaching in case of future disruptions such as the one caused by the COVID-19 pandemic (part 1 of 2)*

Response categories were: (1) Yes and (2) No

Country	Adapting existing curriculum plans for remote teaching		Compiling teaching resources for parents/guardians to support their child's learning outside the school		Preparing paper-based material for use in remote teaching		Preparing digital material for use in remote teaching	
Burkina Faso	11	(3.6)	12	(4.0)	5	(2.1)	4	(2.0)
Ethiopia[j]	51	(5.2)	50	(5.2)	63	(4.6)	27	(3.9)
India	59	(6.5)	60	(7.3)	69	(5.1)	54	(6.8)
Kenya[g,j]	58	(5.7)	56	(5.2)	57	(6.8)	66	(5.8)
Russian Federation[j]	83	(3.8)	74	(4.4)	72	(4.5)	76	(5.6)
Rwanda	42	(3.9)	43	(4.0)	40	(4.2)	49	(3.7)
Slovenia[g,j]	92	(2.3)	51	(5.1)	46	(6.4)	90	(3.2)
United Arab Emirates	99	(0.5)	95	(2.1)	73	(4.2)	100	(0.3)
Uruguay[g,j]	81	(5.8)	40	(7.2)	53	(5.2)	78	(4.2)
Uzbekistan[j]	85	(4.5)	82	(4.7)	69	(5.1)	88	(3.4)
Data may not be representative of target population								
Denmark[g,j]	49[n]		29[n]		45[n]		69[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.3: *Percentages of schools that took specific actions to prepare for remote teaching in case of future disruptions such as the one caused by the COVID-19 pandemic (part 2 of 2)*

Response categories were: (1) Yes and (2) No

Country	Preparing digital materials for assessing student learning via online assessment		Ensuring that students have access to digital resources for online learning		Training teaching staff on the use of video communication programmes		Preparing a plan for transitioning students and teachers from classroom-based teaching and learning to remote teaching and online learning	
Burkina Faso	4	(2.6)	8	(3.3)	5	(2.3)	4	(2.2)
Ethiopia[j]	24	(3.1)	16	(3.5)	17	(3.9)	28	(3.4)
India	64	(7.3)	62	(9.4)	55	(7.6)	74	(7.3)
Kenya[g,j]	52	(5.8)	49	(5.9)	75	(5.7)	52	(6.7)
Russian Federation[j]	78	(5.5)	79	(4.4)	90	(3.8)	66	(5.5)
Rwanda	46	(3.5)	34	(3.6)	52	(3.7)	42	(3.9)
Slovenia[g,j]	89	(2.9)	97	(1.4)	100	(0.0)	96	(1.5)
United Arab Emirates	100	(0.3)	100	(0.3)	100	(0.0)	99	(0.4)
Uruguay[g,j]	84	(5.1)	85	(3.9)	65	(7.8)	57	(5.0)
Uzbekistan[j]	93	(3.2)	85	(4.4)	79	(4.8)	90	(3.6)
Data may not be representative of target population								
Denmark[g,j]	61[n]		83[n]		69[n]		59[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.4: *Percentages of schools that* ***increased*** *priorities for selected topics* ***to some degree or substantially*** *as a result of the COVID-19 pandemic (part 1 of 2)*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Developing and implementing new social or emotional learning interventions	Ensuring student health and safety	Promoting student well-being	Promoting staff well-being	Engaging with families
Burkina Faso	49 (6.0)	84 (4.1)	84 (3.4)	84 (3.5)	37 (5.7)
Ethiopia[j]	49 (4.5)	65 (4.4)	58 (4.9)	54 (5.2)	45 (4.7)
India	59 (4.9)	80 (7.8)	68 (5.9)	72 (6.6)	66 (8.2)
Kenya[g,j]	79 (4.9)	90 (3.4)	81 (4.3)	82 (4.2)	64 (5.8)
Russian Federation[j]	72 (4.3)	80 (4.0)	59 (5.7)	62 (5.8)	74 (5.0)
Rwanda	82 (3.4)	89 (2.5)	81 (3.1)	80 (3.3)	75 (3.4)
Slovenia[g,j]	71 (5.4)	87 (4.3)	83 (4.0)	74 (5.0)	80 (3.7)
United Arab Emirates	91 (2.7)	95 (1.9)	90 (4.7)	89 (4.7)	79 (5.6)
Uruguay[g,j]	79 (6.0)	94 (2.7)	87 (2.7)	86 (2.9)	73 (4.0)
Uzbekistan[j]	64 (3.9)	91 (3.7)	95 (3.2)	94 (3.4)	79 (5.0)
Data may not be representative of target population					
Denmark[g,j]	35[n]	35[n]	71[n]	67[n]	54[n]

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.
n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.4: *Percentages of schools that* ***increased*** *priorities for selected topics* ***to some degree or substantially*** *as a result of the COVID-19 pandemic (part 2 of 2)*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Implementing interventions related to student behaviour		Promoting student engagement in learning		Addressing disparities in academic performance among students		Supporting professional learning for teachers		Planning for future school closures or other emergencies	
Burkina Faso	73	(4.2)	79	(4.4)	47	(6.6)	31	(5.8)	33	(6.7)
Ethiopia[i]	52	(4.5)	53	(5.0)	37	(3.7)	46	(5.3)	58	(4.8)
India	62	(6.2)	71	(6.8)	63	(4.7)	58	(8.4)	66	(5.6)
Kenya[g,j]	90	(3.4)	82	(4.6)	68	(6.0)	77	(4.5)	71	(4.7)
Russian Federation[i]	63	(5.5)	51	(5.6)	53	(5.1)	66	(5.0)	59	(6.1)
Rwanda	87	(2.8)	82	(3.1)	73	(3.5)	79	(3.2)	77	(3.4)
Slovenia[g,j]	55	(5.2)	88	(2.8)	67	(5.8)	86	(3.8)	92	(2.9)
United Arab Emirates	75	(5.6)	84	(3.3)	74	(5.0)	86	(3.1)	91	(2.9)
Uruguay[g,j]	62	(6.3)	79	(4.3)	77	(3.3)	61	(7.2)	74	(4.6)
Uzbekistan[i]	73	(4.8)	72	(4.6)	66	(5.0)	70	(5.3)	76	(5.4)
Data may not be representative of target population										
Denmark[g,j]	40[n]		35[n]		23[n]		25[n]		58[n]	

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.5: *Percentages of schools feeling prepared for providing remote teaching if their school building was closed to students for an extended period in the future*

Country	Not prepared at all	Not very well prepared	Well prepared	Very well prepared
Burkina Faso	87 (3.6)	10 (3.3)	2 (1.0)	1 (0.9)
Ethiopia[j]	18 (3.8)	33 (5.5)	38 (4.5)	11 (3.5)
India	17 (5.7)	34 (5.3)	40 (4.8)	9 (3.5)
Kenya[g,j]	24 (4.8)	65 (5.0)	10 (3.3)	1 (1.2)
Russian Federation[j]	3 (1.9)	44 (5.9)	51 (5.6)	2 (1.0)
Rwanda	16 (3.0)	50 (4.6)	31 (3.8)	4 (1.7)
Slovenia[g,j]	0 (0.0)	0	(0.3) 62	(5.5) 38 (5.5)
United Arab Emirates	0 (0.0)	1	(0.5) 30	(5.7) 69 (5.6)
Uruguay[g,j]	1 (0.7)	15 (3.5)	68 (5.8)	16 (4.6)
Uzbekistan[j]	2 (1.3)	17 (4.7)	65 (5.3)	16 (4.0)
Data may not be representative of target population				
Denmark[g,j,n]	0	0	53	47

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Academic progress of students

Many students were affected during the pandemic in various ways, as was described in Section 4.5. Further, presenting opinions of students and teachers, Section 4.6 gives strong indications that at least specific groups of students have not learned as much during the school closures than they would have during regular school times. As a consequence, performance gaps for specific groups of students may have widened during the COVID-19 disruptions. Such gaps, but also general learning deficits, may persist in the future if no adequate remedial action is taken. REDS cannot provide evidence on this hypothesis, as we did not collect data on student achievement, but gives principals a voice regarding this topic. Table 4.7.6 shows the percentages of principals believing academic performance of specific groups of students in their school "substantially decreased" or "decreased to some degree" due to their experiences in the COVID-19 pandemic. Other response options were "did not change," "decreased to some degree," and "substantially decreased." Assuming principals are a reliable source of information regarding this question, the table presents concerning evidence of potential learning deficits of students. Between 25% (United Arab Emirates) and 85% (Slovenia) of the principals stated they believed that, generally, academic outcomes of all students in their school decreased due to the pandemic. This also held true for target grade students. About one quarter to half of the principals in Burkina Faso, Ethiopia, India, Kenya, Rwanda, the United Arab Emirates, and Uzbekistan believed that the performance of high- and low-achieving students was affected, as well as those from vulnerable student groups (see both parts of Table 4.7.6). In contrast, fewer principals saw high-achieving students endangered in Denmark, Slovenia, and Uruguay, while in the same countries many more principals believed the academic achievement of low-achieving students, those from low-income backgrounds, students with special needs, and those whose first language is not the language of instruction, decreased. Beliefs of principals are mostly aligned with those of students (compare with Table 4.2.12) and teachers (compare with Tables 4.2.14 and 4.2.15). Even though studies investigating learning progress are pending, evidence is calling for remedial action to make up for the loss in learning progress for all students, adding specific measures for groups that might have been affected more than others, be it due to more difficult learning environments, limited access to remote learning opportunities, or other challenges.

References

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2019). *Preparing for life in a digital world: the IEA International Computer and Information Literacy Study 2018 International Report*. International Association for the Evaluation of Educational Achievement (IEA). https://doi.org/10.1007/978-3-030-38781-5

Table 4.7.6: *Percentages of principals believing academic outcomes of specific groups of students in their school* ***decreased to some degree or substantially*** *due to the experiences in the COVID-19 pandemic (part 1 of 2)*

Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	All Students	Target grade students	High-achieving students	Low-achieving students
Burkina Faso	39 (4.7)	40 (4.8)	42 (5.7)	39 (4.9)
Ethiopia[j]	45 (5.0)	40 (5.1)	45 (5.4)	43 (5.0)
India	51 (10.3)	51 (10.6)	48 (9.9)	44 (9.7)
Kenya[g,j]	42 (5.5)	41 (5.6)	32 (5.4)	44 (5.9)
Russian Federation[j]	47 (5.2)	56 (4.7)	36 (5.5)	52 (6.1)
Rwanda	46 (4.3)	45 (4.3)	44 (4.4)	42 (4.0)
Slovenia[g,j]	85 (3.6)	79 (4.8)	23 (3.6)	89 (3.5)
United Arab Emirates	24 (4.1)	24 (4.4)	13 (3.4)	28 (4.3)
Uruguay[g,j]	56 (6.4)	60 (7.4)	24 (4.2)	82 (6.0)
Uzbekistan[j]	34 (5.1)	38 (5.6)	34 (5.7)	34 (5.0)
Data may not be representative of target population				
Denmark[g,j]	79[n]	83[n]	42[n]	85[n]

Notes:

Standard errors appear in parentheses.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.

n Data are available for at least 70% but less than 85% of the respondents.

Table 4.7.6: *Percentages of principals believing academic outcomes of specific groups of students in their school* ***decreased to some degree or substantially*** *due to the experiences in the COVID-19 pandemic (part 2 of 2)*
Response categories were: (1) Substantially increased (2) Increased to some degree (3) Did not change (4) Decreased to some degree and (5) Substantially decreased

Country	Students from low-income backgrounds		Students with special needs		Students whose first language is not the language of instruction at school	
Burkina Faso	48	(5.6)	39	(6.4)	37	(4.6)
Ethiopia[j]	44	(5.4)	44	(6.8)	39	(5.7)
India	53	(9.1)	52	(10.3)	*k*	
Kenya[g,j]	46	(6.7)	48	(6.6)	*k*	
Russian Federation[j]	39	(5.9)	33	(6.2)	30	(5.3)
Rwanda	44	(4.6)	40	(4.4)	37	(4.0)
Slovenia[g,j]	66	(5.5)	78	(4.5)	89	(3.5)
United Arab Emirates	24	(4.3)	26	(4.5)	22	(4.1)
Uruguay[g,j]	79	(5.8)	71	(7.7)	*k*	
Uzbekistan[j]	23	(4.5)	20	(4.2)	22	(4.9)
Data may not be representative of target population						
Denmark[g,j]	69[n]		56[n]		77[n]	

Notes:
Standard errors appear in parentheses.
g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.
j More than 5% of targeted schools were excluded. See Chapter 3, Table 3.1 for details.
k This item was not administered in this country.
n Data are available for at least 70% but less than 85% of the respondents.

4.8 Inequalities in teaching and learning during the pandemic

Rolf Strietholt, Felix Süttmann

Section highlights

Inequality of educational opportunity is a recurring topic in discussions around the COVID-19 disruption. While the previous sections of this report have revealed notable differences between countries, this section describes educational inequalities by gender, socioeconomic status, and school locations. We examined inequalities that were observed during the changed educational settings imposed by the pandemic, focusing on homeschooling, wellbeing, anxiety about education, and preparedness for self-directed learning. We chose to not examine general disadvantages for specific groups of students across these themes, but rather specific patterns of inequality in individual countries.

Almost all students are affected by school closures during COVID-19.

- In Burkina Faso, Ethiopia, and Kenya, students from low socioeconomic homes and students in rural schools were more likely to report not completing any schoolwork at all.
- In all other countries, we observed no such difference in access to school between any student groups.

