

# The Effect of Covid-19 on Education in Africa and its Implications for the Use of Technology

A Survey of the Experience and Opinions of Educators and Technology Specialists

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# 1. Executive Summary

This report, and the survey findings behind it, provides a unique insight into the perspectives of EdTech experts regarding the impact of the Covid-19 pandemic on education in Africa. It is based on the findings of a survey of the eLearning Africa network, which attracted approximately 1650 responses from respondents in 52 countries in Africa. 15 countries (29%) provide 1217 (73%) of the responses. 52% of the respondents are directly involved in the education sector and 9% are in the ICT sector. 71% work for government or not-for-profit organisations, and 21% for for-profit businesses. 40% are teachers / lecturers / professors, and 13% are ICT / EdTech specialists or entrepreneurs. The sample represents a group of experts rather than a cross-section of the population, yet the findings of the survey are undoubtedly significant.

From the first cases of Covid-19 in February 2020, the disease has spread throughout the continent, with South Africa being the worst-hit country at the time of writing (311,000 cases on 15 July), followed by Egypt. Numbers are increasing in many countries. Most though, moved swiftly to respond to the pandemic with widespread school closure at an early stage. Although the virus is recognised as a significant challenge for their countries, and in particular for education, 50% of respondents think that the current situation represents a significant or very significant opportunity. There is a widespread recognition that technology will play an important role in the future of education in Africa, and the virus provides a 'wakeup call' to grapple seriously with this future.

Africa's education sectors are diverse and so too are their challenges. Tertiary education has different challenges to school education, as do private to public, and urban to rural provision. While the issues may differ between countries, there is one important commonality: the scale of the issues is different at different education levels. Only a small minority (<20%) attend university. Only a minority of students finishes secondary school (<40%). It is at the primary level where there is the closest to universal provision (>80%). The survey respondents believe that it is the primary level which is least able to cope with the disruption of schooling. Primary children, in general, have little experience of study outside the classroom, they are unlikely to have adequate provision for learning at home or access to internet-enabled devices, and many parents will not have the ability to provide sufficient support to their learning. So, those most in need of support are the least likely to be able to access it. And if a child drops out of primary school, they are unlikely to return to full-time education.

Governments across Africa closed down educational institutions early. With very little warning, the whole approach to education through classroom teaching became unviable, with little planned to replace it. This problem faced governments worldwide but has been particularly severe in most African countries where there is a wide disparity in provision for the 'elite' and for less advantaged people, mostly in rural areas. While educational programmes on television and radio were quickly launched by many governments, they were only accessible to those with access to a television or a radio set. Similarly, online learning was only accessible to those with internet access. While 59% of respondents were satisfied with their government's response to the pandemic, 59% thought they did not take sufficient account of teachers' views in relation to education, and only 36% thought the government's actions would be effective in maintaining educational progress, through distance education.

While the need for distance learning was clear from the outset of the pandemic, achieving effective reach to students was more complex. Universities were left to their own devices and their responses varied according to their resources and resourcefulness. At both the primary and secondary school levels, priority was often accorded to continuing with examination classes, i.e. those classes taking the primary and secondary leaving certificates. But, for the majority, neither students nor teachers had any prior experience in teaching and learning outside the classroom. Government responses varied: many provided television and radio educational programmes, sometimes in partnership with the private sector, but not all were well organised. Some countries undertook effective interventions,

others did not. This did not always equate to their relative wealth or poverty. It was quickly clear that, for the majority of learners, sophisticated technological approaches were not always the answer.

Survey respondents were clear in highlighting the three main obstacles for learners in the midst of school shutdown: a lack of access to technology, an unsuitable home learning environment, and a lack of access to learning materials. For teachers, the main impediment was the lack of appropriate training to design and manage distance learning programmes. This was compounded by a lack of infrastructure: electricity, connectivity, devices; and a lack of appropriate learning materials: books, television and internet-enabled devices. The findings are clear: poorer students and those most geographically dispersed are most at risk of missing out on education if there is no conventional school to attend. In addition to these difficulties, respondents noted that most teachers were as inadequately prepared and ill-equipped to deal with this new situation as their students were. And similarly, parents were also ill-equipped to support their children's education at home. While some governments provided 'sensitisation' for teachers and parents, many did not. And 83% of respondents thought that their current school curriculum did not lend itself to distance delivery.

In spite of all these challenges, 50% of respondents thought that Covid-19 would provide 'new opportunities for education systems,' particularly in the integration of technology into learning. Some respondents saw it as a chance for governments to turn their words into actions and to evolve education systems into something fit for the 21st century. While it is too early to say what has been learned from these trying times, there are some common themes - a need for good communication: between governments and the broad population; between government, institutions and teachers; between institutions, teachers, parents and students. The involvement of the private sector was seen as a considerable benefit in several instances, with some governments working with telecoms companies to provide free data access to educational sites. This, together with radio and television provision of educational programming, and effective distribution of paper materials, seems to have been an effective combination. Specific technologies such as WhatsApp, Zoom, Facebook and Moodle were also named as being useful.

There remains, however, the danger that the current crisis ultimately increases the 'digital divide' in education between those with access to technologies, even television, and those without. Several respondents signalled the potential social challenges of having a 'two-stream' approach to education: one for those with access to technology, and another, lesser, system for those without.

The survey generated many ideas and much good advice. Below are eight particularly noteworthy findings regarding education in the current crisis:

1. There has been widespread school closure across Africa in response to the pandemic and 97% of respondents reported school closures in their countries, and 95% of these noted that all schools had been forced to close. This was seen as an appropriate decision, as 92% of respondents expressed that the closures were essential.
2. A lack of access to technology is considered to be the biggest barrier for learning during the current pandemic together with school closures. Respondents felt that learners in rural communities are those most likely to be disadvantaged as a result. The most cited limitation is the lack of availability and affordability of connectivity.
3. Early childhood and primary level students are seen to be most likely to be disadvantaged by the crisis and least likely to be able to access the technologies required for learning.
4. Educational TV and radio are seen as the most important technologies for sustaining learning for students at the primary level. At the secondary level, online learning is considered to be the most important.

5. Survey results show that the large majority of educators have not received financial support for teaching and learning tools to help them continue teaching in the crisis, and do not feel there has been sufficient preparation to help them adapt.
6. The majority of respondents - 83% - think that national curriculums should be adopted for the future in response to the current crisis, to enable more effective distance learning.
7. Half of all respondents - 50% - think that in the most significant long term effect of the crisis will be that it leads to new opportunities for education systems.
8. Some 85% of respondents anticipate that the current crisis will lead to more widespread use of technology in education in the future. However, they also note that this will lead to significant challenges for the most marginalised and may increase inequality.

## 2. A Network of Experts: The eLearning Africa and EdTech Hub Survey Sample

The eLearning Africa / EdTech Hub Survey is an investigation of the experience and opinions of a large group of people who are involved in education and technology throughout Africa. We asked our network of teachers, lecturers, policy makers, technology experts and investors throughout Africa to tell us how Covid-19 had affected their countries, institutions and colleagues. We wanted to know about Africa's response to the crisis and the lessons we should all learn from it.

The thousands of replies we received and the statistics we have compiled are fascinating because they show not only the nature of Africa's experience in all its diversity, but also because they paint a very different picture to the one that might be imagined in the West.

This is a survey of experts - a special and select group of people with experience of education or technology or both. They are part of the eLearning Africa network and drawn from its database. They have an interest in, and understand, technology assisted learning and its importance. This survey does not attempt to reflect the state of public opinion.

We approached these experts at a time of crisis - not just for Africa, but for the whole world. We wanted to know what effect the Covid-19 pandemic was having and how they thought it would affect education across Africa in the future.

We were astonished and almost overwhelmed by the scale of the response we received. Hundreds of people from all over Africa not only took the trouble to complete a very detailed questionnaire, but also to give us their comments, opinions and advice, in a way that made us understand both the importance of the subject and the passionate commitment so many people have to education as the key to the future.

39,443 requests were sent out, and 1702 responses were submitted, which is a response rate of 4.31% - a remarkably good rate for a complex questionnaire. 53 responses were from people working outside Africa, which leaves a working sample size of 1,649 (4.18% response rate). Not all the respondents completed the entire questionnaire, but in those cases, responses have been counted for the questions that were completed.

In total, responses were received from 52 countries of Africa. The number of responses per country was as follows:

### Number of countries and responses per country:

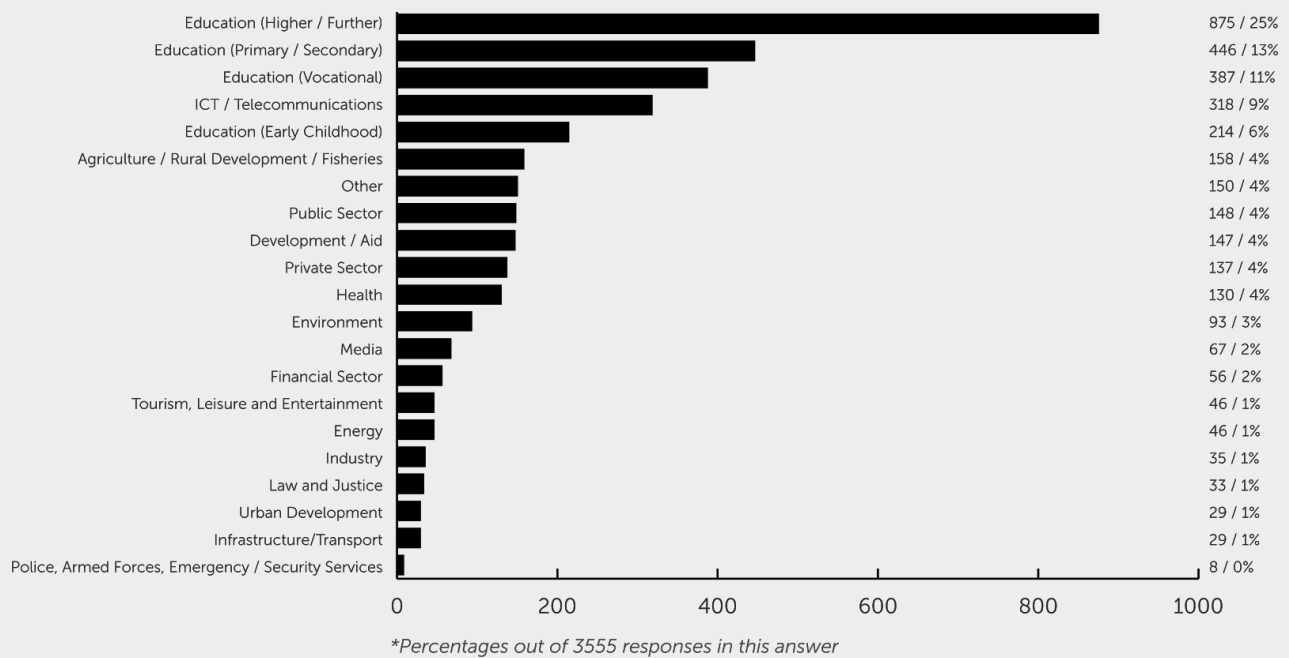
|                 |                     |               |                  |
|-----------------|---------------------|---------------|------------------|
| Algeria 23      | Djibouti 4          | Libya 0       | Seychelles 1     |
| Angola 9        | Egypt 25            | Madagascar 10 | Sierra Leone 12  |
| Benin 37        | Equatorial Guinea 1 | Malawi 16     | Somalia 5        |
| Botswana 13     | Eritrea 5           | Mali 14       | South Africa 156 |
| Burkina Faso 26 | Ethiopia 52         | Mauritania 4  | South Sudan 4    |

|                  |                       |                            |             |
|------------------|-----------------------|----------------------------|-------------|
| Burundi 1        | Gabon 4               | Morocco 29                 | Sudan 12    |
| Cape Verde 0     | Gambia 5              | Mozambique 21              | Tanzania 56 |
| CAR 4            | Ghana 66              | Namibia 29                 | Togo 18     |
| Côte d'Ivoire 60 | Guinea 5              | Mauritius 51               | Tunisia 16  |
| Cameroon 47      | Guinea-Bissau 1       | Niger 11                   | Uganda 108  |
| Chad 3           | Kenya 154             | Nigeria 220                | Zambia 45   |
| Comoros 5        | Kingdom of Eswatini 2 | Rwanda 68                  | Zimbabwe 18 |
| Congo 3          | Lesotho 2             | Sao Tomé and<br>Príncipe 0 |             |
| DRC 4            | Liberia 12            | Senegal 52                 |             |

There are a number of points to be noted about the sample. It was neither random, nor weighted but, nonetheless, statistically important because of the highly specialised nature of the group that was invited to participate in the survey.

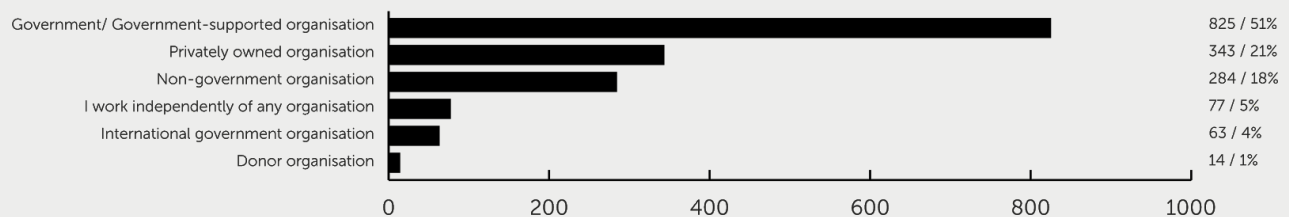
- ❑ Although we received responses from 52 countries, 15 countries (27%) provided 1217 (73%) of the responses. These countries are highlighted in the table above.
- ❑ 52% of the respondents are directly involved in the education sector. 9% are in the ICT sector, and no other sector makes up more than 6% of the total. Respondents, therefore, are primarily educationists or ICT specialists.

### Which sector(s) do you work in? (multiple selections possible)



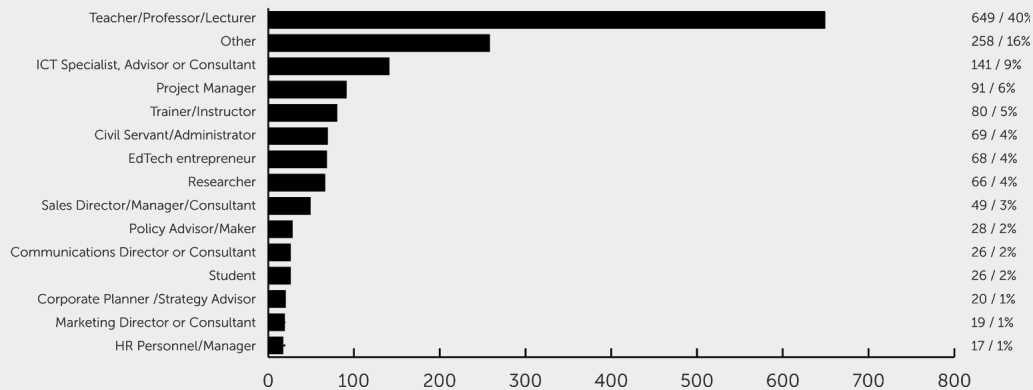
- ❑ 51% of respondents work for the government, or an IGO, 21% for a private company, and 18% for a donor organisation, or an NGO. Therefore, 71% work for government or not-for-profit organisations, and only 21% for for-profit businesses. This may, in some circumstances, have been a factor influencing some findings of the survey.

### Which type of organisation do you work for?



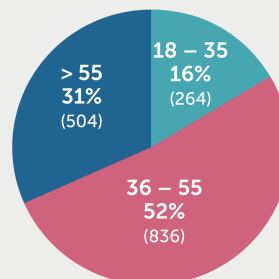
- ❑ When asked more specifically about their job, 40% said they were teachers, lecturers or professors, 13% ICT / EdTech specialists or entrepreneurs, and the other 47% were made up of a variety of jobs. Again, teaching professionals made up almost half of the respondents.

## What is your job description?



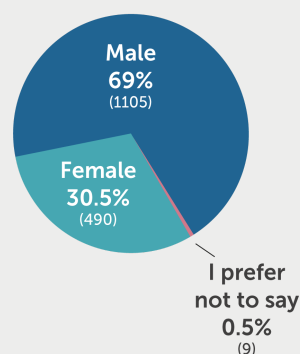
- Given the preponderance of young people in Africa, it should perhaps be borne in mind that our respondents were not noticeably young. 83% of respondents were over 35 years old. However, this demographic reflects the skilled profile and expertise of the sample.

Age



- The respondents were also predominantly male: 69%. It certainly does not represent the percentage of women involved in education in Africa. Recent research by Plan International suggests that less than 1% of Covid-19 research takes gendered aspects into consideration<sup>1</sup>. In the case of this survey, whatever the reason for the discrepancy in responses, we must be clear that the sample does not represent a balanced gender grouping. This should be borne in mind, particularly with answers to some questions, which may have been distorted by unconscious gender bias. It may, for example, have resulted in a lack of awareness of the particular difficulties faced by women and girls in accessing education and technology.

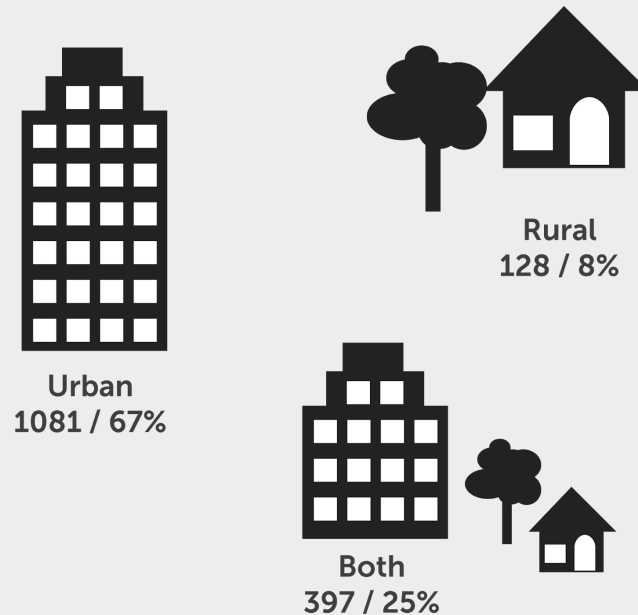
Gender



<sup>1</sup> <https://www.devex.com/news/check-your-bias-gender-data-experts-warn-97366>

- ❑ Another area where the sample may not fully represent the lived reality of education in Africa is in the urban/rural divide. 63% of respondents said they work in urban areas, and only 8% work in a predominantly rural area. However, 24% of respondents said that they work in both, so, overall, 32% have some experience of rural conditions. This is important because the majority of many countries' populations still live in rural areas.

Do you work in an urban or rural environment?



In spite of these caveats, the results of the survey are significant. There are responses from almost all African countries, giving a picture of their experience of the pandemic.

### 3. Africa's Experience during Covid-19

Africa is not a country.

Any report on Africa for an international readership should perhaps make this clear at the outset because, all too often, outsiders or those unfamiliar with Africa assume that all African countries are the same. They treat Africa as a single country and ignore the differences in geography, demography, history, culture, economics, politics, climate and experience that distinguish the individual countries, making up this vast continent, from one another.

Africa is as diverse as Europe and its experience of everything, from the weather to the food, is as varied as it is between London and Madrid or Helsinki and Athens. So, it is no surprise that the continent's experience of Covid-19 has differed widely, reflecting the preparedness of individual countries, their relative prosperity or poverty, the efficacy of their health systems and the political will of those in power. Clearly, the response of some countries and institutions has been more effective than that of others for a variety of reasons, even given the exigencies of the lockdown and school closures. It may be, for example, that those with a better educated teaching cadre, and not simply more resources, were better equipped to deal with the crisis and more likely to seek innovative solutions, rather than simply relying on the curriculum or outmoded teaching methodologies, as they waited for others to provide answers.

Africa's first case of Covid-19 was reported on 14 February 2020 in Egypt (although the first case in the World Health Organisation's African Region, which does not include Egypt, was not reported until 25 February in Algeria)<sup>2</sup>. Since then, it has spread throughout the continent, although, as might be expected, there appears to have been substantial under-reporting in countries with less developed health systems. In the middle of June, the WHO reported that the virus was beginning to spread rapidly throughout the continent and cases of infection were increasingly being found in provincial areas outside the main capital cities: "More than 200,000 cases have been confirmed so far, with over 5,600 deaths. The pandemic is accelerating – it took 98 days to reach 100,000 cases and only 19 days to move to 200,000 cases. Ten out of 54 countries are currently driving the rise in numbers, accounting for nearly 80% of all the cases. More than 70% of the deaths are taking place in only five countries: Algeria, Egypt, Nigeria, South Africa and Sudan. South Africa is the most affected, accounting for 25% of the continent's total cases, with the Western Cape and Eastern Cape provinces reporting a high number of cases and deaths daily."<sup>3</sup>

The WHO's regional director for Africa, Dr Matshidiso Moeti, pointed to the need for "constant vigilance" to stop the virus spreading.

"For now, Africa still only accounts for a small fraction of cases worldwide," he said. "But the pace of the spread is quickening. Swift and early action by African countries has helped to keep numbers low but constant vigilance is needed to stop Covid-19 from overwhelming health facilities."<sup>4</sup> However, whilst international commentators worried that Covid-19 would quickly overwhelm the capacity of many African countries to respond, the response of most has been comparatively effective and often in sharp contrast to the way in which some 'western' countries have mismanaged the pandemic.

"Many countries were quick to make difficult decisions and put in place lockdowns and key public health measures such as promoting physical distancing, good hand hygiene and testing, tracing of contacts of people with Covid-19 and isolation of cases," said Dr Moeti. "With the support of WHO and

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<sup>2</sup> Covid-19 Situation Update for the WHO African Region, 1 July 2020, External Situation Report 18 WHO; 'Egypt Announces First Coronavirus Infection,' Egypt Today, 14 February 2020

<sup>3</sup> 'Africa Records Over 200,000 Covid-19 Cases,' WHO Regional Office for Africa, 11 June 2020

<sup>4</sup> Ibid

other partners, governments also rapidly started to scale up health workforce and laboratory capacities, and to set up points-of-entry screening at airports and border crossings. These public health and social measures have been effective in slowing the spread of Covid-19 in Africa.”<sup>5</sup>

The effects of measures to slow the spread of Covid-19 were always likely to have a severe effect on Africa’s education system. Outside experts recognised the importance of the link between education and public health. A report for the influential US think-tank, the Brookings Institution, concluded that, whilst African leaders had their hands full with “rising Covid-19 infections, fragile health systems, increasing food insecurity, and, in some areas, growing social unrest,” education was “crucial to Africa’s Covid-19 response.”<sup>6</sup>

Education “is one of the largest and most consequential government activities in Africa, and policymakers and aid agencies ignore it at the continent’s peril. Indeed, by continuing to support education during the pandemic, governments can strengthen their countries’ immediate Covid-19 response and long-term recovery...” said the authors of the Brookings report.<sup>7</sup>

The Covid-19 pandemic arrived in Africa at a time of growing optimism about the continent’s future prospects. Many African economies had been enjoying sustained periods of growth at rates that were envied by countries in Europe, North America and even in Asia and the Pacific. There were ambitious plans to build on these promising foundations and 54 African countries had committed themselves to create the world’s largest common free trade area - the African Continental Free Trade Area (AfCFTA). The African Union had set out a comprehensive vision for the future, Agenda 2063, which aimed to provide “a blueprint and master plan for transforming Africa into the global powerhouse of the future,” entrenching sustainable growth and consigning poverty, conflict and disease to the past. At the heart of the plan was education and the desire for a “skills revolution underpinned by science, technology and innovation.”<sup>8</sup>

On 10 February 2020, just four days before Egypt, an AU member state, declared its first case of Covid-19, the African Union produced an assessment of the progress African nations were making towards implementing the goals established in Agenda 2063. The ‘First Continental Report on Implementation of Agenda 2063’ was launched at the end of the 33rd Summit of the African Union in Addis Ababa. Reflecting the mood of confidence about Africa’s future, the report, which described itself as “a rallying point for African Union Member States, regional bodies and development stakeholders to garner investments and collective efforts towards a common development agenda” concluded that the continent was making “good progress” towards the 2063 targets.

