Southern African Development Community (SADC) Member States education sector response to COVID-19

Contents

Figures and tables

Acronyms and abbreviations

AU	African Union
CFIT	China Funds in Trust
ECD	early childhood development
FET	further education and training
GPE	Global Partnership for Education
HEI	higher education institution
IEC	information-education-communication
IT	information technology
ICT	information and communications technology
IAU	International Association of Universities
IFRC	International Federation of Red Cross and Red Crescent Societies
IMF	International Monetary Fund
MOOCs	Massive Open Online Courses
NAMCOL	Namibian College of Open Learning
OECD	Organisation for Economic Co-operation and Development
OERs	Open Educational Resources
PISA	Programme for International Student Assessment
PPE	personal protective equipment
SDG	Sustainable Development Goals
STEM	science, technology, engineering and mathematics
TVET	technical and vocational education and training
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
ITU	International Telecommunication Union
WFP	United Nations World Food Programme
WHO	World Health Organization

Executive summary

This report aims to provide background information on the measures and actions taken by SADC Member States education sector policy-makers in response to the COVID-19 pandemic whilst also highlighting best practices, and proposing, to the extent possible, recommendations which may lead to a harmonized regional approach. With reference to the rapid survey assessment of education challenges and responses in 13 SADC Member States, the salient features of the report are as follows:

- The average number of months of lost learning opportunities following the lockdown restrictions for most SADC Member States was approximately three months (around 13 weeks).
- A divergence in policy directives among Member States on resuming classes is noted, although most Member States deferred the resumption of classes until June/July 2020.
- Most Member States (8 countries out of 13) resumed classes five weeks after the lifting of their lockdown restrictions and, in general, there seems to be a gradual and phased approach in most Member States for a late re-opening of schools/universities despite the falling cases of COVID-19.
- All Member States concur that government actions were focused on the development and use of online materials to ensure the continuity of teaching and learning during the lockdown. In addition, 92% of respondents highlighted that government actions were directed towards alternative was of delivering offline courses, through TV, radio or print media.
- The use of existing online distance-learning platforms has been prominent among most Member States in response to the shutdown of schools and universities. To this effect, professional support for teachers has been mainly geared towards training, through Zoom, on the use of online distance-learning platforms.
- More than three-quarters of the respondents claim that educational radio and TV programmes have been the most utilized means for ensuring the continuity of academic learning for primary and secondary students, while universities and TVET (technical and

vocational education and training) institutions have focused their actions more on the use of online distance-learning resources.

- The survey shows that the types of instructional resources used depend on the profile of learners, and that educational radio and TV programmes are less relevant and effective for learners in the higher education sector. In fact, no Member States mentioned using educational radio and TV programmes for TVET and university students.

- The majority of Member States have established policies to ensure the continuity of learning for disadvantaged students. As such, more than 70% of the respondents indicated their actions were mainly targeted towards the provision of offline and printed materials to students with disabilities and in remote areas. The other initiatives put in place during the pandemic have mainly been free internet access, provision of tablets or PCs, maintaining school feeding programmes, distributing food relief to vulnerable families in communities, and the provision of social grants, amongst others.

- Less than 25% of the respondents indicated they had requested financial and technical support from the private sector and/or from UN Agencies in response to the pandemic. The majority of respondents indicated that government stimulus packages and support from donors were the most frequent sources of funding.

- The issues identified as most challenging by the majority of respondents are concerned with the continuity of assessment and learning as well as the well-being of students and teachers. The majority of respondents indicated that ensuring the continuity of academic learning was clearly more challenging for early childhood and young learners than for adult learners.

- According to the majority of survey respondents, the domains which involved the most challenges included: underdeveloped technological infrastructure (63% response rate); the management of students' emotional health (29% response rate); the low capacity of parents/guardians to support learning at home (25% response rate); and the management of IT infrastructure (20% response rate). Underdeveloped technological infrastructure is the biggest challenge for pre-university students in most Member States (at least eight Member States stressed this implementation challenge, from early childhood to secondary education levels).

- Providing access to computers so that students can continue their education during the lockdown is one of the major impediments to any effective educational response.

- When asked which education and learning measures should form part of a curriculum recovery plan, most respondents (more than 60%) indicated that these measures should include the extension of teaching and learning time, the re-scheduling/postponement of classes and the introduction of accelerated learning programmes. Very few respondents (less than 15%) think that mass promotion and the scrapping of examinations are viable options.

- Most respondents (at least nine Member States) claim that among unexpected positive changes that took place during the crisis were the development of distance-learning education and using technology as an important learning tool. The other unexpected positive changes triggered by the pandemic include the importance, and upgrading, of internet broadband access at home and in educational institutions; the setting up of e-learning policies in educational institutions; and the importance, and improvement, of learners' hygiene conditions.

- Sanitary and hygiene standards such as hand washing, personal protective equipment and reviewing class sizes so as to comply with social distancing were identified by more than 70% of the respondents as the main support measures mainstreamed into national plans to mitigate the effects of the pandemic. According to more than 60% of the respondents, another important measure that should be mainstreamed in support of learners is the need to set up online and other learning modes (such as via TV and radio programmes).

1. Introduction

The Coronavirus (COVID-19) pandemic has had an unparalleled impact on most countries worldwide. Undoubtedly, the impact of the pandemic will mark our world for a long time given the unprecedented health and socio-economic crisis being felt in many countries. This has led to drastic measures being taken by respective governments to mitigate the negative impact of the pandemic on businesses and households. To control the velocity of the pandemic, national lockdowns and partial border restrictions have been imposed by most countries. These measures have severely impacted the education sector, creating a period of lost learning opportunities for many students, most particularly for those in socially vulnerable groups.

Countries have responded in different ways to help students make up for the lost period of learning by promulgating a variety of national strategies and policies. However, while these initiatives from respective Ministries of Education to allow students to continue learning are laudable, there has not been a regional response or any inter-country consultations on the best practices for attending to the educational needs of children and youth in light of the effects of the pandemic. Inter-country learning and the adoption of good practices should lead to the development of an effective strategic plan to mitigate the effects of the pandemic and meet the expectations of different stakeholders in the education sector.

According to the International Association of Universities (IAU) Global Survey (2020) on higher education (Marinoni et al., 2020), the African region has the highest percentage of higher education institutions (HEIs) with campuses closed due to COVID-19 (more than three-quarters at 77%, relative to around 55% in the Asia & Pacific and Europe regions and 54% in the Americas). Similarly, the closure of schools and colleges on the African continent has impacted the learning activities of more than 200 million children and adolescents. This has led to different ways of rethinking education needs across all education levels.

However, the adaptability of education systems in response to the crisis rests upon whether countries have strong educational ecosystems. It is therefore imperative that countries need to be supported in mitigating the disruption in educational opportunities following COVID-19. To this effect, at regional level, the SADC Secretariat, in collaboration with UNESCO and the Global Education Coalition, is endeavouring to support SADC Member States in mitigating the effects of the pandemic on education, and in ensuring the continuity of education and learning programmes.

As such, the purpose of this document is to assess the challenges and measures taken by SADC Member States as well as those best practices which could be adopted to mitigate the impact of the pandemic on education. The document is supported by the findings from a survey conducted among SADC Member States during the months of April/May 2020. The feedback from the survey will enable the SADC Secretariat, together with UNESCO, to prepare an educational response support strategy to facilitate peer-learning and experience-sharing among SADC Member States.

2. Survey on education sector response to COVID-19

2.1 Profile of respondents

The survey initially consisted of 31 responses in total, collected during the months of April and May 2020 from governmental organisations in the education sector from 13 Member States (i.e. 13 Member States responded favourably). However, out of those 31 responses, 14 respondents were from Zambia, 5 countries returned 2 questionnaires and the majority only returned one survey form each. To control for country bias and specific socio-economic environments, common responses were analysed and grouped for each Member State accordingly. The countries which participated in this survey are listed in Table 1.

Table 1: Countries which responded to the survey

Member States		
Angola	Mauritius	Tanzania
Eswatini	Mozambique	Zambia
Lesotho	Namibia	Zimbabwe
Madagascar	Seychelles	
Malawi	South Africa	

2.2 Lockdown period, school closures and measures for re-opening schools

Different Member States implemented their lockdown periods at different time intervals due to the variation in the pandemic's severity and velocity in their respective countries. However, while school closures were and are vital in restricting the spread of the virus and in protecting the health of students, extended closures have had a debilitating effect on all students, and in particular have unduly impinged on the most underprivileged and vulnerable students. Table 2 shows the time-frames of the national lockdown and school closures across Member States.

Table 2: Lockdown periods, school closures and re-openings

Country	Lockdown date	Dates classes suspended	Resumption date (approx.)	Interruption (approx. no. of weeks)	Lifting or first partial lifting of lockdown restrictions	School opening delays (approx. no. of weeks) since lifting of lockdown restrictions
Angola	24/03/2020	24/03/2020	13/07/2020	16	20/05/2020	8
Eswatini	17/03/2020	17/03/2020	06/07/2020	16	08/05/2020	8
Lesotho	27/03/2020	27/03/2020	11/05/2020	6	06/05/2020	1
Madagascar	23/03/2020	23/03/2020	22/05/2020	8	20/04/2020	4
Malawi	19/04/2020	23/03/2020	13/07/2020	16	10/05/2020	9
Mauritius	20/03/2020	19/03/2020	01/07/20	15	15/05/2020	7
Mozambique	23/03/2020	23/03/2020	No date	Still in lockdown	30/06/2020	Still in lockdown
Namibia	28/03/2020	23/03/2020	20/07/2020	17	05/05/2020	11
Seychelles	04/09/2020	16/03/2020	18/05/2020	9	01/05/2020	2
South Africa	27/03/2020	18/03/2020	15/07/2020	17	01/05/2020	11
Tanzania	17/03/2020	17/03/2020	01/06/2020	11	18/05/2020	2
Zambia	20/03/2020	17/03/2020	01/06/2020	11	24/04/2020	5
Zimbabwe	27/03/2020	24/03/2020	30/06/2020	14	17/05/2020	6

In the majority of SADC countries, a government directive for national lockdown was issued during the third week of March 2020. This led to the immediate suspension of classes at all levels. The average number of months/weeks of lost learning opportunities is approximately three months (around 13 weeks) for most SADC Member States with the exception of Seychelles, Madagascar and Lesotho, where the interruption period spans roughly two months.