We observed inequalities in terms of the likelihood that parents work from home, but not in terms of losing their job.

- Working from home was more common for socioeconomically advantaged parents and took place in urban areas for most counties.
- Job loss is related to social status, gender, or school location in some countries but not in others.

Inequality in mental and physical health existed in only a few countries.

- Loneliness was more common among male students in Uzbekistan and more common among female students in Denmark.
- In Burkina Faso, Ethiopia, and Kenya, socially vulnerable students reported less physical activity; in Russia, the United Arab Emirates, and Uzbekistan, males reported less physical activity.

Worrying about falling behind correlates with student characteristics.

- In all countries, socioeconomically disadvantaged students were more likely to express fear of falling behind than socioeconomically privileged children.
- Female students were particularly concerned that COVID-19 will affect their future education in Russia, Slovenia, and Denmark.

Introduction

Inclusive and equitable education is a central component of the UN's Sustainable Development Goals and in the academic discourse on education (e.g., United Nations, 2015; Kyriakides, Creemers, & Charalambous, 2018). While the previous sections focus on differences among countries, this section focuses on inequalities within countries. Following the extensive literature on group differences in educational opportunity (e.g., Coleman et al., 1966; Jencks et al., 1972), we considered three categories of inequality: gender gaps, socioeconomic gaps, and the rural-urban divide. These and other dimensions of inequality have been part of the reporting in international comparative studies for many years (e.g., Mullis et al., 2020; Rolfe, et al., 2021; Rosén, 2001; Strietholt, et al., 2019). The section addresses the REDS research question: *What were the impacts of the COVID-19 pandemic on learning and on students?*

Inequality is a concept that can be studied on a student, class, school, or regional level. In this section, we report on differences at the student level. For this reason, the analyses presented in this section are limited to the eight countries where student questionnaires were administered, which are Burkina Faso, Denmark, Ethiopia, Kenya, the Russian Federation, Slovenia, the United Arabic Emirates (UAE), and Uzbekistan. Because student surveys were not conducted in India, Rwanda, and Uruguay, analyses of inequality among specific student groups cannot be reported for those countries.

The findings reported in this section do not consider the full range of topics that have been covered in the previous sections of this report. While we do not claim to be comprehensive, we have tried to capture as broad a range of topics as possible in our selection of variables. Typically, similar patterns of (unreported) results were observed in many cases among the variables on the same set of topics.

How inequality was measured

Following the previous research on inequality of educational opportunity, we study gender, urban-rural, and socioeconomic status gaps. While determining which students belong to which groups, we investigated whether the samples were sufficiently large for respective comparisons (Figure 4.8.1).

The gender gap is simply defined as the difference between males and females. The left panel of Figure 4.8.1 shows that gender is roughly equally distributed in the samples of all eight countries.

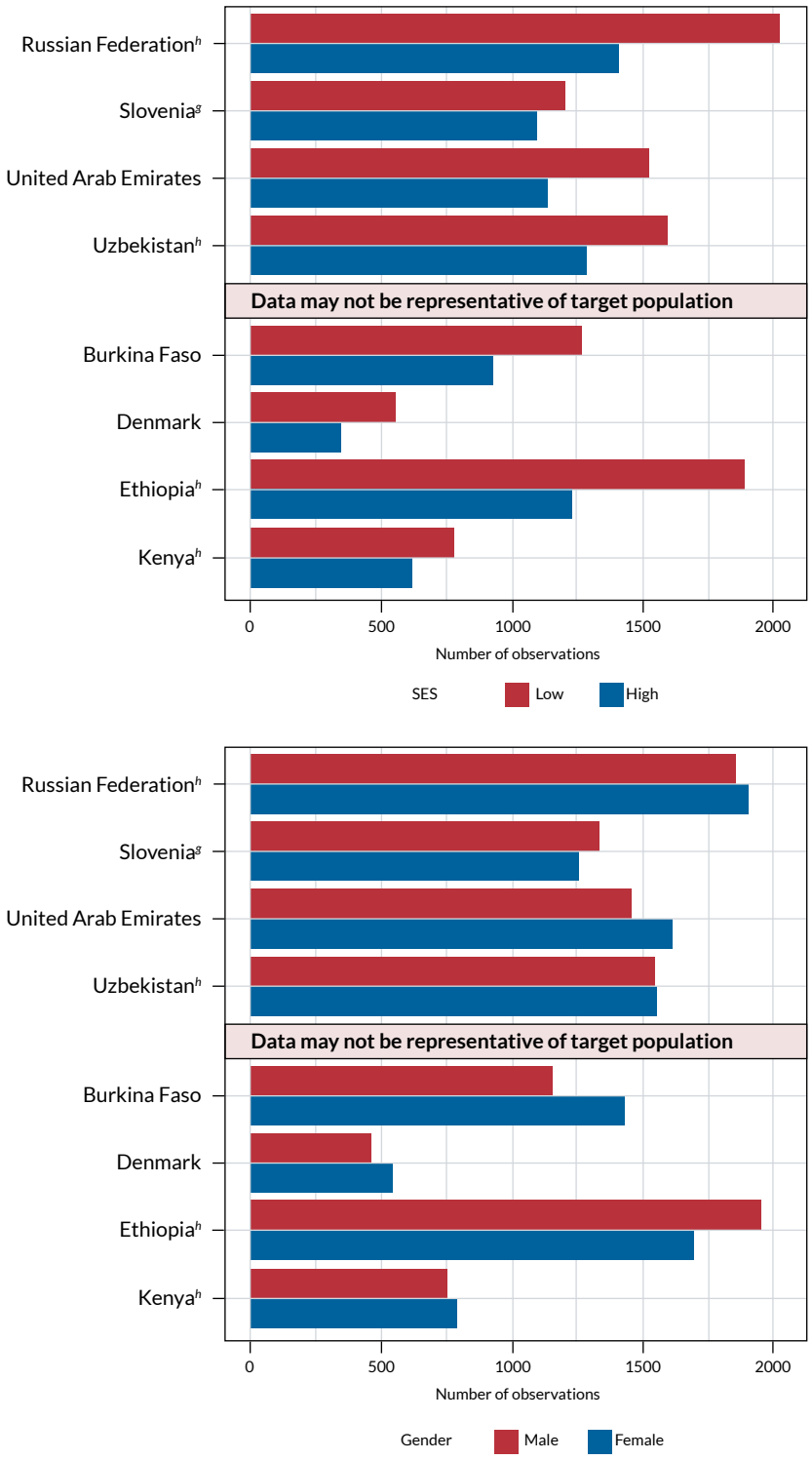
The socioeconomic status (SES) was determined by using an index that combined student-reported information on parental education, parental occupation, and the number of books in the household. In the case of varying education or occupations of the parents, we used the highest ranked parent as value. We computed the sum of the three indicators to divide students in each countries' sample into groups of low and high SES bases on this sum score. Since REDS compares a wide range of economically developed and developing countries, we used relative (country-specific) thresholds to form two roughly equally sized groups of low and high SES students for each country. An alternative strategy would have been to use the same absolute threshold for all countries, but then the proportions of students in the low and high SES groups would have been very unevenly distributed. Figure 4.8.1 shows the distribution of low and high SES students in each sample. We tried to establish groups of approximately equal size by assigning the median group to the smaller tail, this did yield good results overall. In the Russian Federation and Burkina Faso, the SES-index does not differentiate well in the middle of the distribution. However, in all countries the samples of both groups contain at least 300 students, and we consider this sample size sufficiently large for group comparisons.

School locations reported by principals were used to calculate the difference between students in rural and urban areas. Villages or towns with less than 15,000 inhabitants were defined as rural and towns with more than 15,000 inhabitants as urban. The number of student respondents that enrolled in schools in urban areas varies considerably across countries, between about 20-80% (see Figure 4.8.1). Most of the respondents in Russia, the United Arab Emirates, and Burkina Faso attended a school in an urban region, whereas most respondents in Uzbekistan, Slovenia, Kenya, Ethiopia, and Denmark attended a school in a rural region. The sample sizes of students

Kenya, Ethiopia, and Denmark attended a school in a rural region. The sample sizes of students attending schools in rural areas are comparatively small in Denmark and Kenya, so the urban-rural comparisons are subject to higher uncertainty in these countries.

Reporting of inequalities

Figure 4.8.1: *Students' sample distribution of gender, SES, and school location*

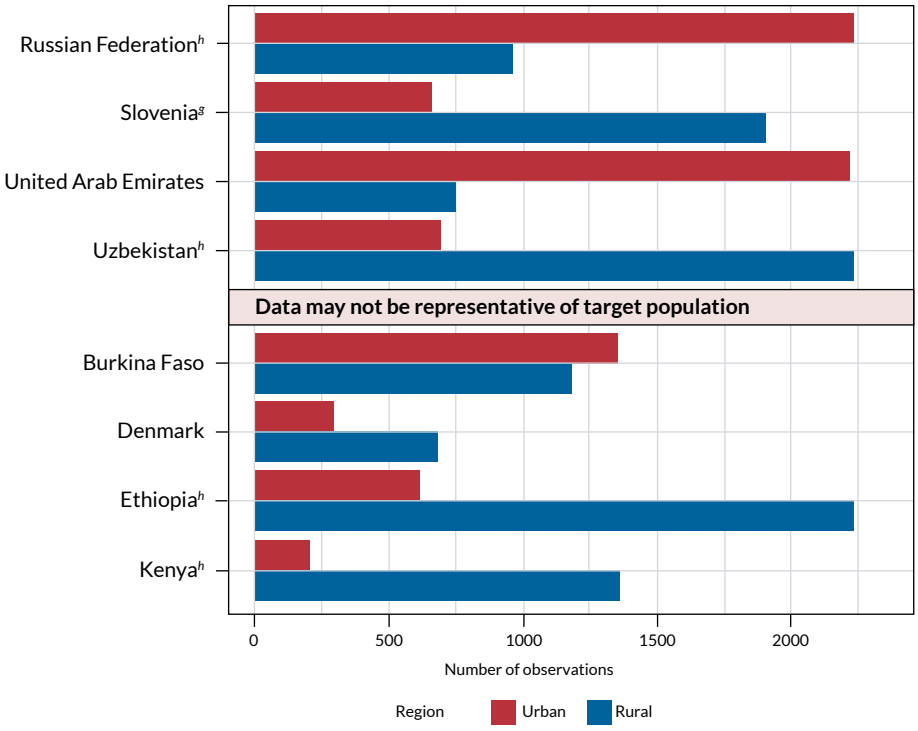


Notes:

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3 Table 3.1 for details.

Figure 4.8.1 (continued): *Students' sample distribution of gender, SES, and school location*



Notes:

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

attending schools in rural areas are comparatively small in Denmark and Kenya, so the urban-rural comparisons are subject to higher uncertainty in these countries.

Reporting of inequalities

In line with the previous sections in Chapter 4, we collapsed categories of Likert-style response categories and frequency scales to simplify the reporting and to ease the interpretation of the findings. We then calculated the weighted proportion of students who agreed with each statement and computed the differences between males and females, students in schools in urban and rural areas, and students from low and high SES households. In line with other chapters, student data from Burkina Faso, Denmark, Ethiopia, and Kenya remained unweighted (see Chapter 3, Section 3.8).

Differences in the proportions are also referred to as risk differences, and we define differences up to 5% as negligible and without practical relevance. T-tests were conducted to test whether the observed differences were statistically significant (different from zero). Students with missing data were excluded from the respective analyses, so the samples for the analyses on gender, urban-rural, and SES gaps are based on somewhat different samples.

Changing learning and living spaces: Home-schooling and home office

The pandemic affected family life in many ways. While many students no longer had access to the school facilities, many parents had to work from home. If students are no longer cared for in schools, it makes a difference whether parents worked at home or outside their homes during the pandemic. Furthermore, job loss during the pandemic also has multiple consequences for the environment in which children live during the pandemic, these include parents' time for their children, available financial resources, and parents' stress levels. In the following section, we use selected indicators to examine if the learning and living conditions of male and female students, students in schools in

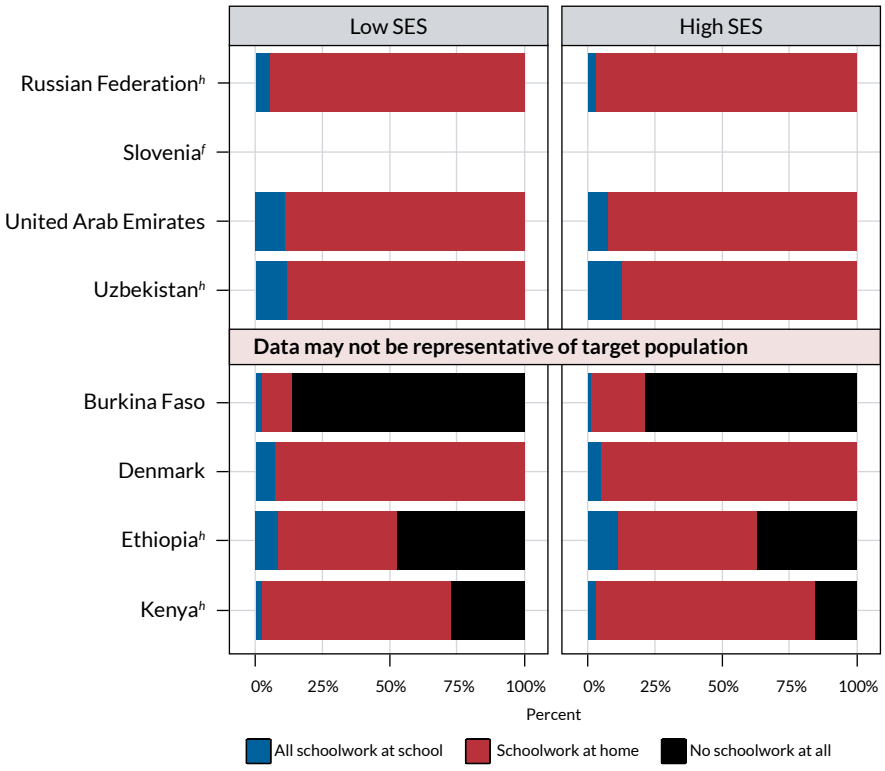
selected indicators to examine if the learning and living conditions of male and female students, students in schools in urban and rural areas, and families with low and high SES differed during the COVID-19 disruption.