Speaking at the launch of the report, Vera Songwe, UN Under-Secretary General and Executive Secretary General of the UN Economic Commission for Africa, observed that “in many ways, the continent is leading the way, at a time when many are closing borders, and building walls - Africa is choosing the path of integration and trade, at a time when multilateralism is under threat.”

So, with its arrival at a moment of such palpable optimism, Covid-19 has been a shot across Africa’s bows, just as the continent was beginning to get used to the idea that an end to poverty was visible at last on the horizon.

The pandemic has been a shock and it presents a huge challenge, to the education sector in particular, but the fundamental sense of confidence remains. Africa has faced similar health-related challenges before, with Ebola, HIV / Aids, Malaria and other devastating infectious diseases and it was comparatively well prepared for Covid-19.

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<sup>5</sup> Ibid

<sup>6</sup> ‘Education is Crucial to Africa’s Covid-19 Response,’ Bernard, Coulibaly and Winthrop, Brookings Institution, 4 June 2020

<sup>7</sup> Ibid

<sup>8</sup> ‘Goals and Priority Areas of Agenda 2063,’ African Union

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Unlike some of their counterparts in Europe and the Americas, many African leaders took the warning messages of the WHO seriously and, whilst the measures taken in the education sector were, on occasion, inadequate, patchy or confusing, it is clear that there is a widespread understanding of the sector's importance and the response to the crisis has often been characterised by an innovative approach that bodes well for the future.

There is a widespread recognition of the importance of both communications technology and education to Africa's future economic development and, given both the profile of our sample and the nature of the continent's demography, that is perhaps hardly surprising. What is surprising and encouraging, though is the support for the view that the pandemic represents not only a "wake-up call," but also an opportunity for Africans to put technology at the heart of plans for using education to transform the continent

Covid-19 has not yet been defeated. It will continue to ravage the world for some time to come. Rates of infection and fatalities in Africa are continuing to climb. In South Africa, which has been more severely affected by the disease than any other African country, the number of cases recorded climbed over 270,000 in mid July. In Kenya, concerns about the economic effects of the pandemic on the highly profitable tourism sector have created growing demands for an easing of lockdown measures.<sup>9</sup> Such pressures are common throughout the world, as countries and economies adjust to the realities of the new situation.

In the longer term, the effect will be more fundamental and, if anything, our survey shows that Africans understand this - perhaps far better than Europeans or North Americans. For Africa, the crisis has come at the same time as changing demographic patterns, which are turning it into the world's youngest continent, and changing demand in global labour markets because of technological developments. These factors alone amount to a serious incentive to reform African education and Covid-19 will only add to the pressure.

As one survey participant from Liberia put it, the "Covid-19 crisis has only pointed out the weakness in the educational sector of the country. Efforts to respond now by providing digital solutions must be long term and sustained. The future of work in the world demands this and countries like Liberia would soon find themselves producing youth who cannot survive nor compete in the very near future."

Respondents to the survey are not short of advice and ideas about what needs to be done. They understand that the Covid-19 crisis has provided a host of important lessons - for schools and colleges, for Governments and for businesses.

They know that distance learning, in a variety of forms, is here to stay.

They know that technology will inevitably have to play a much greater role in the successful education systems of the future, particularly if African countries are to ensure that their young people are equipped with the skills they need for the dynamic labour markets of the fourth industrial revolution (4IR).

They know there are huge problems in reaching and catering for poor and disadvantaged groups.

They know there is no single right answer, that 'one size' does not necessarily fit all and different circumstances require different solutions.

But they know, above all, that Africa cannot afford to fail to take up this challenge. In that sense, the painful lessons learnt from Covid-19 may turn out to be very valuable.

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<sup>9</sup> 'Kenya President Relaxes Restrictions on Interstate Travel amid Covid-19 Outbreak,' VOA News, 7 July 2020

## 4. Africa's Education Sector

Although we talk of the 'Education sector', it consists of a wide range of stakeholders, levels, and challenges. There are government and private institutions. The challenges facing rural primary schools are very different from those facing urban universities, the challenges facing urban and rural secondary schools are very different too. More importantly, perhaps the scale of the different sectors is very different. In most countries of Africa, provision of primary education (for at least a few years), is universal. By far the greatest numbers of students in education in any country in Africa are likely to be attending primary school, with a considerably smaller number in secondary school, and a minority attending tertiary education.

Although Covid-19 has affected all of the education sectors: early childhood, primary, secondary, higher and vocational, and all have suffered because of the pandemic, each sector has suffered in different ways and with different consequences.

It would be facile to say that higher education suffered the least, because the students are adults, and they are much more likely to have access to the internet and eLearning than others. But it would be true to say that, without underestimating the challenges, provided the universities are proactive and thoughtful, they can probably reduce the educational impact of Covid-19 on their students, more easily than other sectors can. In any case, our survey shows there is a widespread view that higher education is far better placed to cope than any other sector - only 6% of respondents thought it was likely to be the most disadvantaged sector. Vocational sectors face added difficulties (as do some university students) of not having access to 'practical' work.

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"Firstly, I would prefer all teachers for basic education as well as trainers for TVET to undergo digital content development training. In the same vain, curriculum developers for the two areas also undergo similar training. Secondly, we would need support on content that has been already developed for both basic education and TVET so that it will make it easy for teaching instead of having to develop from a scratch. As right now TVET is more based on virtual reality, so one would prefer to get access to databases of virtual content/videos, for example, automotive mechatronics, electronics, electrical installation, building technology, plumbing and pipefitting, etc. to enable our trainers to use the content amid and post-Covid. However, the most crucial thing is the lack of learner management systems for use to manage and transfer content. So, if we could get a ready-made system that we could just adapt to our needs then we will work with ease in terms of eLearning implementation. In addition, all our curricular has not yet transformed into an eLearning format. So those are our needs - whereby the LMS is topping the list."

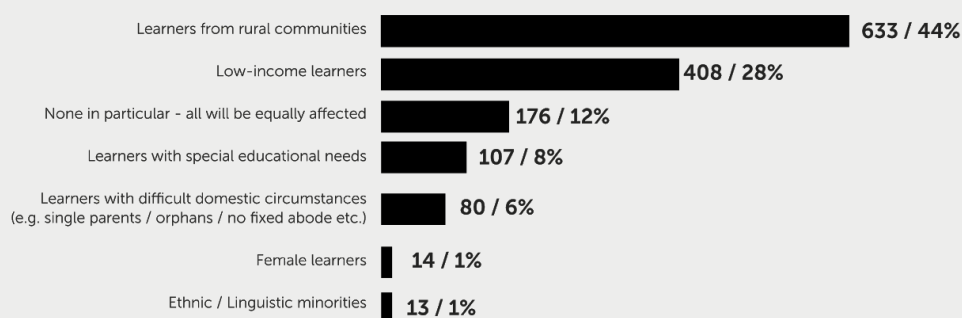
–Amon, Manager TVET standards, Namibia

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Secondary school students may also have issues over access to laboratory work, but there is a more general issue of 'completing the curriculum', particularly for examination classes. 18% of respondents thought secondary education was likely to be most disadvantaged by the crisis.

But it is at the early learning and primary level where the greatest effects will be felt, as has been indicated by the survey. 19% of our respondents thought that early childhood learners would be the most disadvantaged by the closure of schools and 37% thought primary school pupils would be, making a total of 56% of respondents who considered that the earliest stages of learning were likely to be the most disadvantaged. As early learning provision is relatively rare in many countries, respondents placed most emphasis on the primary level. Primary age children are, in the main, unused to self-study, or indeed to any study outside a classroom situation. There is a need for parental support if they are to learn at home. This might not always be possible: because the parents have limited education themselves, or because they are working and therefore do not have time to support their children's learning. Primary children are also least likely to have access to internet-enabled devices, and even if they do, they are unlikely to be able to source education materials and interact with them appropriately without some adult guidance. Even with access to educational television or radio programmes (which a majority is unlikely to have), children will need some adult guidance.

In your country, which group of learners do you think will be most educationally disadvantaged as a result of the crisis?



Nonetheless, respondents to the survey saw radio and television as the most important and relevant technologies for distance education directed at primary students. In total, 55% (20% radio and 35% TV) considered radio and television the most useful method of communication for distance learning at the primary level. For secondary students, on the other hand, online learning is seen as the more important resource for distance learning. This suggests that respondents assume that secondary students are more likely to be able to access online learning and, having accessed it, be able to use it appropriately. This is a very interesting finding and one that certainly needs further exploration at the country level.

**"We are focussing on a combination of radio, with Radio Reading Teachers (cheap, great coverage) and distribution of 'homeschooling kits' (made up of locally developed stories, songs, poems, etc)"**

**– Scott, Executive Director, Sierra Leone**

There is great confidence that, come what may, the role of technology in African education is going to grow as a result of the effects of the pandemic and 85% of respondents said they believed this would be the case. Many of them also clearly believe that substantial changes will be needed in current models, if there is to be an increased use of technology in education. Governments will have to think carefully about how to avoid widening the education inequality gap between the urban middle class and poor, rural and marginalised communities.

## 5. African Education's Response to the Pandemic

### Background

Our survey showed that there was a general acceptance of the need for strict measures in the education sector to prevent the spread of the virus. Since March, schools, colleges and universities have closed across Africa and our respondents not only confirmed this, but also agreed that the closures were necessary. 92% of them thought that school closures were essential.

Do you think the closure of schools in your country is / was essential to prevent the spread of the COVID-19 virus?

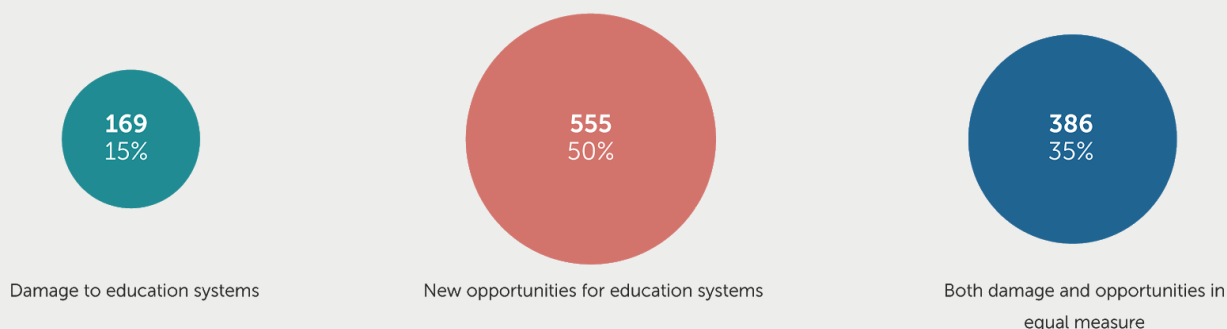


There is little disagreement about the seriousness of the problem. Only 23% of respondents reported that (by mid-July) some schools had re-opened in their country. In spite of the evidence the survey uncovered about the amount of false information in circulation about the nature and origins of Covid-19, few people are in any doubt about the danger it presents. Our survey shows that an overwhelming majority of participants believe that the virus is a serious threat to Africa's future prospects. However, what is most astonishing is that 50% of all those surveyed also believe that it represents a significant or very significant opportunity.

"Statistics during other epidemics show significant issues with pupil attendance/safety - particularly within girls' education - and also teacher availability. Schools reopening face the challenge of less teachers and less pupils, which can take a long time to replace."

– Toby, Communications Director, South Africa

In your country, do you think that the most significant long-term educational effect of the COVID-19 pandemic will be?

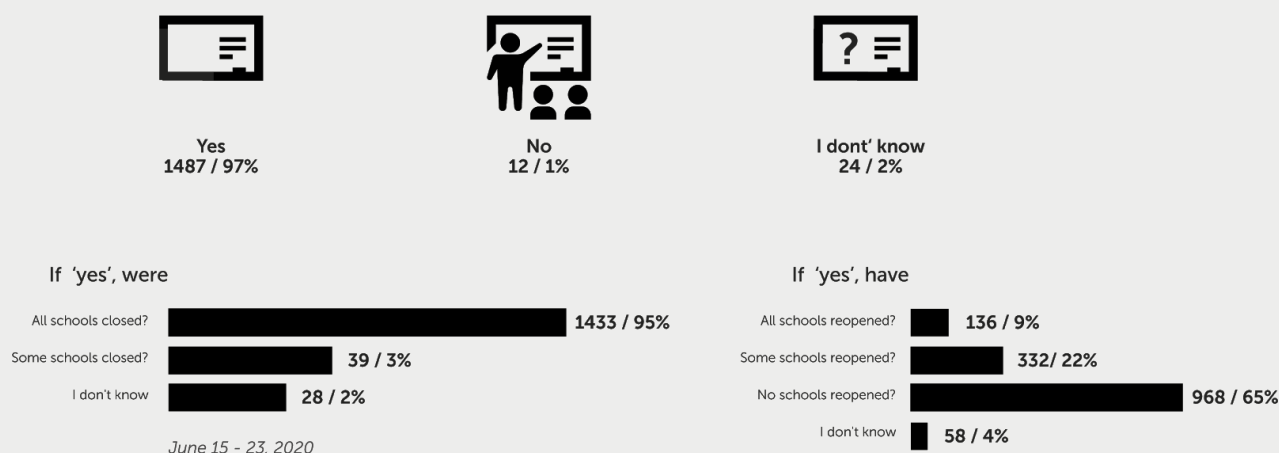


The Covid-19 pandemic has affected education throughout the world, causing schools, colleges and universities to close. UNICEF estimates that "more than 1 billion children are at risk of falling behind

due to school closures aimed at containing the spread of Covid-19.<sup>10</sup> Africa has been no different. From those regions, such as parts of Burkina Faso and Mali, where the security situation had already forced hundreds of schools to close, to the suburbs of Africa's most affluent towns and cities, schools, colleges and universities have shut their doors and sent their students home.

The shutdown has affected almost all of Africa. 97% of respondents to the eLearning Africa EdTech Hub Survey said that schools were forced to close in their country and, of these, 95% said all schools were forced to close.

Have schools in your country been forced to close as a result of the COVID-19 pandemic?



The closure of schools and colleges, however, represents only one aspect of the response to the impact of Covid-19 on education. It is a particularly disturbing one. As UNICEF points out "Global school closures in response to the Covid-19 pandemic present an unprecedented risk to children's education, protection and wellbeing."<sup>11</sup> The closure of schools is a blunt instrument, which has been applied without warning to a very fragile surface. Nevertheless, it is a measure which has enjoyed a large amount of support in Africa. 92% of respondents thought that the closure of schools in their country was necessary to prevent the spread of the virus.

The problem is not with the closure of schools but with the consequences and effects of closure. How can education continue? How can planners ensure that vulnerable children are not left behind? Most important of all perhaps, how and in what circumstances can schools reopen?

UNICEF has emphasised that whilst "the timing of school re-openings should be guided by the best interest of the child and overall public health considerations," it is nonetheless clear that "disruptions to instructional time in the classroom can have a severe impact on a child's ability to learn" and "the longer marginalised children are out of school, the less likely they are to return."<sup>12</sup> The Malala Fund has referred to "lasting effects for the most marginalised girls."<sup>13</sup>

In the interim, as UN Secretary General Antonio Guterres called on governments to prioritise the education of all children, including the most marginalised, the emphasis has been on encouraging governments to assess the response of institutions and enabling education to continue in some

<sup>10</sup> 'Education and Covid-19,' UNICEF, June 2020

<sup>11</sup> 'Framework for Reopening Schools,' UNICEF, April 2020

<sup>12</sup> Ibid

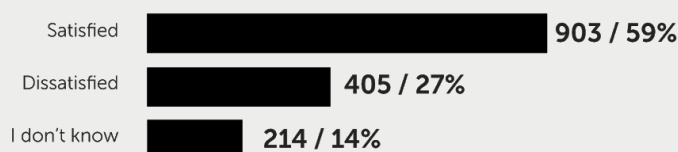
<sup>13</sup> <https://malala.org/newsroom/archive/malala-fund-releases-report-girls-education-covid-19>. The report estimates that "20 million more secondary school-aged girls could be out of school by the time the pandemic has passed."

form outside its traditional setting. Although international organisations, such as UNESCO, which established a Global Education Coalition, have sought to facilitate distance learning and to assist countries to reach young people who are most at risk, in practice, African governments have had little support. As a consequence, many individual education institutions have been left to fend for themselves.

The pandemic arrived with very little warning and most governments had little time to plan an effective response. The fact that many of them coped so well in the circumstances may perhaps be the result of having to face similar public health emergencies in the recent past. None of them, however, has had to deal with a crisis of this scale with such devastating consequences for education.

So, in spite of the high level of support for school closures, the survey shows a much lower level of satisfaction with the response of individual governments. 59% were satisfied with the steps taken by their Government to minimise the effect of the pandemic on education.

**Are you satisfied or dissatisfied with the steps your Government is taking to minimise the impact of the COVID-19 pandemic on education?**



An important criticism of the approach of many governments was the lack of effective planning and, specifically, a failure to consult teachers. 59% of respondents thought their Government took insufficient account of the views and experience of teachers in developing its response to the pandemic.

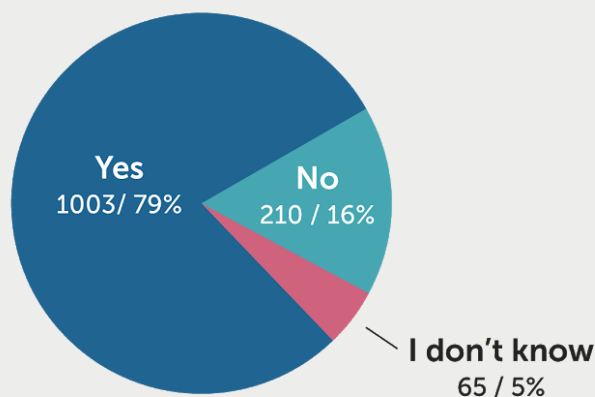
**Do you think your Government has taken sufficient account of the views and experience of teachers in developing its response to the impact of the COVID-19 pandemic on education in your country?**



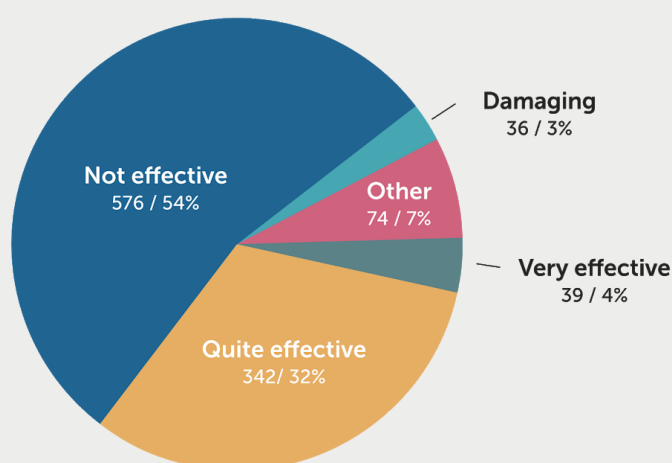
And, although 79% said their Government had announced a distance learning strategy), only 36% thought it would be effective.

Not all governments are the same, though. Some respondents were sharply critical of the response of their Government, whereas others were full of praise for the measures that were taken. Their responses reflected not only respondents' own experiences, but also the flexibility, ingenuity and room for manoeuvre of individual governments in widely differing circumstances.

Has your Government announced a distance learning strategy in response to the Covid-19 crisis?



If 'Yes', how effective do you think your Government's distance learning strategy is likely to be in providing on-going education when schools are closed? Why?



## Responding to the Crisis

### Lockdown and Closure

From the first case of Covid-19 in Egypt in mid-February until the introduction of various forms of lockdown, including school closure in almost all African countries, was only a matter of a few weeks. Many African countries, often with the benefit of previous experience of health emergencies, recognised that their health sectors would struggle to deal with the pandemic, and moved quickly to try to avoid widespread contagion. "African governments probably responded better than governments in the UK or the US," said Sudanese businessman Mo Ibrahim, who is the head of his eponymous foundation.<sup>14</sup> Survey respondents confirmed that schools had been closed in countries all over Africa (see above).

This rapid change in circumstances left most countries, institutions, teachers, families and students with little time to prepare and no time for comprehensive planning for providing education 'differently' when schools had closed. However, as with most lockdown measures, there was general

<sup>14</sup> 'The Pandemic is Gaining Momentum: Africa Prepares for Surge in Infections' Financial Times, 20 July 2020

acceptance of the need to close schools to protect the population. 92% of our respondents thought school closures were essential to prevent the spread of the virus.

It is too early to say that Africa has seen the worst of the pandemic. At least 14,500 people have died out of a total of 667,000 confirmed infections and, according to one report, there is “concern among some experts that the world’s poorest continent may be about to enter a critical phase of the coronavirus outbreak.”<sup>15</sup> In many parts of Africa, it may not be possible to lift restrictions on schools, colleges and universities for some time to come, meaning that distance learning, in one form or another, will continue to be an inevitable item on the agenda of education planners.

## Approaches to Distance Learning

There was a general appreciation in all countries that education was essential and had to continue even though the schools were closed. There was broad agreement that effective distance learning was necessary but how that would be achieved was more problematic. There were wide national and sectoral differences in what distance education might look like. Government advice varied between countries and between education sectors. In some cases, government responses were quick, appropriate and comprehensive. In other cases, very little was proposed and decisions were left to teachers, schools and lower administrative levels.

Distance learning systems, a broad concept, requires a suite of materials design, a system for paper materials distribution, a system for returning tasks, and a system for monitoring learning management and mentoring skills, which are different from the skills required of a teacher with a class full of students. Distance learning, of any kind, also makes very different demands on students than attending a class does and, particularly for younger students, parents need to understand these different demands that distance learning places both on them and on their children.

At the University and college level, institutions could broadly decide for themselves how to approach continuity of education and many higher education institutions already had Virtual Learning Environments which, in principle, enabled them to continue teaching with little interruption. In practical terms, it was often not so straightforward. In other cases, institutions proposed mainly synchronous video conferencing lessons for their students, using Zoom or something similar. Not all students were able to access these lessons.

At the school level, there were differences between the primary and secondary levels, but also a lot of commonality. At both levels, there was concern about the ‘examination classes’ (those taking the primary and secondary leaving examination) and many countries made particular provision for them. If provision for examination classes was not promoted at the national level, then at local and institutional levels, these classes were prioritised for action. However, particularly at the primary school level, and almost as much at the secondary school level, neither students nor teachers had any experience of teaching and learning outside the classroom environment. The learning curve for both was, therefore, very steep and, in some cases, insurmountable.

Government responses varied, with some very efficient, and others comparatively ineffectual. Although, as one might expect, the response of wealthier, more advanced countries has generally been more noticeably effective in mitigating the effects on education, other, poorer countries have also often responded well too. Similarly, although one might expect poorer countries to have shown a slower, less adequate response, some wealthier countries also appear, on occasion, to have been less than adequate in their responses.