While there seems to be a common timely response with respect to the closures of schools and universities across Member States, there is a divergence in the policy directives taken towards the resumption of classes. A few countries (Seychelles, Madagascar and Lesotho) implemented

policies for the re-opening of schools as early as the second week of May 2020 while other Member States deferred the resumption of classes till June/July 2020. However, the majority of Member States (seven countries) opted for a late re-opening of schools, from July 2020. Specifically, there are only four Member States which opted to re-open schools within less than five weeks following the first lifting of their respective lockdown restrictions. Most Member States (eight countries) resumed classes five weeks after the lifting of their lockdown restrictions, with Mozambique yet to communicate a specific date for re-opening its schools. Overall, there seems to be a gradual and phased approach in most Member States for a late re-opening of schools and universities despite the falling number of COVID-19 cases.

Importantly, various international institutions such as UNESCO, the United Nations Children's Fund (UNICEF), the United Nations World Food Programme (WFP) and the World Bank have recently issued new guidelines on the safe re-opening of schools. The guidance from a UNICEF (2020) press release includes the following:

- *Policy reform: Policy implications address all dimensions of the guidelines, including clear policies for school opening and closure during public health emergencies, reforms needed to expand equitable access for marginalized and out of school children as well as strengthen and standardize remote learning practices.*

- *Financing requirements: Address the impact of COVID-19 on education and invest in strengthening education systems for recovery and resilience.*

- *Safe operations: Ensure conditions that reduce disease transmission, safeguard essential services and supplies, and promote healthy behaviour. This includes access to soap and clean water for safe hand washing, procedures on when staff or students feel unwell, protocols on social distancing and good hygiene practices.*

- *Compensating learning: Focus on practices that compensate for lost instructional time, strengthen pedagogy and build on hybrid learning models such as integrating approaches in remote and distance education. This must include knowledge on disease transmission and prevention.*

- ***Wellness and protection:*** *Expand the focus on students' well-being and reinforce the protection of children through enhanced referral mechanisms and the provision of essential school-based services including healthcare and school feeding.*

- ***Reaching the most marginalized:*** *Adapt school opening policies and practices to expand access to marginalized groups such as previously out-of-school children, displaced and migrant children and minorities. Diversify critical communications and outreach by making them available in relevant languages and in accessible formats.*

Although the pandemic has caused a period of lost learning opportunities for many students, there seems to be a call for a gradual and phased approach for the re-opening of schools and universities. The majority of Member States have deferred the re-opening of schools and universities in line with the above-mentioned guidelines. The following examples illustrate the actions/policies of some Member States for re-opening schools and universities under specific conditions.

The Ministry of Higher Education, Science, Technology and Innovation has elaborated a contingency plan for the sector during COVID-19 pandemic, in addition to dealing with matters related to the financing of institutions, the referred plan includes three pertinent and detailed points in the form of recommendations on the use of technologies for non-classroom teaching, another point is the preparation of conditions for the resumption of teaching activity after the cessation of the state of emergency and disaster, and a third point on the need to make adjustments to the academic calendar. (Angola)

In the wake of the re-opening of schools, while recovery of the lost teaching and assessment time to afford learners an opportunity to complete the grade they are in, the protection of life remains the primary focus in the sector. To achieve the two, proper school planning including the reworking the timetable will be required. This timetable should give a clear vision and comprehensive picture of school activities, i.e. what work is being done during which period, where, by whom and when. Each timetable will have to embrace the notion of a phased-in approach return of learners, as determined by the Council of Education Ministers. (Department of Basic Education, 2020, South Africa)

With the phased resumption, spacing in classes would have to be adjusted and, in many cases, classes may have to be split. Social distancing of at least one metre would be observed. Circulars have been issued to schools (State and private secondary schools) requesting them to submit information regarding adequate spacing for split classes and a possible capping at 50 % of the school population. (Mauritius)

The Contingency Plan for Education and Training feeds into the National plan. Components of the plan include: Creating awareness, sensitization and training of education personnel on COVID-19 prevention and capacity to deal with suspected cases. (Eswatini)

In this respect, and in line with the above measures, a report from UNICEF, the World Health Organization (WHO) and the International Federation of Red Cross and Red Crescent Societies (IFRC) in March 2020 (Bender, 2020, p. 4) provided the following recommendations for healthy schools:

- *Sick students, teachers and other staff should not come to school;*
- *Schools should enforce regular hand washing with safe water and soap, alcohol rub/hand sanitizer or chlorine solution and, at a minimum, daily disinfection and cleaning of school surfaces;*
- *Schools should provide water, sanitation and waste management facilities and follow environmental cleaning and decontamination procedures;*
- *Schools should promote social distancing (a term applied to certain actions that are taken to slow down the spread of a highly contagious disease, including limiting large groups of people coming together).*

2.3 Measures and instructional resources for ensuring the continuity of students' academic experience

The African Union (AU) has stressed the significance of restricting the brunt of extended school closures that may result in lost learning opportunities, most particularly for deprived and vulnerable students. To that end, the AU has emphasized the dire need to ensure the continuity of learning through diverse instructional resources. In this respect, government actions are crucial for supporting the continuity of students' academic experience. Based on the survey findings, some of the proposed overarching government measures and policies across different Member States in the SADC region currently in place, and/or to be implemented, with respect to the education sector's response to COVID-19 are highlighted in Table 3.

Table 3: Types of government actions to support the continuity of students' academic experience

Country	Government support/initiative/activity
Angola	• Establish a task force or steering committee that will be responsible for developing and implementing the education sector's response to the COVID-19 pandemic (Ministry of Education, Ministry of Higher Education, Science and Technology, Ministry in Charge of TVET). • Due to the difficulty of effectively implementing an online education strategy, the government has developed alternative means of delivery, which include: TV programmes produced in partnership with public television stations, podcasts, radio broadcasts, and learning packages either in digital form or hard copy. To deliver these learning materials, partnerships with community organizations and the private sector have been explored. • Government guidance to each school on developing a plan for the continuity of operations. In support, education authorities can provide examples of other schools' plans.
Eswatini	• The Ministry has encouraged all schools to ensure that learning continues through all possible distance-learning techniques; e-learning through Zoom, Google Classroom, emails, WhatsApp, amongst other internet-based applications are encouraged. • Distance learning through radio, TV and print media has been put into place. Grade 7 classes at primary level and Form 3 and 5 classes have been prioritized for this initiative as they are the school completion levels and are nationally and internationally examinable.

	• Web-based learning has been set up through the MTN EducareEswatini zero-rated education website. The Ministry has uploaded syllabi for all grades at primary and secondary level and further provided learning resources from the Commonwealth of Learning. Exam papers are also accessible for primary and secondary students.
Lesotho	• Development of online teaching materials. • Development and presentation of radio and TV lessons.
Madagascar	• Setting up of radio and TV lessons (*Kilasy pour tous, Izahokoambatehahay*). • Pedagogical support and self-learning with marking schemes for Grade 7, Form 3, intermediate classes and final year for primary and secondary students. • Provision of online access to Malagasy–English dictionary – *Rakibolana*. • Safety measures for the re-opening of schools. • Awareness campaigns on COVID-19 safety precautions at schools.
Malawi	• Production of learning continuity programmes broadcast on radio/TV and online. • Printing of modules for secondary school students. • Introduction of radio and online lessons; offline lessons using android tablets powered by solar energy.
Mauritius	• Ensure distance learning: develop virtual learning resources for children, parents and teachers. • Educators developed and recorded video lessons for all grades for daily broadcasts on national TV channels, and TV-broadcast lessons for lower secondary students. • Online teaching at upper secondary level; portal of educational resources set up where MITD Training Centres have been involved in using online support tools such as Zoom, Google Classroom, Skype, Microsoft Teams, etc. and web-based learning materials to continue the delivery of training. • Ensure provisions of other social services to students: vulnerable children on the social register continue to receive their monthly allowance despite school closures, and free internet provided to needy families. • Ensure well-being of students: video lessons including aspects of holistic education such as music, art, dance and emotional well-being.
Mozambique	• Massive use of virtual platforms, radio and TV for classes and management of the educational system. • Support Ministry of Education and Human Development to create/produce educational and cultural content and material (videos, cartoons and messages) about COVID-19 and how to prevent it spreading.

Namibia	• Provided funds for learning materials (e-learning and printed materials) during the pandemic. • Supported the extension of the KOPANO[1] platform into a national learning platform during the COVID-19 period.
Seychelles	• Extend social assistance/benefits to parents or caregivers as was the case during the pre-COVID-19 period. • Allow essential services to continue operations, which indirectly had the effect of allowing the provision of education to run smoothly. • Internet service providers allocating free internet access (50 GB) to educational platforms for all students.
South Africa	• Support the education sector plan for continuity of learning from early childhood development (ECD) to further education and training (FET), including e-learning. • Provision of web-based curriculum support material. • Learning support through dedicated public broadcasting channels. • Provision of free data, and information technology/PC equipment subsidies.
Tanzania	• Support the Tanzania Institute of Education to implement education programmes through community radio stations – broadcasting pre-recorded classes (40-minute lessons covering core subjects and 'Connect with Respect' and health lessons) every day in communities across the country for 30 days. • Online programmes at secondary level and distance education at tertiary level. • Radio and TV programmes for pre-primary, primary and secondary students. • Distribution of large print resources and Braille materials for students with vision disability. • Sign and language interpreters for TV learning programmes. • Office materials for disadvantaged groups.
Zambia	• Support the Ministry of General Education to set up an e-learning platform aimed at ensuring continued learning for learners. • Conducting radio broadcasting of lessons for pre-primary, primary and secondary students. • Introduction of a channel (4) on the national public broadcaster's ZNBC TV where lessons from Grade 1 to 12 are being delivered. • Printed and distributed instructional materials to learners that could not access ZNBC TV Channel 4.