Figure 4.8.2 shows how many students were able to continue all their schoolwork in school, how many had to learn at least partly outside school, and how many students did not learn at all. In Burkina Faso, Ethiopia, and Kenya, a remarkable share of student respondents reported that they did not do any schoolwork during the reference period of the COVID-19 disruption. In these three countries, consistently, low SES students, as well as students who attend school in rural areas, are more likely to have completed no schoolwork at all. Compared to the large differences across countries, however, the within-country gaps are small.

Even if students did schoolwork during the pandemic, most students reported that they did not do it, or did it only partially in schools. There is only a small minority of students in each country who reported that they continued to come to school for all lessons. In this regard, we observe little disparity across gender, SES, and school location.

An approach to continuing learning during school closures is for parents to work from home so that they can support their children and work in parallel. This is especially important if both parents are otherwise working outside their homes. In REDS, students were asked if one or both parents were working from home during the COVID-19 disruption. Inequalities in the proportion of students who agreed to this question are presented by country in Table 4.8.2. Firstly, we observed that there is a great deal of variances in different countries in the share of parents working from home. Besides these cross-country differences, the overview reveals that students with a high socioeconomic background report more frequently that their parents worked from home.

Figure 4.8.2: *Inequalities in school closures and the continuation of schoolwork*

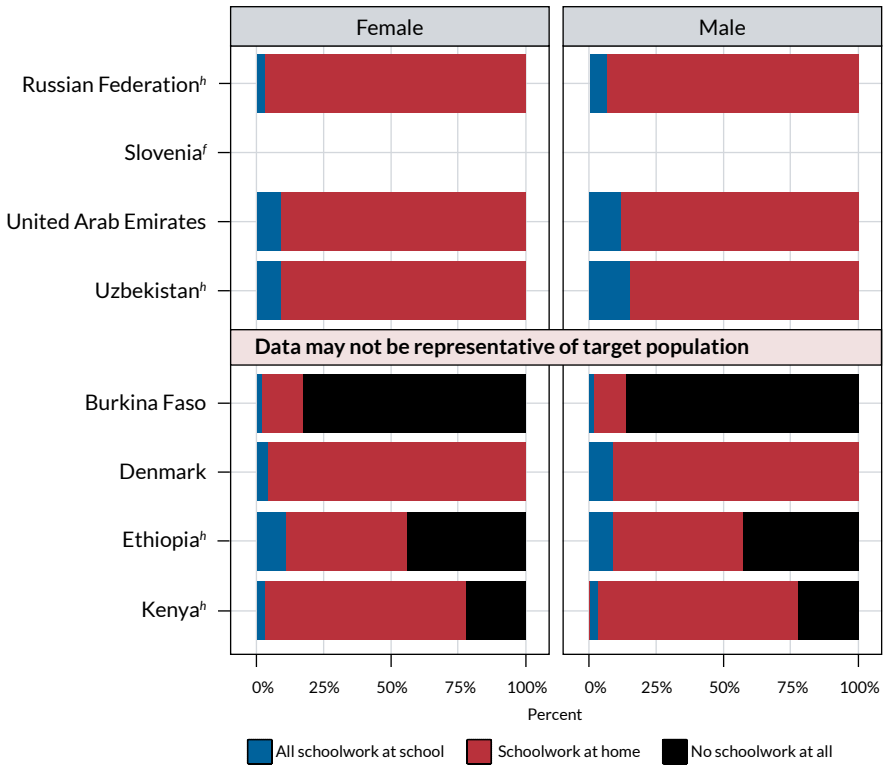


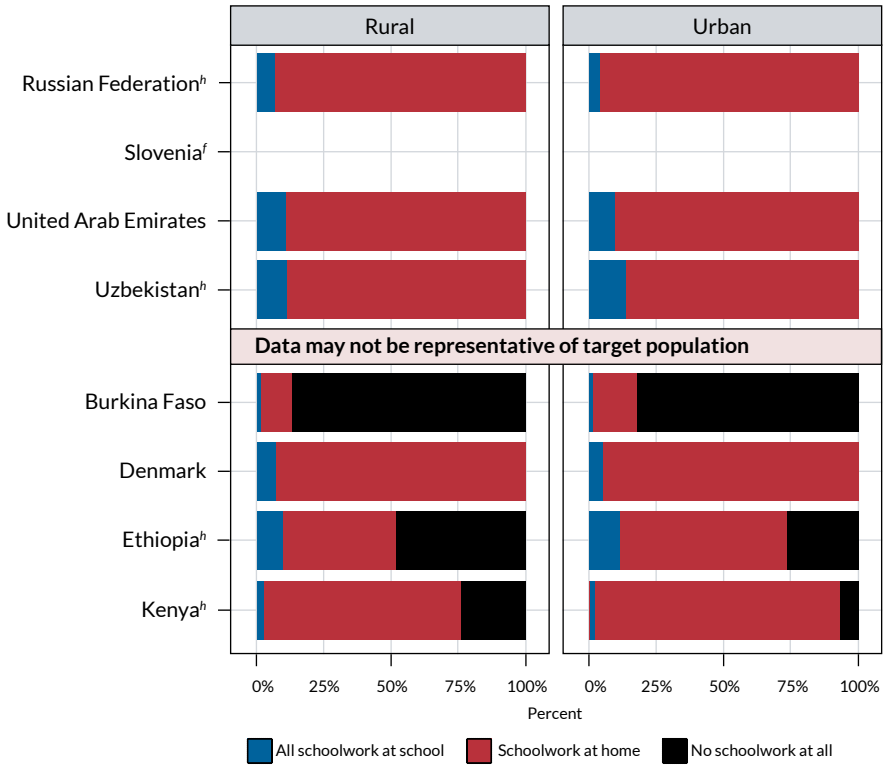
Notes:

f The question about school lessons attendance during the COVID-19 disruption was not administered in Slovenia.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

Figure 4.8.2 (continued): *Inequalities in school closures and the continuation of schoolwork*





Notes:

f The question about school lessons attendance during the COVID-19 disruption was not administered in Slovenia.

h More than 5% of targeted students were excluded. See Chapter 3, Table 3.1 for details.

Very large differences between low and high SES students were observed in Slovenia and Denmark (25% and 30%). Less extreme but still notable SES inequalities of more than 10% were also observed in the Russian Federation, the United Arab Emirates, and Burkina Faso. In Uzbekistan, Ethiopia, and Kenya, these differences are negligible. The degree of urbanization relates to the possibility to work at home, the more populated the area the more difficult it is to comply with social distancing measures, and therefore the more beneficial it is to work from home. The rural environment does not have the same proximity issues, and therefore working from home is perhaps less common. The results from the student survey confirm this, in most countries including Burkina Faso, Denmark, the Russian Federation, Slovenia, and the United Arab Emirates, working from home was more common for parents of students at schools in urban areas. Exceptions to this general pattern are Uzbekistan and Ethiopia, where no differences were observed, and Kenya, where parents in rural areas, who are engaged in their own farming, are more likely to work from home. In contrast to the observed inequalities based on social status and school location, the proportion of male and female students' parents who work at home is about the same in all countries.

The pandemic significantly affected the employment market in most countries around the globe, with many jobs put in jeopardy. To obtain information on this, in REDS, students were asked if one or both of their parents lost their job during the COVID-19 disruption. Between about 10% of all students in Denmark and Slovenia to up to 60% of students in Kenya reported that one or both their parents lost their jobs during the pandemic. Table 4.8.1 shows that low SES students reported that one or both parents lost their job more often in comparison to high SES students, although the overall differences are mostly small. While the SES-related difference amounts to slightly more than 10% in Uzbekistan (42% for low SES and 32% for high SES) they are smaller in the other countries. Another exception is Ethiopia, where respondents with high SES reported more frequently than those with low SES that one or both parents lost their job. Differences regarding parents' job losses between genders and school locations are neglectable, and inconsistent across countries. We suggest not to overinterpret the gender gaps, as we do not assume real differences but rather gender-typical response tendencies. The only notable difference is that in Kenya, the percentage of students whose parents lost their jobs is 17% higher in rural areas than in urban areas. Since the sample in Kenya contains very few students attending school in an urban area (see Figure 4.8.2), we think that this finding should not be overinterpreted.

Mental and physical well-being

The closure of schools and other public facilities affected children's lives not only in terms of school matters. But also, for example, due to the closure of schools and other institutions, children had generally less social contact and fewer opportunities for joint sports and recreational activities. This section will shed light on whether students' SES, gender, and school location relates to mental and physical well-being during the pandemic.

An important component of mental well-being in a period of social distancing is loneliness. To measure loneliness, students were asked to what extent they agree with the statement "I felt more lonely than usual" during the COVID-19 disruptions, the respondents were provided with the following response options "strongly agree," "agree," "disagree," and "strongly disagree." Table 4.8.3 reports the proportion of students who "agree" or "strongly agree" that they felt more lonely during the disruption. In contrast to the previous sections in Chapter 4, we observed fewer international variations in mental well-being. In addition, Table 4.8.3 shows that socioeconomically disadvantaged students in the Russian Federation and Kenya were somewhat more likely to report being lonelier. In all other countries, students from low and high SES backgrounds were equally likely to report that during the pandemic they felt more lonely than usual. With respect to gender differences, the results are inconclusive across countries. While 18% more males than females reported loneliness in Denmark, 14% more females than males reported loneliness in Uzbekistan. In the other countries the differences are small. Differences in school locations are small overall, except for Ethiopia and Kenya, where loneliness is reported 10% more often in rural areas.

Table 4.8.1: *Inequalities in the proportion of students who reported that their parents lost their job*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	12 (1.1)	9 (0.9)	2 (0.8) **	11 (1.0)	10 (1.1)	2 (1.1)	12 (2.0)	10 (0.9)	2 (2.1)
Slovenia[g]	9 (0.8)	7 (0.9)	3 (1.1) *	6 (0.7)	10 (1.0)	-5 (1.2) **	9 (0.8)	6 (0.9)	2 (1.1) *
United Arab Emirates	15 (1.1)	12 (1.0)	3 (1.2) *	11 (1.1)	16 (1.2)	-5 (1.6) **	10 (1.2)	15 (1.0)	-5 (1.5) **
Uzbekistan[h]	42 (2.0)	32 (1.8)	10 (2.3) **	35 (1.9)	40 (1.9)	-4 (2.1) *	38 (1.9)	36 (2.7)	1 (3.4)
Data may not be representative of target population									
Burkina Faso	14	16	-2	16	16	0	12	19	-6
Denmark	12	6	6	8	10	-2	10	8	3
Ethiopia[h]	33	39	-5	36	34	2	35	35	0
Kenya[h]	67	61	6	66	61	5	66	49	17

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 2% more students with low SES had parents who lost their job, compared to students with high SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

***Table 4.8.2**: Inequalities in the proportion of students who reported that their parents worked from home*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	28 (1.4)	42 (1.1)	-14 (1.4) **	35 (1.2)	33 (1.6)	2 (1.7)	28 (2.6)	36 (1.4)	-8 (3.1) **
Slovenia[g]	24 (1.2)	54 (1.8)	-30 (2.0) **	39 (1.7)	37 (1.3)	2 (1.8)	37 (1.5)	44 (2.4)	-7 (3.0) *
United Arab Emirates	40 (1.5)	57 (2.0)	-17 (2.3) **	47 (1.8)	49 (2.0)	-2 (2.4)	38 (3.1)	51 (1.7)	-12 (3.7) **
Uzbekistan[h]	52 (1.7)	54 (1.9)	-2 (1.9)	52 (1.9)	54 (1.7)	-3 (2.0)	53 (1.9)	52 (2.3)	1 (3.2)
Data may not be representative of target population									
Burkina Faso	24	36	-12	28	28	0	20	34	-14
Denmark	48	75	-26	59	58	1	57	68	-11
Ethiopia[h]	57	52	4	54	56	-2	57	55	2
Kenya[h]	59	66	-8	63	61	2	64	52	12

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 14% more students with high SES had parents working from home, compared to students with low SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Table 4.8.3: *Inequalities in the proportion of students who expressed loneliness*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	40 (1.5)	34 (1.5)	6 (2.0) **	40 (1.8)	35 (1.2)	5 (2.0) *	40 (2.4)	37 (1.2)	4 (2.6)
Slovenia[g]	53 (1.6)	53 (1.8)	0 (2.3)	55 (1.8)	51 (1.7)	4 (2.6)	52 (1.4)	54 (2.2)	-1 (2.6)
United Arab Emirates	57 (1.4)	55 (1.7)	2 (2.2)	56 (1.6)	56 (1.2)	0 (2.0)	54 (1.9)	56 (1.3)	-2 (2.3)
Uzbekistan[h]	46 (1.7)	46 (2.1)	1 (2.3)	39 (1.7)	53 (1.7)	-14 (1.7) **	46 (1.7)	48 (2.8)	-2 (3.4)
Data may not be representative of target population									
Burkina Faso	64	65	0	63	65	-1	63	65	-2
Denmark	60	58	2	66	48	18	56	60	-4
Ethiopia[h]	64	60	3	62	62	-1	63	53	10
Kenya[h]	67	58	9	65	60	6	64	54	10

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 6% more students with low SES expressed loneliness, compared to students with high SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Physical well-being

Physical activity is an indicator of physical well-being and health. In REDS, students were asked to what extent they agree to the statement "I exercised (including walking) more than usual" during the COVID-19 disruptions. The students were given the following response options "strongly agree," "agree," "disagree," and "strongly disagree." In Burkina Faso (11%), Ethiopia (11%), and Kenya (8%), high SES student respondents reported doing physical activities more often than their peers with low SES backgrounds (see Table 4.8.4, left panel). In the other countries, the differences are mixed and generally smaller. In terms of gender differences, males in the Russian Federation, the United Arab Emirates, and Uzbekistan reported doing physical activity significantly more frequently compared to the female students from those countries, respectively (9%, 8%, 5%), whereas the differences in the other countries are small. Differences found between students in schools in urban and rural areas in all countries on whether they were more physically active during the pandemic than before were negligible. In addition to the within-country difference, Table 4.8.4 also reveals considerable variation across countries, ranging from less than half of the students in Russia to more than three out of four in Uzbekistan.