There were two broad types of responses from teachers. The first was those who wanted the government to provide them with training, as well as materials and technology etc. These may have been reasonable enough requests, but they were impractical in the emergency situation that they found themselves in. The second group were those who recognised that external help was unlikely to

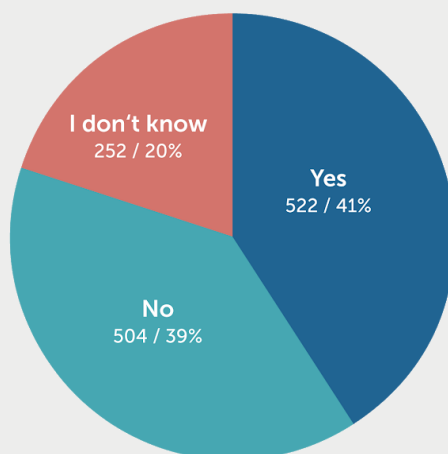
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<sup>15</sup> Ibid

be forthcoming in the short-term and decided they would have to find their own solutions to the problems they were facing. This divide did not really split along country lines - there were examples of both in many countries.

Often a major problem for institutions and teachers was the lack of clear guidance from national governments about the introduction of distance learning. The role of government guidelines for using technology to sustain education during Covid-19 varied from country to country: 41% said they were aware of government guidelines, 39% said there were not, and 20% said they didn't know. This suggests that, even if guidelines were published, they were not widely known.

**Has your government issued guidelines for the use of technology in education during the COVID-19 crisis?**



In general, guidelines focused on TV and radio, with phones, tablets and laptops also mentioned, although it was recognised that this would only apply to a minority. However, although the survey produced evidence of some imaginative schemes by some schools and colleges, sophisticated technology was not seen as a universal panacea. Tshepo of Botswana, an ICT specialist, reported that "the government has publicised schooling in the national TV station and has partnered with local cell phone providers to provide free service to customers to access educational content."

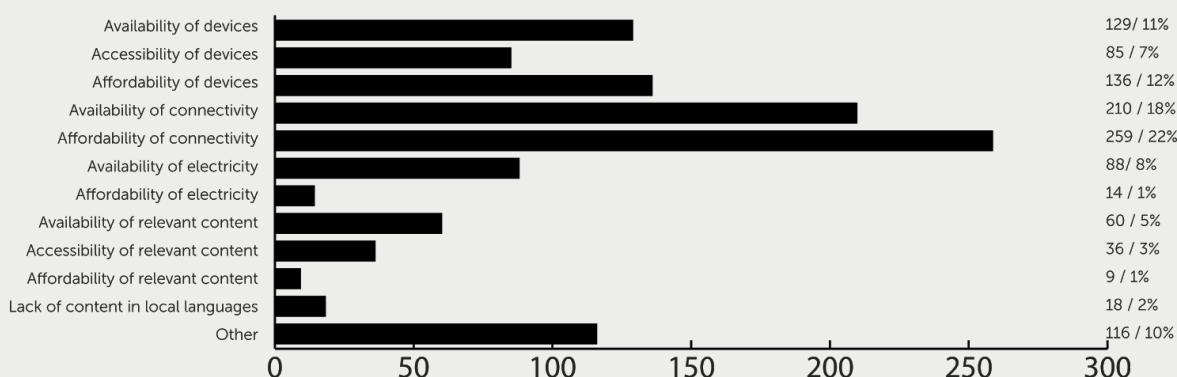
Some countries focused their attention on levels and year groups facing final exams, e.g. secondary, but mismanaged their initiatives. Ahmad of Egypt, a trainer, said: "Unfortunately, they just focused on assessment. Which was actually handled badly, by using a form of assessment that no student in the country has been trained on."

## Obstacles to Effective Response

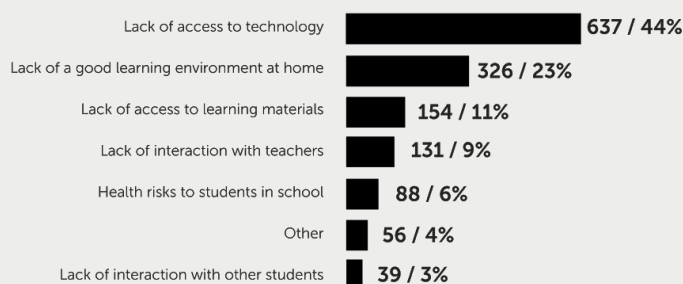
The main obstacles to the effectiveness of distance learning initiatives proposed by governments, institutions and teachers were seen by respondents as the lack of:

- ❑ access to effective infrastructure and technology (44%)
- ❑ affordable and accessible electricity and connectivity (49%)
- ❑ access to appropriate ICT devices (30%)
- ❑ a good learning environment at home (23%)
- ❑ access to learning materials and an appropriate curriculum (11%)
- ❑ capacity building, personal development and training (71%)

In your country, what do you think is the biggest challenge with regard to using educational technology effectively during the COVID-19 crisis?

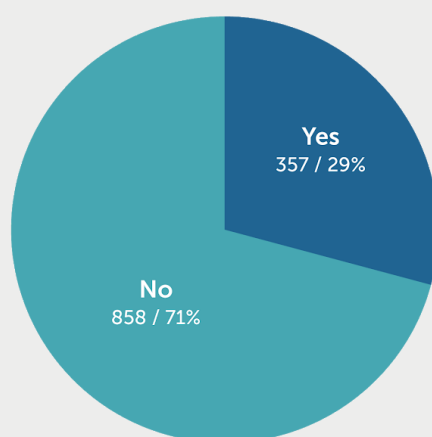


In your country, what do you consider to be the most significant obstacle facing learners during the COVID-19 pandemic?



For many teachers, the main obstacle was the lack of appropriate training to conduct and integrate distance learning in their teaching (53%). Other groups identified other obstacles; some were distinct, others overlapped and were interdependent. For Tshepo of Botswana, an ICT specialist, the most significant obstacles were “lack of a good learning environment at home, lack of access to technology and health risks to students in school.”

Do you feel that you received adequate professional development / training prior to the COVID-19 pandemic concerning how to adjust to providing distance-based learning for students?



For marketing director Shirley from Namibia, the problem was that people were all affected in different ways:

“Learners in different situations are affected for different reasons. Learners in the rural communities will be negatively affected because they do not have access to technology. Learners with special needs might not have someone at home qualified to assist them. Low-income learners might not have access to gadgets and WiFi. Learners in difficult domestic circumstances might not have gadgets, WiFi, and assistance from parents”.

For the sake of clarity, we will consider each of the main obstacles identified by respondents

## Electricity

Access to affordable electricity is a basic requirement for the development of any learning that is not classroom based. Too many parts of Africa, particularly rural areas, do not have this access.

Jossam of Rwanda, a teacher, was worried that “the poor communities will be completely left behind. With lack of electricity and limited capacity to buy ICT equipment, this move will only increase the gap between the poor and the rich.”

Tafadzwa of Zimbabwe, a Principal, told us: “there are remote areas where there is no electricity, the roads are inaccessible, and some teachers have never used a computer let alone had access to the internet.”

To take one country as an example, only 3% of Zambians in rural areas have access to the national grid for electricity, which is mainly powered by hydroelectric energy from Kariba and other dams. The main alternative source of power is diesel generators, which are expensive in fuel and maintenance, and are polluting. Diesel generators are not really an option for most rural dwellers, and neither is the main alternative, solar power. Although more sustainable, the costs of solar energy are still beyond most rural dwellers. The result is an ineffectual, expensive and unlinked set of private generators.

Mosses of Zambia, an ICT specialist, confirmed that this is a major obstacle: “Currently because of the low levels of electricity availability especially in rural areas, i.e. 60% of Zambia is rural and only 3% of the rural areas is connected to the national grid. Majority of the poorer and more marginalised students are in rural areas.”

A new initiative involving Zambian government bodies, a Chinese hydro-energy centre, the Global Environment Facility and UNIDO are piloting three ‘mini-grid’ projects in rural districts, using biomass, hydro generation, and solar power to power local commercial activity. It is anticipated that these pilots will also provide the legal and policy framework for commercial development of rural mini-grids throughout Zambia.<sup>16</sup>

The issue is familiar to most countries in Africa. Access to sustainable, affordable electricity for all is possibly the key element in the development of equitable African economies. It is certainly a prerequisite for universal access to distance learning. Without access to electricity, there could be no universal access to television and radio, nor to any other form of ICT capable of sustaining a technology-based distance learning programme.

Gifty of Ghana, a teacher, told us: “Even though I support online education, unless the country invests in online systems, it will deprive a lot of the Ghanaian people from quality education since a

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<sup>16</sup> <https://www.unido.org/who-we-are/unido-worldwide/africa/selected-projects/zambia>

lot of them can't afford the devices, the bundles, lack of electricity and the social support needed for quality education."

## Infrastructure and Technology

eLearning, by definition, requires not only electricity, but also access both to data connectivity and to the devices through which the eLearning materials can be accessed. All of these are in short supply in many parts of Africa.

Miriam of Ghana, an ICT specialist said: "Firstly, government must focus on developing new infrastructure to aid such adaptability in the future. As it currently stands, the facilities and tools required for easy transition to distance learning are simply not there."

However, it is clear from responses to the survey that, although there are many common problems, there is no single solution for all education sectors, nor indeed for all countries. While there are principles that have almost universal application, how these principles are applied are often specific to a particular location or situation.

Alem of Eritrea said: "The existing reality on the ground in Eritrea and many other developing countries shows that basic infrastructure, facilities and services such as electricity and communications, including internet, are mostly confined in the urban, and to some extent, semi-urban areas. So, the move to more online learning will primarily benefit these already privileged communities that have easier access to the infrastructure necessary for online learning. On the other hand, it will further marginalise the already marginalised, under-served rural communities and subsequently widen the digital and educational divide."

Tabor of Ethiopia was adamant: "We cannot afford to use technology to reach most of the students. There is no sufficient infrastructure."

Mohamed of Somalia, a teacher, agreed: "We don't have any infrastructure for online learning."

For effective eLearning, there is a 'hierarchy of infrastructure needs' and these featured prominently in respondents' descriptions of the main obstacles facing them.

## Connectivity

Problems with connectivity and access to the internet were identified by respondents as one of most significant obstacles to an effective response.

As one respondent, Gabriel from Tanzania, who is a teacher, said: "The need for internet is no longer a luxury possession to be priced high but a necessity at this juncture as an enabler platform for teaching/learning activities to thrive. Therefore lower the internet price."

The accessibility and affordability of connectivity are as important as the supply of electricity, although connectivity is very difficult without a reliable electricity supply. Whilst poor communications infrastructure was identified as a particular problem for accessing distance education, 40% of respondents said the availability or affordability of connectivity was the biggest barrier to using technology effectively for education during the crisis.

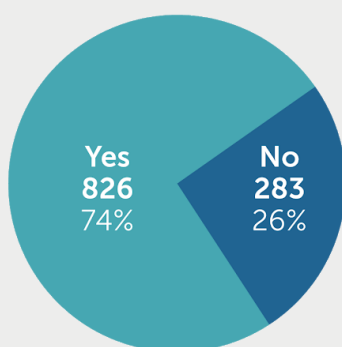
However, providing universal access to reliable and affordable connectivity is not a simple task. African countries are often large and with diverse geographies: coastal, riverine, plains, jungles and mountains are sometimes all found in a single country. Building sufficient masts for even 2G communication is expensive and this is reflected in the cost of data to users.

Kenya has recently launched (literally) an innovative approach providing 4G data to rural areas along the Rift Valley. Kenyan telecoms company Telkom, working with Loon, a subsidiary of Alphabet,

launched a fleet of 35 internet-delivering, high-altitude balloons on 8 July. These hover about 20 kilometres into the stratosphere and, working with central ground stations, provide a 4G service to users of Telkom's services within a 50,000 square kilometre area. These floating 'masts' provide users with access to video, email, and data heavy apps, such as YouTube. While this is still a working pilot, it demonstrates that cheaper, innovative technology exists than the traditional model of masts - and it can provide internet access to dispersed populations.<sup>17</sup>

Whether this ability to access the internet will lead to greater use of it, will depend on the cost. It is likely to remain beyond most rural dwellers for a while, reinforcing the disadvantages experienced by some communities. The survey shows that this is a particular concern. 74% of respondents think that a move to more online learning will increase inequality and disadvantage poorer students. However, assuming there is universal access to data, even at a cost, it could provide poorer people with access to a cheaper 'internet café' model.

**In your view, will a move to more online learning increase inequality and disadvantage poorer and more marginalised students?**



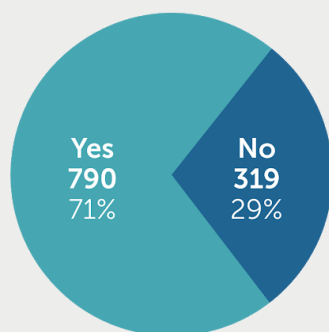
Affordable access is the key to education innovations, such as the one Filip from Benin told us he is trying to establish: "I am trying to set up a network with schools and technology partners to open up 'open educational centers' where young people can come - respecting social distancing - to have access to technology either on site or via a lending programme. We believe that education should never return to the old normal, but a mixed approach will be needed in the future."

Similar innovations that can be tried in other countries and areas, provided governments understand the need to establish a national network of internet access. Solutions could include low-cost broadband, public-private partnerships with telecom companies, tax breaks to encourage an enabling environment and incentives for platforms to allow free access to education programming and materials.

Access to education would be one of the key benefits of such a system, as well as access to weather reports, crop prices, and a host of other economic and information benefits. Without prioritising universal access to internet capability, 71% of respondents say it is likely that there will be a widening of the gap in educational outcomes between rural and urban areas.

**In your view, is the state of communications infrastructure in your country likely to lead to a widening of the gap in educational outcomes between rural and urban areas?**

<sup>17</sup> <https://gizmodo.com/alphabets-internet-beaming-loop-balloons-now-providing-1844297656>



With universal access to connectivity, at an affordable cost, a wide range of education materials, both targeted and untargeted, could become much more widely available.

### Devices and Technology

Respondents to the survey have sophisticated tastes in technology. 68% of them said they use smartphones, smart feature phones, tablets, PCs or laptops at least weekly and only 6% use radio. This clearly presents a sharp contrast to the experience of most ordinary Africans, particularly in rural areas, and may have clouded individual judgments, on occasion, about possible or appropriate technological solutions. In an ideal world, a personal smartphone for every student, particularly in secondary school, might be considered the ideal solution. 43% of our respondents think that online learning is likely to be the most useful solution for secondary school students and it is certainly the case that, for it to work, access to smartphones and other devices would have to be the rule, rather than the exception. Affordability may continue to be a significant impediment for the foreseeable future, though.

However, the price of smartphones is falling, technology is becoming cheaper and penetration rates are growing. For several of our respondents, smartphones are by far the most attractive option. EdTech entrepreneur Godfrey from South Africa, for example, is an enthusiastic champion:

"Self-paced learning requires the continual engagement that gamified mobile experiences can provide," he said. "TV is passive and expensive. Radio lacks essential visuals. Tablets, laptops and PCs are expensive and impractical. Smartphone penetration is growing at a massive rate. In South Africa smartphones have a 91.2% penetration. In Tanzania, more people have access to a smartphone (53%) than to a TV (41%). Data costs are dropping dramatically and learning content can be zero-rated. Smartphones are the learning platform of the 2020s."

Komla, a teacher from Togo, even thought that affordability was no longer the obstacle that it may have been in the past:

"Materials like TV and radio sets are used in households with population. Laptops are expensive compared to smartphones. Most people can afford smartphones and it is for personal use and people can feel at ease using them."

Whilst the survey elicited some examples of the distribution and use of personal devices, such as smartphones, by private schools, this was far from the general experience. However, if nothing else, although smartphones may be the ideal solution, the survey proves that effective distance learning does not require every student to possess one. Individual devices, while often desirable, are not always essential, providing students have access to a convenient local community resource. There are solar powered Android tablets loaded with education materials in place of textbooks. These are not internet enabled but do provide students with access to 'written' learning materials, and opportunities to do exercises. There is also a pilot in South Africa, which loads 64gb of data (education materials, past exam papers, and wider reading materials for Grade 12 secondary leaving

classes) onto a SD card, which can be inserted into many mobile phones, and can be used without the need for data access. Each SD card cost R100, or about US\$6.00, which makes it affordable to many more students.<sup>18</sup>

Whilst cheap 'smartphones', locked to access only educational sites might provide cost-effective solutions in some circumstances, it is clear that the lack of them need not always be a major obstacle to the development of effective distance learning. Many respondents suggested other solutions. ICT specialist Paul from South Africa set out what he considered the main requirements for the device:

"The solution needs to be very portable, excellent battery life and rechargeable using USB or external batteries or solar panels. It needs built-in LTE and a robust protective case."

Adejare, an Edtech entrepreneur from Nigeria, is an enthusiastic advocate of tablets. "Tablet is portable," he emphasised. "It requires minimal power and broadband/internet data. It has good audibility, visual display. It has extended battery life and memory/storage. It is cost effective."

Others favoured more traditional solutions, particularly television and radio. Gloria, a teacher from Nigeria, said that the "majority of the people have access to a TV set, even though not all in the rural areas have one, but it could be easy for governments to help the few families that may not have in their space. Again, it enables students to see their teacher as though it were a face to face class. They can also phone in to ask questions."

Norah, a teacher from Uganda, said television had an advantage because "it can be viewed by many people. Even ten learners can use one television to study because in my country people have many people in their homes. Secondly, some TVs are free to air so there is no need to buy data if you are to use it. Thirdly, children love watching TV in my country more than any other thing."

Robert, an ICT specialist from Uganda, thought that, ideally, television would be best, but radio offered a more practicable solution. The best would be Television as it provides both video and audio," he said, "but since most of the rural areas can't access the TV services then radio suits very well since 95% of the family can afford a small radio from which learning can be done."

Muhammad, a teacher from Nigeria, put the case for radio: "The radio is cheaper and most widespread device in use in the country, especially in the rural areas. It's not dependent on electricity or internet connectivity as the other devices. It can be used with batteries and it's much easier to operate by even the uneducated parents."

Ilse, a teacher from South Africa, also thought radio had distinct advantages: "Connectivity and electricity are significant problems in my country. At least radios can run on batteries although it will not allow for face to face teaching."

Nigerian teacher Christine, however, thought mobile phones were the best option: "Mobile phones are the most ubiquitous device in Nigeria and can be battery charged for periods of time making them better than the TV."

So, there was no common consensus among respondents about the most appropriate device for distance learning. Individual devices each have their advantages and disadvantages. It is clear that there are 'horses for courses' and that distance learning, in a variety of diverse situations and circumstances, must make do with a range of technologies and devices until the time comes when the ideal solution of a smartphone or tablet becomes a realistic option for every child.

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<https://www.dailymaverick.co.za/article/2020-07-27-students-free-e-learning-project-challenges-the-need-for-multimillion-rand-tablets-in-eastern-cape/>

## Home Learning Environment

In June, Ethiopia's Women and Children's Affairs Bureau reported that more than 100 girls in Addis Ababa had been raped since the start of the Covid-19 crisis, a fact which it attributed to school closures. "Men who used to practise different habits outside their homes are now doing them to their children when they stay at home," said the Bureau's director, Almaz Abraham.<sup>19</sup>

Wamba, one of our respondents from Cameroon, who is a project manager, mentioned several similar problems in the home learning environment. She listed "the problem of security (kidnapping); child labour, child exploitation, early marriages (for young girls), violence from their parents or guardians."

These are all indications of the many difficulties faced by students, who were suddenly obliged to swap their school or college for a home learning environment. For poorer students, this was a particular problem. In many African countries, the majority of students live in small homes with many inhabitants. There is unlikely to be a quiet room, or other space suitable for study. Furthermore, the survey identified a common problem affecting rural learners: children who were not in school might be expected to do work in the home or in the fields. This was likely to be particularly true for girls.

Marie, a technical advisor from Kenya said, "Lack of access to meals is a problem and there has been an increase in safeguarding issues for especially girls and children with disabilities."

Yeshitila from Ethiopia said "Many are now away from school feeding programs and other school benefits; They are at risk of substance abuse, forced marriage, workload at home, particularly for girls."

However, it was not only children for whom a home learning environment was far from ideal. Particularly with regard to early childhood and primary learning, the crisis placed a huge burden on parents, for which they were unprepared and ill equipped.

## Learning Materials and Curriculum

The combination of a curriculum that was unsuited to distance learning and geographical or technological factors that hindered access to learning materials often constituted a significant obstacle. Many respondents noted that the most disadvantaged learners as a result of Covid-19 would be poor and geographically dispersed students - essentially, many rural learners. Without electricity, access to TV and radio, and certainly to online learning materials, education was all but impossible. Add to that geographic distance from the school, and access to even paper-based learning materials will be very difficult. Given that primary school students are the least likely to be able to undertake self-directed learning, without the assistance of a helpful adult, it is clear that they are the most likely students to be disadvantaged by school closures, and this was the opinion of most respondents. Initiatives providing broadly self-directed learning on solar-powered tablets might provide a technical solution to this issue.

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**"...There are high-quality self-learning solutions with proven effectiveness. High-quality educational resources are being developed for these platforms, so utilizing these hardware platforms could continue to be a great supplementary learning resource for teachers after COVID."**

**— Tae, Consultant, Tanzania**

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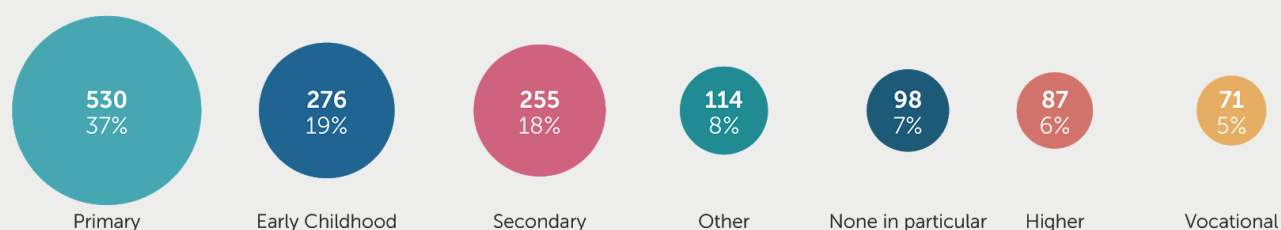
<sup>19</sup> 'School Closures Factor in Rape of Ethiopian Girls during Covid-19 Lockdown,' IOL, June 4 2020

Samuel, a teacher from Eritrea, told us that he thought a priority would be “integrating technology into the standard curriculum, which will surely make transforming teaching-learning into distance-based mode whenever needed. So, I believe, ICT will have an inevitable role in the curriculum in the future (Post-Pandemic period).”

Tshepo from Botswana saw an urgent need for “creating e learning curriculum, building sites to host the e learning programs and designing applications which can run on a basic phone and smartphone.”

A majority of respondents thought that the most disadvantaged sectors would be primary, rather than secondary, and the school sector as a whole, rather than TVET or higher education.

In your country, what stage of education do you think will be most disadvantaged as a result of the crisis?



Samuel from Eritrea saw the rigidity of the curriculum as a particular problem: “Providing general subject matter provisions to students of junior and high school level through TV programmes, although it doesn’t cover all-level students and contents could have been tailored better to fit the corresponding curriculum.”

Wamba of Cameroon also considered the curriculum to be a problem. “(The) school curriculum should be reviewed because many teachers -and students- are not yet trained in our country on how to adjust, how to provide and how to adapt with distance-based learning for students.”

Isaac, a teacher from Nigeria, said more focus was needed on “how to conduct effective distance learning, to adapt the curriculum, to devise activities and materials for student’s learning online and digital literacy training.”

And Jossam, a teacher from Rwanda, summed up the task: “Revise the current curriculum to include eLearning into the curriculum of all sections of study in the African education system.”

## Capacity Building, Professional Development and Training of Teachers

Many respondents felt that the crisis exposed a gap in training and professional development, which left many teachers unable to respond effectively. Alem of Eritrea thought this was a bigger problem even than the lack of technology. “The biggest mistake could be investing more on the technology without proportional investment in the human and institutional capacity development of the educational institutions”.