[1] UNESCO and the China Funds in Trust (CFIT), in collaboration with the Ministry of Education, Arts and Culture, the University of Namibia and the Namibia University of Science and Technology, launched the KOPANO Online Education Forum on 7 March at the Safari Court Hotel in Windhoek.

	• Assisted in the formulation of e-learning strategy/policy for institutions.
Zimbabwe	• Printing and dissemination of information-education-communication (IEC) materials on COVID-19 for learners, teachers and communities. • Online learning: rolling out continuous capacity development on the use of e-learning platforms. • Radio and TV lessons. • Training of education managers, teacher colleges and polytechnics to acquire knowledge on ICT-related equipment and tools. • **Education Sector COVID-19 Response Plan (ESCRP) launched by the Ministry of Education**, ensuring the continuity of learning through the implementation of key activities aimed at maintaining quality learning. Under the plan, there will be radio programming, digital and online learning, provision of supplementary learning materials, amongst others.

Table 3 clearly illustrates wide-ranging measures that ministries, institutions and central governments have taken towards mitigating the impact of COVID-19 on the education sector in the SADC region. All Member States (see Table 4) concur that government actions were focused on the development and use of online materials in ensuring the continuity of students' academic experience during the pandemic. In addition, 92% of respondents highlighted that government actions were directed towards alternative was of delivering offline courses, through TV, radio or print media. The government actions of different Member States are categorised in Table 4.

Table 4: Types of government action taken to support the continuity of students' academic experience, by category

Support/Initiative/Actions	Member States	Frequency (%)
Development and use of online materials and platforms	Angola Eswatini Lesotho Madagascar Malawi Mauritius Mozambique Namibia Seychelles South Africa Tanzania Zambia Zimbabwe	100%
Developing alternative offline methods of delivery – TV, radio or print media	Angola Eswatini Lesotho Madagascar Malawi Mauritius Mozambique Namibia South Africa Tanzania Zambia Zimbabwe	92%

Social assistance	Mauritius Seychelles South Africa Tanzania	31%
Setting up of structures and taskforces	Angola Zimbabwe	15%
Partnership with other stakeholders	Angola	7%
Teacher training	Zimbabwe	7%
Internet access	Seychelles	7%

Figure 1 and Table 5 display the specific instructional resources employed by different SADC Member States to support students' continuous academic experience.

Figure 1: Instructional resources used across Member States

Table 5: Instructional resources used across education levels

Instructional resources	Early childhood	Primary	Secondary	TVET	University
Printed instructional packages	30.77%	61.54%	76.92%	23.08%	7.69%
Radio education	46.15%	76.92%	69.23%		
Educational TV	38.46%	76.92%	76.92%		
Using existing online distance-learning platform/resources	38.46%	61.54%	76.92%	53.85%	76.92%
Develop new online platforms (virtual classrooms)	23.08%	38.46%	46.15%	30.77%	53.85%
Partner with private education platforms	15.38%	23.08%	38.46%	38.46%	46.15%

Note: The percentages reflect the number of positive responses received on the usage of the instructional resources based on the total number of respondents across the 13 Member States.

From the above results, it seems clear that existing online distance-learning platforms have been used by most Member States (8 out of 13 respondents) in response to the shutdown of schools/universities during the pandemic. Although authorities established policies for the use of online platforms, a number of challenges impacted negatively on the feasibility of this option, such

as internet access, the continuity of curriculum coverage from the pre-lockdown period, the integration of learners of differing intellectual ability, and an appropriate home environment.

On the other hand, the majority of Member States (9 out of 13 countries) have not considered the option of partnering with private education platforms. This could be due to the sudden closure of schools and the limited time-frame available for setting up the legal frameworks required for public–private partnerships focused on a rapid response to the education crisis.

When considering the use of instructional resources across different education levels, more than three-quarters of the respondents claim that educational radio and TV have been the most utilized media for ensuring the continuity of academic learning for primary and secondary students. This also seems to be the case for pre-primary learners, where radio and TV programmes have been used frequently to ensure the continuity of their academic experience relative to other types of instructional resources. In addition, printed instructional packages have commonly been used in response to the pandemic at primary (8 out of 13 respondents) and secondary levels (10 out of 13 respondents).

However, given the different environment for students in higher education, universities and TVET colleges have focused their actions more frequently on the use of online distance-learning resources. In fact, the use of radio and television is not practical for delivering higher education, and this is consistent with the survey results, which show that the types of instructional resources used depend on the profile of learners, and that radio and TV educational programmes are less relevant and less effective for learners in the higher education sector. As Table 5 shows, no Member State mentioned using radio and TV educational programmes for TVET and university students.

2.4 Support measures to ensure continuity of learning for disadvantaged students

The Sustainable Development Goals (SDG) 2030 Steering Committee has delineated guidelines[2] to ensure that no single learner is left behind, to prevent educational inequalities from widening and to ensure equal opportunities for all – especially for the most disadvantaged students. Furthermore, the Committee reiterated the need to recognize and support the critical roles that different key stakeholders – such as governments, international cooperating partners and institutions, communities, teachers, amongst others – can play in response to the COVID-19 education crisis. In this regard, Table 6 highlights the main measures taken by Member States to support students from disadvantaged backgrounds.

Table 6: Actions in place to support students from disadvantaged backgrounds

Country	Support/Initiative/Actions
Angola	• Design and distribution of exercise books for students who cannot access telecast and audio classes. • Social programme developed by government to support families, including meals and the distribution of free basic food baskets to vulnerable groups.
Eswatini	• For those without radios, the procurement of radios with USB flash drives containing packaged recordings of lessons. • Inter-governmental collaborations to ensure the continuation of the school feeding programme via Neighborhood Care Points. • The special case of learners with disabilities has been well taken care of through the provision of sign language interpreters on all TV lessons. Further, all TV lessons will be recorded and given to all learners with disabilities when schools resume as part of their high-tech learning materials.
Lesotho	• Production of self-instructional materials. • Provision of education on COVID-19 through national radio and TV broadcasts. • Packed food rations for orphans and vulnerable children. • Meals were provided at the beginning of lockdown for primary school learners, but ended after a week due to logistical challenges.
Madagascar	• Endowment of storybooks and French–Malagasy dictionaries.

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[2] https://www.sdg4education2030.org/sdg-education-2030-steering-committee-urges-protection-education-now-and-post-crisis

	• Donation of self-study notebooks on all subjects for exam classes and on the basic subjects of French, Mathematics, Malagasy for intermediate classes. • Partnerships with private organizations in support of school feeding programmes.
Malawi	• Printing of modules, including in large print and Braille for students with visual disabilities. • Provision by some institutions of laptops or tablets with pre-loaded teaching materials for disadvantaged students. • Distribution of take-home rations to learners through their parents or guardians while still observing the COVID-19 prevention measures.
Mauritius	• Free internet facilities for needy families. • Programmes have been broadcast on TV for students who do not have computer/internet facilities. • Remedial measures will be put in place when schools resume to enable students to catch up. • Some tertiary institutions have catered for the provision of PCs to students who do not have laptops/PCs. • Provision of internet access to students who do not have internet access at home. • Assistance to international students at tertiary level in terms of essential commodities and transportation facilities.
Mozambique	• Provision of learning materials (fact sheets and support text) at no cost to parents and guardians. • Schools have been instructed to reproduce and distribute learning sheets, with classes continuing through community radio. • Provision of food products to parents or guardians across the 150 schools with assistance from the National School Food Programme.
Namibia	• Disability and child maintenance grants in place, and support provided to low-income households to keep children healthy during COVID-19. • Maize mix is provided to schools for distribution among vulnerable and needy learners in the community. • Different modes of communication are established with students. Printed materials are delivered to regions/schools, and e-learning is also provided for learners who can access the internet.
Seychelles	• All students who were receiving social benefits in terms of school meals and other social assistance at schools (pre-COVID-19) continued to receive such

	support through financial assistance provided by the Agency for Social Protection, after consulting educational institutions through the Ministry of Education and Human Resource Development.
South Africa	• Child social grants were increased. • The feeding programme was maintained in the Western Cape where schools continued to provide meals to learners; although the programme was suspended in the other provinces. • Free online resources were made available to all learners; however, not all learners, especially those in disadvantaged communities, could access the internet, or afford the data to do so.
Tanzania	• Production and distribution of large-print and Braille materials at household level for impaired-vision and blind students. • Production and distribution of offline printed materials for students in remote areas (hard to reach areas), whereby district education officers, ward education officers, head of schools and teachers in collaboration with parents ensure that materials are delivered to targeted students. • Community sensitization through social media.
Zambia	• Government is distributing printed instructional materials to children in rural areas with no access to TV or radio channels. • Government is distributing food relief to vulnerable families in communities through the Office of the Vice President: Disaster Management and Mitigation Unit. • Government is also giving some funds to help the vulnerable through social-grant cash transfers. • Procurement of educational tablets (from Astral Learning) and making them available to learners for hire-purchase.
Zimbabwe	• Zimbabwe needs financial assistance as internet data for learners to connect to online classes is very expensive. There is no specific support in terms of school feeding programmes and/or educational learning assistance for disadvantaged students.