Anxiety about students learning and future education

REDS investigated how students examine the consequences of COVID-19 on their own educational careers. Specifically, students were asked to evaluate how concerned they were about how COVID-19 would affect their learning during the educational disruption, as well as whether they felt that they had fallen behind after the disruption had ended. In the next section, we examine SES, gender, and school location related gaps in students' anxiety about education.

Students were asked to indicate the extent with which they were worried about their future education during the educational interruption. The item wording was "I was worried about how [this disruption] will affect my future education" with the response options "strongly agree," "agree," "disagree," and "strongly disagree." While the majority of the students in all countries reported that they are worried, the levels of concern in Burkina Faso, Ethiopia, Kenya, and Uzbekistan were once again considerably higher than in the other countries. Females reported considerably more than males that they agreed or strongly agreed that the disruption will affect their future education in the Russian Federation (8%), Slovenia (13%), and Denmark (19%); in the other countries, the gender gaps were negligible (see Table 4.8.5). In terms of the SES, we find that disadvantaged students tend to be more concerned in most of the countries except for Kenya, although the differences are overall small. With respect to the school locations, we found that students in urban areas were even more concerned than in rural areas in Kenya (11%). In the other countries, the observed inequities between schools in urban and rural areas were smaller and mixed.

To measure the perceived consequences of COVID-19 on learning, students were asked how much they agreed to the statement "I felt that I had fallen behind in my learning compared to other students" using a four-point scale with the response options "strongly agree," "agree," "disagree," and "strongly disagree." Table 4.8.6 compares the share of students who agreed or strongly agreed to this statement by gender, SES, and school locations. The table shows that high SES students were less concerned that they have fallen behind than low SES students in all countries. The differences amount to 7 to 9% except for the United Arab Emirates and Uzbekistan where the differences are neglectable. In terms of gender, we found only minor differences in most countries. Exceptions were males in Uzbekistan and females in Denmark, who are 13% and 11% more likely, respectively, to report that they have fallen behind. The comparison of urban and rural areas showed that students from school in rural areas are much more concerned about falling behind in Ethiopia (15%) and Kenya (16%). Student respondents in rural areas in Burkina Faso (8%) and Denmark (6%) also report respective concerns more often, although the differences are smaller. There are hardly any differences in the other countries. Besides these within-country differences, we observed that students in Burkina Faso, Ethiopia, and Kenya reported to be more worried than their peers in the other countries.

Table 4.8.4: *Inequalities in the proportion of students who reported to exercise more than usual*

	SES				Gender				Region			
Country	Low (%)	High (%)	SES gap (%)		Female (%)	Male (%)	Gender gap		Rural (%)	Urban (%)	Region gap	
Russian Federation[h]	49 (1.7)	47 (1.6)	2 (2.0)		44 (1.4)	53 (1.8)	-9 (2.0) **		52 (2.4)	47 (1.4)	5 (2.6)	5
Slovenia[g]	60 (1.6)	62 (1.9)	-2 (2.2)		62 (1.6)	60 (1.9)	2 (2.3)		62 (1.5)	58 (2.7)	4 (3.1)	4
United Arab Emirates	69 (1.4)	63 (2.0)	6 (2.5) *		63 (1.5)	71 (1.4)	-8 (2.0) **		69 (2.1)	66 (1.2)	3 (2.2)	3
Uzbekistan[h]	78 (1.3)	77 (1.9)	1 (2.0)		75 (1.7)	80 (1.6)	-5 (2.1) *		77 (1.4)	77 (2.7)	0 (3.1)	0
Data may not be representative of target population												
Burkina Faso	32	45	-14		36	39	-3		38	38	0	
Denmark	48	46	2		49	44	5		46	49	-3	
Ethiopia[h]	51	62	-11		55	57	-2		55	58	-2	
Kenya[h]	59	66	-7		62	61	0		62	67	-5	

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, there is no statistically significant difference between students with low and high SES regarding the reporting of frequency of excersing.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Table 4.8.5: *Inequalities in anxiety about future education*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	68 (1.4)	67 (1.8)	0 (2.2)	72 (1.3)	63 (1.3)	8 (1.5) **	68 (2.0)	67 (1.3)	1 (2.2)
Slovenia[g]	66 (1.7)	61 (1.8)	5 (2.1) *	70 (1.6)	58 (1.8)	13 (1.9) **	64 (1.5)	63 (3.1)	1 (3.4)
United Arab Emirates	76 (1.4)	72 (1.6)	4 (2.0) *	75 (1.3)	72 (1.6)	3 (2.1)	77 (1.6)	73 (1.3)	4 (2.1)
Uzbekistan[h]	81 (1.2)	78 (1.5)	2 (1.8)	79 (1.4)	81 (1.3)	-2 (1.8)	80 (1.2)	78 (1.5)	2 (1.9)
Data may not be representative of target population									
Burkina Faso	92	87	5	90	90	0	89	91	-2
Denmark	58	54	4	66	48	19	56	62	-6
Ethiopia[h]	86	77	9	82	80	2	81	83	-2
Kenya[h]	82	83	-1	80	84	-4	80	92	-11

Notes:

$^{*}p \leq .05$ $^{**}p \leq .01$

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, there is no statistically significant difference between students with low and high SES regarding worriedness about future education.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Table 4.8.6: *Inequalities in anxiety about falling behind in learning*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	38 (1.1)	31 (1.5)	7 (1.4) **	38 (1.4)	33 (1.7)	5 (2.2) *	39 (1.8)	34 (1.2)	5 (2.0) **
Slovenia[g]	42 (1.6)	32 (1.2)	9 (1.8) **	36 (1.6)	39 (1.7)	-3 (2.3)	36 (1.3)	40 (2.3)	-3 (2.6)
United Arab Emirates	45 (1.9)	42 (1.6)	4 (2.4)	43 (1.5)	45 (2.0)	-2 (2.6)	43 (2.4)	44 (1.5)	-1 (2.9)
Uzbekistan[h]	39 (1.7)	38 (1.8)	1 (2.1)	33 (1.7)	45 (1.8)	-13 (1.8) **	38 (1.7)	44 (2.3)	-6 (2.9) *
Data may not be representative of target population									
Burkina Faso	74	65	9	72	71	1	75	67	8
Denmark	45	33	12	45	34	11	44	37	6
Ethiopia[h]	53	50	3	50	55	-5	54	39	15
Kenya[h]	69	55	13	64	61	3	64	48	16

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 7% more students with low SES were worried about falling behind, compared to students with high SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Preparedness for self-directed learning

Self-directed learning takes on a particular importance in times of distance learning. Students must independently plan schoolwork, find learning materials, and complete assignments on their own. In the following section, we look at how well students succeeded in this from their own perspective during the educational disruption and how well they see themselves prepared for future disruptions. Of note, school closures may occur not only during pandemics, but also due to teacher strikes, extreme weather conditions, or because of students being unable to attend regular classes due to illness.

A key component of self-directed learning is the ability to independently complete schoolwork. Students were asked about their confidence in "completing schoolwork independently" with the response options "very confident," "confident," "not very confident," "not at all confident." In all countries, students with a high SES background reported feeling confident or very confident in completing schoolwork independently more frequently than low SES students, with very small and insignificant differences in the United Arab Emirates and Uzbekistan (see Table 4.8.7). We also observed differences between schools in rural and urban regions, with students from urban regions feeling more confident in many countries except for Slovenia, though mostly small and insignificant, except for the Russian Federation. The largest urban-rural-gaps were observed in Denmark, Ethiopia, and Kenya (-8%, -9%, -16%). In contrast to observed SES and regional differences, males and females equally reported feeling (very) confident in completing their schoolwork independently. Large differences, however, were observed across countries. Students in Denmark, Russia, Slovenia, UAE, and Uzbekistan reported considerably higher confidence than their counterparts in Burkina Faso, Ethiopia, and Kenya.

To study how well students felt prepared for possible future school closures, they were asked "Overall, how prepared do you feel for learning from home if your school building closed for an extended period in the future?". The possible response options were "not prepared at all," "not very prepared," "well prepared," and "very well prepared." Table 4.8.8 shows inequalities in terms of SES, gender, and school location consistently across all countries. Students with high SES reported being well or very well prepared more frequently than their peers with low SES, and students from schools in urban areas reported being well or very well prepared more frequently than their peers in rural areas. In contrast, gender gaps are country-dependent and generally smaller than the other gaps. In the Russian Federation, the United Arab Emirates and in Kenya, 5% or more male students felt more well prepared than the females, while this higher percentage applied to female students in Slovenia. The most striking difference, however, can be observed across countries.

Table 4.8.7: *Inequalities in confidence to plan schoolwork independently*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	78 (1.2)	86 (0.9)	-8 (1.6) **	81 (1.1)	82 (1.2)	-1 (1.7)	79 (1.3)	83 (1.0)	-4 (1.7) *
Slovenia[g]	80 (1.3)	86 (1.2)	-6 (1.8) **	82 (1.3)	82 (1.2)	0 (1.8)	83 (1.0)	80 (1.6)	3 (1.8)
United Arab Emirates	85 (1.1)	86 (1.0)	-2 (1.4)	84 (1.1)	86 (1.1)	-2 (1.4)	84 (1.8)	85 (0.9)	-1 (2.0)
Uzbekistan[h]	88 (1.1)	91 (1.0)	-2 (1.3)	91 (1.0)	88 (1.0)	3 (1.1) **	89 (1.0)	92 (1.2)	-3 (1.6)
Data may not be representative of target population									
Burkina Faso	42	50	-8	45	45	0	43	46	-3
Denmark	80	88	-8	83	82	0	79	87	-8
Ethiopia[h]	61	64	-3	63	61	2	61	70	-9
Kenya[h]	62	76	-14	67	67	0	65	81	-16

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 8% more students with high SES were confident to plan schoolwork independently, compared to students with low SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

Table 4.8.8: *Inequalities in feeling prepared for future school closures*

	SES			Gender			Region		
Country	Low (%)	High (%)	SES gap (%)	Female (%)	Male (%)	Gender gap	Rural (%)	Urban (%)	Region gap
Russian Federation[h]	68 (1.4)	79 (1.2)	-11 (1.6) **	68 (1.5)	77 (1.6)	-8 (2.1) **	65 (2.1)	76 (1.3)	-11 (2.6) **
Slovenia[g]	76 (1.2)	83 (1.4)	-7 (1.8) **	82 (1.1)	77 (1.5)	6 (1.8) **	79 (1.2)	81 (1.8)	-2 (2.1)
United Arab Emirates	66 (1.6)	77 (1.6)	-11 (2.0) **	69 (1.5)	74 (1.6)	-5 (1.7) **	65 (2.4)	73 (1.5)	-8 (2.8) **
Uzbekistan[h]	51 (1.7)	60 (1.7)	-8 (2.1) **	53 (1.8)	57 (1.6)	-4 (2.1)	54 (1.6)	58 (2.9)	-3 (3.3)
Data may not be representative of target population									
Burkina Faso	14	29	-14	20	20	-1	12	27	-15
Denmark	79	88	-8	84	78	6	80	82	-2
Ethiopia[h]	45	55	-10	50	48	2	49	58	-9
Kenya[h]	26	44	-18	33	37	-5	33	46	-13

Notes:

**p ≤ .05 **p ≤ .01*

Standard errors appear in parentheses.

Interpretation example: In the Russian Federation, 11% more students with high SES felt prepared for future school closures, compared to students with low SES. The difference is statistically significant.

g Low participation rates. See Appendix A1, Tables A1.5 to A1.9 for details.

h More than 5% of target students were excluded. See Chapter 3, Table 3.1 for details.

Because percentages are rounded to the nearest whole number, some gaps may appear inconsistent.

References

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education.

Kyriakides, L., Creemers, B. P. M., & Charalambous, E. (2018). *Equity and quality dimensions in educational effectiveness*. Springer. https://doi.org/10.1007/978-3-319-72066-1_1

Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., . . . Michelson, S. (1972). *Inequality: A reassessment of the effects of family and schooling in America*. New York, NY: Basic Books.

Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. (2020). *TIMSS 2019 International results in mathematics and science.* TIMSS & PIRLS International Study Center, Boston College and International Association for the Evaluation of Educational Achievement (IEA). https://timssandpirls.bc.edu/timss2019/

Rolfe, V., Strietholt, R., & Yang Hansen, K. (2021). Does inequality in opportunity perpetuate inequality in outcomes? International evidence from four TIMSS cycles. *Studies in Educational Evaluation*, *71*. https://doi.org/10.1016/j.stueduc.2021.101086

Rosén, M. (2001). Gender differences in reading performance on documents across countries. *Reading and Writing*, *14*(1/2), 1-38. https://doi.org/10.1023/a:1007995107442

Strietholt, R., Gustafsson, J. E., Hogrebe, N., Rolfe, V., Rosén, M., Steinmann, I., & Yang-Hansen, K. (2019). The Impact of Education Policies on Socioeconomic Inequality in Student Achievement: A Review of Comparative Studies. In L. Volante, S. V. Schnepf, J. Jerrim, & K. D. A (Eds.), *The impact of education policies on socioeconomic inequality in student achievement: A review of comparative studies*. Singapore: Springer. https://doi.org/10.1007/978-981-13-9863-6_2

United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015*. Retrieved October 16, 2016. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

CHAPTER 5

Reflections and conclusions

Julian Fraillon, Sabine Meinck

Introduction

The Response to Educational Disruption Study (REDS) is an extraordinary study initiated in response to extraordinary events. REDS data illustrate the agility and flexibility demonstrated by many systems, schools, teachers and students in their responses to the COVID-19 pandemic. These characteristics were similarly key to the successful implementation of REDS, which was conducted from conception through to the reporting of international data in a period of less than 18 months. Despite this very compressed project life cycle relative to more conventional international large-scale assessments (ILSA), REDS achieved many of the quality standards that are typical of IEA studies, and that support the reporting of high-quality nationally representative data. Details of the impact of any compromises of conventional ILSA processes on the interpretation of data presented in this report are discussed in detail in Chapter 3 (see Section 3.8).

REDS reports on data collected from 11 culturally and economically diverse countries, with similarly diverse school systems and schools. The impact of the COVID-19 pandemic was different across all countries, in terms of the number of people affected, the duration of the period(s) of the greatest impact, and the consequent national responses of education systems and schools. According to UNESCO data, in April 2020, over 1.1 billion school learners were affected by the pandemic (at that time) with country wide school-closures affecting 117 countries (UNESCO, 2021); and, at the time of writing this report (October 2021), there are over 55 million affected students, with country-wide school closures affecting 14 countries (UNESCO, 2021). This is a stark reminder that, while this report provides information from a snapshot of experiences in 11 countries, by reflecting on the past it does not suggest that, the pandemic, or the impacts of the pandemic are over. REDS served to collect methodologically robust data that may be used to support countries, school systems, and schools in their understanding of the impacts of the pandemic on schooling with an eye also to how these may affect schooling into the future.

In this chapter, we reflect on the findings presented in this report. The chapter is structured according to four themes that have emerged from the report, and includes observations of, and reflections on, selected results. The discussions of the themes are generalized across the countries, and consequently do not represent the richness and diversity of the data, within and among the participating countries, that can be seen in the individual sections of this report. Observations recorded in this chapter are accompanied by references to the relevant tables and figures in the report, and readers are encouraged to read the more detailed discussions that are presented within the different sections.

The first theme discussed in this chapter relates to the mechanisms put in place by schools to continue teaching and learning programmes during the disruption period. The impact of the disruption on teachers, on curriculum and assessment, and on students, are the three further themes addressed in this chapter.

How schools continued to operate during the pandemic

All 11 countries that participated in REDS reported at least one period of physical closure of most schools for most students in response to the COVID-19 pandemic. In REDS, the first of these periods in 2020 within each country was also the defined *reference period*, that survey respondents were to keep in mind when answering questions about the various impacts of the COVID-19 disruption during the pandemic (see Chapter 2 for further details). The periods of school closure varied across REDS countries, mostly starting in the Northern Hemisphere in Spring of 2020, and lasting from one to two months in the Russian Federation to more than a year in Kenya and Rwanda (Chapter 4, Section 4.1, Table 4.2.1, and Figure 4.2.1). In addition to this large variation in

the duration of school closures, there were variations in the participation of students in schooling and the modes, media, and teaching methods used during the reference period. In Burkina Faso and Rwanda, 92% and 70% of school leaders reported that they did not offer any teaching and learning provisions during the disruption period, and this was also reported by smaller proportions of school leaders in Kenya (47%), Ethiopia (44%), and India (28%) (Table 4.2.8). The duration of the school closures in combination with the percentages of schools not offering any remote teaching reveals a stark inequality in learning opportunities of students in countries with relatively lower measured development according to the Human Development Index[17] (HDI) than those with higher HDI measures. Missing out on learning opportunities over many months or even a whole year will most likely lead to an increasing achievement gap between affected students compared to their peers in countries where schooling continued. Hence, while this chapter discusses what schools did in order to continue operations, it is important to acknowledge that not all schools in all countries were able to continue operations during the disruption period.

There were large variations among the organizational approaches that were used in the schools where teaching and learning continued. Schools adapted according to their contexts, and the resources that were available to them. While it was reported that most schools adjusted school starting times and break times for different groups of students during or following the disruption, relatively fewer schools reported reducing class sizes, or increasing the number of staff (Tables 4.2.7 and 4.6.5).

The modes of lesson delivery were also influenced by local contexts and available infrastructure. In particular, information and communications technology (ICT) based remote teaching and learning was implemented in the more affluent countries with high overall levels of access to the internet, and student access to digital devices. Many teachers reported using online teaching methods only, or a mix of online and offline methods (Table 4.2.2), however, in almost all countries some face-to-face teaching was maintained in schools. Between about 20% and 40% of teachers in six countries reported having retained substantial hours of face-to-face teaching on school grounds, although this was reported by less than 20% of teachers in the remaining countries (Table 4.2.3). The shift to online teaching methods was not, however, without challenge. Large proportions of school leaders across many countries reported that remote teaching using ICT was at least somewhat limited by factors such as students' access to digital devices, reliable and sufficient internet, and teachers' technical skills and experience in remote teaching pedagogies (Table 4.2.8). It is possible that teachers who previously were inexperienced in the use of digital technology in teaching, through necessity, developed greater proficiency during the disruption. Regardless, however, the REDS data suggest that, in countries where remote teaching using ICT is used, providing targeted support regarding teacher use of ICT in their teaching may help prepare countries for any future similar disruptions to schooling.

The role of schools typically extends beyond the provision of teaching and includes well-being support to students and their families. REDS suggests that the priority of this area of support increased in schools during the period of disruption. Large majorities of school leaders across countries reported increased priorities in the provision of social and emotional support, health and safety support, and the promotion of well-being to students, staff and families (Table 4.7.4). School leaders also reported having set up additional tools to monitor students' health and safety and that their schools offered access to specific services and support for family well-being (Table 4.6.6). The majority of schools also reported providing support to parents and guardians on how they could help their children when working from home (such as planning the day and workload), but also on emotional support and support services available to families and children (Table 4.4.9). High proportions of teachers reported both spending time talking with students about well-being, and providing information to students and their families about health and well-being. In addition, many teachers also reported referring students to well-being support within or outside of school (Table 4.6.4). On a positive note, the higher priority and effort by schools in providing well-being

[17] "The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable, and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions." (United Nations Development Programme, [UNDP] 2021).

support was recognized by students, with most students across the participating countries reporting that they received helpful information about safety and health and well-being from their schools and teachers (Table 4.5.10).

The impact of the changed teaching and learning conditions on teachers

Teacher workload generally increased in countries where teaching and learning continued during the disruption. This is an unsurprising consequence of the need for teachers to adapt to new school arrangements, to altered modes and methods of teaching and to changes in their roles in schools (such as having expanded roles in supporting student well-being). Across countries, increases were observed in the time allocated to teachers to complete many "typical" aspects of their work (Table 4.2.16), and the reduced opportunities for face-to-face contact with students, families, and their peers meant that many teachers needed to spend additional time on maintaining effective communication with these groups (Table 4.3.5).

In addition to an increased workload, many teachers also worked for some periods of time outside of school buildings, typically at home. Between one-third and two-thirds of teachers reported having school-aged children who were participating in remote learning at home. Unsurprisingly, one-third or more teachers also reported being frequently interrupted by other people in their household when teaching or preparing lessons (Table 4.2.6). Many teachers (majorities of teachers in some but not all countries) also reported that they were not able to teach to the same standard during the disruption as they could before the disruption (Table 4.2.14).

Despite these challenges to their working environment, across countries, majorities of teachers reported that they were able to balance the needs of their work with their personal responsibilities, that they felt in control of their working environment when working from home, and that they were able to meet all the requirements of their job (Table 4.5.6). These largely positive attitudes in the face of a changing and challenging working environment may potentially be attributed to a broad range of factors including, the flexibility, resilience and professionalism of teachers, and the support teachers were offered by their families, peers and schools. It is beyond the scope of REDS to report on the contributions of these factors to teachers' attitudes to the changes in the demands and conditions of their work, and this is an area that warrants further research.

School support for student well-being was discussed in the previous section. However, schools also have a responsibility to monitor and support teacher well-being. A large majority of teachers reported that they felt supported by their school leadership, by their colleagues, and that they felt that the support mechanisms offered by their schools were sufficient (Table 4.5.7). Furthermore, nearly all teachers in all countries reported that new approaches to teaching and learning adopted during the disruption period, including the use of ICT, will be at least somewhat important into the future (Table 4.7.2).

System and school responses to the COVID-19 pandemic typically resulted in increased workload for teachers, together with changed and potentially stressful working environments. However, overall teachers have demonstrated considerable resilience in managing to continue their work, with the support of their schools, peers, and others. While this is a largely positive set of findings, one should not ignore the impact of the pandemic on the smaller, but not insignificant proportion of teachers across countries who reported, for example, that they did not feel in control of their environment, could not balance their workload or complete the requirements of their job. Further research and consideration is warranted into understanding the factors that both led to successful outcomes for many teachers but also unsuccessful outcomes for others, and how these findings may relate to regular schooling in the future and also in preparation for any future disruptions to schooling. There remains also a question of whether, if remote schooling were to persist beyond months, increasing proportions of teachers may burn-out, or at least not be able to maintain the increased workload and work effectively in their disrupted workplace environments long-term.

The impact on curriculum delivery and assessment

In all countries, more than half the teachers reported that, while following the content specified in the regular curriculum, they narrowed the focus of their teaching to the essential components. Furthermore, most teachers in most countries reported that they also taught highly modified components of the practical curriculum (Table 4.2.13) and, in preparation for potential future disruptions, the majority of schools in a number of countries adapted existing curriculum plans to support remote teaching (Table 4.7.3). Teachers also reported having insufficient time to provide differentiated teaching to suit the individual needs of their students (Table 4.4.5). Together, these data suggest that there may have been less breadth in the curriculum being delivered within subjects during the disruption period, than during regular schooling. In effect, there may have been a narrowing of the curriculum as one way of accommodating the challenges of remote teaching and learning.

The assessment of student learning and associated reporting were also affected during the disruption period. Most school leaders in most countries reported that their school reduced the scope of reporting requirements (Table 4.3.12). Across most countries, around half or more teachers reported using the same types of assessments during the period of disruption as they did before, and with the same regularity (Table 4.3.10). However, there remained not insignificant proportions of teachers in every country who reported changes in the nature and frequency of assessments administered to their students. Additionally, large proportions (typically more than 70%) of teachers across countries reported that the disruption made the assessment of students with special needs and practical aspects of student work (e.g., science experiments, art projects, music performances) more difficult (Table 4.3.10).

On balance, it appears that in response to the changed arrangements under the disruption, many (although not all) schools chose to focus on core aspects of the curriculum, with some reduced reporting expectations and opportunities for differentiated learning. This is arguably a suite of pragmatic short-term solutions to support the continuation of teaching and learning under changed and challenging circumstances, yet questions would remain about longer-term impacts and viability of these decisions were the changed conditions to persist over longer time periods.

The impact on students

Student learning progress

While REDS investigated the impact of the COVID-19 disruption on schools and schooling from a range of perspectives, the impact of the disruption on student learning progress was central to REDS.

REDS collected data from school leaders, teachers, and students about their perceptions of student learning progress during the period of disruption. The reports by these three groups were highly consistent, that each group of respondents believed that student learning progress was inhibited during the period of disruption. Half, or less than half, of the teachers in all countries reported their students showed the same rate of learning growth during the disruption as before the disruption (Table 4.2.14), and more than half of the teachers in many countries reported decreases in student learning (Table 4.2.15). Majorities of teachers agreed also that their students' learning progress had not advanced to the extent that teachers would normally have expected at the time of the year (Table 4.6.3).

Of additional concern is the finding that negative impacts of the disruption on student learning may have been exacerbated by student disadvantage. Many principals across countries agreed that the academic outcomes of disadvantaged students decreased, even more than that of their peers, during the disruption (Table 4.7.6), the majority of teachers in all countries agreed that it was difficult to provide lower achieving and vulnerable students with the support they required (Table 4.4.5) and, students from low SES backgrounds were more concerned that they had fallen behind in their learning than students from high SES backgrounds (Table 4.8.8).

It was beyond the scope of REDS to collect direct measures of student learning, however,

undoubtedly many countries will collect data with a view to understanding differences in student achievement before and after the pandemic. However, independently of the outcomes of any such direct measures of student learning progress, the fact that all three REDS respondent groups consistently believed that learning progress was inhibited during the period of disruption has broader implications for education, for planning the transition back to regular schooling, and for planning responses to any future disruptions.