A historic lack of training and professional development for teachers on the inclusion of technology in teaching has meant that teachers were ill-equipped to respond effectively to the changed circumstances. There was no evidence of any co-ordinated programme of teacher training from governments, and any government interventions reported were partial and limited.

Most examples of good distance / eLearning practice were from the HE level or from individual schools. There were also some examples of local schools cooperating with each other and sharing resources, as well as of co-operation between individual teachers.

Karen, a teacher from Eswatini, said what was needed was to “involve all stakeholders from the word go, keep consulting and collaborating with experts in the field, share relevant information via different platforms, communicate.”

Njoroge, a teacher from Liberia, told us that there was a need for “more skills on how to use the Internet for effective collaborative teaching such that resource persons can share their skills to many institutions.”

Particularly in early childhood and primary education, the crisis and resulting school closures placed a huge burden on parents, for which they were unprepared and ill equipped. For poorer and rural students, this was a particular problem. Many parents appeared not to feel confident in supporting their children’s school learning, due to their own limited experience of formal education and instead provided them with experiential learning, by working in the home, in the fields or elsewhere.

Marinia, a managing director from South Sudan, told us that “the quality of education and teachers is already very low. The schools are poorly equipped and there are high numbers of students in one classroom. There are no suggestions posted how to bridge the learning gaps once schools will reopen.”

There was a feeling that many governments had failed to show clear leadership and to combine this with effective planning. Some governments encouraged a move to online learning but failed to provide advice on how to make it happen. Many governments restricted their efforts to general sensitisation over TV and radio. Schools and teachers were often left to fend for themselves.

Moussa, a teacher from Niger, said that there had been plenty of “urging teachers to put their course content online so that students can learn from anywhere and any place, but there were no accompanying measures such as training and providing teachers with the appropriate teaching materials.”

Whilst most respondents (75%) to the survey said they had not received any additional material or financial support to help them deal with the crisis, many schools and institutions have cooperated with partners, either other institutions, NGOs or private companies, to develop imaginative solutions. Governments should learn from their experience in developing strategies for the future.

**Have you been offered specific additional financial / material support for teaching and learning tools during this crisis?**



Respondents suggested that the types of teacher development they would welcome would be: General ICT skills; how to use eLearning ‘tools’: devices (phones/tablets etc.), enabling software (Zoom, Google classroom, etc.) and apps (WhatsApp, Facebook, YouTube etc.). Some gave particular focus to Learning Management Systems, and to finding and / or developing learning materials.

When asked what advice they would offer to teachers new to technology, the responses fell into two broad categories: those who thought that incorporating technology in education demanded careful central planning, provision of appropriate devices and standard software, teacher training etc., and those who thought that teachers should ‘just do it’: start slow and simple, and work on from there.

The latter was probably in a slight majority and, according to these responses, the most important factors are:

- ❑ a lack of fear of technology;
- ❑ enthusiasm to continue their own learning;
- ❑ a willingness to experiment;
- ❑ a willingness to work with fellow teachers, and their students, to find ways to work with whatever technology they have, including SMS, WhatsApp, etc.

Many mentioned the free Online Educational Resources available. Others mentioned that technology is a tool for teachers, not a replacement, and emphasised the centrality of the learner in using technology in teaching. A selection of comments can be found in Annexe 4.

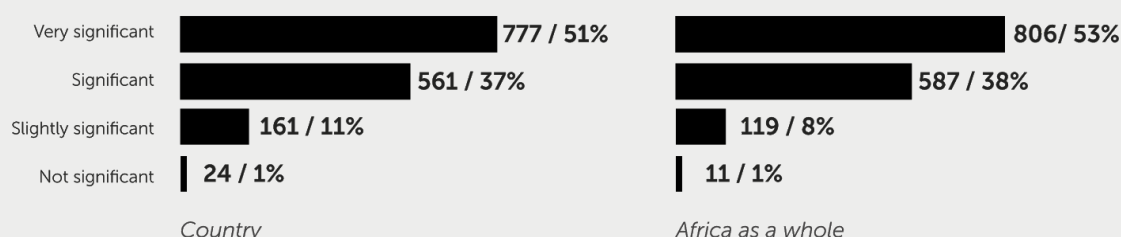
## 6. Opportunities, Threats and Examples of Good Practice

In the early stages of the pandemic, as it began to spread rapidly across the world, it was already assumed that it would hit Africa hard. There was a widespread feeling that a catastrophe was inevitable. "Early estimates," said a UN report, "were pessimistic regarding the pandemic's impact on the continent."<sup>20</sup>

However, whilst the effect of the crisis in Africa has indeed been severe, it has not so far been the catastrophe that was predicted. Indeed, the UN reported that "to date the experience has been varied. There are causes for concern, but also reasons for hope... the relatively low numbers of Covid-19 cases reported thus far have raised hopes that African countries may be spared the worst of the pandemic... The African Union acted swiftly, endorsing a joint continental strategy in February, and complementing efforts by Member States and Regional Economic Communities by providing a public health platform."<sup>21</sup>

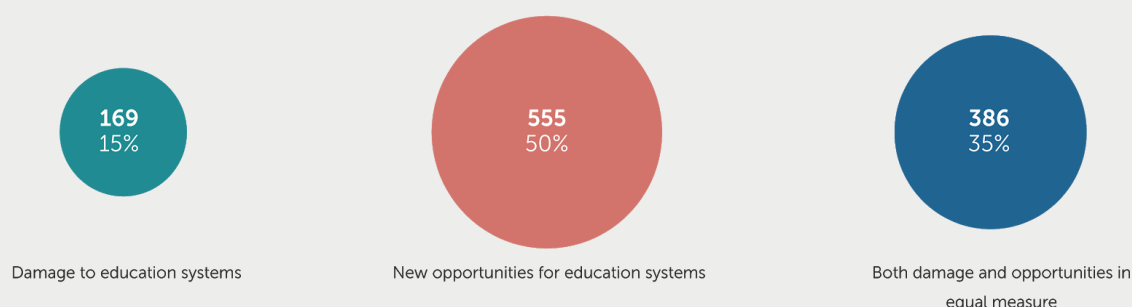
Respondents to our survey had no doubt that the pandemic presented a threat to the whole of Africa (91% of them thought it was serious or very serious). However, there continues to be substantial confidence about the future. In part, this is, no doubt, because the AU and many of its member states acted quickly and effectively, taking many of the necessary measures that some prominent 'western' states failed to implement.

How big a threat do you consider the COVID-19 pandemic to be to your country / Africa as a whole?



What is noteworthy, however, is that, in spite of the level of their general concern about Covid-19, our respondents remain optimistic about the prospects for education in Africa. In possibly the most striking statistic of the survey, 50% of them said they thought the most significant long-term educational effect of Covid-19 would be "new opportunities for education systems."

In your country, do you think that the most significant long-term educational effect of the COVID-19 pandemic will be



<sup>20</sup> 'Policy Brief: Impact of Covid-19 in Africa,' United Nations, 20 May 2020

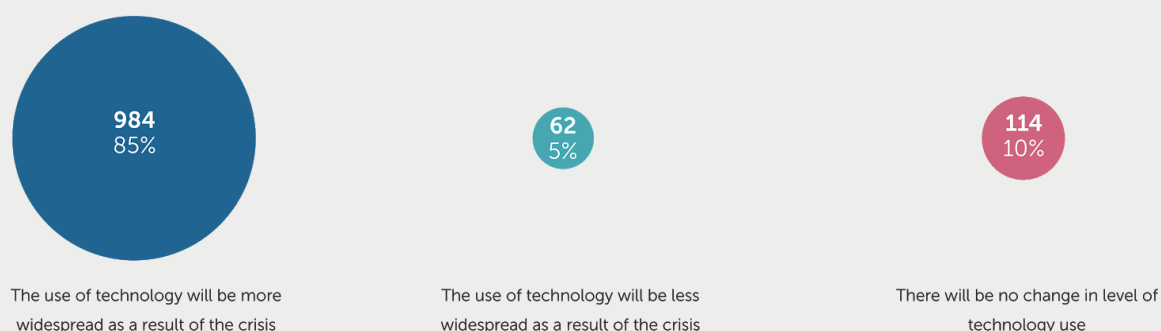
<sup>21</sup> Ibid

## Opportunities

The overwhelming majority think that the pandemic will boost the use of technology in education. 85% think the use of technology will be more widespread as a result of the crisis.

The African Union sees technology as the key to the rapid expansion of education<sup>22</sup> and, in turn, it is convinced that technology assisted education will be one of the main drivers of the economic growth necessary to transform the continent. The ambition is widely understood and shared, which may perhaps partly explain the level of optimism. However, the message about the need for investment in education and technology may not have been getting through with sufficient urgency. Now, some people are starting to see Covid-19 as a sort of 'shot in the arm' to deliver new impetus to plans for a 'transformed continent' and our survey provides clear evidence of this.

In your country, what long-term impact do you think the current COVID-19 crisis will have on the level of use of technology in education in Africa?



Albert Nsengiyumva, the Executive Secretary of the Association for the Development of Education in Africa (ADEA), told us that "the COVID-19 pandemic has brought a new reality which has further deepened inequality and exclusion, particularly in the African education systems. Together, we should turn this tremendous crisis into an opportunity for accelerating digital transformation, as this will have an impact on critical sectors such as education. Today more than ever before we need to adapt as quickly as possible to disasters and emergencies and look for alternatives to advance education and training in Africa."

Many of our respondents see Covid-19 as an opportunity to transform, renew and innovate; a chance for governments, at last, to put an end to empty words, delays and excuses by making a fundamental commitment to technology. "Technology is the future," said Chukwuemeka, an ICT specialist from Nigeria, "and one of the main reasons why we struggle during this trying period is that there has been slow penetration of technology in almost all industries. Online education is the future and the earlier the government starts looking at the huge opportunities here, the better off the country will be."

"This is the opportunity for a long-term evolution of the education system," said Sisu of Zimbabwe, a corporate planner.

Joice, who has worked in technology and education for over 20 years, believes in the "fundamental role in society" of educational technologies in "mediating the teaching and learning process" between students and teachers, told us:

"We have the opportunity in the face of the pandemic to improve the uses and access to technologies aimed at learning, at a time when students and teachers can become protagonists of a new model of education."

<sup>22</sup> [www.au.int/en/directorates/education](http://www.au.int/en/directorates/education)

Isso of Burkina Faso, a teacher, believes it is precisely the difficulty of the current crisis that will ultimately create real, long term benefits: "As the Covid-19 becomes a worldwide problem with no good solution, everybody in the world becomes involved in seeking solutions for their own survival that will lead to creativity, new ideas and new opportunities and part of evolution."

Qurashi from Sudan and Zahid, a teacher, both agreed that the crisis would lead to a boost for technology assisted learning. "Difficulties are associated with opportunities," said Qurashi. "Face-to-face learning is costly and time-consuming."

Zahid thinks the crisis will help to encourage the rapid adoption of technology. "Our country has a well developed technology for adopting online learning at all levels. So far, its adoption has been very slow in schools, colleges and universities. Even distance & open learning schools were slow in adopting the technology. With the successful efforts of many schools and universities, it is now certain that more and more institutions will adopt online learning in the post Covid-19 era, providing new opportunities in the education systems."

Josie, a marketing director from Ghana, is convinced that the most important effect of the crisis is to encourage new thinking about education. "This pandemic has forced us to think outside the box and implement plans and strategies to help our students achieve the same quality education as was provided face to face. It has provided an opportunity to discover new forms of learning and training."

Aletta, a teacher from Namibia, agrees that the effect on the way we think about education is likely to be one of the main consequences of the crisis: "Education in Africa and in my country has not been the most successful. I believe the pandemic has given us a new opportunity to rethink, evaluate and improve on current policies, the curriculum and methods of content delivery to help improve learning."

Even some of the most obvious difficulties associated with education in some parts of Africa seem, in the eyes of some respondents, to have been positively affected by the impact of the pandemic. Bhai-Dhawa, an ICT specialist from Sierra Leone, told us "Covid-19 provided the opportunity to experiment with new forms of learning. In a country where electricity and internet connectivity are scarce, it is not clear when online learning will be widespread. Most schools will revert to the traditional form of face-to-face learning, post Covid-19. But using Radio is a hopeful approach."

Marie from Kenya thought that the boost for radio learning was very significant but there were important opportunities for remote learning through ICT platforms too. "Because of poverty in most rural areas, children would not have been able to study effectively," she said. "However, the radio school broadcasts did fill an important gap. The opportunities created for the introduction of remote learning through ICT platforms are important. Kenya will most certainly speed up the expansion of its existing ICT and remote learning capacity, especially for learners with disabilities who need access to assistive technology."

## Threats

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In spite of the widespread enthusiasm for the view that the crisis would create a new boost for technology-assisted learning, however, there was also a strong note of caution. 74% of respondents said that a move to more online learning will increase inequality and disadvantage poorer students. They thought that there were areas where the introduction of more technology-based learning, whether during or after the crisis, would be likely to create or exacerbate problems, particularly with disadvantaged students.

Sai, a civil servant from Ethiopia, reminded us that "technological advances...can widen the gap between urban and rural areas" and poor communications infrastructure was identified as a

particular problem. 71% of our respondents said it is likely to lead to a widening of the gap in educational outcomes between rural and urban areas.

A project manager from Comoros, who did not wish to be named, told us “this crisis will further deepen the inequalities between the poor and the rich. Children from the wealthy quintile study in private schools with better-qualified teachers and adequate resources, while those from the poor quintile are enrolled in public schools, almost 'left to their own' since the schools are closed in March.”

The effect on disadvantaged children was likely to contribute to a widening digital divide, according to some respondents. John, an ICT specialist from Ghana, said, “The digital and technological gap will be widened as poor kids can't afford these devices and may not be skilled in using them. The educational gap will also be widened as uneducated parents can't help the kids when learning online in isolation.” Miriam, who is also an ICT specialist from Ghana, said, “Poor and disadvantaged children will be greatly affected and set back compared to their more privileged peers...on the other hand, it might motivate the government to work on raising educational standards and implement policies to improve education systems.”

Many respondents shared Miriam's view that, in spite of their reservations and concerns about the likely effects on the most disadvantaged sections of the population, the crisis might prove to be a catalyst for real long-term change in education. Some felt that this was the case even in some of the least developed countries in Africa where the damage caused by the pandemic to education systems was seen as amounting to a catastrophe.

“A catastrophic damage is already being done on education systems, along with other social and economic sectors, as countries have not been prepared for such an unforeseen pandemic of unprecedented magnitude,” said Alem of Eritrea. “This damage is even more significant in the least developed countries of Africa, including Eritrea, as they lack the necessary technological infrastructure to fill the subsequent educational vacuum created as a result of the pandemic. However, it is also a wake-up call for countries like Eritrea to turn the challenges into opportunities by investing more, in collaboration with development partners, in transforming and diversifying their education systems by complementing with contemporary alternative educational provisions of educational TV and contextualized online learning platforms.”

Abbas, a teacher from Nigeria, thought that the collapse of education in some areas would force governments to act. The “Covid-19 Pandemic has slowed down education, but it has also reawakened our institutions and policy makers to clearly see the level of deficiency in education at all levels, especially the near total lack of eLearning facilities and practice in the country. Thus governments will be forced by circumstances created by Covid-19 to invest more to raise eLearning capacity.”

Anriette, an ICT specialist from South Africa, thought the effect on schools themselves could turn out to be positive. “Schools are struggling to cope because many lack good management and sufficient infrastructure,” she said. “The crisis will make their situation even more difficult. But some schools have risen to the opportunity to communicate more with learners and parents and to integrate tech in a way that can lead to new opportunities.”

Silna, a teacher from South Africa, said it was time for governments to realise that investing in technology in education was now too important to ignore. “If there was ever a time to get a wake up call and realize the need for technology use to enhance the quality of learning it is now. Education needed something like a Covid-19 to shake up governments and policy makers on the use of ICT. May they now smell the roses. Years and years of promises and contemplation.”

Eliada, a Zimbabwean trainer based in Ethiopia, who thinks that if political leaders are willing to learn the lessons there will be no going back, perhaps summed up the mood of our respondents as well as anyone. He is convinced that the disadvantaged hold the key to progress.

"If our leaders are willing to learn, there should be no going back to the solely textbook-based education system only. The challenge will, however, be if all governments can provide the necessary resources for all students, especially the rural and under-resourced."

## Examples of Good Practice

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The Covid-19 pandemic created a unique situation, even for countries which have suffered major health emergencies in the past. It also affected every African country and every sector of education in a different way. As the situation was so unique and the response to it so new, it is difficult to say with absolute confidence, at this stage, what constituted 'best practice.' That will perhaps only become clear with the passage of time and after a period of reflection and review. However, it is both possible and worthwhile to highlight some of the steps that were taken at various levels. These seemed to stand out in respondents' answers to our questions and may, ultimately, be considered 'best practice' in crisis response.

### Effective Communications

A recurrent theme, raised by many participants in the survey, was the need for effective communication - by governments with education institutions and teachers, and by institutions with students and parents.

#### Communication at the School Level

At the early childhood and primary level, maintaining effective communication with parents was seen as essential. "At the school level, involving parents in the online learning of their children is found to be very important," said Zahid, "as it is the parents who have to provide suitable IT infrastructure in the homes. Moreover, during lockdown, it is the parents who themselves regularly monitor the learning of children."

#### Communication at the National Level

At a national level, particularly in the light of the lack of warning of the impending crisis, communication and dialogue with key stakeholders, together with a clear message about objectives and plans, were seen as essential. Maggy, a Lecturer from Namibia, was impressed by the role played by the Namibian Government in coordinating communications between interested parties and taking account of their situation. "Government," she said, "has been very supportive in finding out the status of all educational institutions, motivated and encouraged a lot of resource sharing and best practice sharing, getting all stakeholders together, allowed all stakeholders to share their stance and progress regarding online learning and teaching nationally with everyone on national television, administered various surveys to get to know the actual status, allowed a lot of open debate / rapport and many more."

In Cameroon too, the role of the national government in coordinating discussions about how best to make appropriate communication and media resources available for education was seen as crucial. Eliane, an executive assistant, said "On March 17, 2020, the Prime Minister of Cameroon announced drastic measures to be observed by all Cameroonians from March 18th till further notice. Within 5-10 days, committees made up of teachers, lecturers and some parents were set up to develop a strategy for students to continue their classes while at home. From pre-nursery to higher education, each group agreed on a number of solutions..."

## Involving the Private Sector in the COVID Response

Involving the private sector at an early stage was widely seen as a very important factor in the development of effective solutions, as was an understanding of the importance of accepting that some forms of technology could be more appropriate for some sectors than others.

Such partnerships were often seen as adding an extra dimension to the government efforts to use technology to deliver education. Alem of Eritrea described how a Global Project for Education (GPE) programme had complemented Government supported media educational media content development and TV programmes. "This project intervention has substantially supported the Government initiative..." he said.

Bansi, a marketing director from Kenya, reported that "private technology firms have come in to aid the Government with their multiple platforms. The Government in turn broadcast educational content on radio and TV that can be accessed by rural households".

## Using TV and Radio

Momodou, a civil servant from Gambia, said "We are running Radio, TV and online distance learning through my office at the Ministry of Basic and Secondary Education. At the tertiary level, online platforms are used by the universities and colleges. As a country we organised various stakeholder meetings as part of planning for introduction of the distance learning initiative. We also organised discussion platforms on TV and Radio to engage the general public..."

Overall, countries that reached agreements with telecom companies, used radio and TV effectively, and distributed materials seem to have been the most successful in ensuring the continuity of education. Algeria has 12 TV channels for children from class I to XII in all subjects. In Botswana, national TV has provided schooling and local telecom companies have distributed content. Such arrangements indicate the importance of partnerships

Faith, a communications director from Rwanda, wrote "We have worked with radio stations to produce radio lessons for children at primary level 1-3. English and Mathematics lessons are aired every week on 7 radio stations in the coun

## Effective Use of Technology

Specific technologies and forms of social media were identified as being particularly helpful. Television and radio were widely seen as the most suitable form of communication at the early learning and primary level. WhatsApp was mentioned as useful aid to facilitate discussions between teachers and students. Nigerian teacher Emmanuel reported that he and his colleagues "were trained on how to use WhatsApp, Zoom and other apps to prepare and teach the learners". Carter, a project manager from Liberia said: "We have hosted remote mapping training, shared learning resources via social media and WhatsApp groups, and participated in online learning activities as well".

Some teachers were involved in training their students to use particular technologies. Kiprono, a teacher from Kenya said, "Through the small grouping and ensuring social distancing, I have reached to students in my rural area to teach them on how to use the smartphones and also how to learn using them".

At the level of higher education, Moodle was seen by several respondents as providing an effective solution.

## Making Tech Free

"The Catholic University of Bukavu is using the Moodle..." said Akuzwe, a communications director from the Democratic Republic of Congo. "We have chosen Moodle to implement the eLearning and students are satisfied. All the programmes planned for the first week have been realised, despite some technical problems due to technology materials and the bad quality of internet data".

In general, it seems that private schools and universities may have been better equipped to deal with the crisis. This is not only because of their comparative wealth and access to resources, but also because many of them seem to have been more flexible and ready to engage with external partners, including parents. A private school in Rwanda reported that "parents are encouraged to read and play with children. We are launching a mobile library with books for children to borrow to read at home with their families."

Nina from Ghana described the library and other resources her private university was able to provide to enable students to keep learning:

"For the library at Ashesi, I have to say that we have been lucky that our library management system is web-based and hosted outside our institution. So, this has been accessible to all members of our academic community. The same applies to our institutional repository. Plus, we also started using a service that gave all our users access to electronic resources - this was planned before Covid-19 but we managed to finally get it working just as our institution closed. We've also used Zoom for internal meetings, presentations, and classes, as well as other video-based tools. We have also tried to liaise with students on a regular basis so that they are aware that we will try and help them to get the resources they need. We are also currently looking at ebook options for the next semester".

Beatrys, a senior academic manager from South Africa, summed up her institution's approach:

"It is not about waiting to 'receive' from a benevolent government - one really has to be pro-active and creative to get ahead. We are not subjects but self-thinking self-driven individuals".

## 7. Recommendations

The experience of the Covid-19 pandemic in Africa has provided plenty of lessons for decision makers at all levels. Respondents to the eLearning Africa / EdTech Hub Survey contributed an array of ideas and suggestions for practical improvements to ensure that African education emerges from the crisis stronger and better prepared for the future. These ideas and suggestions form the basis of the recommendations, which we offer below, for action at various levels. Taken together, we believe they could amount not merely to a plan to make African education more resilient to similar health emergencies in the future, but also to a welcome stimulus for technology assisted learning and a boost for plans for a 'transformed continent.'

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**"Stop trying to copy first world countries."**

**—Bakoena, Teacher & EdTech Entrepreneur, South Africa**

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### Regional and Pan-African Level

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Although the primary 'actions' will be the responsibility of national governments, there are several areas where a broader multinational or pan-African approach might be helpful. These include:

- ❑ Reviewing communications networks, together with the availability and cost of connectivity across the continent, with a view to expanding the provision of online education and training, as well as broader community development.

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**"The cost of personal technology (smartphones, home wifi) needs to decrease. Botswana is amongst the top 14 countries with the most expensive data."**

**— Doru, ICT Specialist, Botswana**

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**"Provision of low cost broadband to make connectivity affordable to all. This is a challenge in my country and the challenge is provision of most appropriate technological devices to support Distance learning platforms."**

**— Momodou, Civil Servant, Gambia**

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- ❑ Developing intra-African cooperation in integrating distance learning into education, sharing innovations and best practice, including teacher training and curriculum development for distance learning.

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“More and more collaboration and sharing among institutions of higher learning and other education sectors as well without reinventing the wheel.”