The majority of Member States (12 countries) have established policies to ensure the continuity of learning for disadvantaged students. These initiatives mainly comprise: free internet access, provision of offline and printed materials to students with disabilities and in remote areas, provision of tablets or PCs, maintaining school feeding programmes, distributing food relief to

vulnerable families in communities, and the provision of social grants (amongst others) during the pandemic. In particular, more than 70% of the respondents indicated that their actions were mainly targeted towards the provision of offline and printed materials to students with disabilities and in remote areas (see Table 7). However, while specific actions from different Member States are laudable, bilateral or regional consultations would undoubtedly be useful for individual Member States' to share the lessons they learned on the implementation challenges of providing educational support effectively to their vulnerable students.

With respect to the main actions/policies directed towards disadvantaged students in different Member States discussed above, the main issues are categorized in Table 7.

Table 7: Actions in place to support students from disadvantaged backgrounds, by category

Support/Initiative/Actions	Member States	Percentages
Provision of offline and printed materials to students with disabilities and in remote areas	Angola Eswatini Lesotho Madagascar Malawi Mozambique Namibia South Africa Tanzania Zambia	77%
Maintaining school feeding programmes	Eswatini Madagascar Malawi Mozambique Seychelles South Africa	46%
Distributing food relief to vulnerable families in communities	Angola Lesotho Namibia Zambia	31%
Provision of social grants	Namibia Seychelles South Africa Zambia	31%
Provision of tablets or PCs	Malawi Mauritius Zambia	23%
Free internet access	Mauritius South Africa	15%

Specific examples of actions to support disadvantaged learners are highlighted below.

Free internet access

- While free online learning resources were made available to all learners, not all learners, especially those in disadvantaged communities, could access the internet and/or afford data. (South Africa)
- Free internet facilities provided for needy families. (Mauritius)

Provision of offline and printed materials to students with disabilities and in remote areas

- Design and distribution of exercise books for students who cannot access broadcast radio and TV classes. (Angola)
- Donation of self-study notebooks on all subjects for exam classes and on the basic subjects of French, Mathematics and Malagasy for intermediate classes. (Madagascar)
- Provision of learning materials (fact sheets and support text) at no cost to parents and guardians. (Mozambique)
- Production and distribution of offline printed materials, particularly to students in remote areas. (Tanzania)

Provision of tablets or PCs

- Provision by some institutions of laptops or tablets with pre-loaded teaching materials to disadvantaged students. (Malawi)
- Procurement of educational tablets (from Astral Learning) and making them available to learners for hire-purchase. (Zambia)

Maintaining school feeding programmes

- Inter-governmental collaborations to ensure the rollout of school feeding programmes via Neighborhood Care Points. (Eswatini)

Distributing food relief to vulnerable families in communities

- Government social programme to support families, including the distribution of meals and free basic food baskets to vulnerable groups. (Angola)
- Packed rations for orphans and vulnerable children. (Lesotho)

Provision of social grants

- Disability and child maintenance grants in place, and support provided to low-income households to keep children healthy during COVID-19. (Namibia)
- Social benefits in terms of school meals and other social assistance at schools (pre-COVID-19) were continued through financial assistance provided by the Agency for Social Protection. (Seychelles)

2.5 Support and instructional resources provided to teachers for their professional development

The 3rd Specialized Technical Committee on Education, Science, Technology and Innovation (March 2020)[3] highlighted the role of teachers as facilitators and motivators of learning in their response to limit the negative consequences of COVID-19 on Africa's education systems. In particular, the committee asserts that '*Teachers should deploy relevant technologies such as webinars to continue to engage and motivate learners to learn.*' In this regard, the professional development of teachers is crucial to ensure the continuity of learning during the pandemic. More importantly, the need to switch from traditional modes of learning to online/distance learning during the pandemic calls for teachers to be trained and equipped with the relevant skills and competences to deliver their lessons and lectures under the new 'normal' environment. In this respect, schools, educational institutions and universities need to ensure that teachers/lecturers receive professional support/advice so that they can effectively respond and attend to the expectations and needs of learners during the pandemic.

Table 8 summarises the professional support/advice given to teachers during the pandemic by Member States.

Table 8: **Professional support/advice given to teachers during the pandemic**

Country	Professional support/advice
Angola	• Use of existing online distance learning platforms/resources for all levels of education from ECD to higher education.
Eswatini	• Through assistance from Botho University, all teachers from ECD to university level followed an on online teaching course free of charge.
Lesotho	• Orientation workshop on COVID-19 for TVET institutions.
Madagascar	• Radio and TV broadcasts on how to conduct lectures during the lockdown period. • Guidelines on early childhood care and development.
Malawi	• Frequent communication and the provision of training and internet access. • Provision of faculty online training and online learning support. • Sensitization of staff on the pandemic and how to prevent contracting COVID-19.

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[3] African Union in collaboration with UNICEF (30 Mar 2020), Education Sector response to COVID19 to ensure continuity of learning in AU Member States.

	• The university has remained accessible to address individual teacher's concerns. • Hand washing stations provided throughout the university, and all staff offices arranged with adequate social distancing space.
Mauritius	• Preschool programme guidelines are under production for early childhood educators, and links to materials and resources are posted online. • Dedicated educators are recording lessons for the respective grades under the constant guidance and approval of the Inspectorate team and the Mauritius Institute of Education. • Guidelines and support have been provided to educators on the use of online teaching and learning platforms such as Microsoft Teams. • The Ministry of Education, Tertiary Education, Science and Technology has been organizing webinars on Microsoft Teams open to all persons in the education & TVET sector. • Training for academic staff on how to use online platforms to carry out their lectures (Zoom, Skype, Moodle, etc.) and conduct e-assessments of their students (Moodle). • Exam marking and moderation of papers and dissertations conducted at home. • Regular information and guidance to lecturers via email on how to use online learning platforms. • Universities provided 24-hour support to academics on how to use Google Classroom, Meet, Zoom and Turnitin. • Three training sessions have been provided to academics on the online submission of dissertations.
Mozambique	• Educational guidelines and capacity building for producing distance-learning lessons via digital platforms, radio and TV.
Namibia	• Capacity-building programmes on how to prepare and present online lessons. • A draft concept paper produced on e-learning and its requirements plus the training of instructors/trainers on e-learning pedagogy. • Online platforms available for consulting with lecturers, groups, taking tests, preparing assignments, etc. • Provision of e-learning materials on different subjects through KOPANO and the Namibian College of Open Learning (NAMCOL).
Seychelles	• All teachers were encouraged to keep in contact as much as possible with the students under their care through various social media platforms, most of the

	time on their own initiative. They were encouraged to use their time during the lockdown period to plan and prepare lessons for the re-opening of schools.
South Africa	• Access to teaching and learning resources via the Department of Basic Education website. • Televised lessons on selected channels in specific subjects. • In all provincial education departments, curriculum specialists, subject advisors/lead teachers provided teachers with a wide range of online teaching professional support and help with the development and dissemination of resources on shared platforms and teacher chat groups.
Tanzania	• Preparation of online, radio and TV programmes as well as offline materials. • Development of tools that enable teachers to share knowledge on distance e-learning and on using online learning resources.
Zambia	• Training on how to manage learners during lessons. • Training on how to protect themselves and students from the risk of getting infected. • Provision of capacity-building training on ways to deliver better lessons. Teachers and lecturers are encouraged to use e-learning and teaching methods to reach students. • Training to enhance skills for the delivery of virtual learning. Induct lecturers in ICT skills so as to enhance their abilities to deliver lessons effectively via e-learning platforms. • Training of trainers on online teaching. Guide lecturers on the effective and efficient use of e-learning tools and materials. • In-house training for lecturers on the use of various e-learning platforms. In particular, developing skills for using WhatsApp, Zoom and Moodle. • Providing teachers with financial support to obtain data bundles to ensure internet access while not at their institutions of learning. • IT department is working with lecturers to ensure technical assistance. • Infrastructural support for lecturers to record videos, voice messages and other materials and transmit them via social media accounts. • Building lecturers' capacity so they can provide online learning via the Astria Learning Management System (LMS).
Zimbabwe	• Health tips, including physical distancing, healthy diet and practices, and use of protective clothing; and guidance on preparing back-to-school materials. • Capacity-building meetings held via Zoom, and efforts are still underway to guide teachers and trainers on best online teaching practices.

	• Some university lecturers and trainers have been capacitated by their management to teach online.

Professional support for teachers has been mainly geared towards training on the use of online distance-learning platforms through Zoom. In some Member States (Malawi, Mauritius, Mozambique, Namibia, Zambia and Zimbabwe), strategies have focused on organizing 'training of the trainers' sessions on the effective and efficient use of e-learning tools, with the objective of mass training educators at different levels. Furthermore, online educational resources to support the current school curriculum were posted and made accessible to teachers (e.g. in Angola, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Zambia). In addition, infrastructural and technical IT support to develop radio and TV educational programmes has been made available to teachers in some Member States (Mauritius, Mozambique, Namibia and Zambia). While these efforts have been put in place within a short time period, the monitoring of online lectures has been questionable and there have been lacunas in government policy in terms of putting in place quality assurance procedures to evaluate online teaching. Moreover, there seems to be no subsequent follow up on feedback received on the effectiveness of online educational materials.