Student well-being

Students found the period of disruption challenging, and the additional priority placed by schools on supporting student well-being was well justified. Most students agreed that they were more worried than usual about their friends and family getting sick (Table 4.5.2), more than half of students across countries agreed that they felt anxious about the changes in their schooling (Table 4.5.3), and most students across countries missed their usual contact with their classmates (Table 4.5.3). The experience of learning during the period of disruption was also challenging for many students. Most students across countries reported that their motivation and confidence to complete their schoolwork, and that the quality of their schoolwork, did not increase during the period of disruption (Table 4.2.11). About half of the students across countries agreed it became more difficult to use teacher's feedback to improve their own work and to know how well they were progressing during the period of disruption (Table 4.2.12). Similarly, more than half the teachers across the participating countries reported that student engagement decreased, and many teachers reported student productivity had also decreased (Table 4.2.15). It is important to note, however, that these findings were not attributable to all students. In all countries, there remained smaller proportions of students who did not report such negative experience of learning during the disruption.

On a positive note, the support offered by schools was recognized and appreciated by students. More than half the students across the participating countries felt supported by, and part of, their school (Table 4.5.3), many students agreed they had one or more teachers whom they felt comfortable to ask for help (Table 4.3.5), that that their teachers had made it clear how best to contact them, and that their teachers were available to them when they asked for help (Table 4.4.3). Many students in all countries agreed that they had a good relationship with their teachers during the reference period, and more than two-thirds of the students in most countries said their teachers showed interest in their learning and encouraged them to learn (Table 4.4.3). This leaves, however, a smaller but non-negligible proportion of students who felt unsupported during the disruption. There remains an important task to identify those students, to understand their particular needs, and to develop tailored measures to support their return to regular schooling.

Returning to regular schooling

The majority of students expressed positive attitudes about returning to school (Table 4.6.1) and while majorities of students found it hard to manage the COVID-19 routines at their school, most also indicated that they understood the changed arrangements in their school (Table 4.6.2). Taken together, these findings are consistent with previous observations that schools were communicating well with their students, but that despite this, changes to students' routines and school experience were not always easy for students to manage.

Also, consistent with previously discussed concerns about inhibited student learning growth during the disruption, were reports from students, teachers, and principals of consequent efforts at remediation when students had returned to school. Most teachers reported doing targeted teaching directed towards learning areas where learning was judged, on the basis of assessment information, to have been negatively impacted during the disruption (Table 4.6.4). Principals also reported that their schools had assessed their students' academic performance during and after the COVID-19 disruption, and that targeted teaching was directed towards learning areas where student achievement had not progressed to the desired extent, or for students whose learning progress during the COVID-19 disruption was less than would have been expected. (Table 4.6.5). The majority of students reported that, when they had returned to school, teachers spent time reviewing the material that was covered during the COVID-19 disruption, and more

than half of the students across all countries also reported that they rushed through a lot of new schoolwork (Table 4.6.2). Half or more teachers in all countries tended to agree that students were less engaged, less focused, and less efficient in class compared to how they were before the COVID-19 disruption (Table 4.6.3).

On a positive note, when reflecting on their current situation (most students had returned to regular schooling), high proportions of students across many countries felt confident to engage in independent learning and learning self-management tasks. High proportions of students also felt well-prepared to learn from home if their school buildings were closed again in the future (Table 4.7.1), although this was typically endorsed more often by students from high Socioeconomic status (SES) backgrounds and students living in urban areas than students from lower SES backgrounds and students living in rural areas (Table 4.8.8).

Conclusion

REDS was initiated to address the overarching research question: *How were teaching and learning affected by the disruptions [caused by the COVID-19 pandemic] and how was this mitigated by the implemented measures, across and within countries?*

The information presented across this report, and synthesized in this chapter, provide the following insights.

Many systems, schools, teachers, and students demonstrated remarkable flexibility, adaptability, resilience, and determination in rapidly adopting a broad range of alternative measures during the pandemic, that made it possible for teaching and learning programmes to continue. This required significant effort and was challenging for many people. Teachers' workload typically increased, as a result of the need to adapt to new practices and many teachers worked outside their schools' buildings, and with some level of environmental distraction. Teaching during the period of disruption focused relatively more on the core components of curricula, possibly at the expense of breadth within subjects, implementation of differentiated teaching and learning, and the use of some forms of practical activities. Assessment of student learning progress shifted towards being more formative, and reporting demands were sometimes lessened during the disruption.

School leaders, teachers, and students generally agreed that student learning progress was inhibited during the period of altered arrangements to schooling. In addition, a significant percentage of schools in some countries did not offer any teaching and learning for considerable periods of time. Careful further monitoring is warranted into the nature and extent of the impact of the disruption on student learning progress overall, but also with respect to potential differential impacts of the impacts of student learning associated with aspects of relative student disadvantage.

Schools made considerable additional efforts to support teachers, students, and their families, and placed increased priority on addressing the well-being of members of their school communities. These were recognized and appreciated by students and staff, who largely felt supported by their schools.

Students expressed positive attitudes towards their return to regular schooling and were confident in their capacity to apply many of the independent learning capabilities that were required of them during periods of remote learning. Most also felt well-prepared to engage in remote learning should it be necessary again in the future. These findings were moderated slightly by aspects of social disadvantage. Schools and teachers felt it was difficult to address the needs of vulnerable and disadvantaged students during the period of disruption, and students from lower SES backgrounds and from rural areas expressed some lower confidence in their capacity to manage aspects of their schooling than those from higher SES backgrounds and urban areas.

Further research and consideration is warranted into understanding the factors that both led to successful outcomes for some schools, teachers, and students, but also unsuccessful outcomes for others. The additional workload and stress for schools, teachers, and students during the period of disruption was managed, in part, through resilience and extreme effort. Whether such

arrangements could be viable for longer periods, and what impact they would have on students, student learning progress, teachers and other members of school communities are questions that remain unanswered.

References

UNESCO. (2021). *Education: From disruption to recovery*. UNESCO https://en.unesco.org/covid19/educationresponse

UNDP. (2021). *Human Development Index (HDI)*, UNDP, http://hdr.undp.org/en/content/human-development-index-hdi

Appendix A1

Sampling information and participation rates

Karsten Penon

Sampling

REDS was designed to investigate the effects of the COVID-19 pandemic on the educational system. The survey was based on national samples of students, teachers, and schools. The international sampling strategy was a two-stage stratified random sample design with schools as the first sampling stage, and students and teachers as the second sampling stage, respectively.

Obtaining school samples

The IEA followed two different strategies to obtain representative school samples from countries: countries who recently participated in an IEA survey used pre-existing samples or pre-existing lists of schools to select the REDS sample; for any other country, new school lists were provided and used as sampling frames for sample selection (see Table A1.1). For three countries, pre-existing samples could be used; one sample was selected based on a pre-existing school frame; and seven samples were selected based on newly provided school lists. For Denmark, the Russian Federation, and the United Arab Emirates, where samples or school frames for surveys implemented in 2018/2019 were used, it should be noted that the timespan between the creation of the school frame and the survey administration of REDS was longer than usual in IEA surveys.

Table A1.1: Obtaining school samples – strategies

Country	Strategy
Burkina Faso	New sample
Denmark	ICILS 2018 sample used
Ethiopia	New sample
India	New sample
Kenya	New sample
Russian Federation	TIMSS 2019 sample used
Rwanda	New sample
Slovenia	ICCS 2022 sample used
United Arab Emirates	New sample based on the frame of TIMSS 2019
Uruguay	New sample
Uzbekistan	New sample

More information about the sample selections that were based on other surveys can be found in the respective Technical Reports:

- ICILS 2018 Technical Report: Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2020). https://www.iea.nl/publications/technical-reports/icils-2018-technical-report
- TIMSS 2019 Methods and Procedures: Martin, M.O., von Davier, M., & Mullis I.V.S (2020). https://timssandpirls.bc.edu/timss2019/methods/index.html

- The Technical Report for ICCS 2022 has not been published yet. As a reference, the Technical Report for ICCS 2016 is available: Schulz, W., Carstens, R., Losito, B., & Fraillon, F., (2018). https://www.iea.nl/publications/technical-reports/iccs-2016-technical-report

Sample selection

In general, REDS used samples selected with a stratified two-stage probability sampling design. The first stage consisted of sampling schools, the second stage of selecting students and/or teachers within schools. In most countries, the selection probability of schools was proportional to the number of target grade students. For Rwanda, where only principals were asked to participate, a systematic random sample of schools was drawn. For Uzbekistan, the selection probability was proportional to the number of grade 4 students because the number of grade 8 students could not be provided in time.

As in TIMSS 2019, Russia used a three-stage sampling design where in the first stage, regions were sampled, second, schools within these regions, and third, students and teachers within selected schools. In India, four stages were needed: 30 districts were sampled first, then one block within each district, seven schools within each block, and finally teachers within schools were selected.

Exclusions

Table A1.2 provides an overview of which types of schools were not covered by REDS. The percentages relate to the numbers of excluded students and schools. Numbers of teachers were usually not available prior to sample selection.

Within sampled schools, it was possible to exclude students. It was expected that students with severe mental or physical disabilities or students who cannot understand the language of the questionnaire would not be able to participate. Teachers could not be excluded. In some rare cases, schools were excluded after they were sampled due to their incorrect eligibility status on the sampling frame.

Final exclusion rates are presented in Chapter 3, Table 3.2.

Stratification

The variables used for stratification are shown in Table A1.3

Within-school sampling design

Within participating schools, samples of students and teachers were selected.

For the student survey, 20 students out of all grade 8 students were selected per school. In case there were fewer than 20 eligible students in a school, all of them were selected. Denmark and Slovenia decided to select a grade 8 class instead of students from across all grade 8 classes; within the selected class, all students were asked to participate.

For the teacher survey, 20 teachers out of all teachers who had taught target population students during the reference period were selected per school. In many schools, there were fewer than 20 eligible teachers, and therefore, all of them were selected.

The principal of each sampled school was asked to complete the school questionnaire.

Achieved sample sizes

The intended school sample size was a minimum of 150 selected schools. With 20 students and 20 teachers per school, REDS aimed for sample sizes of approximately 3,000 students and 3,000 teachers per country. However, due to non-participating schools, students, and teachers, the achieved sample sizes were mostly smaller. Table A1.4 gives an overview of the achieved sample sizes.

Table A1.2: School-level exclusions prior to sample selection

Country	Type of exclusion	Excluded schools (% of all schools)	Excluded schools (% of all students)
Burkina Faso	Inaccessible due to security	2.4	3.2
	Total	2.4	3.2
Denmark	Very small schools Special needs schools Treatment centres German, English, Waldorf schools	7.0 5.1 1.6 1.3	0.8 1.4 0.3 0.7
	Total	14.9	3.1
Ethiopia	Tigray	6.6	7.4
	Total	6.6	7.4
India	*Total*	0.0	0.0
Kenya	Private schools	29.3	16.0
	Total	29.3	16.0
Russian Federation	Very small schools	7.1	0.4
	Special needs schools	1.4	0.7
	City of Moscow	2.7	8.5
	Total	11.2	9.5
Rwanda	*Total*	0.0	0.0
Slovenia	Special needs schools	8.7	1.2
	Private schools	1.2	1.2
	Total	9.9	2.4
United Arab Emirates	Very small schools	0.8	0.0
	Special needs schools	0.1	0.0
	Instruction language other than English or Arabic	2.0	1.1
	Total	3.0	1.1
Uruguay	Rural schools	9.1	0.8
	Total	9.1	0.8
Uzbekistan	Special needs schools Private schools Schools teaching in Karakalpak Schools teaching in Russian Schools teaching in other languages	0.9 0.5 1.1 0.7 2.7	0.4 0.3 0.6 1.7 1.1
	Total	5.9	4.0

Note: Figures may not add up due to the conventions of rounding

Table A1.3: Stratification variables

Country	Strategy
Burkina Faso	*Explicit stratification:* funding (public, private) *Implicit stratification:* region (13 administrative regions)
Denmark	*Explicit stratification:* none *Implicit stratification:* national achievement score (low, lower medium, upper medium, high, missing)
Ethiopia	*Explicit stratification:* area (conflict areas Benishangul-Gumuz and Oromia, no conflict area); within no conflict area: urbanization (urban, rural), funding (public, private) *Implicit stratification:* region (11 regions or cities [a]); urbani-zation (urban, rural)
India	*Explicit stratification:* region (Central India, East India, Northeast India, North India, South India, Western India) [b] *Implicit stratification:* none
Kenya	*Explicit stratification:* urbanization (urban, rural) *Implicit stratification:* region (47 counties)
Russian Federation	Explicit stratification: region (Sankt-Petersburg, Moscow region, Nizhni Novgorod region, Samara region, Republic of Tatarstan, Republic of Bashkortostan, Krasnodar territory, Rostov region, Chelyabinsk region, Sverdlovsk region, Ke-merovo region, Krasnoyarsk territory, Republic of Dagestan, sampled regions) [c] *Implicit stratification:* none
Rwanda	*Explicit stratification:* funding (public, government aided, private) *Implicit stratification:* region (Northern Province, Eastern Province, Southern Province, Western Province, Kigali Prov-ince)
Slovenia	*Explicit stratification:* school size (small, large) *Implicit stratification:* none
United Arab Emirates	*Explicit stratification:* emirate (Dubai, Abu Dhabi, all other emirates); funding (public, private); within private schools in Abu Dhabi: curriculum (Ministry of Education, UK/US/CAD/AUS/International, other); within private schools in the other emirates: curriculum (Ministry of Education, UK/US/AUS/International/SABIS, other) *Implicit stratification:* none
Uruguay	*Explicit stratification:* funding (public, private); school type (CES, CETP, liceo privado); region (Montevideo, other de-partments) *Implicit stratification:* none
Uzbekistan	*Explicit stratification:* region (12 provinces, Karakalpakstan Republic, Tashkent City) *Implicit stratification:* urbanization (urban, rural)

Notes: a Sidama and Southern Nations, nationalities, and peoples have been combined. b Districts were primary sampling units. c Regions were primary sampling units; 13 regions were selected with certainty; the other sampled regions make up one other large explicit stratum for variance estimation purposes (Martin, von Davier & Mullis, 2020). n/a = not available.