— Maggy, Lecturer, Namibia

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- ❑ Examining at a pan-African level the potential for the creation of an ‘enabling environment,’ within which telecommunications companies and other infrastructure providers are encouraged to assist in the expansion of Africa’s online education and the creation of an effective, pan-African ‘safety net’ for use in the event of future crises.

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“The government needs to build the infrastructure and make it affordable to everyone, particularly the Internet. Once urban and rural communities can have access to an affordable and reliable high speed internet, schools and students alike can easily adopt distance learning technologies, platforms, and systems.”

— Carter, Project Manager, Liberia

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“All schools should have access to internet connectivity; Government should heavily subsidize the cost for data bundle; Government should arrange with mobile telephone companies to make the above two suggestions a reality.”

— Aboagye, Teacher, Ghana

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## Government

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- ❑ Governments, working with international and private sector partners, will take the lead in developing the infrastructure for 21<sup>st</sup> century education for all. They should see the experience of Covid-19 as an opportunity to stimulate technology assisted learning across the education sectors.

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“The government should: 1. Legalise, recognise and accredit eLearning activities and results. 2. Help institutions to disregard fears from uninformed students and parents and consider distance learning as credible as face-to-face qualifications. 3. Communicate with internet providers for reasonable pricing of their services to students and institutions 4. Lift or reduce taxes and dues on technology and media equipment and devices, including private radios, TV channels, mobile services, etc, 5. Review regulations concerning entry requirements for students

(give special consideration for IT literacy), and relax staff student ratio and other requirements for face-to-face setup.”

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— Qurashi, Sudan

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- ❑ Governments, local authorities and education institutions should urgently build an appropriate distance / technology enabled component into the curriculum, taking a semi-blended, self-paced element into all learning, without disadvantaging any child.

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“Enter into agreements with internet providers to make all education sites free or at least discounted; Embrace blended learning, dis-aggregate the levels unto more than one platform or LMS, embark on massive capacity building of teachers; make standardised content of pre-tertiary schools available on a dedicated platform, teaching lessons via other medium e.g. TV, radio etc.”

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— Christine, Teacher, Nigeria

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- ❑ Governments should seek, through fiscal measures and other incentives, to develop an ‘enabling environment’ and to encourage the private sector to contribute to a firm technological basis for the education system.

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“Take off taxes from data cost, price of devices, give spectrum at a lower cost and ask telecommunication operators to lower prices.”

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— Kenneth, Ghana

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“The pandemic has shown ... thought that Cameroon is able make use of technology at all levels. We heard a lot lately about video-conferences using various platforms and discussion forums on WhatsApp. Students were introduced to these forums and most, if not all were impressed by the outcome. So, my advice to the government will be that eLearning be introduced in every scheme of work from next academic year. Beside lessons that can be prepared using PowerPoint and published online, the government can see to it that an e-library be made available from primary to higher education; lecturers can minimize the movement of students from one place to another by establishing platforms where students can share their work either as a team or individual to others at all times. The platform being a permanent application, students can assess the topics treated at any time and anywhere. To arrive at this and beyond, the government will have to rethink its policies as far as the production, distribution and consumption of electricity as well

as the acquisition, distribution and consumption of networks are concerned. For the meantime, this is Cameroon's greatest challenge.”

— Eliane, Executive Assistant, Cameroon

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- ❑ Governments should draw up, publish and consult widely on crisis management plans, to ensure the continuity of education in any future crisis.

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“Put in place a platform with policy makers, teachers and innovators to provide a set of solutions available to the majority of learners. Design a crisis plan strategy to maintain the school continuity for the next stoppage.”

— Arnaud, EdTech entrepreneur, Cameroon

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“Involve all those who have a good background in tech-related matters to sit and write projects on how to inspire teachers and students alike to adopt technology. A sound funding for education is a must in achieving good results”

— Moussa, Teacher, Niger

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- ❑ Governments should prioritise the training of teachers in the use of technology and in conducting lessons online.

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“I would encourage the Government to support institutions financially so that they can develop the infrastructure for an online line in all institutions. I would further advise the Government to make it compulsory for all teachers to do a course on integration of ICT in teaching and learning.”

— Mildred, Civil Servant, Kenya

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- ❑ While there is a need for a national educational framework and attainment standards, sufficient community and parental sensitisation, and appropriate teacher development, it may be practical in many countries for Governments to devolve issues of methodology and process to the lowest possible level, ideally the school or institution. Governments should examine this with key stakeholders.

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“Encourage Public-Private Partnerships to help transition educational institutions across all levels from traditional teaching to eLearning methods and platforms. Promote & Channel funding towards technological innovation in education in areas including - teacher training, curriculum development

and adaptation, making standard tests available online across all levels, eLearning tools availability and adoption. Invest in and encourage adoption of home-grown eLearning solutions.”

— Anita, Nigeria

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## Educational Institutions and Staff

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If the government leads on the infrastructure and enabling environment for technology assisted learning, then educational institutions: Universities, colleges, schools, and their staff, can concentrate on providing a stimulating and practical education experience for their students. Working to an agenda of continuous improvement, (which the respondents demonstrated a clear commitment to) improvement can become standard practice. As the ‘front-line’ in education provision, institutions, their leadership, and their staff, should have the authority to innovate, where they can demonstrate that it improves educational experience and outcomes. These ‘micro-initiatives’ can feed into national agenda and allow for peer learning among schools and their staff. It is difficult to be specific, as the environments are very diverse, but these can involve:

- ❑ Promoting the use of whatever technology is available, and where there is no technology, to promote self-directed learning in both students and teachers.

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“Provide each school and learning institution with a basic in ICT. Train the trainers on the use of technology, popularize the use of technology in schools and institutions, create platforms with easier access to all users.”

— Mesmin, Teacher, Gabon

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- ❑ Embarking on a programme of continuous educational improvement including the engagement and motivation of all learners through digital methods.

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“Student engagement is key. The mode of delivery must be student-focused and innovative.”

— Jacton, ICT Specialist, Advisor, Consultant, Kenya

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- ❑ Promoting continuous professional development for teachers, and encouraging peer learning, among teachers in their institution.

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“Don't underestimate technology, even if we are in Africa, it is the future and we have not attended to the future until the COVID crisis. We must invest in training teachers.”

— Alexia, Project Manager, Mozambique

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- ❑ Contributing to a national review of the curriculum and development plans for reform

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“Even without the Covid-19 it is time to review the curriculum and we should move to adopt the digital curriculum that will enable the system to carry new knowledge as it arrives, as knowledge in this global world is more dynamic.”

— Salihu, Teacher, Nigeria

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- ❑ Developing plans to raise awareness among students, parents and the wider community of the benefits of distance and technology assisted learning as an additional learning tool.

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“Community engagement should be strengthened. Empowerment of parents and caregivers is a necessity in light of the important role parents and caregivers are likely to play in the education of their wards.”

— Erisson, Consultant, Zimbabwe

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- ❑ Reviewing their communications with parents and their local community, aiming for greater engagement of the community in the learning process with a view to ensuring their preparedness and willingness to cooperate in any future emergency affecting the education system.

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“Homes should henceforth be extensions of classrooms. Parents are educators already and should be involved in school education.”

— Komla, Teacher, Togo

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# Annexes

## Annexe 1 – The Survey Questions

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1. Title (optional)
2. First Name (optional)
3. Surname (optional)
4. Age
5. Gender
6. What is your country of origin / birth?
8. In which country in Africa do you work?
9. What is your job description?
10. Which type of organisation do you work for?
11. Which sector(s) do you work in? (multiple selections possible)
12. Do you work in an urban or rural environment?
13. What ICTs do you most commonly use (at least weekly)? (multiple answers possible)
14. What do you use ICTs for the most? (Maximum five responses)

### COVID-19 and the education system in your country

15. How big a threat do you consider the COVID-19 pandemic to be to your country?
16. How big a threat do you consider the COVID-19 pandemic to be to Africa as a whole?
17. Have schools in your country been forced to close as a result of the COVID-19 pandemic?
18. If 'yes', were
  - All schools closed?
  - Some schools closed?
  - I don't know
19. If 'yes', have
  - All schools reopened?
  - Some schools reopened?
  - No schools reopened?
  - I don't know

20. Do you think the closure of schools in your country is / was essential to prevent the spread of the COVID-19 virus?

21. Are you satisfied or dissatisfied with the steps your Government is taking to minimise the impact of the COVID-19 pandemic on education?

22. Do you think your Government has taken sufficient account of the views and experience of teachers in developing its response to the impact of the COVID-19 pandemic on education in your country?

23. Are you aware of any specific falsehoods in circulation in your country about the nature or origins of the COVID-19 virus?

24. In your view, how good is the knowledge of students in your country about the COVID-19 virus and the public health measures necessary to reduce its spread?

### **Impact on learners**

25. In your country, what do you consider to be the most significant obstacle facing learners during the COVID-19 pandemic?

26. In your country, which group of learners do you think will be most educationally disadvantaged as a result of the crisis?

27. In your country, what percentage of learners do you think are able to access the technology required to enable them to learn effectively online when schools are closed?

28. Which distance learning solution do you think is most useful for primary-level learners during the current crisis?

29. Which distance learning solution do you think is most useful for secondary-level learners during the current crisis?

30. In your country, what stage of education do you think will be most disadvantaged as a result of the crisis?

### **Strategy of response**

31. Has your Government announced a distance learning strategy in response to the Covid-19 crisis?

32. If 'Yes', does the distance learning strategy incorporate (please select as many as appropriate)

33. If 'Yes', how effective do you think your Government's distance learning strategy is likely to be in providing on-going education when schools are closed? Why?

### **Effectiveness of planning / response**

34. In your view, the way your school / college / institution has involved parents in planning new arrangements for their children's education during the COVID-19 pandemic has been

35. Please explain your answer.

36. Has your government issued guidelines for the use of technology in education during the COVID-19 crisis?

37. In your country, what is the most useful piece of advice that has been given by your government on how technology can be used effectively to sustain education in this crisis?

38. In your country, what is the most significant piece of advice you would give to your government on how technology could be used effectively to sustain education in this crisis?

#### Initiatives and support

39. In your country, are you aware of any initiatives from private sector companies which are offering new technology-related services to support education in this crisis?

40. Have you been offered specific additional financial / material support for teaching and learning tools during this crisis?

41. If 'Yes', was it provided by

- Your Government
- Your educational institution
- Parents of students
- An NGO or charitable organisation
- An IGO (e.g. African Union, UNESCO, World Bank, ADEA)
- A local company
- An international company / private sector initiative
- Other (please provide details)

#### Preparedness

42. Do you feel that you received adequate professional development / training prior to the COVID-19 pandemic concerning how to adjust to providing distance-based learning for students?

43. If 'No', in what ways was support lacking?

44. During the COVID-19 pandemic, what support (if any) have you had to make the transition to distance learning?

45. Please tell us what kind of additional training / professional development support you would find useful for building preparedness to tackle future crises?

46. Do you think the school curriculum should be reviewed to make it easier to adapt to distance learning?

47. Please give reasons for your answer and tell us about your experience.

#### Technology

48. In your country, what long-term impact do you think the current COVID-19 crisis will have on the level of use of technology in education in Africa?

49. In your country, what do you think is the biggest challenge with regard to using educational technology effectively during the COVID-19 crisis?

50. What do you consider to be the most important contribution the use of technology can make, in the COVID-19 crisis, to enable education to continue in your country?

51. In your country, what device do you think provides the best prospect for a rapidly deployable, short-term replacement for face-to-face learning to support learning in the current crisis?

52. Please give a reason for your answer.

53. How concerned are you about issues of security, privacy, fraud or malware in online learning?

### Effects

54. In your country, do you think that the most significant long-term educational effect of the COVID-19 pandemic will be

55. Please give a short reason for your answer.

56. In your view, will a move to more online learning increase inequality and disadvantage poorer and more marginalised students?

57. Please explain your answer.

58. In your view, is the state of communications infrastructure in your country likely to lead to a widening of the gap in educational outcomes between rural and urban areas?

59. Please explain your answer.

60. Please tell us what you consider to be the biggest mistake in the application of technology assisted learning in schools, colleges and universities. What should be done instead?

### Lessons learned

61. As an experienced user of technology in education, what is the most important advice you would share with others working in education, who may now have to learn quickly how to incorporate technology into their teaching?

62. Can you give an example of how you, or your colleagues, are using technology to overcome an educational challenge caused by the current COVID-19 pandemic (please tell us what is the challenge, what are you doing, what do others need to know)?

63. What is the most significant lesson about how to ensure the continuity of education in a crisis that your government should learn from the experiences of the COVID-19 pandemic in order to deal effectively with future crises?

64. In your view, what is now the biggest barrier preventing students from learning online?

### Closing questions

65. Please can you tell us about any additional specific problems that students are facing as a result of not being able to attend school? (e.g. lack of access to meals)

66. Once educational institutions re-open, which students do you think will face the biggest challenges returning to school / college / university, and why?

## Annexe 2 - Advice to Government

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This annexe is based on responses to the following questions:

38. In your country, what is the most significant piece of advice you would give to your government on how technology could be used effectively to sustain education in this crisis?

60. Please tell us what you consider to be the biggest mistake in the application of technology assisted learning in schools, colleges and universities. What should be done instead?

63. What is the most significant lesson about how to ensure the continuity of education in a crisis that your government should learn from the experiences of the COVID-19 pandemic in order to deal effectively with future crises?

Respondents provided a substantial amount of advice for governments. This covered issues ranging from improvements in connectivity to the training of teachers and the more effective use of technology. One area of particular interest was how governments could develop enabling environments to boost distance learning.

### Communication and Awareness

Education ministries need to consult with providers and make policy decisions instead of keeping quiet. — Sheila, Policy Advisor, Botswana

A proper guideline such that the same quality of education is equally disseminated to the entire population. As is, those with means will have access to best teachers online, while the rest will have to be content with teachers selected by the Ministry of Education on TV with almost no interaction with the educator. — Vinay, Policy Advisor, Mauritius

First come up with a strategy and then communicate it. — Angela, EdTech Entrepreneur, South Africa

### Enhancing the Curriculum

The government should learn to always anticipate events such as the COVID-19 pandemic by introducing distance learning within the curriculum of teaching students in our schools. — Wamba, Project Manager, Cameroon

To improve the quality of the lessons being broadcast by properly designing the curriculum for eLearning. — Suresh, Policy Advisor, Mauritius

Look at what is happening in the neighborhood; ask for support from development partners for the digitalization of existing curriculum/lessons and exploit available opportunities such as learning passports, curious learning, etc. — Project Manager, Comoros

Mainstream online learning in policy and practice for all classes not only for political reasons or election focus approach in introducing e-education in primary school only. — Ezra, Teacher, Kenya

### Learning from Mistakes

The biggest mistake is looking at technology-assisted learning as a luxury. Now everyone wishes they could have done it way back. — Mmabaledi, Teacher, Botswana

The biggest mistake is some people think that students are educated to learn by themselves. Learning how to learn must be the crucial objective in all schools. — Teacher, Rwanda

The biggest mistake could be investing more on the technology without proportional investment in the human and institutional capacity development of the educational institutions. If educators and education administrators are not empowered with the necessary capacity building training on effective utilization of technology for teaching and learning, then the technological investment will remain underutilized and just an expensive add-on to the already expensive educational investment. — Alem, Eritrea

### Partnerships, Incentives and Creating an 'Enabling Environment'

I would suggest a private-public partnership to enable a much more robust and enhanced learning environment leveraging reputable players in the Edu-Tech space. — Justus, Trainer, Nigeria

Incentives such as tax waivers should be given to the TV Stations to air classroom-based curriculum. This will enable more TV stations to air the programme. As at now, not all people can access these pay per view stations. — John, ICT specialist, Ghana

The government should collaborate with telecommunication service providers like Safaricom, Airtel etc. to subsidize internet bundles and embed online learning systems in the mobile telephones. This will enhance learning across the country (both urban and rural) areas. — Judith, Teacher, Kenya

Abolish taxes on ICT and broadband services to lower cost of equipment and access. — Edwin, ICT Specialist, Tanzania

For our report, 'The Effect of Covid-19 on Education in Africa,' we interviewed over 1600 education and technology practitioners, experts, administrators and investors. We asked them to share their experience and to give us their views. We asked what we - governments, institutions and individuals - should learn from the pandemic and its impact. They took the trouble to answer our questions in detail, to tell us what happened to them and give us their opinions. I would like to sincerely thank all of you who took the time to respond to our survey.

The result is a fascinating picture of a continent, which remains optimistic in the face of the pandemic and understands that the combination of education and technology is more important now than ever.

Down on corruption and use our tax money to provide every university student with a laptop and at least 20 GB data per month. — Bernadine, Teacher, South Africa

Zero rate data cost for education websites. — Project Manager, South Africa

Apply to organizations to obtain technology for every family, just as One Acre Fund is helping over a million small farmers to access crop and farming improvements. Farmers are repaying loans from increased crop production. Why not do something similar with technology so that online learning can enable all families to advance the civilization? — Janet, Community Development Supporter, Uganda

In a crisis like this, it would be advisable to reduce the cost of data bundles by all service providers. The reason is that many parents have mobile phones and experience showed that many could not afford to use their phones on a daily basis because of the cost of data. Secondly, it would be advisable to remove duty on technological tools such as smartphones, tablets and pads to allow parents to purchase these for their children specifically for learning purposes. — Mubanga, ICT Specialist, Zambia

## Training, Capacity Building, Professional Development

The government should introduce IT and ICT courses at all levels of education. All teachers should have academic experience in IT, without which he/she ceases to be qualified teachers. All learners should access free quality laptops, PCs, Tablets, which can enable them to learn in or out of class. This should be done in consideration to the learner with special needs. — Collince, Teacher, Kenya

Since radio has the greatest reach right now, broadcast coverage needs to be increased further to reach all children. Teachers need to be trained on how to connect with their students to support radio, TV and online lessons as well as provide psychosocial support. — Marilyn, Kenya

Equip our educational institutions with appropriate educational technology and train staff and learners in the effective use of such technology. Expand connectivity to all parts of the country, including rural and remote areas. — Joseph, Teacher, Malawi

The significant lesson is for governments to ensure adequate training and provision of devices/facilities for teachers of all levels to facilitate alternative learning modes like the eLearning in the schools; whether in the urban or rural area. Provide for effective information and communication technology in all areas to aid the use of such devices; assist schools whether public or private (depending) to help indigent students afford eLearning. Essentially, the schools' curriculum should inculcate online learning. — Gloria, Teacher, Nigeria

Training of Champions or lead teachers on the use of online teaching was carried out 8 weeks after lockdown, this should have been done 2 weeks before lockdown. — Ismael, Civil Servant, Mauritius

Make it mandatory for all teachers to be trained to be able to use the online teaching technology. These life skills must form part of the curriculum for all teachers at institutions of higher learning. Also, the Government that provides study bursaries must include the buying of a laptop part of the tuition fees, this way, students will at least be able to own a laptop - at varsity level. And the telecommunication mobile institutions must also give special data rates to both teachers and students. In fact, at primary school, online learning must already be taught and learners must start to own laptops and smartphones. — Menesiah, Communications Director, Namibia

Take this difficult period of time to train your teachers in alternative ways of teaching, prepare a policy document with clear pillars and guidelines about how to develop, invest and implement EdTech learning. My institute already developed a distance learning system for South Sudan in Moodle and a demo course is developed as a demo course to show decision makers, policy makers and big donors the possibilities of distance learning. — Marina, Managing Director, South Sudan

eLearning should be obligatory in most institutions and blended learning should be a standard. This implies that the teacher/lecturer training should include eLearning skills. — Gertrude, Teacher, Zambia

## Infrastructure, Technology and Connectivity

Funds should be allocated to subsidize at-home connectivity, improve infrastructure, increase competition for Internet Service Providers, reduce barriers of entry for ISPs. — Doru, ICT Specialist, Botswana

Personally, I feel that one of the major issues has to do with the availability of the last mile" of access. It is there and works for mobile phones, and basic internet - like WhatsApp - but even in urban areas, there are times when reasonably available internet is slow, patchy, and inconsistent, so not very useful for the lengthy access that may be needed to take part in a meeting, a class, a presentation, a discussion. Plus everything gets complicated when the lights/power goes off! — Nina, Ghana

I would ask the government to provide free online access to the internet for all students to support educational growth. To provide digital access just for education with high speed access with a specific username and password given from schools. — William, Teacher, Kenya

All schools should have access to internet connectivity; Government should heavily subsidize the cost for data bundle; Government should arrange with mobile telephone companies to make the above two suggestions a reality. — Aboagye, Teacher, Ghana

For every Cameroonian to benefit from the technology, two things matter the most, the availability of electricity and network. The COVID-19 pandemic outlined this drawback from the very day technology was adopted to ease distance learning. This goes to say that is it not enough to brand the beneficial effects of technology and not consider other factors needed to make this tool available to most. — Arnaud, Cameroon

The pandemic has shown ... that Cameroon is able make use of technology at all levels. We heard a lot lately about video-conferences using various platforms and discussion forums on WhatsApp. Students were introduced to these forums and most, if not all were impressed by the outcome. So, my advice to the government will be that eLearning be introduced in every scheme of work from next academic year. Beside lessons that can be prepared using PowerPoint and published online, the government can see to it that an e-library be made available from primary to higher education; lecturers can minimize the movement of students from one place to another by establishing platforms where students can share their work either as a team or individual to others at all times. The platform being a permanent application, students can assess the topics treated at any time and anywhere. To arrive at this and beyond, the government will have to rethink its policies as far as the production, distribution and consumption of electricity as well as the acquisition, distribution and consumption of networks are concerned. For the meantime, this is Cameroon's greatest challenge. — Eliane, Executive Assistant, Cameroon

The government should give free internet connection to the population and it should reduce the prices of electricity in households. — Wamba, Project Manager, Cameroon

To provide the infrastructures to sustain the use of technology especially energy most reliably such as solar. — Salihu, Teacher, Nigeria

The government should use a multilayer approach depending on the location and income status of the learners. for those in urban areas with good connection and relatively good income, mobile tech and online options could be used. However, for those remote areas with poor connectivity and relatively low income, radio and maybe TV may be better options. — Saminu, Teacher, Nigeria

Use available technology as much as possible. — Yoseph, Teacher, Ethiopia

Technology has the potential to transform learning in this country. More investment should be done on ICT across all economic sectors more so in education. — Martin, Civil Servant, Kenya

Apply different technology tools to different categories of those involved in consuming educational products, i.e. early childhood education, primary schools, secondary, and college education. — Issifu, Ghana

If the students are able to access online copies of textbooks as used in class then technology can be used effectively to sustain education in this era. While distance learning supported by community centres can use radios combined with mobile phone SMS's. — Maureen, Teacher, Kenya

It is important that there be guidelines on use of technology and how those without technology will be compensated. Government should also consider policies for access to technology in the future for all children. --Collins, Teacher, Kenya

As a lesson from the challenges caused by COVID-19, the Government should invest more in developing technology assisted educational systems. Fortunately, the Government of Tanzania has invested strongly in supporting ICT development by putting a fibre optic cable to most parts of the country. The aim is to improve, among other things, application of technology in education. — Lughano, Vice Chancellor, Tanzania

The most significant lesson to ensure continuity of education in crises is to give more attention to distant learning and the devices and infrastructure needed to make this possible. The government and more specifically the ministry of education should be ready to fill the gap and make learning possible when a crisis is there. The teachers and students should be well trained how to deal with devices of distant learning. — Hassan, Teacher, Sudan

Technology is essential and should be considered an educational asset; not a luxury item that is optional. — Rob, Teacher, South Africa

The technological illiteracy of the parents of school-age children is a barrier to access to online distance learning. Even if we could put hardware and connectivity in every home, we would need a comprehensive support program for the adults in the home in order for children to reap the benefits. — Bailey Thomson, Edtech Entrepreneur, South Africa