However, within the short time period, teachers have nevertheless made innovative use of different means and educational strategies. Table 9 depicts some of the innovative actions undertaken in different Member States. However, it is worth highlighting a number of them here first:

- Creation and use of WhatsApp groups with students for communication and teaching/learning as well as the correction of set exercises. (Angola, Mauritius, Malawi, Mozambique, Namibia and Zambia)
- Use of various videos available on YouTube to enhance the delivery of classes. (Mauritius)
- Organizing online graduation ceremonies. (Malawi)
- Conducting online assessment through Google Classrooms. (Mauritius)
- Setting up social media groups to communicate and share experiences with each other and with their students. (Seychelles and Angola)

- Creating and using digital games as part of their teaching and learning approach in their subjects. (Zimbabwe)
- Integrating COVID-19-related issues in the curriculum through drama. (Angola)

Table 9: Actions examples/stories on how teachers have innovated during this period

Country	Support/Initiative/Actions
Angola	• Technical school teachers, particularly in the Institute of Telecommunications, have been teaching and providing practical work to students via Facebook and WhatsApp during the pandemic period.
Lesotho	• Dramas on the COVID-19 pandemic broadcast on TV and radio are regularly used between lessons, integrating them with related concepts in the curriculum.
Madagascar	• The sharing and catching-up of lessons and exercises by parents, initiated by teachers from private-sector schools. • For some universities, the finalization of the 2018/19 academic year via online exams.
Malawi	• Provision of some lessons through WhatsApp for students without laptops and/or internet access. • Conducting needs-assessments for students, families and staff faculty members. • Customizing module course outlines into 'Module Teaching Guides' that will be used for online teaching and learning. • One online university held an online graduation ceremony –352 graduates were awarded certificates in a ceremony attended virtually by graduates and their families from the safety of their homes.
Mauritius	• Some teachers have created WhatsApp groups with their students for communication and teaching/learning as well as for correcting set exercises. • Some secondary schools have created their own virtual classroom learning platform. • Some staff in TVET colleges used various videos available on YouTube to enhance the delivery of their classes. • A number of websites with learning materials were used by trainers to deliver their courses. • Use of e-assessment (quizzes on Moodle, Google Classroom, etc.). • Besides teaching through Zoom and Google Classroom, oral presentations were done through Google Meet. • 'Open Discussion to Share Concerns & Difficulties during Confinement' – this panel of experts (comprising qualified psychologists, psychiatrists, healers and

	life-coaches) was available to address concerns relating to mental and emotional well-being and to share practical advice on dealing with the lockdown. • Organize online tests using the MCQs feature of Google Classroom to test if students have learned concepts explained during the Zoom lectures. • Use of Google Forms for taking in assignments and reports.
Mozambique	• During an in-person teaching period, a teacher records the lesson via mobile phone, which is then evaluated afterwards with advice given on how to fill any gaps in the lesson. • There are teachers who interact with parents through WhatsApp, who can ask questions about the exercises sent to their children.
Namibia	• Created different platforms with peer teachers to develop their own materials. • Created WhatsApp groups with parents and caregivers to link up with learners. • Many teachers linked up on the KOPANO platform. • Different online platforms for information sharing and online learning were created.
Seychelles	• Teachers formed social media groups to communicate and share experiences with each other and their students. Some schools went as far as using Google Classrooms so that teachers could learn how to use the platform at the same time.
South Africa	• Judging from media reporting and reports from communities of practice, teachers have had to learn how to use new online technologies to deliver lessons, support and monitor learners, and assess completed tasks. In Grade 12 Visual Arts and Design classes, teachers/subject advisors have experimented with e-platforms that allow for the upload and display of source books and art works.
Zambia	• Teachers and lecturers have created WhatsApp groups for their pupils and students, which is also used to deliver lessons and assignments. • Some teachers and lecturers are also conducting lessons via virtual classrooms, while others are using various conferencing applications and student portals to deliver education. • Use of email to send and receive work. • Various ways of facilitating learning through the development of learning materials by way of videos, voice messages and written materials. • Using SMS to send learning materials to learners. • Getting feedback through screen shots, which are printed and marked accordingly.

Zimbabwe	- Development of personal protective equipment (PPE) through TVET subjects. - Raising income for their schools through the production of PPE. - Integration and incorporation of inclusivity in blended learning. - Creation of new, and the digitization of existing, instructional materials for use in the classroom. - Creation and use of digital games as part of teaching and learning approaches to their subjects.

2.6 Funding sources and implementation measures

During the pandemic, it was imperative to support educational institutions with financial assistance for the development and distribution of learning materials by way of TV and radio programmes, podcasts, DVDs, online courses and offline learning packages. In addition, Member States were also required to contribute financially to ensure access to distance-learning materials, most particularly for students who did not have computers and/or internet connectivity. Furthermore, the continuity of school feeding programmes was also deemed absolutely crucial for needy students and funding had to be maintained for their benefit during the pandemic.
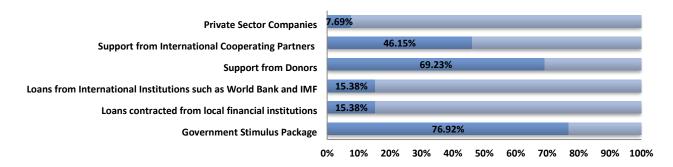
When asked about the kind of financial support that was made/is available for learning materials, distance learning and food support, a large percentage of respondents (see Table 10), indicated that funds emanated primarily from government relative to other sources. Less than 25% of the respondents indicated requesting support from the private sector and/or UN Agencies, which could be explained by the relatively lengthy process involved to secure funds from third parties and/or international organizations. Because of the pandemic, Member States' responses had to be fast and timely. The various funding sources are presented in Table 10.

Table 10: Funding sources for implementation of response measures

	Government	Private sector	UN	Multiple sources
Learning materials	**46.15%**	**15.38%**	**23.08%**	**15.38%**
Distance learning	**38.46%**	**15.38%**	**15.38%**	**30.77%**
Food support	**71.43%**	**14.29%**	**14.29%**	

Government interventions are crucial to mitigate the negative impact of the crisis on the continuity of education. However, these education interventions have undoubtedly impacted national budgets, and governments have been using different means to ensure funds were made available. When asked on the means used to support education interventions, the majority of respondents indicate that government stimulus packages and support from donors were the most frequent sources of funding for rolling out instructional materials, ensuring continuity of school feeding programmes and for fostering a distance-education mode of learning. The responses are delineated in Figure 2.

Figure 2: Support/financing for government educational interventions

Category	Percentage
Private Sector Companies	7.69%
Support from International Cooperating Partners	46.15%
Support from Donors	69.23%
Loans from International Institutions such as World Bank and IMF	15.38%
Loans contracted from local financial institutions	15.38%
Government Stimulus Package	76.92%

2.7 Most challenging measures/actions taken in response to COVID-19

The issues identified by the majority of Member States as most challenging for tackling the crisis were: the continuity of assessment, the well-being of students and teachers, and ensuring the continuity of students' academic learning (see Figure 3). With the unexpected interruption of learning resulting from the pandemic, schools and HEIs have had to replace more traditional assessment methods with alternate ways of assessing students. As an example, universities in Mauritius implemented an assessment method for non-final year students that entailed the sole use of continuous assessment, which included online tests and assignments in lieu of traditional written examinations. However, this approach can pose challenges around ensuring the integrity of the assessment; do these tasks effectively evaluate whether the required skills and knowledge are being conveyed to students?
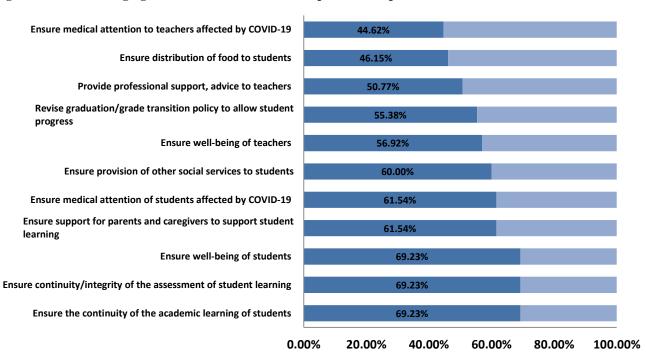
Figure 3: Most challenging measures/actions taken in response to the pandemic

Measure/action	Percentage
Ensure medical attention to teachers affected by COVID-19	44.62%
Ensure distribution of food to students	46.15%
Provide professional support, advice to teachers	50.77%
Revise graduation/grade transition policy to allow student progress	55.38%
Ensure well-being of teachers	56.92%
Ensure provision of other social services to students	60.00%
Ensure medical attention of students affected by COVID-19	61.54%
Ensure support for parents and caregivers to support student learning	61.54%
Ensure well-being of students	69.23%
Ensure continuity/integrity of the assessment of student learning	69.23%
Ensure the continuity of the academic learning of students	69.23%

When considering the challenges across different education levels, those involved with ensuring continuity of academic learning and assessment, ensuring support for parents and caregivers, and ensuring the well-being of students seem to be more prominent for early childhood, primary and secondary education levels relative to adult learners. Undoubtedly, students in the early childhood, primary and secondary levels should be provided with more attention, care and support to cope

with, and catch up on, the loss of learning opportunities due to the pandemic. Essentially, the majority of respondents (9 out of 13 countries) indicated that ensuring the continuity of academic learning was clearly more challenging for early and young learners than for adult learners. This may mainly be due to the fact that younger learners need to be supervised by parents or guardians in their play and learning activities. In addition, without the support of parents and caregivers, younger learners might not be able to keep to regular routines in the new environment.
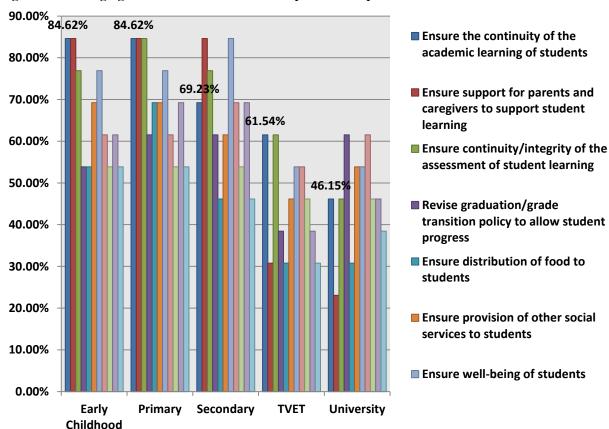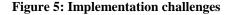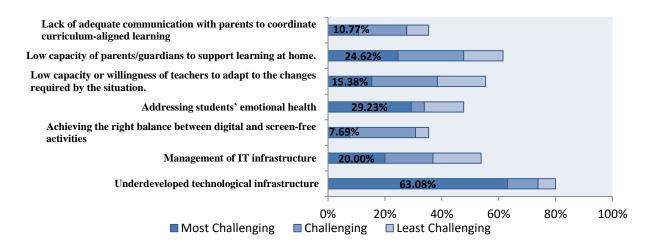
Figure 4: Challenging measures/actions taken in response to the pandemic across education levels

2.8 Implementation challenges across Member States

The willingness of governments to mitigate the negative consequences of the pandemic and establish measures to support the continuity of academic experiences is a necessary but not sufficient condition. Member States were/are faced with a number of specific implementation challenges. According to the majority of respondents (see Figure 5 below), the domains which involved the most challenges included: underdeveloped technological infrastructure (63% response rate); the management of students' emotional health (29% response rate); the low capacity of parents/guardians to support learning at home (25% response rate); and the management of IT infrastructure (20% response rate). These results are consistent with the results from the Programme for International Student Assessment (PISA) 2018 survey as well as the OECD 2020 survey on COVID-19 (Reimers & Schleicher, 2020).