Table A1.4: Sample sizes

Country	Sampled schools	Student survey		Teacher survey		School survey
		Participating schools	Participating students	Participating schools	Participating teachers	Participating principals
Burkina Faso	150	124	2 474	127	992	138
Denmark	150	64	1 431	66	458	60
Ethiopia	190	185	3 621	187	1 719	186
India	215	*n/a*	*n/a*	184	859	184
Kenya	150	103	1 570	95	773	102
Russian Federation	192	192	3 516	192	2 834	192
Rwanda	150	*n/a*	*n/a*	*n/a*	*n/a*	149
Slovenia	172	136	2 552	134	1 422	135
United Arab Emirates	200	171	2 988	181	2 661	172
Uruguay	170	*n/a*	*n/a*	99	713	113
Uzbekistan	150	149	2 911	150	2 573	150

Computing sampling weights and nonresponse adjustments

Weights and adjustments were computed following standards specified in other large-scale assessments (Meinck, 2020), specifically those established in IEA's International Computer and Information Literacy Study (ICILS). Readers are advised to refer to Chapter 7 of the ICILS Technical Report (Fraillon et al., 2020) for details.

Base weights

For each sampling stage, a base weight has been calculated as the inverse of the sampling probability of the respective stage. The base weight therefore reflects the number of units that a sampled unit represents. Base weights have been calculated for the following sampling stages (variable names are presented in brackets):

- Schools (stage one, in all three populations; WGTFAC1)
- Classes (stage two, only for the student population; WGTFAC2S)
- Students (stage three, only for the student population; WGTFAC3S)
- Teachers (stage two, only for the teacher population; WGTFAC2T)

In countries without class sampling, the base weight of classes has been set to one for all students. In countries with class sampling, the base weight for students is always one because all students in the sampled class were selected.

Non-response adjustments

For each sampling stage, an adjustment factor was calculated to consider non-response within the respective stage. This factor was computed as the number of sampled units divided by the number of participating units within specific adjustment cells (explicit strata for schools, teachers, and students). Adjustment factors were calculated for:

- Schools (for the student population; WGTADJ1S)
- Schools (for the teacher population; WGTADJ1T)
- Schools (for the school population; WGTADJ1C)
- Classes (only for the student population; WGTADJ2S)
- Students (only for the student population; WGTADJ3S)
- Teachers (only for the teacher population; WGTADJ2T)

A school might be considered as participating in some, but not all, target populations. Therefore, the adjustment factor at school level can differ between target populations.

A school was considered participating according to the following conditions:

- For the student population: if at least half the students sampled in this school responded to the student questionnaire.
- For the teacher population: if at least one third of the teachers sampled in this school responded to the teacher questionnaire.
- For the school population: if the principal responded to the school questionnaire.

Total weights

The total weights are the products of all base weights and adjustment factors in each target population:

- Students: TOTWGTS = WGTFAC1 x WGTADJ1S x WGTFAC2S x WGTADJ2S x WGTFAC3S x WGTADJ3S
- Teachers: TOTWGTT = WGTFAC1 x WGTADJ1T x WGTFAC2T x WGTADJ2T
- Schools: TOTWGTC = WGTFAC1 x WGTADJ1C

All populations have been weighted independently. Total weights were used for estimating population parameters in this report.

Computing participation rates

Two sets of participation rates have been calculated.

- unweighted participation rates, with all sampled units contributing equally, and
- weighted participation rates, with all sampled units contributing proportionally to the target population that is represented by the units.

For the student and teacher participation rates, the combined participation rates consist of two parts.

- the school participation rates reflecting the share of participating schools, and
- the student or teacher participation rates reflecting the share of participating students or teachers within participating schools.

The participation rates of the three target populations have been computed independently; a school might count as participating in one or two target populations only, as explained above. Therefore, the school participation is different for each target population. Moreover, non-participating schools could be replaced by pre-assigned schools. Even though replacement schools were assigned in a way to share similar features with the sampled schools, bias risk increases with frequency of replacement. Therefore, participation rates were calculated without and with replacement.

The participation rates for the three target populations are given in the tables below.

Table A1.5: Unweighted participation rates – student survey

Country	School participation rate (before replacement)	School participation rate (after replacement)	Student participation rate (within participating schools)	Combined participation (after replacement)
Burkina Faso	86.1%	86.1%	*n/a*	*n/a*
Denmark	32.2%	43.0%	89.3%	38.4%
Ethiopia	96.3%	97.9%	*n/a*	*n/a*
Kenya	67.3%	68.7%	*n/a*	*n/a*
Russian Federation	97.4%	100.0%	99.2%	99.2%
Slovenia	74.4%	79.1%	87.8%	69.4%
United Arab Emirates	89.1%	89.1%	90.3%	80.4%
Uzbekistan	100.0%	100.0%	99.5%	99.5%

Note: "n/a": Within-school and combined participation rate could not be computed. See chapter 3 section "Within-school sampling" for further details.

Variance estimation

For variance estimation, coherent with other IEA studies such as, for example, ICILS 2018 (Fraillon et al., 2020), the jackknife repeated replication method was used to compute sampling errors for any estimate.

Table A1.6: Weighted participation rates – student survey

Country	School participation rate (before replacement)	School participation rate (after replacement)	Student participation rate (within participating schools)	Combined participation (after replacement)
Burkina Faso	86.1%	86.1%	*n/a*	*n/a*
Denmark	32.1%	43.0%	90.0%	38.7%
Ethiopia	96.3%	98.3%	*n/a*	*n/a*
Kenya	67.3%	68.6%	*n/a*	*n/a*
Russian Federation	96.8%	100.0%	99.2%	99.2%
Slovenia	74.4%	79.1%	88.2%	69.7%
United Arab Emirates	88.7%	88.7%	90.6%	80.3%
Uzbekistan	100.0%	100.0%	99.5%	99.5%

Note: "n/a": Within-school and combined participation rate could not be computed. See chapter 3 section "Within-school sampling" for further details.

Table A1.7: Unweighted participation rates – teacher survey

Country	School participation rate (before replacement)	School participation rate (after replacement)	Teacher participation rate (within participating schools)	Combined participation (after replacement)
Burkina Faso	88.2%	88.2%	*n/a*	*n/a*
Denmark	24.2%	44.3%	62.9%	27.9%
Ethiopia	96.8%	98.4%	*n/a*	*n/a*
India	79.0%	87.6%	99.0%	86.7%
Kenya	62.0%	63.3%	*n/a*	*n/a*
Russian Federation	97.4%	100.0%	98.2%	98.2%
Slovenia	77.9%	82.6%	70.5%	58.2%
United Arab Emirates	94.3%	94.3%	94.0%	88.6%
Uruguay	57.6%	58.2%	47.0%	27.4%
Uzbekistan	100.0%	100.0%	98.9%	98.9%

Note: "n/a": Within-school and combined participation rate could not be computed. See chapter 3 section "Within-school sampling" for further details.

Table A1.8: Weighted participation rates – teacher survey

Country	School participation rate (before replacement)	School participation rate (after replacement)	Teacher participation rate (within participating schools)	Combined participation (after replacement)
Burkina Faso	87.7%	87.7%	*n/a*	*n/a*
Denmark	24.1%	44.3%	61.5%	27.3%
Ethiopia	94.7%	98.0%	*n/a*	*n/a*
India	80.3%	88.2%	99.3%	87.6%
Kenya	60.7%	63.0%	*n/a*	*n/a*
Russian Federation	94.1%	100.0%	98.1%	98.1%
Slovenia	78.7%	82.8%	69.9%	57.9%
United Arab Emirates	92.6%	92.6%	92.2%	85.4%
Uruguay	57.1%	57.8%	50.5%	29.2%
Uzbekistan	100.0%	100.0%	99.2%	99.2%

Note: "n/a": Within-school and combined participation rate could not be computed. See chapter 3 section "Within-school sampling" for further details.

Table A1.9: Participation rates – school survey

Country	Unweighted school participation rate (before replacement)	Weighted school participation rate (before replacement)	Unweighted school participation rate (after replacement)	Weighted school participation rate (after replacement)
Burkina Faso	95.8%	94.8%	95.8%	94.8%
Denmark	26.0%	26.8%	40.3%	42.7%
Ethiopia	96.8%	96.3%	98.4%	99.0%
India	79.0%	80.4%	87.6%	90.7%
Kenya	66.7%	65.2%	68.0%	67.4%
Russian Federation	97.4%	92.8%	100.0%	100.0%
Rwanda	98.0%	97.7%	99.3%	99.3%
Slovenia	73.8%	73.8%	78.5%	77.7%
United Arab Emirates	89.6%	92.9%	89.6%	92.9%
Uruguay	65.9%	63.8%	66.5%	64.6%
Uzbekistan	100.0%	100.0%	100.0%	100.0%

References

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., Duckworth, D. (Eds.) (2020). I*EA International Computer and Information Literacy Study 2018. Technical Report*. International Association for the Evaluation of Educational Achievement (IEA). https://www.iea.nl/publications/technical-reports/icils-2018-technical-report

Martin, M. O., von Davier, M., & Mullis, I. V. S. (Eds.) (2020). *Methods and Procedures: TIMSS 2019 Technical Report*. TIMSS & PIRLS International Study Center, Boston College. https://timssandpirls.bc.edu/timss2019/methods/index.html

Meinck, S. (2020). *Sampling, weighting, and variance estimation.* In Wagemaker, H. (Eds.). Reliability and validity of international large-scale assessment. Springer International Publishing, p. 113-129. https://timssandpirls.bc.edu/timss2019/methods

Schulz, W., Carstens, R., Losito, B., & Fraillon, J. (2018). *International Civic and Citizenship Education Study 2016. Technical Report*. The International Association for the Evaluation of Educational Achievement (IEA). https://www.iea.nl/publications/technical-reports/iccs-2016-technical-report

Appendix A2

Country summaries

Agnes Stancel-Piątak, Emilie Franck, Alec I. Kennedy

Table A2.1: Country Summaries

Countries	Reference Period	Data collection period	Holidays (lasting for more than 1 day)	National examinations	Summary	Documents and Publications
Burkina Faso	Mid-March to October 2020 (7.5 months)	28 Apr - 18 Jun 2021	July -September Short holidays of 10 days at the end of December At the end of March	June	The government in Burkina Faso reacted very quickly to the global health crisis, closing schools for a period of around 7.5 months. During this time, the number of positive tested cases was stable at a low level. Clear policies were created on how schools should respond to the COVID-19 disruption. To ensure pedagogical continuity, several measures were required or recommended to schools such as shortening school vacations, providing additional digital resources, and professional development courses for teachers, among others. The provision of formal support for the development of digital resources did not yet exist in Burkina Faso but was introduced as a response to the COVID-19 disruption.	Ministry of Education, Literacy and the Promotion of National Languages. (2020, April 14). Response plan for educational continuity in the context of COVID-19. Retrieved from https://planipolis.iiep.unesco.org/sites/default/files/ressources/burkina_faso_menapln_covid.pdf
Denmark	16 March to 18 May 2020 (2 months)	14 December 2020 - 5 April 2021	Autumn holidays: 10 October - 18 October Christmas holiday: 19 December - 3 January Winter holidays: 13 February - 21 February Easter holiday: 27 March - April Pentecost holiday: 22 May - 24 May	1 March - 11 June	The reference period in Denmark lasted in total around 2.5 months (with additional lockdown occurring during both 2020 and 2021) and concerned different school grades to varying extents. The number of detected positive cases was at a low level during the first phase of school disruption, while there was a sudden but short increase during the second phase. As a decentralized school system, Denmark granted schools a great degree of autonomy in how they responded to the COVID-19 disruption. School leaders could develop their own teaching and learning plans for the disruption that they felt were most appropriate for their situation. Whereas some education systems needed to develop ICT-related resources due to the COVID-19 disruption, schools and families in Denmark were already well-equipped for remote learning before the crisis.	
Ethiopia	16 March to November 2020 (7.5 months)	14 - 25 June	Onam (12 - 23 August) – 10 days (Kerala) Diwali (5 - 10 days) October - November Dussehra (5 - 10 days) October Christmas (5 - 10 days) December - January *Apart from these holidays, few states declare winter holidays for 7-15 days, especially those facing extreme weather conditions (Punjab, Jammu & Kashmir)*	Information not available	Ethiopia reacted very quickly to the global health crisis, shutting down schools across the country and switching to remote learning for all students for a period of roughly 7.5 months. The number of positive tested cases was at low levels at the beginning of this period and experienced an increase and fall towards its end. Ethiopia formally supported the development and use of several digital resources in reaction to the COVID-19 outbreak. Moreover, they implemented a clear hygiene plan that schools were required to follow when reopening.	
India	24 March to mid-October 2020 (7 months)	15 March - 30 May 2021	Semester break: 7 - 13 February Annual break: 8 July - 12 September	8 - 11 June	India's education system is characterized by many different types of schools (Centrally-, State-, or Privately-governed; Central-/State- or self-funded). Consequently, some schools had to follow guidelines and rules provided by different authorities while others had relatively higher autonomy. Even as schools closed for a period of approximately 7 months, this variety of autonomy remained. However, additional guidelines and rules were provided by the Ministry of Education specifically aimed at how to respond to the pandemic. During the school disruption, the number of positive tested cases rose significantly until September and started to decline in October 2020. As schools closed and a transition to remote learning occurred, the use of many EdTech platforms and e-learning apps in educational institutions increased substantially. However, this also deepened the digital education divide throughout the country as many students did not have the means to access digital materials. Several avenues were thus taken to continue learning during school closures, through online, television, radio, and paper-based programmes and materials.	Department of School Education and Literacy, Ministry of Human Resource Development, Government of India. (2020, June). India Report - Digital Education. Retrieved from https://www.education.gov.in/sites/upload_files/mhrd/files/India_Report_Digital_Education_0.pdf Government of India. (2020). ICT initiatives of MHRD, Government of India. Retrieved from https://vnit.ac.in/wp-content/uploads/2020/02/ICT-Initiatives-of-MHRD-Government-of-India.pdf Government of India. (2020). PRAGYATA: Guidelines for Digital Education. Retrieved from https://www.education.gov.in/sites/upload_files/mhrd/files/pragyata-guidelines_0.pdf Government of India. (2020). SOP/Guidelines for Health and Safety protocols for Reopening of Schools and Learning with Physical/Social Distancing. Retrieved from https://covid19.india.gov.in/document/sop-guidelines-for-health-and-safety-protocols-for-reopening-of-schools-and-learning-with-physical-social-distancing/ Government of India. (n.d.). Vikaspedia. Retrieved from https://vikaspedia.in