The government needs to consider offering basic computer training to teachers and learners to be in the best position to access learning materials online. The government needs to make it easier for learners and teachers to access digital learning equipment like computers, projectors, etc. Also, there is a need to make the internet affordable for all and easily accessible to all especially in rural communities. — Robert, Trainer, Uganda

Government should endeavour to put electricity infrastructure in rural areas under the rural electrification project and to offer loans to citizens for smart phones. — Rita, Trainer, Uganda

Focus on radio technology and reach out to private corporations and radio stations across the country for corporate social responsibility support to enable and facilitate wider access. — Akim, School Performance Team Leader, Uganda

There is a need to facilitate universal access to technology and to have a strategy for fostering eLearning. Teachers need to be (re)trained in e-teaching. — Mukubi, Strategy advisor, Zambia

Deploy tech solutions with great usability that were designed with low digital literacy of the users in mind, and work with implementers that are experienced in edtech projects so they can design the project with various considerations in mind. Work with proven solutions and scale by phases rather than expanding the project scope too wide too quickly. — Tae Kim, Sales Director, Tanzania

## Planning and Strategy

Be proactive in the planning and implementation process. Get to the core experts to assist in the thinking and transformations that are needed. Total transformational thinking! — Abtar, Trainer, Kingdom of Eswatini

The first thing to do would be to do a quick survey to establish how many learners could be reached through the Internet, radio, TV and through smartphones. The government then would use the survey findings to formulate an eLearning strategy that would take into account the various segments of learners with regard to access of the eLearning platforms. I would then quickly zero in on those without access to learning so that the necessary infrastructure is put up quickly. I would advise to focus on enabling learning to continue through radio and mobile phone as the penetration of the latter here is over 80%. Then I would prepare mitigation measures to avail resources to those who can't be reached immediately before the pandemic ends and provide

remedial lessons for them. Long term strategy would be to ensure every learner can be reached. — Patrick, Kenya

Physical social interactions are going to be hugely challenging as COVID-19 has thrust our communities into unknown territory. Online learning will be the only means of accessing quality education for all. This is the future going forward and the government should improve the online learning system approach. — Marcus, Researcher, Liberia

Develop an eLearning strategy for the whole country not only for students. adult classes can also make use of eLearning programmes. but it has to be done properly, with regular checks, feedback sessions with a live tutor and measurement of results. Go for a MOOC strategy for basic things and move to a higher level regarding technical courses. Find a way to help vocational students to compensate for their lack of presence in workshops/laboratories. Practical learning is so important for engineers-to-be. — Abdus, trainer, Mauritius

From a macro, meso and micro level perspective change is needed. Many private education institutions have implemented blended learning approaches with great success. The lack of vision from policy makers and their fear of change has a ripple effect on institutions and individuals. How we train teachers cannot be like we've done the past 100 years. Something's gotta give. — Silna, Teacher, South Africa

There was no conscious planning before learners were made to go home. The government did not consider the cost of data and electricity on parents early enough. — Awudu, Sales Director, Ghana

There is a need to make a conscious effort to change our approach and attitude towards online learning. Starting with deep conversations about it, investing in research on eLearning in Ghana that fits the Ghanaian context. And finding ways to make the devices, internet and electricity affordable and available for every Ghanaian. — Gifty, Teacher, Ghana

Any crisis or event at risk needs a small preparation and awareness to avoid it in the near future. Preparation included the providing of devices, permanent connectivity to all citizens (urban and rural). — Mesmin, Teacher, Gabon

Preparedness plan, risks/emergencies management plan, create pool of experts to answer for emergencies - think visionary wise ahead. — Shillah, Civil Servant, Mauritius

To keep a National Task Force that deals with educational storms - with emergency or risk management strategies for education as it is the case with the general risk managements in floods, drought and other related phenomenon. There must also be a contingency budget for such eventualities. — Menesiah, Communications Director, Namibia

Government should be well prepared for such emergencies in future. And when it happens, they need to work with experts in finding solutions to challenges. — Adekunle, Teacher, Nigeria

To try not to do too many new things at once or in too much of a hurry. Have better planning mechanisms and talk more across ministries to ensure clear knowledge of the different contexts across the country, and good understanding of the challenges and issues for all those being impacted. Try to pilot first and learn and then go mainstream when they know it works. — Sheilagh, Educator, Rwanda

The main lesson to be learned by the government is the need now to move on this new direction of distance learning and to enable actors to be ready to face future crises. — Mor, Civil Servant, Senegal

A nimble capacity for planning and productive partnerships with organisations/partners possessing requisite expertise to support the government's scale of ambition. — Kayode, Project Manager, Sierra Leone

Pooling talented personalities from government and non government institutions into a common effort and allocating contingent budgets for immediate supplies and necessary expenses. Rural and less privileged areas must be taken into account for fair resource distribution. The private sector can contribute much to that end. — Adam, Teacher, Somalia

1. Timely response 2. Plan, organize and manage continuity of education with emergence perspective 3. The country needs to have an inter-ministerial crisis preparedness plan in advance. — Vincent, Policy Advisor, Tanzania

## Learning Environments, Communities, Materials, Facilities

Putting the same materials for basic education in all channels Radio, TV and Online portal. The one on the online portal should be accessible on the web and also via mobile app. For Universities, this should be done via any common learning management system such as Moodle in the country. — Edephonc, Teacher, Tanzania

I'd recommend they look into providing offline ed-tech audio-visual solutions like the Talking Pen and Books, tablet based solutions with content pre-loaded on the devices to enable learning without putting the financial burden of high monthly Internet subscription costs on these parents. — Chizaram, Edtech Entrepreneur, Nigeria

For those who are using a mobile phone and internet access, the cost of telecom (cost of network and internet) has to be at a reasonable cost or make free; make use of, paper, Radio, and TV. — Kitessa, Teacher, Ethiopia

Set up community networks in rural Gambia for students to go and access learning platforms at various times. Have a deal with all mobile telcos to provide reliable Internet in rural areas. — Poncelet, ICT Specialist, Gambia

Place some cyber cafes in rural areas to help students in up country access their learning programs. — Mbugua, Student, Kenya

Community dissemination on the importance of education and laws set to ensure that students are learning and the community is involved in ensuring that students are learning. Government to provide solar radios so that a large number of students can access the lessons. — Dianarose, Trainer, Kenya

Provide tablets, provide internet connectivity, provide lowtech resources to low income families. — Lilian, Teacher, Kenya

To use paper-based distance learning more than radio and online. — Joseph, Teacher, Malawi

Government needs to launch a national online school in the air in collaboration with the states for primary and secondary school and also establish learning centres where low income learners can access required infrastructure free to participate in the school. — Stephen, Nigeria

We tend to try to reinvent the wheel - need to learn from best practices in other parts of the world especially Africa and even explore Pan African responses that are scalable and sustainable. — Yetunde, Policy Advisor, Nigeria

Government must ensure that there is stable electricity and security in the country first. Thereafter, learning materials can be deployed so that learners can easily access them freely or at minimum cost from every location. Trained facilitators should be assigned to evaluate learners' progress in order to give periodic feedback. — MJ, Teacher, Rwanda

The government should take into account the difficult access to ICTs in rural areas and involve communities in their response planning. — Fatimata, Project Manager, Senegal

Every child must have access to at least one connected tablet. Educators must be trained on how to teach remotely. — Alfie, CSR Manager, South Africa

Don't try to replicate the teacher talking to class" experience and avoid the dire "textbook online" teaching aid. Restructure learning experiences so they can be largely self-paced, and are motivating, captivating, personally remediated and low cost (where device and data charges are concerned). Build learning for mobile phones. — Godfrey, EdTech Entrepreneur, South Africa

Supply teachers and learners with basic video able phones. Even whatsapp videos seem to reach and assist. — Dolf, Teacher, South Africa

To put up technology hubs at the sub-county or even village level the way the printed materials are being distributed. Then learners can access the learning hubs at specific times of the day. — Mercy, Teacher, Uganda

To set ICT equipped centres in the different areas manned by ICT professionals to enable learners access online teaching materials like notes, videos and audios. — Robert, ICT Specialist, Uganda

The government should design a friendly online learning platform where children can access learning materials and it should be able to support all mediums like audio, visual, text which can be freely downloaded for use. the platform should be able to give feedback to children in the form of Questions and Answering instantly to ensure that learners get the right information. It should also be able to support all subject learning areas. — Peter, Project Manager, Uganda

The Government should ensure that it gets the best of its teachers, record their lessons in different subjects and have uniform instructional materials on TV and radios on top of the Self Study print materials that would be distributed to rural areas with poor reception of TV and radio. — Benon Fred, Teacher, Uganda

Use community radio stations to deliver lessons and set up community ICT/Resource centres, where all members that can't afford to access personal ICTs can go to access lessons. Also, use such centres to access and print out the lessons, then distribute them to community members. — Glory, Journalist, Media and Communications Consultant, Zambia

## Annexe 3 - Advice to Teachers

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This annexe is based on responses to the following question:

**61. As an experienced user of technology in education, what is the most important advice you would share with others working in education, who may now have to learn quickly how to incorporate technology into their teaching?**

The comments are divided into three sections: advice about teaching, advice for personal development, and advice for engaging with parents and the wider community.

### Teaching Process

Don't be in a rush, train your future eLearning project managers, course designers and online tutors properly. The learner should be at the heart of the eLearning device. Online platforms must inevitably integrate synchronous and asynchronous communication tools in order to perfect exchanges and communications between learners and their tutors on the one hand, and between learners among themselves on the other hand. — Khaled, ICT specialist, advisor or consultant, Algeria

For teaching/learning, teacher training in the use of mobile technology and social media, for communication as well as student assessment. — Henry, Teacher, Algeria

It is important to adapt in any sector of activity. It's not about resetting everything overnight, take it easy with the resources and solutions available. — David, Entrepreneur in the EdTech field, Cameroon

Adapt the offers to the learners' situation. — El Moutar, Expert / Strategic Planning Advisor, Egypt

Keep it simple; incorporate the use of devices and software to actual content. — Sai, Civil Servant / Administrator, Ethiopia

Use existing technology that are proven, do not re-invent the wheel — Poncelet, ICT Specialist, Advisor, Consultant, , Gambia

Direct them to online learning content; ask parents to let children use phones for 2 hours a day to study; create whatsapp groups of teachers and students to encourage learning. — Sam, Edtech entrepreneur, Kenya

I think it would be great to learn ways of better managing students when they are working from home. Also skills for students to adopt to be effective when learning from home. — Joseph, Malawi

Don't let the technology dilute/hamper your interpersonal relationships with your students and other colleagues. Stay 'social' and 'sociable'! — Sheilagh, Educator, Rwanda

Empathize with your learner: who is the person? What does she/he need right now? What does their life look like? What is realistic to achieve? Does she/he have access to technology? Does he/she have experience with technology based learning? What barriers do you need to identify and take into account in your design? What are the objectives? Try and fail and learn and start small. — Project Manager, Senegal

Get feedback from learners. It is only working if they say it is working for them. — Anriette, ICT Specialist, Advisor, Consultant, South Africa

Be authentic, own your mistakes and talk about them with your students. Often, they will know more about the technology and be able to assist you in getting it right. Staff need to know that they don't

need to build Rome in a day. Learning is relational and this approach certainly enables online relationships to develop. — Steve, ICT Specialist, Advisor, Consultant, South Africa

That teachers must try to reach out to scholars / students on social media platforms to engage them in learning. — Bernadine, Teacher, South Africa

Teachers need to be creative with teaching and learning strategies through the use of cell phones. — Rob, Teacher, South Africa

Don't try to replicate the teacher talking to class experience and avoid the dire "textbook online" teaching aid. Restructure learning experiences so they can be largely self-paced, and are motivating, captivating, personally remediated and low cost (where device and data charges are concerned). Build learning for mobile phones. — Godfrey, Edtech entrepreneur, South Africa

To not only manage the work, but also the emotional and social issues learners are experiencing. — Rianette, Cyber Safety author, speaker and thought leader, South Africa

My advice is to use any AVAILABLE device or APPLICATION. Do not wait for the best to do so. Even in Africa we have enough to start with. Walking through rough roads will encourage paving the next segments of the road. — Qurashi, University President, Sudan

Create an eLearning environment with good content and peer learning opportunities for teachers (ongoing professional development, motivate each other etc). Same for students, but most not well-equipped with ICTs and internet access. I should focus on secondary education. In rural areas, teachers are physically closer to learners and communities. — Dik, Programme advisor, Uganda

## Personal Development

Seek to learn from the experiences of others and adapt them to one's own context. — Project Manager, Comoros

Become psychologically prepared for this new form of learning. — Zobenat, Trainer/Instructor, Congo DRC

Start with what you are comfortable with and be open to learn. It is not the advanced technology that teaches but the good teacher. — Abdikadir, Teacher / Professor / Lecturer, Kenya

Stay open and step out of your comfort zone. — Tiana, Director of Training Centre, Madagascar

Do not wait for our decision-makers to decide to bring us out of ignorance and plunge us into the digital age. You have to push them. We also need to train ourselves. It is our responsibility. — Youssouf, Teacher / Professor / Lecturer, Mauritania

Don't wait for someone to teach you, explore, research and try things out on your own. — Esme, Teacher / Professor / Lecturer, Namibia

Keep an open mind and be positive, proactive and supportive at all times, highlight the loopholes and challenges but contribute to the solutions as well. — Maggy, Teacher / Professor / Lecturer, Namibia

Get your head around idea that online works best when it's learner driven — Mathias, Teacher / Professor / Lecturer, Nigeria

Learn from friends or colleagues who are good at using technology in education on how you can do the same. Learning from peers about what works in their unique context is a very fast and effective way to learn and up-skill yourself. If you have internet access and a mobile device, take online courses too. This is an opportunity to improve yourself and be prepared for a post COVID-19 world.

We don't know what the future holds. Having vital tech skills will always come in handy - even in the eventuality that you may need to change or find a new job. — Chizaram, EdTech entrepreneur, Nigeria

Don't be paralysed by fear of the unknown. Just do it. You will not always succeed, but Aunti Google is amazing! — Beatrys, Senior academic manager, South Africa

Integrating technology into education is now not a choice, it must be seen as an imperative. To do this it is necessary to train. — Adel, Official / Administrator, Tunisia

### Engagement with Community

Engage parents and have them provide you with them at home learning situation. — Doru, ICT Specialist, Advisor, Consultant, Botswana

Be resilient. Adapt quickly and have a plan that is well thought out in place. Train staff through Microsoft Education Portals which are free. Most importantly keep the channels of communication open with parents and students as well as staff so that you are nimble and responsive as the situation is dynamic. — Asha, Principal, Egypt

There is an urgent need to spread resources more in the rural environments (schools and colleges) rather than try to engage learners in the city (which has been the tradition in my country) - this has also an element of encouraging migration. — Philip, Teacher / Professor / Lecturer, Uganda

Do not try to teach with technology without ensuring that there is access. You will be speaking to yourself. — Teacher / Professor / Lecturer, Zimbabwe

## Annexe 4 - Teacher Development

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This annexe is based on answers to the following questions:

42. Do you feel that you received adequate professional development / training prior to the COVID-19 pandemic concerning how to adjust to providing distance-based learning for students?

43. If 'No', in what ways was support lacking?

45. Please tell us what kind of additional training / professional development support you would find useful for building preparedness to tackle future crises?

These questions all consider professional development needs for teachers. It is divided into two sections: the first looking at needs and policy in relation to teacher training needs and approaches. A second section looks at the sensitisation/ training needs for the broader society: parents, communities, and the population in general. The answers to these questions which relate to direct action for teachers, have been included in the "Advice for Teachers' Annexe 3".

### Training Needs and Policy for Teachers

Managing students outside of the classroom. We understand that not all children do their best learning through distance learning, so we need a way to engage the children so they continue their education and prepare themselves for when they are back at school. — Doru, ICT Specialist, Advisor or Consultant, Botswana

Training which takes into account emergency situations and which makes it possible to quickly make a link between the traditional formula of teaching and distance learning. — Aristide, Teacher / Professor / Lecturer, Burkina Faso

The government should invest in the teachers. Most of them do not have the adequate equipment or training to train their students online during the pandemic even though I had noticed a big interest... Subsidising access to the Internet and enabling Internet access to all parts of the country would be perfect. The poor, the linguistic minority and the people living in rural areas are the biggest losers during this pandemic. — Olivia, ICT specialist, Cameroon

Give teachers a supportive culture (so that the majority, despite reservations, can acquire some ease with technology). Train them at a first level of unified media coverage of content. Give each establishment a list of identified tools for working / teaching at a distance and limit yourself to this list. Make sure that pupils / students / learners are comfortable with these tools. — Thierry, ICT specialist, advisor or consultant, Cameroon

How to balance having a class online and online homework when students have limited access to internet/wifi/data. Teachers can't use the majority of student's data for an online lecture and still expect the students to complete online assignments outside of the class time. — Teacher / Professor / Lecturer, Côte d'Ivoire

All teachers must be trained in the use of TEAMS/ Google Classroom, Applications for ongoing assessment like Socrative, Mentimeter, Nearpod, Flipgrid. Parents must also receive training to help younger students access portals. Students and Teachers would benefit with training on One Note (Microsoft). — Asha, Egypt

Carried out a needs assessment of the teaching force and provided avenues for training to teachers to equip them for appropriate technology integration. — Miracle, Policy Advisor, Ghana

A good free Internet connection or at a price accessible to schools and students - All technological materials useful for distance learning - All didactic or pedagogical materials useful for distance learning. — Abou, Teacher / Professor / Lecturer, Guinea-Bissau

Since radio has the greatest reach right now, broadcast coverage needs to be increased further to reach all children. Teachers need to be trained on how to connect with their students to support radio, TV and online lessons as well as provide psychosocial support. — Marilyn, Kenya

Training on how to integrate ICT in day to day teaching practice. Training on the effective use of assistive technology for learners with disabilities. — Marie, Kenya

I would advise that government support for online learning programs should be directed to more student-teacher interactive platforms, especially where a teacher could be heard and seen explaining the lessons to students. — Marcus, Researcher, Liberia

Make it mandatory for all teachers to be trained to be able to use the online teaching technology. These life skills must form part of the curriculum for all teachers at institutions of higher learning. Also, the Government that provides study bursaries must include the buying of a laptop as part of the tuition fees, this way, students will at least be able to own a laptop - at varsity level. And the telecommunication mobile institutions must also give special data rates to both teachers and students. In fact, at primary school, online learning must already be taught, and learners must start to own laptops and smartphones. — Menesiah, Consultant, Namibia

The government must adapt to the eLearning system and train teachers and children can then be trained by these teachers on how to use eLearning effectively. parents must also be trained in order to be able to help learners at home ( put systems in place where the parents can pay for training.) — Shirley, Marketing Director or Consultant, Namibia

Involve all those who have a good background in tech-related matters to sit and write projects on how to inspire teachers and students alike to adopt technology. A sound funding for education is a must in achieving good results. — Moussa, Teacher, Niger

Establishing national open educational resources for students at all levels of education, the use of a blended learning approach in teaching and learning, and digital skills capacity building of both the teachers and the students. — Benadeth, Teacher, Nigeria

The need for teachers/ lecturers/students to self-develop to be able to migrate successfully from the traditional methods of teaching and learning to an e-based system for social distancing to be effective while education is ongoing. — Teacher, Nigeria

Teachers are to be trained and retrained to strengthen and empower them with the required knowledge and skills in technology application to sustainable accelerated access to and delivery of quality education. — Adejare, Edtech entrepreneur, Nigeria

There is the need for teachers to acquire the skills for face-to-face teaching as well as mediated teaching as the world has become more ICT-savvy. Moreover, we do not know when the pandemic will end. COVID-19 has changed the world irreversibly. — Emmanuel, Teacher, Nigeria

First of all, teachers and instructors should be well trained for the use of technology in distance Learning and there should be nationwide internet access. — Habibou, Trainer, Senegal

Online monitoring and evaluation of learning for primary and middle secondary. — Birama, ICT specialist and advisor, Senegal

Inclusive distance learning Options, distance learning Options for traumatised Children and youth. — Project Manager, Somalia

We lack the basic training for building preparedness to tackle future crises, so I can not talk about additional training / professional development support. — Hassan, Teacher, Sudan

What kind of technology for distance learning for children with learning disabilities can realistically be used in poor and rural areas? — Susan, Sales Director / Manager / Consultant, Tanzania

Training on how to handle teaching and learning from home through use of remote learning technologies. How to do online assessment and give feedback to students. — Teacher / Professor / Lecturer, Tanzania

First is to train and equip teachers with skills and knowledge to use technology. And also to encourage teachers to go for continuous professional development. — Frank, Teacher, Uganda

Teachers should actively be online and get involved in contacting learners to be online and access the learning material being made available. In addition, the government should strengthen mechanisms for ensuring that only helpful and/or approved content is being made available to the learners. — Moses, ICT specialist, Zambia

Elearning should be obligatory in most institutions and blended learning should be a standard. This implies that the teacher/lecturer training should include eLearning skills. — Gertrude, Teacher, Zambia

Capacity building of staff to enhance digital literacy, providing staff with equipment to enable them to engage effectively using online engagements; learnings, conversations, virtual meetings; improved use of phone, WhatsApp, Facebook, Instagram. — Margaret, Head of programmes, Zambia

## Training needs for the Broader Society

### Parents

Network of app-based tools for parents and children — Communications Director, Botswana

Parent training on how to facilitate online learning. Professional development for parents on how to use and navigate technology. — Oliver, Teacher / Professor / Lecturer, South Africa

Teaching/support for children at home targeting parents. — Louisa, Project Manager, Kenya

Parents need to be introduced to online learning / teaching and use of technology because a lot of support at home is provided by the parents and siblings. Just introducing online teaching / learning is not sufficient if the home environment meant to support the child is not prepared to offer the required support. — Masoud, HR/ Personnel Manager, Kenya

### Learning Hubs

I am trying to set up a network with schools and technology partners to open up 'open educational centers' where young people can come - respecting social distancing - to have access to technology either on site or via a lending program. We believe that education should never return to the old normal but a mixed approach will be needed in the future. — Filip, Benin

### Society as a Whole

Include a chapter on dealing with the unknown as an individual and/or as a team, in teacher's training schools as well as in school curricula for students. No situation is identical but to deal with any situation, we need to have the fundamentals. The role of these fundamentals is to forge the learner's/practitioner's spirit to that of a warrior and not a victim nor matter how deadly the crisis may be. This pandemic took many African countries by surprise and it clearly illustrated our

drawbacks in every sector. The worst part is the psychosis and the effects of this pandemic created in most Cameroonians. Many people have developed phobia for less than nothing. Such training will be very helpful to learners and practitioners as well. — Eliane, Cameroon

In addition to individual or group based action; a society based response related to technology usage. — Abreham, ICT Specialist, Advisor or Consultant, Ethiopia

Our work involves numerous skills-building activities in government. Access to the target groups has been the main challenge during the current crisis, mainly because most products are quite demanding on Internet access (requirement for broadband) while Internet access remains quite difficult in many places. Technologies that would adapt to relatively weak environments but can evolve when the Internet offer improves would be most welcome — Bakary, Ghana

Government to recognise and mainstream ODL in education policy. — Ezra, Teacher / Professor / Lecturer, Kenya

Better preparedness and planning for risk management; resources support in terms of domestic use of electricity, internet and so on; a more structured interaction to avoid disruption of service provisions and so on. — Shillah, Civil Servant / Administrator , Mauritius

Deployment of community free WiFi and urban cities, providing affordable fast internet access bundles, they should subsidize the cost of pc, laptops, smartphone and other educational electronic devices. — Teacher / Professor / Lecturer, Nigeria

The most valuable support would be to help develop a comprehensive long-term plan to introduce (initially) blended learning, which provides the foundation to adapt to fully online learning in a crisis. This process should cover all levels of the education system from primary through tertiary to address the prevailing disconnect between the different parts. — Joseph, HE Fund Manager, Sierra Leone

## Annexe 5 - Curriculum Reform

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This annexe is based on a selection of answers to the following questions:

46. Do you think the school curriculum should be reviewed to make it easier to adapt to distance learning?

47. Please give reasons for your answer and tell us about your experience.

The comments reflected the yes/no answer, with an overwhelming majority of respondents in favor of reviewing the curriculum to allow the incorporation of more distance/online learning. At the moment, in most countries, the curriculum is designed for face to face interaction, whereas there is now a widespread belief in the need for blended learning: integrating both online and classroom learning within the curriculum. Respondents gave their views on both the key issues involved in curriculum reform and the ways in which curricula might most effectively be reformed. Some respondents felt that the curriculum should not simply be reformed for the sake of technology and we have included a selection of their answers.