Figure 5: Implementation challenges

The implementation challenges seem to differ depending on the requirements and expectations of different levels of learners: early childhood learners will have particular problems that university students do not face. The results detailed in Table 11 provide an insight into these differences across education levels.

Table 11: Implementation challenges across education levels

Implementation challenges	Early childhood	Primary	Secondary	TVET	University
Underdeveloped technological infrastructure	76.92%	69.23%	61.54%	69.23%	38.46%
Management of IT infrastructure	23.08%	30.77%	23.08%	15.38%	7.69%

Achieving the right balance between digital and screen-free activities	7.69%	15.38%	7.69%		7.69%
Addressing students' emotional health	30.77%	30.77%	38.46%	23.08%	23.08%
Low capacity or willingness of teachers to adapt to the changes required by the situation	15.38%	15.38%	23.08%	7.69%	15.38%
Low capacity of parents/guardians to support learning at home	23.08%	23.08%	30.77%	23.08%	23.08%
Lack of adequate communication with parents to coordinate curriculum-aligned learning	7.69%	15.38%		15.38%	15.38%

Table 11 shows that technological infrastructure is a major challenge for pre-university students. At least eight Member States indicated this factor was an implementation challenge, from early childhood through to secondary levels of education. The results also suggest that the management of information technology (IT) is a concern for early childhood, primary and secondary learners. The same observation is made with regards to addressing students' emotional health. Overarchingly, the implementation challenges seem more pronounced for the early childhood, primary and secondary education sub-sectors. Such a finding may also be explained by early and young learners' heavy dependency on their parents and teachers.

Undoubtedly, access to computers – to enable students to continue their educational experience during the lockdown period – is one of the major impediments to any official educational response. This challenge is less pronounced for developed countries such as Denmark, Norway and Switzerland, amongst others, where over 95% of students reported that they had access to a computer (Reimers & Schleicher, 2020). In the African context, the data from the UNESCO Institute for Statistics (UIS) and the International Telecommunication Union (ITU) report that '*disparities in distance education are particularly evident in low-income countries. Nearly 90% of students in sub-Saharan Africa do not have household computers while 82% are unable to get online*' (UN News, 2020, n.p.). One might also argue that students can use mobile phones – which are cheaper and more accessible alternatives to computers. Furthermore, most countries' low broadband internet connectivity is another major constraint. In fact, according to the Broadband Commission for Sustainable Development (2019) report, less than a third of the population across Africa has access to broadband connectivity. The Broadband Commission states that '*the challenge for any major initiative that seeks to double broadband access in a short timeframe, particularly one that relies on mobile internet use as is the case in Sub-Saharan Africa, must also consider ways to improve device affordability*' (Broadband Commission for Sustainable

Development, 2019, p. 87). Figure 6 shows the critical situation on device affordability for the sub-Saharan African region relative to other regions.

Figure 6: Affordability of entry-level devices in low- and middle-income countries, by region

Source: GSMA. 2019. Connected Society. The State of Mobile Internet Connectivity.
Note: Score based on normalized price of an entry level internet enabled mobile device (higher score means more affordable devices).

Source: Broadband Commission for Sustainable Development (2019, p. 86).

According to the OECD PISA 2018 survey, three in ten students from Asian countries (such as the Philippines, Indonesia and Thailand) do not have a quiet environment to study (OECD, 2018). Such a situation may be deemed similar for many African countries given the relatively higher number of socio-economically disadvantaged students and vulnerable families in African countries. This situation highlights that the emotional health[4] of students and the low capacity of

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[4] 'Emotional health is a person's ability to accept and manage feelings through challenge and change. The implications of decreased emotional well-being are related to mental health concerns such as stress, depression, and anxiety. These in turn, contribute to physical health concerns such as digestive disorders, sleep disturbances, and general lack of energy (*Emotional well-being & mental health*. Harvard Health Publications: Harvard medical School. Harvard University)'.

parents/guardians to support learning at home are the two biggest challenges to implementation (see Figure 5).

2.9 Curriculum recovery plans

When queried as to which education and learning measures should form part of a curriculum recovery plan, most respondents (more than 60%) indicated that the extension of teaching and learning time, the re-scheduling/postponement of classes and accelerated learning programmes were among the measures being adopted/considered in their countries (see Figure 7). Very few respondents (less than 15%) have considered mass promotion and the scrapping of examinations as viable options.

The results listed in Table 12 highlight the specific learning and educational measures for early childhood learners relative to other type of learners. In particular, according to the findings, accelerated learning programmes or the scrapping of examinations would be neither relevant nor reasonable for these learners. Similarly, mass promotion/passing was/is not a valid option for TVET and university students (no Member States have stipulated this option) given that it is fundamental for such learners to have the appropriate technical knowledge and skills to ensure their employability.

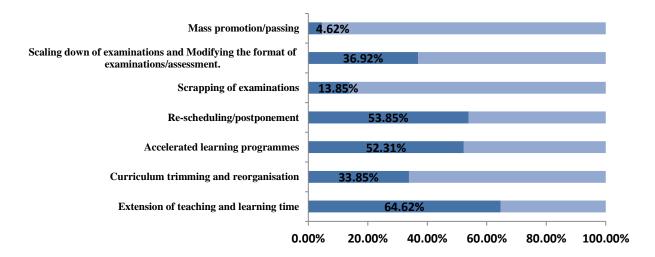**Figure 7: Curriculum recovery plans**

Table 12: Curriculum recovery plans across education levels

Curriculum recovery plans	Early childhood	Primary	Secondary	TVET	University
Extension of teaching and learning time	38.46%	69.23%	69.23%	69.23%	76.92%
Curriculum trimming and reorganisation	23.08%	46.15%	46.15%	23.08%	30.77%
Accelerated learning programmes	30.77%	69.23%	61.54%	53.85%	46.15%
Re-scheduling/postponement	38.46%	69.23%	69.23%	46.15%	46.15%
Scrapping of examinations		23.08%	23.08%	7.69%	15.38%
Scaling down of examinations and modifying the format of examinations/assessment.	7.69%	53.85%	53.85%	30.77%	38.46%
Mass promotion/passing	7.69%	7.69%	7.69%		

2.10 COVID-19 and its silver lining

Every cloud has a silver lining and it is possible to detect some educational changes resulting from the pandemic crisis that are positive.

In the view of 12 Member States (see Table 13), the main positive (and unexpected) educational changes were related to: the introduction and use of technology as a learning tool; the development of distance-learning education; the importance, and upgrade, of internet broadband access at home and in educational institutions; the setting up of e-learning policies in educational institutions; and the importance, and improvement, of learners' hygiene conditions. Most respondents (at least nine Member States) claim that the positive educational changes during the pandemic crisis were the development of distance-learning education along with the use of technology as an important learning tool.

However, while the above opinions highlight the importance of technology for online learning, the hard reality is that online and distance-learning methods have their own limitations and challenges. In particular, according to Mary Burns (2020, n.p.) '*No other distance education medium can approximate the classroom experience and connect learners in real-time to their teacher, to each other, and to expertise across the globe. … online learning during the COVID-19 pandemic has struggled under the weight of such expectations and failed to live up to its considerable potential*'. Burns (2020) stressed disappointment in online learning could be explained by the following:

- For many learners, online education has been exclusive, not inclusive;

- Online education has failed to impress its customer base – students (students dislike much of the product itself);
- Online education has proved to be highly didactic and passive, and has resulted in an impoverished learning experience for many students; and
- This crisis has laid bare the lack of readiness of online education as an equitable and quality education solution.

Table 13: Unexpected positive educational support, initiatives and actions in response to the pandemic

Country	Support/Initiative/Actions
Angola	- The need for the implementation of technological management in education and teaching institutions, with the adoption or updating of digital education and teaching platforms. - The development of distance-learning tools, including specific software adapted for each institution. - Availability on institutional websites or other platforms of course programmes and lesson plans with videos. - Development of partnerships with national and international institutions for experience exchange. - Training and qualification of teachers to meet the challenges of these new teaching modalities. - The improvement of internet quality for institutions, students and teachers. - Development of research and teaching in the modalities of distance learning. - The democratization of internet access in society. - The question of resizing classrooms and improvement of material conditions in schools. - Improvement of hygiene conditions in school grounds; access to water, energy and school transport. - Adjustment of means to provide school meals and other social support for families. - Greater and better interaction between schools and parents/guardians to monitor students.
Eswatini	The teaching and learning through radio, TV and print media has been received well by the public and has long been in the education ministry's plan. The major priority at this point is to expand it to other levels, and further sustain it.