Table A2.1: Country Summaries (continued)

Countries	Reference Period	Data collection period	Holidays (lasting for more than 1 day)	National examinations	Summary	Documents and Publications
Kenya	16 March 2020 to [no end date provided]	12 - 16 July	April - May 3 weeks in August November - January	November	Shortly after the first confirmed positive tested case of COVID-19 was reported in Kenya, schools were closed. As a centralized school system, the government of Kenya prepared clear guidance and policies for schools to address the pandemic. Since no ICT-related resources were implemented prior to the pandemic, Kenya provided several digital resources to support instruction and learning of students during remote learning.	
Russian Federation	23 March to 12 April 2020 (3 weeks, with regions allowed to extend lockdowns, if needed)	01 - 31 Dec 2020	Vacation by quarters Fall: 26 October - 1 November Winter: 28 December - 10 January Spring break: 22 - 28 March Summer: 25 May - 31 August Vacations by trimesters 1st Autumnal: 5 - 11 October 2nd Autumnal: 16 - 22 November New Year's holidays: 28 December - 10 January February: 15 - 21 February Spring holidays: 5 - 11 April Summer holidays: 26 May - 31 August	There are no defined dates	The school disruption lasted in the Russian Federation for less than one month with regions allowed to extend lockdowns, if needed. As a centralized school system, the Ministry of Education of the Russian Federation and the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing, along with regional departments of education, provided guidance and resources to schools to continue learning during the COVID-19 disruption. Many important resources needed to support remote learning had been available prior to the pandemic, however, formal support was provided for the development of additional digital learning materials. All materials were made freely available to the public online.	Federal Service for Supervision of Education and Science (2021, August 16). Order No. 1139 of 08.16.2021 ""On the monitoring of the quality of training of students of educational institutions in the form of all-Russian verification works in 2022 by the Federal Service for Supervision of Education and Science."" Retrieved from https://fioco.ru/fioko-news/%D1%80%D0%B0%D1%81%D0%BF%D0%B8%D1%81%D0%B0%D0%BD%D0%B8%D0%B5-%D0%B2%D0%BF%D1%80-2022-%D0%BE%D0%BE Ministry of Education of the Russian Federation (2019, February 11). The passport of the national project "Education" has been published. Retrieved from http://government.ru/info/35566/ Ministry of Education of the Russian Federation (2020, March 17). Executive order 104 of March 17, 2020 "On the organization of educational process in organizations providing primary education, compulsory and secondary education, implementing educationalprogrammes of secondary vocational education, respective additional vocational training and additional general educational programmes, in the context of a new coronavirus infection spreading on the territory of the Russian Federation." Retrieved from https://docs.edu.gov.ru/document/750dd535d2c38b2a15cd47c9ea44086e/ Ministry of Education of the Russian Federation (2020, March 20). Recommended practices and guidelines concerning implementation of educational programmes of primary education, compulsory and secondary education as well as educational programmes of secondary vocational education, respective additional vocational training and additional general educational programmes with the use of e-learning and distance learning technologies. Retrieved from https://docs.edu.gov.ru/document/26aa857e0152bd199507ffaa15f77c58/ Ministry of Education of the Russian Federation (2020, November 16). The Letter of the Ministry of Education of the Russian Federation of 16.11.2020 GD-2072/03 ""On forwarding the recommendations"" (together with ""Practical guidelines (advice) for teachers and deputy head teachers for curriculum and discipline in educational organizations, providing primary, general, compulsory and secondary education with the use of distance learning technologies." Retrieved from http://www.consultant.ru/document/cons_doc_LAW_368424/

Table A2.1: Country Summaries (continued)

Countries	Reference Period	Data collection period	Holidays (lasting for more than 1 day)	National examinations	Summary	Documents and Publications
Rwanda	16 Marach 2020 to November 2020 (8 months)	23 June -	Information not available	Information not available	The school disruption period started in Rwanda in March 2020. During the disruption, the Ministry of Education teamed up with several other authorities to provide plans for continued learning during school closures which lasted nearly 8 months. Several remote learning options were provided to students, including radio and television broadcasts as well as several online options. While some schools had access to e-learning resources prior to the pandemic, many of these resources had to be strengthened to support the transition to remote learning. It was further noted that ICT devices had to be distributed to teachers to ensure they had the capacity to offer online learning options where needed. However, the Ministry of Education noted that it was unable to provide all schools with digital resources for remote learning.	Ministry of Education, Republic of Rwanda (2020, April). Keeping the doors open for learning: Response plan of Ministry of Education to the COVID-19 Outbreak. Retrieved from https://www.mineduc.gov.rw/fileadmin/user_upload/Mineduc/Publications/REPORTS/Education_Sector_COVID_Plan_Rwanda.pdf Ministry of Education, Republic of Rwanda (n.d.). School reopening: Frequently Asked Questions. Retrieved from https://www.mineduc.gov.rw/fileadmin/user_upload/Mineduc/Publications/FAQs/1_FAQS_SCHOOL_REOPENING.pdf
Slovenia	16 March to 3 June 2020 (3 months)	01 - 31 March 2021	Autumn holidays: 8 days from the end of October until the beginning of November Christmas/New Year: 1 week from the end of December until beginning of January Winter/Carnival: 1 week at the end of February until beginning of March Spring holidays: 1 week end of April and beginning of May Summer holidays: 25 June – 31 August	26 September - 7 October 15 - 24 November 14 - 23 March 13 - 22 June	The school disruption in Slovenia lasted for roughly 3 months. During that period the number of reported COVID-19 cases stayed relatively at a low level (especially comparing it with the next school year). As a centralized school system, Slovenia's Ministry of Education and National Institute of Education provided guidance and resources for schools to continue learning during the COVID-19 disruption. Many digital resources had already been accessible prior to the pandemic, but substantially more were produced and made available shortly after schools were closed. As students returned to school buildings, several health and hygiene measures were taken. Furthermore, national assessments, usually planned for grades 6 and 9, were cancelled. Schools and teachers were granted flexibility on how and whether they would assess student learning.	Ministry of Education, Science and Sport and National Institute of Education, Republic of Slovenia (2020, March 13). Recommendations to primary and secondary schools for the implementation of distance education. Retrieved from https://www.gov.si/novice/2020-03-13-priporocila-osnovnim-in-srednjim-solam-za-izvajanje-izobrazevanja-na-daljavo/ National Institute of Education, Republic of Slovenia (2020, April 16). Distance Education in Special Conditions. Recommendations for Knowledge Assessment in Primary School. Retrieved from https://www.gov.si/assets/ministrstva/MIZS/Dokumenti/Novice/Koronavirus-13-3-20/Priporocila_ocenjevanje-OS_16042020.pdf
UAE	16 March Late March 2020 to January 2021 (10 months)	21 December 2020 - 05 February 2021	Public schools and most of private schools: Winter break: 12 - 30 December Spring Break: 27 March - 14 April National Day: 1 - 3 December	26 September - 7 October 15 - 24 November 14 - 23 March 13 - 22 June	In the UAE, schools were closed for a period of at least 10 months. The number of positive tested cases remained relatively stable during the start of this period but began to rapidly rise toward the end. As a centralized school system, the UAE's Ministry of Education provided public schools with the resources necessary to successfully implement distance learning while schools were closed due to the COVID-19 disruption. Thanks, in part, to a digital learning project started a few years prior to the disruption, many public schools had an easy transition to distance learning with the MOE providing additional resources where necessary. In addition, central agencies partnered with external providers to create free and accessible online learning platforms so that all public and private school students could successfully transition their learning online. The external providers also created online platforms to allow schools to share teaching and learning resources with their peers. As plans to return to school during the academic year 2020-21 were being made, detailed documents from central agencies provided guidance on what teaching methods were to be used and which health safety measures were to be implemented.	Abu Dhabi Department of Education and Knowledge (2020). ADEK's Private School Reopening Policies and Guidelines (2020). Retrieved from https://adek.gov.ae/-/media/Project/TAMM/ADEK/COVID19/ADEK-Reopening-Policies-EN
			Asian private schools: Winter Break: 12 December - 2 January Summer Break: 7 July - 29 August National Day: 1 - 3 December	Information not available		

Table A2.1: Country Summaries (continued)

Countries	Reference Period	Data collection	Holidays (lasting for more than 1 day) period	National	Summary examinations	Documents and Publications
Uruguay	16 March to June 2020 (4 months)	05 May - 11 June 2021	Holy week, winter break: usually the first 2 weeks of July Spring break: 3 days in September Summer break: mid-December to March	Every three years around October	The reference period of school disruption in Uruguay lasted for 4 months. During that time, there was a relatively low number of positive tested cases, although positive case numbers rose rapidly in the fourth quarter of 2020. As a centralized school system, Uruguay's ANEP provided guidance and resources for schools to continue with teaching and learning during the COVID-19 disruption. Uruguay's Plan Ceibal had been in place since 2007 and aimed to increase and improve the use of technology in education. During the COVID-19 disruption, Plan Ceibal adapted and strengthened its digital resources for teachers, students, and families to support remote learning. School buildings remained open to provide food or paper-based learning materials to any students in need. Upon return to face-to-face instruction later in the year, several precautions were taken to ensure the health and safety of teachers and students.	
Uzbekistan	18 March to Fall 2020 (8 months)	15 March - 15 April 2021	Autumn vacation: 6 calendar days from 4 November Winter vacation: 14 calendar days from 28 December Spring break: 7 calendar days from 21 March Summer vacation: from 26 May to 1 September	26 May to 2 June for 5th, 6th, 7th, 8th and 10th grades 26 May to 15 June to 9th and 11th grades	The school disruption was introduced in Uzbekistan and lasted for 8 months. During the reference period, Uzbekistan experienced an upward trend in the number of positive tested cases. As a centralized school system, Uzbekistan's Ministry of Public Education along with several other authorities guided schools through the COVID-19 disruption. The Ministry of Public Education has continued to support the development of digital materials to support remote learning. Uzbekistan continued to be active in responding to the urgent situation and has emphasized several health and safety measures to prevent the spread of the virus in schools. As Uzbekistan moved forward into the 2020-21 academic year, the Ministry of Public Education began implementing several projects supporting the professional development of teachers in using ICT for general, pedagogical, collaborative, and communication purposes, supporting students that were falling behind, and supporting safe and healthy work environments.	Cabinet of Ministers of the Republic of Uzbekistan (2020, March 23). Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 23, 2020 "On additional measures against the spread of coronavirus infection." Retrieved from https://lex.uz/docs/4772484

unesco
United Nations
Educational, Scientific
and Cultural Organization

IEA

The impact of the COVID-19 pandemic on education

International evidence from the Responses to Educational Disruption Survey (REDS)

The Responses to Educational Disruption Survey (REDS) is a joint study launched by IEA and UNESCO, in partnership with the European Commission to investigate how teaching and learning were affected by the COVID-19 pandemic, and how education stakeholders responded to the educational disruption, across and within countries. The REDS international report provides a systemic, multi-perspective, and comparative picture of the impact of COVID-19 on secondary education (eighth grade). The study collected data from countries, schools, teachers, and students spanning four continents, including Africa (Burkina Faso, Ethiopia, Kenya, Rwanda), Asia (India, Uzbekistan), Arab region (United Arab Emirates), Europe (Denmark, Russian Federation, Slovenia), and Latin America (Uruguay).

As education systems plan for recovery, they need data, evidence, and insights to inform policy. REDS offers an overview of schooling situations during the disruption in a variety of educational contexts around the world, providing policy-makers and education leaders with scientifically collected first-hand information for evidence-based decision-making. Furthermore, REDS identifies effective approaches that emerged from the crisis and may serve as good practices for the future of education.

With the support of:

European Commission

9 789231 005022