### Change

Zimbabwe has a very focused national curriculum that introduced coding and robotics in ECD. They started implementing it in 2017 and South Africa had planned to pilot theirs in 2020 but might not do so. That would leave Zimbabwe as maybe the only (or one of the few) African country with a national curriculum that introduces coding and robotics at ECD. — Chrispen, ICT Specialist, Advisor or Consultant, Botswana

It is based on examining student memory not student capability to learn. — Ahmed, Teacher / Professor / Lecturer, Egypt

As the school curriculum in Eritrea follows one national curriculum uniformly implemented in all schools of the country with strict mandatory regulation of covering a predefined, prescribed subject-matter content, it lacks the flexibility of contextualization and adapting to local needs and emerging contemporary learning needs. Moreover, as it is designed for the traditional teacher dominated Chalk-and-Talk mode of teaching, it is not compatible with contemporary approaches of technology integration and educational media broadcasting, which are essential platforms for distance learning. Hence, it's imperative that the school curriculum be reviewed in such a way that it accommodates the above stated contemporary approaches so as to make it easier for distance learning. — Alem, Eritrea

Most of our curriculums focus on knowledge and recall. This has to change. — Eliada, Trainer/Instructor, Ethiopia

Most f2f are mainly teacher-centred transfer of information. But online should be mainly student-centred with more sharing of information. There is a paradigm shift between the two. Students should be made to be in control through engaging activities that will enable them to become active and independent learners while at the same time participating fully in the learning community. — John, ICT Specialist, Advisor or Consultant, Ghana

Distance learning and specifically eLearning has more options to cater for different types of learners. In a typical traditional class, the teacher assumes all students understand at the same mode and through the same approach. eLearning provides an option of careful presentation of content such that a learner can repeat the content and is able to interrogate it in a form they are able to understand. That is in the assumption that the content is prepared in text-based as well as

multimedia form (with videos, audio, images and more case studies) — Njoroge, Teacher / Professor / Lecturer, Liberia

The Nigerian educational system/curriculum needs a serious overhaul and review to enable learning in bite sizes and further enhance the adoption of technology in learning. In addition, some bodies of knowledge have become obsolete and irrelevant to our current realities. — Justus, Trainer / Instructor, Nigeria

The current curriculum is based on an accelerated learning curriculum which is now out of date. It requires a comprehensive review to improve focus on contemporary 21st century skills. — Kayode, Project Manager, Sierra Leone

I think all curricula should be constantly reviewed and updated. Distance learning adaptation should be part of that update yearly. — Heather, Policy Advisor, South Sudan

Current curriculum is designed for the traditional classroom environment and the teacher/student interaction in that environment. When teacher/student classroom interaction is limited, simply providing the digitized version of the same content will not be effective. The focus is not making it EASIER to adapt to distance learning, but coming up with a new design for education delivery in the new learning environment. We need the traditional educators and edtech expertise to design integrated solutions. — Tae, Sales Director / Manager / Consultant, Tanzania

The curriculum is too much teacher centred and it does not encourage use of technology because the teacher provides all the information. The curriculum is also too much exam oriented and therefore it does not support use of technology. — Milton, Teacher / Professor / Lecturer, Uganda

The current school curriculum is designed for conventional learning. It is more inclined to be delivered in a classroom setup with little or no design for digital delivery. As such, it becomes difficult to deliver such curricula online. What we need is to adapt it to distance learning by making at least 40 to 60 per cent of it digitally interactive and computer-based. Besides, it also needs to be made accessible through different media whether online or offline. — Mubanga, ICT Specialist & Advisor, Zambia

### Change with Reservations

Yes, reviewing school curricula for online learning will be important for adopting distance learning easily. Use of videos could be of special help for learners. In particular, for science and engineering subjects, Java Applets and Interactive Simulations could be very effective where a deeper understanding of the subject is involved, particularly in science and engineering subjects. — Zahid, Teacher / Professor / Lecturer, Algeria

Practical subjects are heavily impacted and depend on school resources. These need adaptation to a home environment. This includes Science. — Communications Director/ Consultant, Botswana

A lot of this depends on the levels one is talking about. For younger children/students, face-to-face is pretty critical. For older students, it could be less so, but not in all cases. At secondary level, some serious curriculum reviews are needed in my view, especially in the public system of junior and senior high schools. — Nina, Ghana

The curriculum should now entail digital media accompaniments to complement normal classroom learning so that kids can still learn alone outside the classroom situation on the digital space without necessarily over relying on a physical class and a physical teacher as is the case today. — Patrick, Kenya

There is a need to include concepts on the environment and global warming. — Omar, Researcher, Mali

Some parts of the curriculum are hard to adapt to distance learning. This is very essential for soft skills as they require enough practice and follow up. Hence, there is a need to prepare the curriculum in a way that the content can be delivered both in-person and online. — Jean Marie, Country Director, Rwanda

Schools do not make sufficient use of online learning materials to address shortcomings in their own situations because they are not aware of the available tools. Bringing in a self-directed learning component or at least a self-discovery component as mandatory, could make a difference. — Henk, Teacher / Professor / Lecturer, South Africa

I don't think there is too much wrong with the curriculum itself. However, the assessment of what is taught needs to be changed. Remote learning has to be task-orientated in order to build feedback for staff. Without this feedback staff lose a key tool in being able to meet the needs of their learners. COVID19 has highlighted how much of our assessment is geared to rote learning and this structure simply does not produce the skills for learners to be successful outside of school. — Steve, ICT Specialist, Advisor or Consultant, South Africa

## No Change

It is about developing new methods of training, and not about changing the content of it. — Gaston, ICT Specialist & Advisor, Cameroon

It's not necessary, but adapt it! — Lazare, Côte d'Ivoire

The experience we have in using some digital contents aligned to our national curriculum during this period should be scaled up even after COVID 19 to cover the whole curriculum. Moving forward we would like to have more capacity in digitalising the curriculum into various formats that can be delivered using multiple platforms. — Momodou, Civil Servant / Administrator, Gambia

In my view, the assessment objectives can be refined to meet the needs of distance and eLearning strategies. — Jacob, ICT Specialist & Advisor, Ghana

The curriculum is what the country feels is most important for their children (and future citizens) to know. The modality has to be adapted to deliver the desired curriculum, not the other way around. — Marilyn, Kenya

The challenge is not really the school curriculum but how well the content is adapted to suit eLearning. — Olabode, Communications Director / Consultant, Nigeria

CONTENT is not the issue. We should in fact address the PROCESS. — PAI, Teacher / Professor / Lecturer, Nigeria

Don't alter the programme but adapt it to the circumstances. The programme is fixed by decree, so it will be difficult to adapt because that risks taking a lot of time, when the need for tuition is there and it's urgent. — Boubacar, Teacher / Professor / Lecturer, Senegal

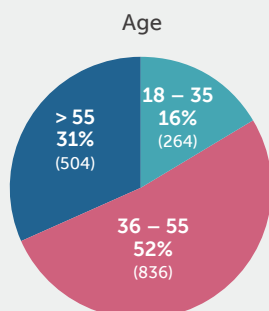
Technology should not dictate the learning process. The learning process must be redesigned to exploit tech capabilities. But the content (curriculum) does not have to change - the way in which it becomes understood must change. We can take a curriculum and fundamentally re-engineer the way it is learned, using story arcs, characters, virtual worlds, challenges, rewards, social connections and remediation in a fully gamified way that a teacher with a whiteboard could never achieve. And once created, it can be scaled nationally to any learner with access to a smartphone, for free. — Godfrey, EdTech entrepreneur, South Africa

Not necessarily. In my opinion we better start to provide distance learning (preferably blended learning) based on the existing curricula. Once results are visible and obstacles due to the

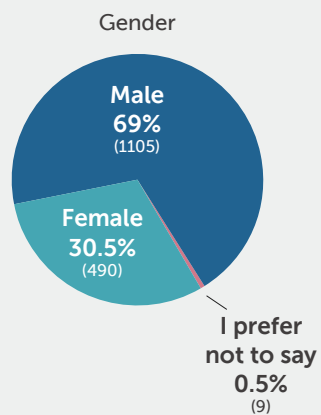
curriculum are observed, then the next step is to review the curriculum, if necessary. — Marinia, Managing Director, South Sudan

## Annexe 6 – The Survey Illustrated

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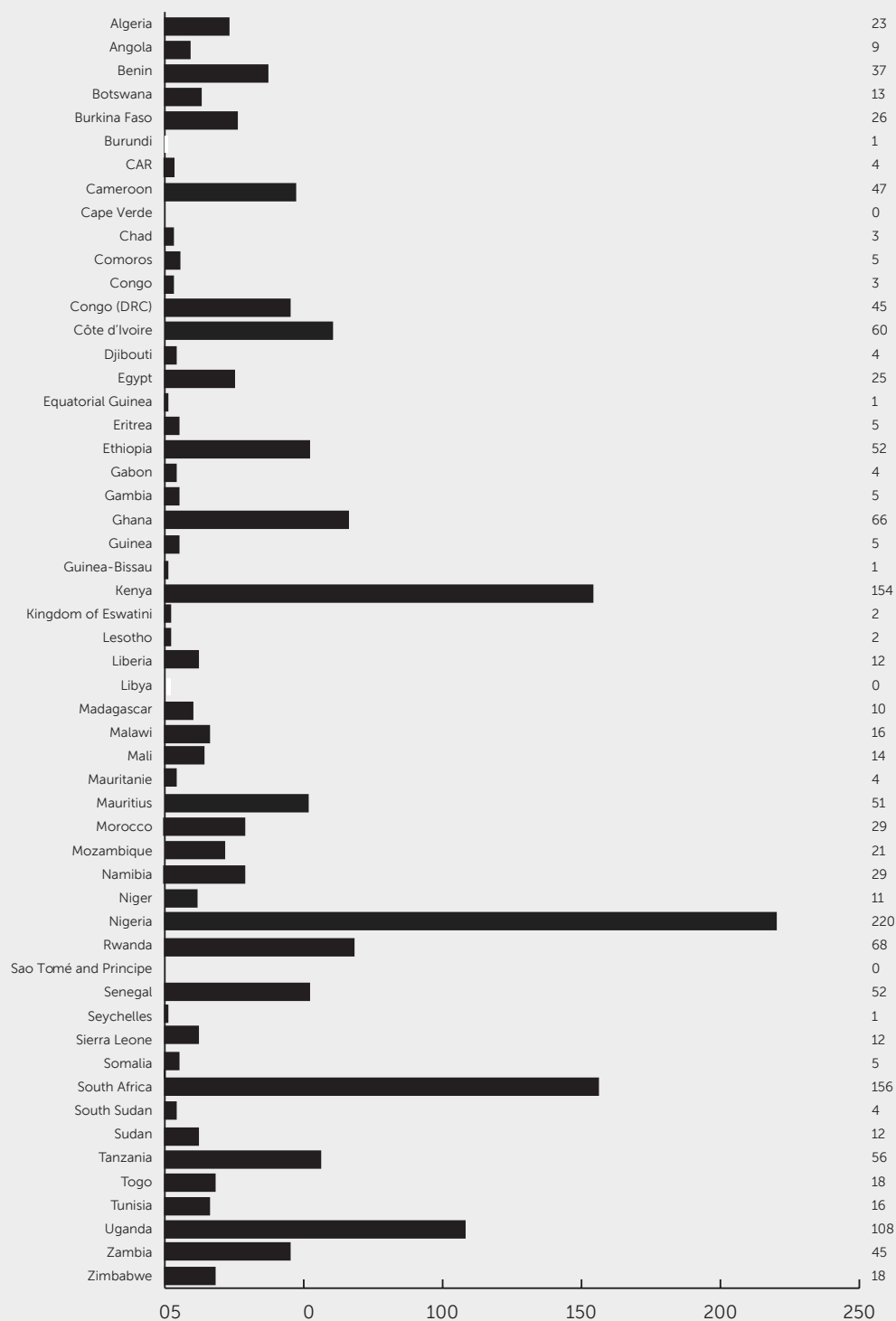


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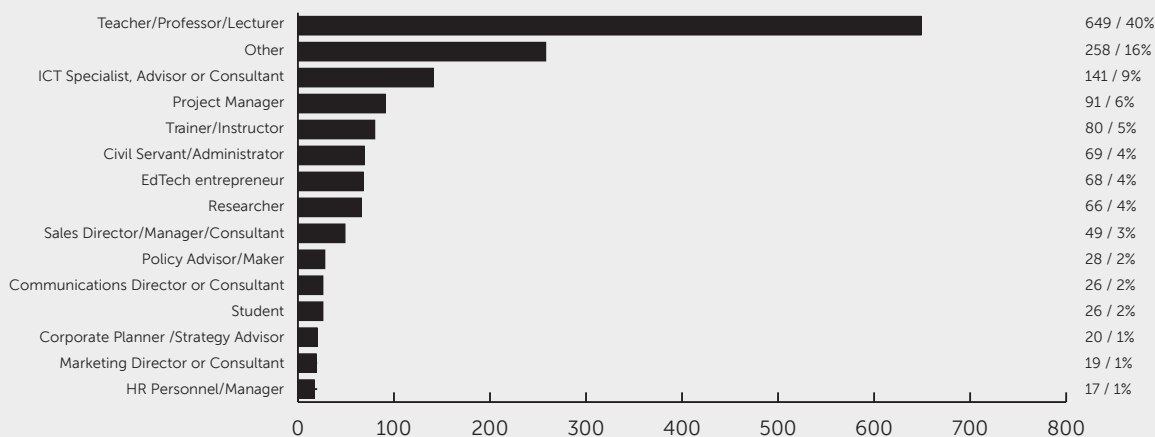
### In which country in Africa do you work?

We are aware you may work in several countries. Much of the analysis from the survey will be country-specific and some of the questions in the survey refer to 'your country'. So we ask that you select one country below, and then focus on that country for all your country-specific responses.



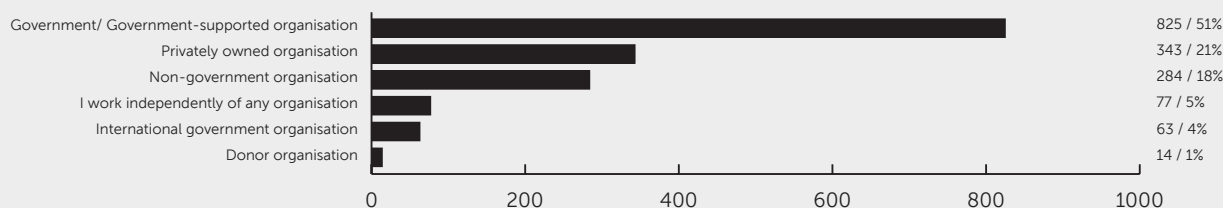
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## What is your job description?



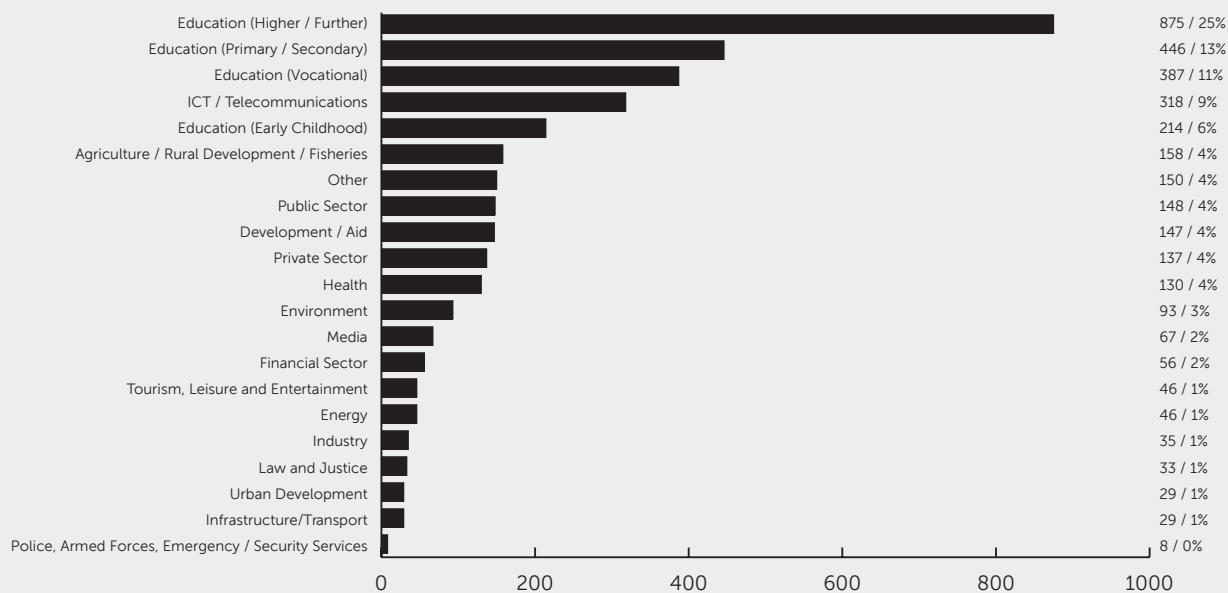
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## Which type of organisation do you work for?



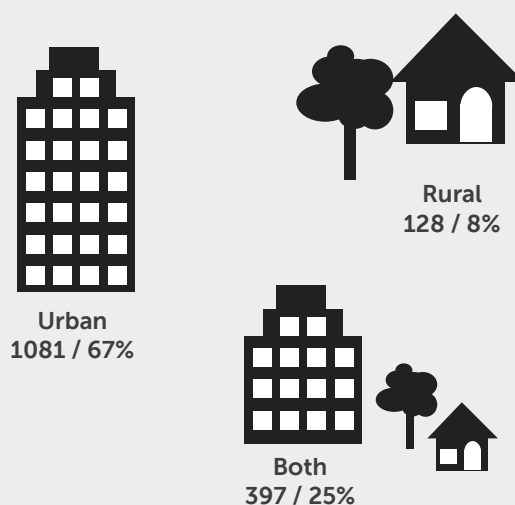
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## Which sector(s) do you work in? (multiple selections possible)

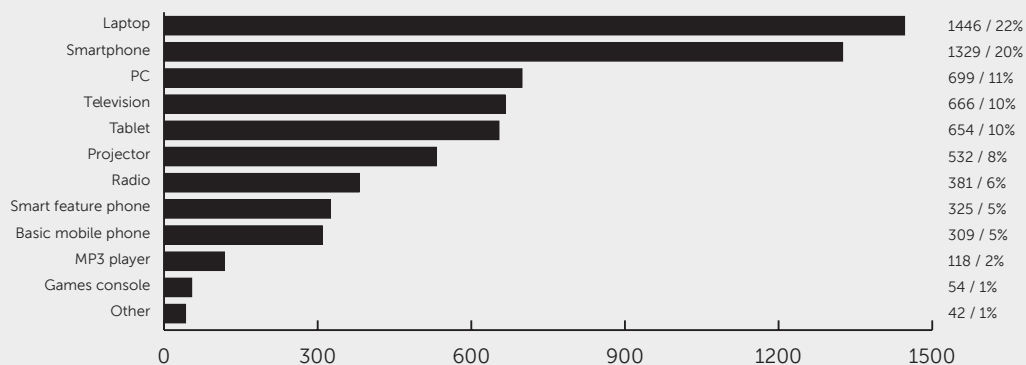


\*Percentages out of 3555 responses in this answer

## Do you work in an urban or rural environment?

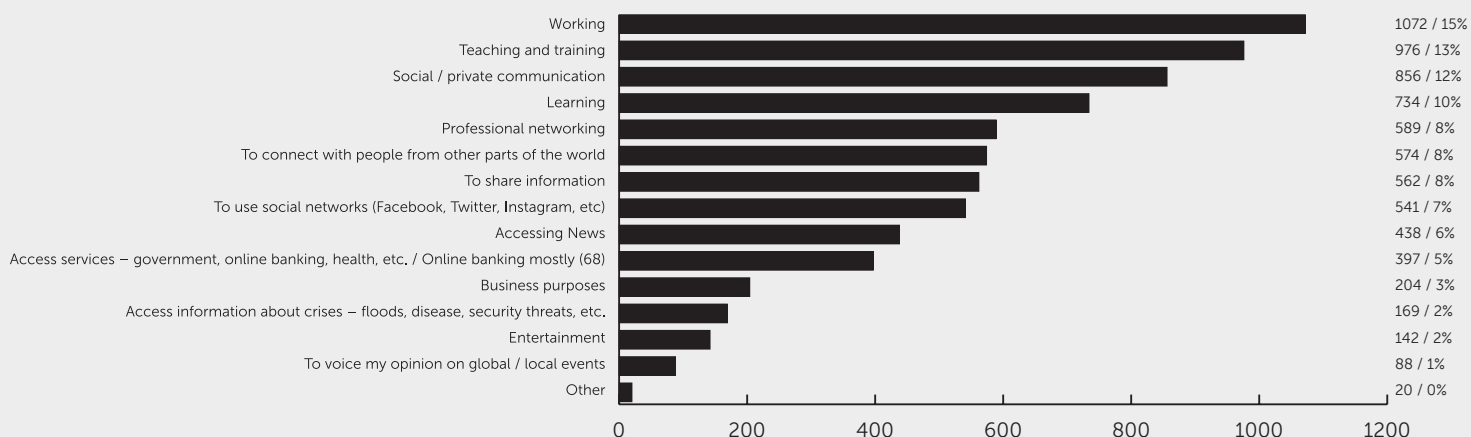


## What ICTs do you most commonly use (at least weekly)?



\*Percentages out of 6557 responses in this answer

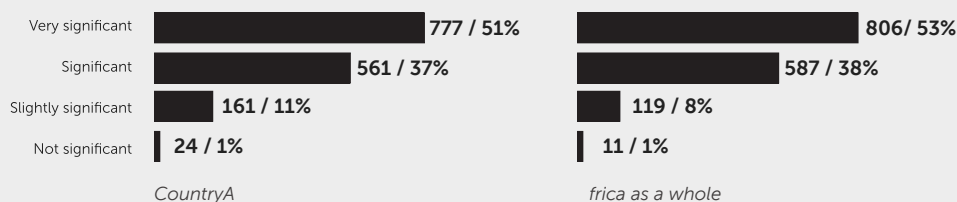
## What do you use ICTs for the most?



\*Percentages out of 7362 responses to this question (multiple choice)

15

How big a threat do you consider the COVID-19 pandemic to be to your country / to Africa as a whole?



17

Have schools in your country been forced to close as a result of the COVID-19 pandemic?