	- The strengthening of proper hygiene practices like hand washing will definitely improve health of learners and contribute to reduced absenteeism rates in future. - Investments in distance learning at all education levels will significantly improve the delivery of lessons.
Madagascar	- Strengthening the promotion of hygiene education in the school environment such as hand washing with soap and other basic actions. - Innovation in learning via radio and TV programmes or online social networks. - Conception of lessons and exercises by teachers to be carried out by learners at home.
Malawi	- Use of online lessons and radio. - Introduction of educational radio stations and TV programmes is being considered. - Both students and teachers have been educated on how to use and access teaching and learning materials when they have no access to printed materials. - Willingness of faculty to use e-learning. - Institutions have been persuaded by the pandemic to consider and develop a platform for online teaching and learning to prevent disrupting the education progress of students. We are therefore considering maintaining this beyond COVID-19 to have a blended system of teaching and learning. - A 'virtual' graduation ceremony online enabling international students to participate. - Holding of informal 'coffee mornings' to maintain student contact.
Mauritius	- Production of a pre-school programme guidelines for early childhood educators. - Printed instructional resources for parents. - Review of class sizes for the primary sector – some schools have very low in-take while others are overcrowded. - Rethinking of pedagogical approach for online teaching. This has provided opportunities for greater creativity as well as collaborative learning and dynamic interactivity. - Online teaching will become an integral part of the curriculum in the future. - The need to come up with an online learning platform and develop e-learning as the two main focuses so that same could be used for both formal training and unforeseen circumstances such as the COVID-19 pandemic. - Training of staff to ensure they can better manage and cope with such events.

	• Digitisation of learning materials for dispensing online, and e-learning and interactive sessions between trainers and trainees. • Online delivery of lectures at universities: moving from face-to-face to online delivery overnight was very challenging but yielded positive results. Feedback received from lecturers and students has been generally positive. • University of Mauritius (UoM) to confidently move forward with its plans to introduce a reasonable percentage (up to 50%) of online delivery of all modules as part of its strategy for learning and teaching – i.e. with sections of theory delivered online and then tutorials, practical and lab work conducted face-to-face. • Online submission of dissertations through dedicated Google Classrooms by final year students instead of hard copy and CD submissions as per existing regulations. • Although not implemented this year, UoM is exploring the possibility of introducing online examinations, where possible. • UoM has decided to implement paperless meetings across the University.
Mozambique	• Include ICT in the education system on a regular basis.
Namibia	• The importance of e-learning in schools. • Increase of peer-to-peer learning through e-learning – teamwork. • Provision of printed learning materials. • Support materials for re-opening of schools.
Seychelles	• Refurbish educational institutions to meet hygiene standards laid out by the national Department of Health.
South Africa	• The transition to using distance-learning modes. • Use of new technologies to teach and support smaller groups of learners. • Teachers having to learn new skills on their own and through their own community of practice in a subject phase or school community. • Greater emphasis is placed on the use of online learning and the digitization of curriculum content.
Tanzania	• Extended use of ICT in teaching and learning. • E-learning reinforcement. • Strengthened radio and TV educational programmes. • Distribution of books at primary and secondary levels. • Production and distribution of large-print materials, Braille materials and other offline materials for students with special needs.

Zambia	• The need to use digital systems such as Google Classrooms to provide learning materials (and lessons). • Embracing alternative means to deliver education, such as radio and TV educational programmes, and e-learning are some of the notable positive changes. • Learners/students have also enhanced their research and ICT skills enabling them to access learning. • Institutions are developing e-learning policies. • Online examinations being considered in TVET institutions. • More collaboration between the lecturer and the student. • Students have improved hygiene standards and cities are much cleaner than they were. • Developing and strengthening of e-platform skills to improve educational instruction and delivery.
Zimbabwe	• Resuscitation of radio lessons. • Development of online content. • Effective use of ICT. • Dissemination of more information on health issues. • Organisation of training workshops for teachers in ICT, curriculum development, science teaching and learner-centred techniques. • Development of a monitoring and evaluation plan of the COVID-19 mitigation strategies in the competence-based curriculum response. • Institutions will definitely be moving towards adopting online learning due to this pandemic.

The unexpected positive educational changes in different Member States listed above are categorised in Table 14.

Table 14: Unexpected positive educational changes in response to the pandemic, by category

Unexpected positive educational changes	Member States	Frequency (%)
Development of distance learning education	Angola, Eswatini, Madagascar Malawi Mauritius Namibia South Africa Tanzania Zambia Zimbabwe	77%

Introduction and use of technology as a learning tool	Angola Madagascar Malawi Mauritius Mozambique South Africa Tanzania Zambia Zimbabwe	69%
Setting up of e-learning policies in educational institutions	Angola Malawi Mauritius Namibia South Africa Tanzania Zimbabwe	54%
Improvement of learners' hygiene conditions	Angola Eswatini, Madagascar Seychelles Zambia Zimbabwe	46%
Importance, and upgrade, of internet broadband access for learners and educators	Angola Mauritius Mozambique Zambia	31%

3. Support measures mainstreamed in Member States' national plans

The main measures included in Member States' national plans for education in response to the pandemic are delineated in Table 15.

Table 15: Main educational support measures included in national plans

Country	Support/Initiative/Actions
Angola	• The Ministry of Higher Education, Science, Technology and Innovation has elaborated a contingency plan for the sector during the COVID-19 pandemic to deal with matters related to the financing of institutions. • Recommendations on the use of technologies for non-classroom teaching. • Preparation of conditions for the resumption of teaching activity after the cessation of the state of emergency and disaster. • Need to make adjustments to the academic calendar. • Recommendations for the different stages of re-opening in different education systems. • Closure of all public and private educational institutions. • Elaboration of a sectoral response plan. • The creation of radio and TV educational programmes. • Elaboration of minimum requirements for the resumption of the academic year.
Eswatini	The Contingency Plan for Education and Training feeds into the National Plan. Components of the plan include: • Creating awareness, sensitization and training of education personnel on COVID-19 prevention and the capacity to deal with suspected cases. • Provision of hand washing facilities, sanitizers and masks to educational institutions and students. • Provision of water and tanks to schools in need. • Providing sufficient capacity to offer career guidance and counselling to teachers for dealing with post-COVID-19-related issues. • Monitoring and evaluation of interventions and an impact analysis of COVID-19 in the education sector.
Lesotho	• PPE made available to teachers and learners. • Water tanks made available to schools without water. • The Ministry of Education and Training developed a Ministerial Recovery Plan that draws on guidelines from the National Command Centre for the COVID-19 Pandemic.

	• The Ministry of Education and Training has developed and submitted proposals soliciting financial support from the Global Partnership for Education (GPE), UNICEF and the World Bank. In late March 2020, the UNICEF office in Lesotho received a GPE grant of US$70,000 to support the Ministry of Education with producing lessons for radio and TV, as well as learner packs. • Online platforms and radio/TV lessons for primary and secondary learners have been developed and are regularly broadcast.
Madagascar	• Respond immediately to the shutdown of educational services to ensure continuity of learning and give access to distance-learning programmes. • Preparation for the re-opening of establishments and the resumption of educational services (including the finalization of the 2019/20 school year and preparation for the 2020/21 school year). • Reinforcement of the educational system's capacities in response to crises.
Malawi	• Introduction of radio and online lessons, and offline lessons using android tablets powered by solar energy. • Printing of modules for secondary school students. • Introduction of educational radio and TV programmes. • Enhancement of online learning.
Mauritius	• A Ministerial Committee chaired by the Prime Minister has been set up to plan the resumption of activities post-lockdown. • The Education Act has been amended to mitigate the effect of the COVID-19 pandemic. Introduction of the COVID-19 Bill. • There will be a progressive resumption of studies with strict sanitary measures (social distancing, etc.). • Distance education will become mandatory during school closures. • Reorganization of the curriculum to make up for lost learning. • Find time for holding external examinations and student assessments.
Mozambique	• Suspension of face-to-face classes. • Massive use of virtual platforms, radio and TV for classes and management of the educational system. • Production and distribution of exercise sheets. • Reinforcement of hygiene measures.
Namibia	• Introduced COVID Exit Strategies for different sectors by establishing a committee and also introduced State of Emergency COVID-19 Regulations. • Introduction of various face-to-face teaching methods, teaching smaller groups, online learning, TV and radio programmes.

	- Immediate closing of schools. - Implementation of WHO protocols. - Constant communication among line ministries. - Developed a set of regulations for each stage during lockdown.
Seychelles	- Re-organisation of public transport to facilitate students' movement whilst at the same time providing services to commuters. - Re-organisation of omnibus services (contracted out to private operators) to transport students in work placements to their respective institutions (TVET) and back. - Re-adjusting class timetables. - Adoption of measures in all educational institutions to respect the three principles laid out by the Department of Health: (i) heightened vigilance, (ii) hygiene, and (iii) social distancing.
South Africa	- Closure of schools. - Grade 12: Rescheduling of mid-year examinations to November 2020. - Grade 12 are expected to write the full set of examinations covering the entire curriculum; and other grades will be given a reworked curriculum and assessed on 80% of it. - Hand washing using soap and, where applicable, using alcohol-based sanitizers and appropriate social distancing methods. - Financial resources to augment teaching cohort.
Tanzania	- Designing and making use of e-learning materials. - Preparation of radio and TV programmes for primary and secondary level. - Develop tools that enable teachers to share knowledge in distance e-learning. - Fumigation and sanitization of all education institution buildings and surrounds. - Ensure availability of running water and sanitizers. - Creating enough space in the classrooms. - Providing guidance and counselling to students on how to adapt to the changes. - Accelerating the curriculum. - Teacher training on how to accelerate the curriculum. - Training of special needs education officers and school quality assurers on how to monitor the implementation of accelerated curriculum. - Creating parent/guardian awareness on accelerated curriculum and how to support their children accordingly.

Zambia	• Implementation of radio and TV education, and e-learning using existing online distance-learning platform/resources and developing new online platforms (virtual classrooms). • Printed and distributed instructional packages to learners/students in all parts of the country. • Closed all schools. • Institutions were requested to submit their e-learning strategies and budgets to the Ministry of Higher Education.
Zimbabwe	• Capacity development for education managers in line with the COVID-19 pandemic. • Provision of PPE such as masks, sanitizers and disinfectants. • Phased approaches for school/university openings. • Blended learning is the new normal and all classes are expected to maintain the minimum social distancing in and out of classes. • Timetables and class sizes broken up into smaller units. • Recruiting more teachers, lecturers, psychologists and lab assistants to meet COVID-19 requirements.