Yes  
1487 / 97%

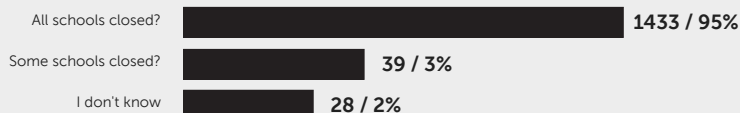


No  
12 / 1%



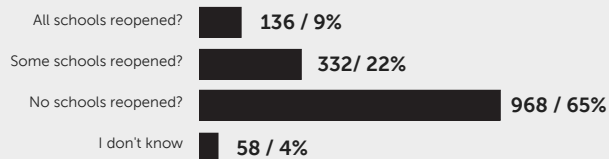
I don't know  
24 / 2%

If 'yes', were



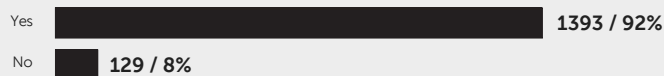
June 15 - 23, 2020

If 'yes', have



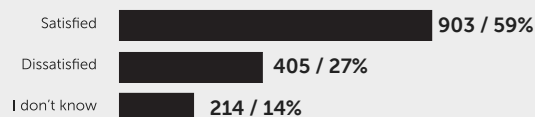
20

Do you think the closure of schools in your country is / was essential to prevent the spread of the COVID-19 virus?



21

Are you satisfied or dissatisfied with the steps your Government is taking to minimise the impact of the COVID-19 pandemic on education?



22

Do you think your Government has taken sufficient account of the views and experience of teachers in developing its response to the impact of the COVID-19 pandemic on education in your country?



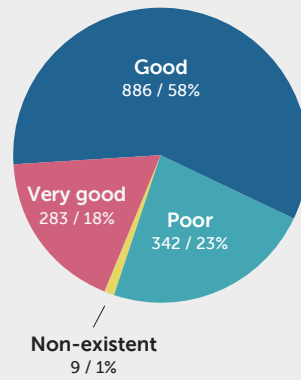
23

Are you aware of any specific falsehoods in circulation in your country about the nature or origins of the COVID-19 virus?



24

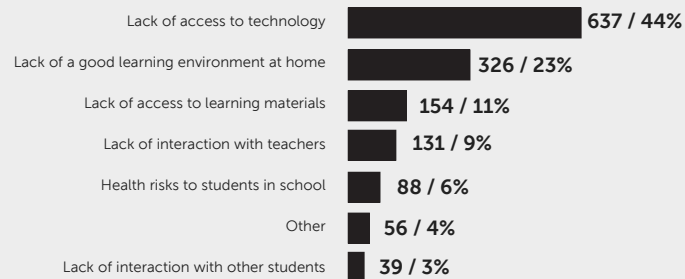
In your view, how good is the knowledge of students in your country about the COVID-19 virus and the public health measures necessary to reduce its spread?



### Impact on learners

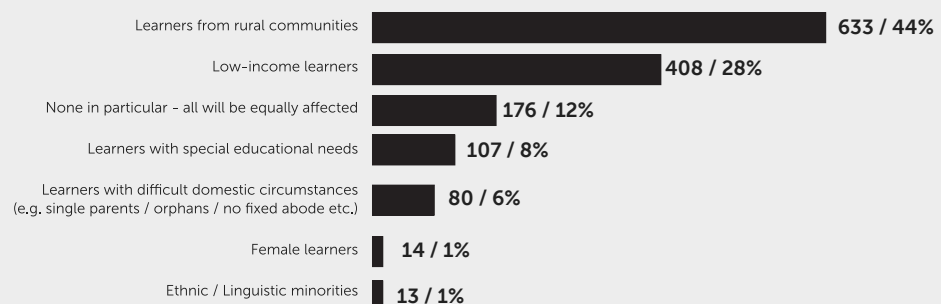
25

In your country, what do you consider to be the most significant obstacle facing learners during the COVID-19 pandemic?

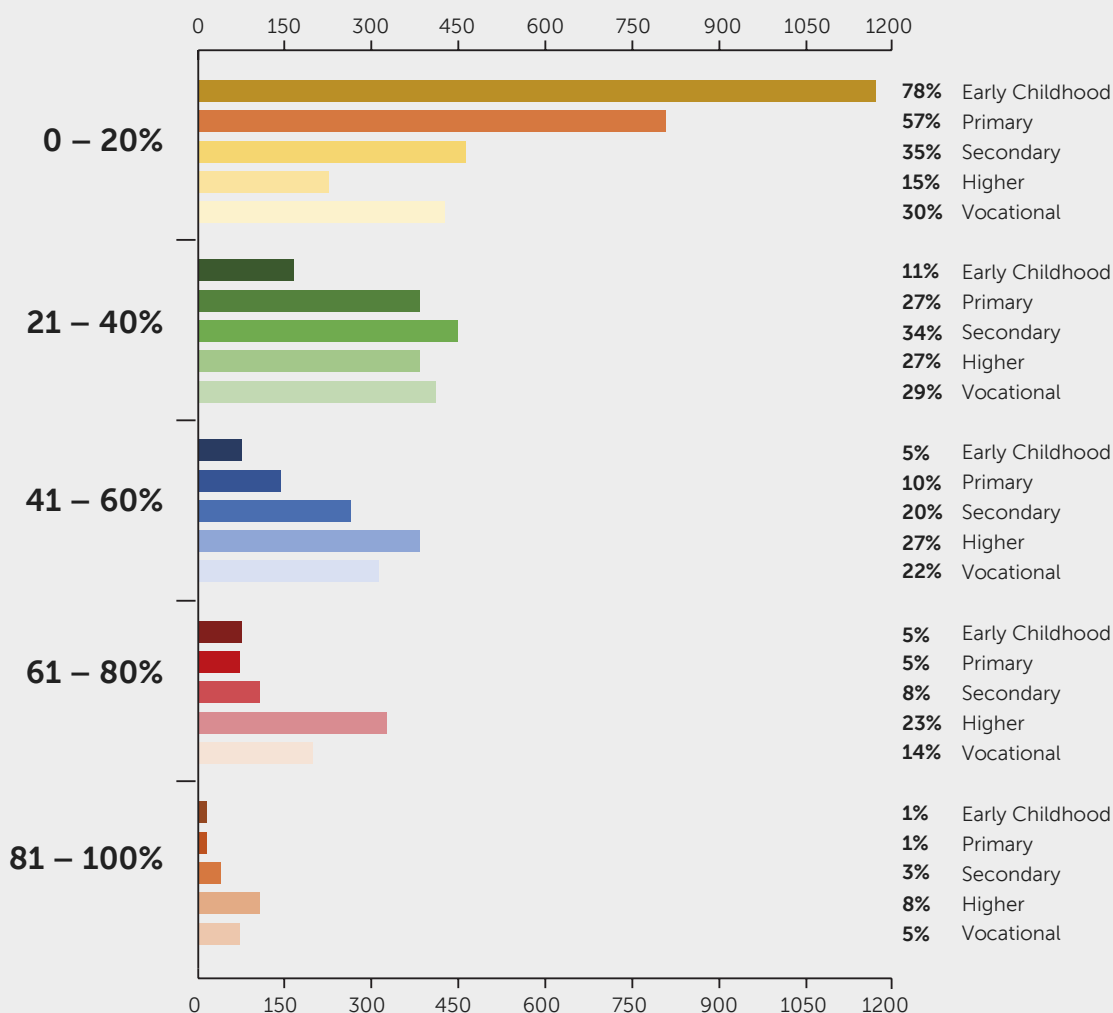
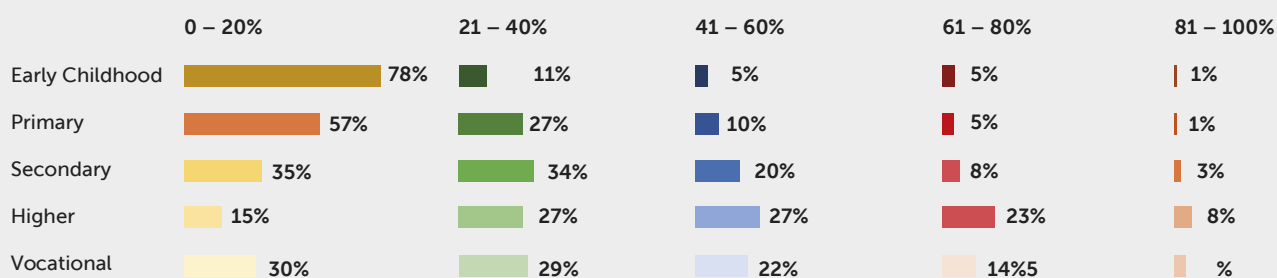


26

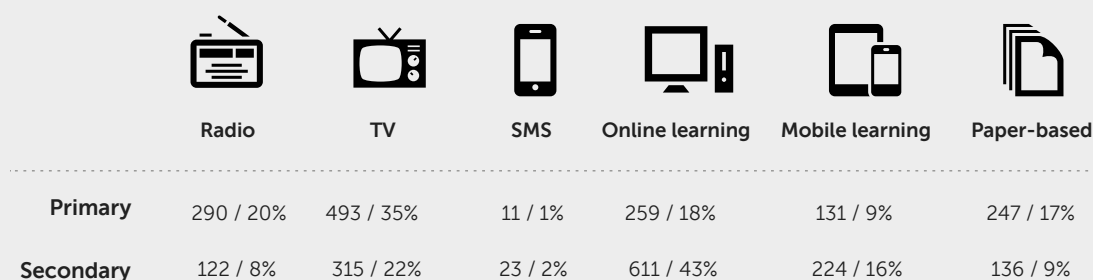
In your country, which group of learners do you think will be most educationally disadvantaged as a result of the crisis?



In your country, what percentage of learners do you think are able to access the technology required to enable them to learn effectively online when schools are closed?

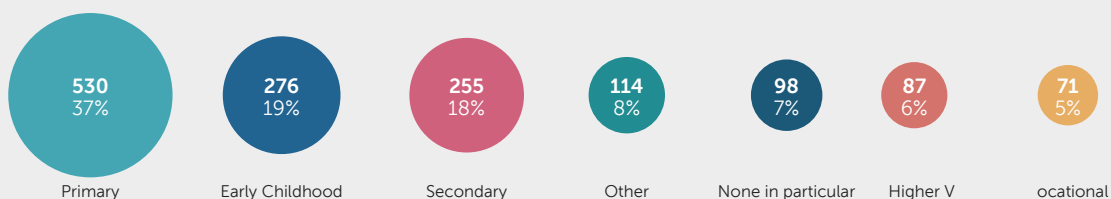


Which distance learning solution do you think is most useful for primary and secondary level learners during the current crisis?



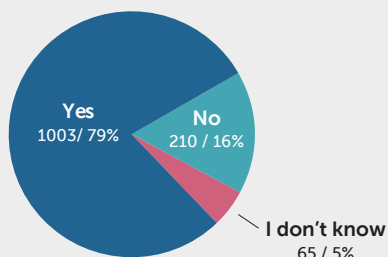
30

In your country, what stage of education do you think will be most disadvantaged as a result of the crisis?



31

Has your Government announced a distance learning strategy in response to the Covid-19 crisis?



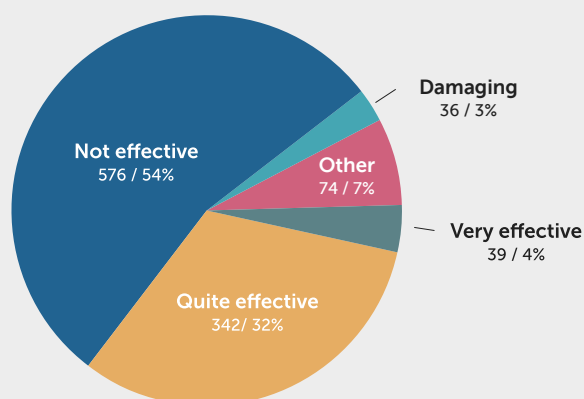
32

If 'Yes', does the distance learning strategy incorporate



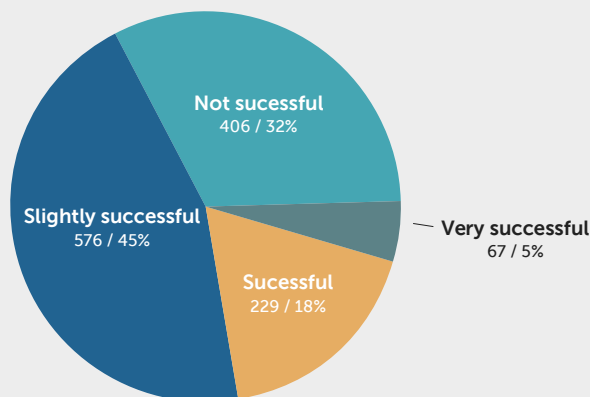
33

If 'Yes', how effective do you think your Government's distance learning strategy is likely to be in providing on-going education when schools are closed?



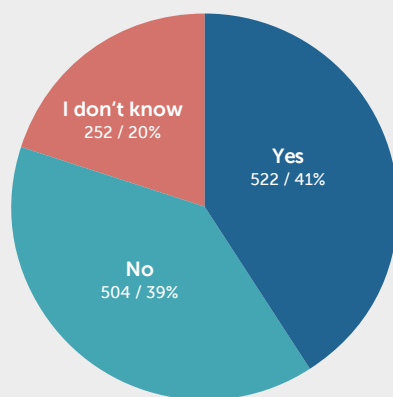
34

In your view, the way your school / college / institution has involved parents in planning new arrangements for their children's education during the COVID-19 pandemic has been



36

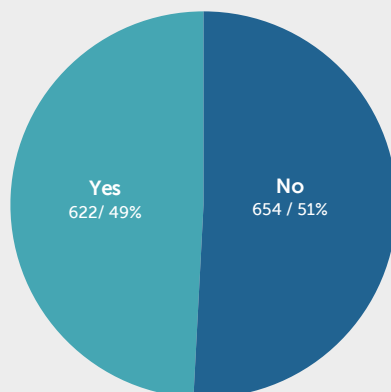
Has your government issued guidelines for the use of technology in education during the COVID-19 crisis?



#### Initiatives and support

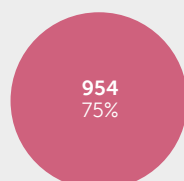
39

In your country, are you aware of any initiatives from private sector companies which are offering new technology-related services to support education in this crisis?



40

Have you been offered specific additional financial / material support for teaching and learning tools during this crisis?



No, we have not received any support.

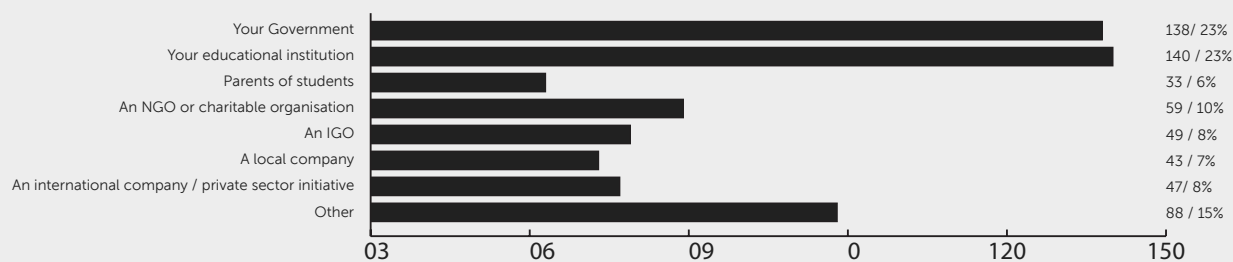


Yes, we have received material support.

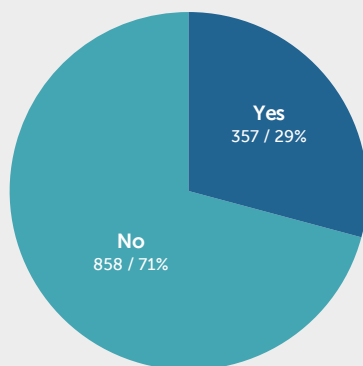


Yes, we have received financial support.

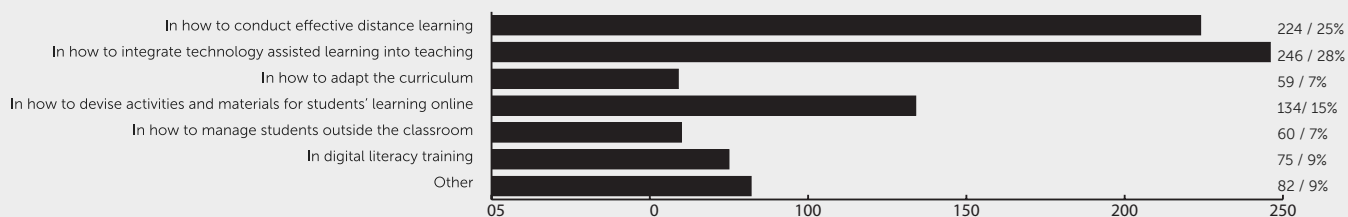
41 If 'Yes', was it provided by



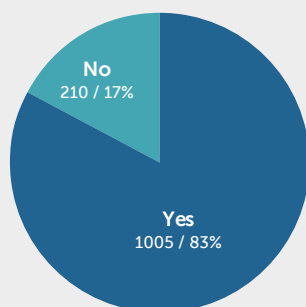
42 Do you feel that you received adequate professional development / training prior to the COVID-19 pandemic concerning how to adjust to providing distance-based learning for students?



43 If 'No', in what ways was support lacking?

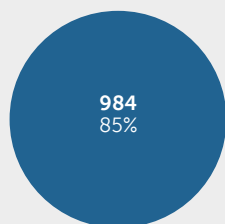


46 Do you think the school curriculum should be reviewed to make it easier to adapt to distance learning?



48

In your country, what long-term impact do you think the current COVID-19 crisis will have on the level of use of technology in education in Africa?



The use of technology will be more widespread as a result of the crisis

62  
5%

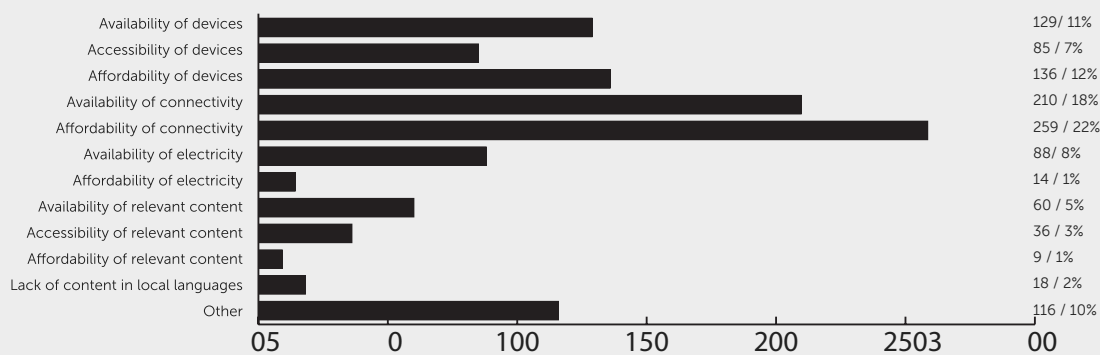
The use of technology will be less widespread as a result of the crisis

114  
10%

There will be no change in level of technology use

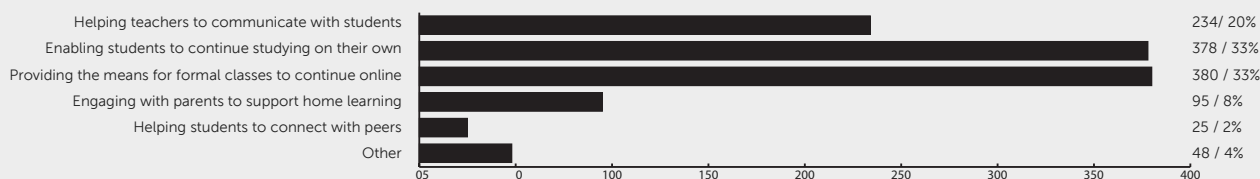
49

In your country, what do you think is the biggest challenge with regard to using educational technology effectively during the COVID-19 crisis?



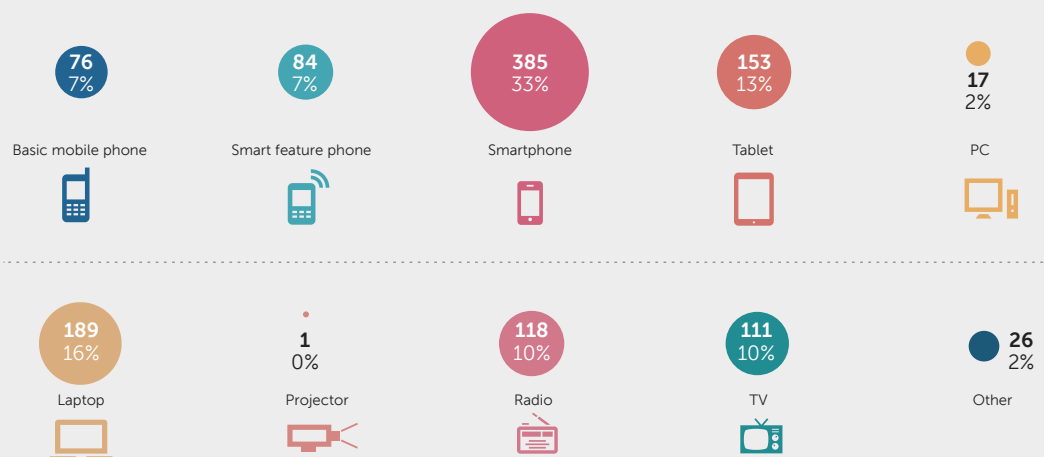
50

What do you consider to be the most important contribution the use of technology can make, in the COVID-19 crisis, to enable education to continue in your country?



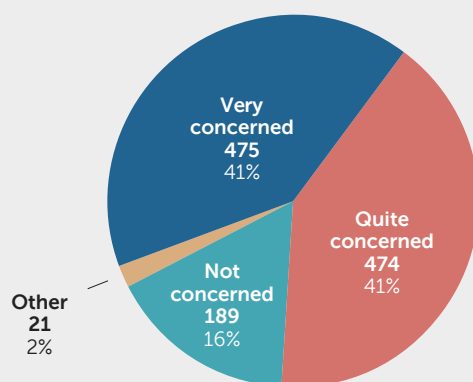
51

In your country, what device do you think provides the best prospect for a rapidly deployable, short-term replacement for face-to-face learning to support learning in the current crisis?



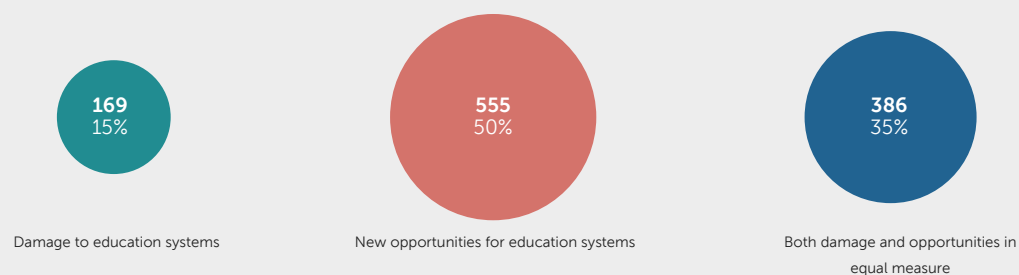
53

How concerned are you about issues of security, privacy, fraud or malware in online learning?



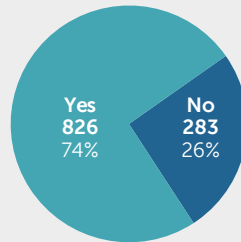
54

In your country, do you think that the most significant long-term educational effect of the COVID-19 pandemic will be



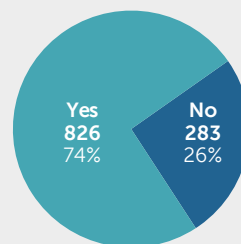
56

In your view, will a move to more online learning increase inequality and disadvantage poorer and more marginalised students?



56

In your view, will a move to more online learning increase inequality and disadvantage poorer and more marginalised students?



58

In your view, is the state of communications infrastructure in your country likely to lead to a widening of the gap in educational outcomes between rural and urban areas?