The support measures implemented in different Member States are categorised in Table 16.

Table 16: Main educational support measures, by category

Support/Initiative/Actions	Member States	Frequency (%)
Sanitary, hygiene standards and social distancing measures	Eswatini Lesotho, Mauritius, Malawi, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zimbabwe	77%
Setup online and other modes for learning such as TV and radio	Lesotho, Malawi, Mauritius, Madagascar, Mozambique, Namibia, Tanzania, Zambia	62%
Phased approach for school re-openings	Angola, Madagascar, Mauritius, Zimbabwe	31%
Setting up of a formal contingency plan	Angola and Eswatini	15%
Amendments to legislation frameworks/regulations	Mauritius, Namibia	15%

The respondents indicated the following support measures to mitigate the effects of the pandemic within their national plans:

- Sanitary and hygiene standards such as hand washing, PPE and reviewing class sizes to comply with social distancing (more than 70% of responses).
- The need to set up online and other modes of learning to support learners such as through TV and radio (more than 60% of responses in Lesotho, Malawi, Mauritius, Mozambique, Namibia and Zambia).
- Guidelines on a phased approach to school re-openings across different grades of learners (e.g. in Angola, Madagascar, Mauritius and Zimbabwe).

In addition, some Member States (six countries) have mainstreamed specific policies into their national plans, which include: the recruitment of teaching staff (Zimbabwe); amendments to legislation framework/regulations (Mauritius, Namibia); making transport facilities available to students (Seychelles); accelerated learning programmes (Tanzania); and the rescheduling of examinations (South Africa).

4. Recommendations and best practices

The prolonged effect of the current pandemic has undoubtedly affected, and will continue to impact, the continuity of learning and learning opportunities for many students worldwide. It is therefore imperative to develop and implement effective education responses to the crisis in order to protect all students' learning opportunities, most particularly those of vulnerable and disadvantaged students. With reference to the survey findings, the following best practices can be highlighted:

- The majority of Member States (e.g. Angola, Eswatini, Lesotho, Madagascar, Malawi, Mozambique, Zimbabwe Tanzania, Mauritius, amongst others) have developed radio lessons and collaborated with national TV channels to ensure the continuity of students' academic learning.
- Provision of platforms for online teaching and learning to ensure the continuity of learning. (Malawi, Namibia, Angola, Mauritius, South Africa and Zambia are a few examples).
- Some teachers and lecturers have been conducting virtual classrooms while others have been using various conferencing applications and student portals to deliver education (e.g. Zambia, Lesotho, Namibia and Mauritius).
- Scheduling a 'virtual' graduation ceremony online enabling international students to participate (Malawi).
- Developing and using their own online platforms. For example, Namibia provided a customised ICT resource aimed at providing learning materials, equipment and capacity development through the KOPANO initiative and NAMCOL.
- Collaborating with international partners: in late March 2020, the UNICEF office in Lesotho received a Global Partnership for Education grant of US$70,000 to support the Ministry of Education with producing lessons for radio and TV, as well as learner packages.
- Giving priority to learners in final year examination classes. For example, in South Africa, Grade 12 learners are expected to write the full set of examinations covering the entire curriculum.

- Dealing with the emotional health of students: for example, recruiting more teachers, lecturers, psychologists and lab assistants to meet COVID-19 requirements (Zimbabwe) and providing guidance and counselling to students on how to adapt to change (Tanzania).

- Reinforcement of hygiene, sanitary and social distancing measures at schools across the majority of Member States (e.g. in Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, South Africa, Tanzania and Zimbabwe).

While it can be argued that some common best practices have been adopted in most Member States, these measures might be seen as just a reaction to the pandemic. Since it is a distinct possibility that the current pandemic may be with us for the foreseeable future, forward planning to avoid future disruptions and implementation challenges is imperative. However, as highlighted by the findings of the present survey, there are a number of factors which may inhibit the smooth implementation of those measures Member States wish to implement. These include, amongst others: issues related to IT infrastructure; management of student's emotional health; and the management of IT tools. To that end, in an attempt to mitigate the risks posed by such challenges, the SADC Secretariat proposes the following measures.

4.1 Educational policies

Policy reform of the education sector to cope with future crises

Changing assessment and examination methods should be considered to cope with disruptions created by the pandemic. So far, in response to the need to conduct traditional exams differently, many countries have mainly put in place temporary and short-term measures. Some institutions have considered online exams, assignment/project-based assessments, grading learner participation, remote supervision, amongst others. However, these new modes of assessment pose a number of challenges in terms of quality assurance procedures. In the 'new normal' dispensation, Member States are advised to undertake national strategic policy reform with respect to assessment.

The Bureau of the Specialized Technical Committee on Education Science and Technology of the African Union (AU STC-EST), on 9 April 2020, emphasized that the COVID-19 pandemic challenges the African continent to set out swift and strong responses in science, technology and innovation. In

this respect, Ministries of Education should consider reforming the education sector by leveraging greater investment in science, technology, engineering and mathematics (STEM) research so that the sector can put forward a satisfactory level of locally trained competencies to mitigate, or avoid, the disruption of value chains under a crisis such as the pandemic.

Adoption of a blended learning approach to address educational inclusion

The majority of Member States have focused their initiatives on online learning. However, online learning tools may represent a challenge when online resources require high data-usage or when families do not have internet access. In this respect, radio and TV can be used for greater nationwide coverage for learners. However, these delivery modes have their own limitations since they are passive and didactive modes of instruction. Also, many learners in remote areas find it difficult not only to access resources such as books, internet connectivity and computers, but also radios and TVs. Accordingly, strategies for teaching and learning should foster a blended mode of delivery, that is, national strategies should focus on a variety of available modes of delivery to ensure all learners can access learning. As a matter of fact, many countries have resorted to the distribution of packages of printed learning materials to disadvantaged students. It is therefore recommended that a blended approach be adopted by Member States, and that learning resources be available in different forms so that all categories of learners can be targeted.

4.2. International collaborations

Leveraging potential international partners for resource mobilization and the implementation of innovative solutions

Member States should seek financial and technical support from international partners to ensure the continuity of learning and educational access for vulnerable and disadvantaged students. The Global Education Coalition could be a key support to all Member States. In this respect, UNESCO Director-General Audrey Azoulay has claimed that *'Partnership is the only way forward. This Coalition is a call for coordinated and innovative action to unlock solutions that will not only support learners and teachers now, but through the recovery process, with a principle focus on inclusion and equity.'*[5] In particular, the Global Education Coalition's toolkit for education

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[5] https://en.unesco.org/covid19/educationresponse/globalcoalition

recovery, developed by UNESCO in collaboration with McKinsey & Company, could be an important guide for policy-makers in the education sector as they respond to the COVID-19 pandemic.

Collaborate with international educational partners to take advantage of MOOCs and OERs

Investing in virtual learning is potentially expensive, and thus it is recommended that Member States take advantage of Massive Open Online Courses (MOOCs) and Open Educational Resources (OERs) given that there several international institutions, such as the Commonwealth of Learning, which increasingly share digital learning resources at no cost. To this effect, and to uphold proper quality assurance requirements, there should be a mapping of the current curriculum against available MOOC and OER materials to gauge their relevance.

Prominent role of regional community bloc for regional harmonization of education practices

Regional economic communities can help harmonize educational practices and calm disruptions in Member States by pooling competencies and financial resources. In this respect, setting up a steering committee for pedagogical continuity as well as education working groups at regional level would constitute a highly relevant response to the current, and any future, crisis.

4.3. Training

Reinforcing capacity-building strategies on distance and online teaching for academic staff and students

The sudden closure of learning institutions has given not only teachers but also students little time to prepare for online learning. Although teachers have mostly had to improvise and engage in self-leaning on the use of online learning tools, there are still many teachers who have received none of the requisite training on online teaching. There were also many students who had to use online learning tools for the first time. To bridge the challenges of online and distance learning, it is therefore imperative that teachers' and students' digital skills are enhanced. In addition, teachers must also be trained in digital pedagogy to enhance their delivery of lectures and management of online classrooms. In this respect, national capacity-building strategies for students and academic staff on distance and online learning is crucial to mitigate against any educational disruptions following a crisis.

There should also be effective capacity-building strategies involving academic and non-academic staff to enhance their skills and competencies in developing digital and audiovisual resources and teaching kits.

Reinforcing the role of parents and caregivers at home

Judging from the survey findings, the current challenges are more pronounced for early and young learners relative to adult learners. During the lockdown period, parent/caregiver supervision is crucial for ensuring the continuity of learning and for managing students' emotional health. The relevant regulatory bodies should develop and provide appropriate handbooks to guide and reinforce the importance of the role that parents and caregivers play in mitigating the effects of educational disruption.

4.4 Technology and innovation

Invest in technological infrastructure

The underdeveloped state of technological infrastructure is a real concern for many Member States since access to broadband internet connectivity is vital for online learning. The pandemic has emphasized the importance of internet connectivity, most particularly in remote areas and for disadvantaged students. Policies should aim to make mobile devices more affordable and to broaden internet connectivity within different segments of the population.

Setting up an integrated and ready-made parallel system of online learning

As a contingency measure against any further disruptions, there is an urgent need to invest in the setting up of an integrated and ready-made parallel system of online learning at all education levels. The current pandemic crisis caused educational disruptions of approximately three months in most Member States, after which most schools and institutions resumed their activities. However, to prepare for unpredictability, there is an urgent need to invest in virtual learning and to create online platforms that can support learning, from early childhood to university level, for a prolonged period. Therefore, to avoid disruptions in every kind of learner's education, a sustainable online learning system should be embedded within the national education process.

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