



United Nations
Educational, Scientific and
Cultural Organization



UNESCO Chair in
ICT for Development
Royal Holloway, University of London

Education for the most marginalised post-COVID-19: Guidance for governments on the use of digital technologies in education

ACT ONE (OF THREE): EXECUTIVE SUMMARY

Date November 2020

Authors Tim Unwin
Azra Naseem
Alicja Pawluczuk
Mohamed Shareef
Paul Spiesberger
Paul West
Christopher Yoo

Report homepage <https://edtechhub.org/education-for-the-most-marginalised-post-covid-19/>

EdTech Hub

Clear evidence, better decisions, more learning.

Contents

Act One: Executive summary	03
If you read no more...	03
The purpose of the Report and who it is for	03
Reading and using the Report	04
What is innovative about this Report	04
Conceptualising the Report	05
Marginalisation as a process	06
The recommendations	07
<u>A holistic vision and commitment to the resilient transformation of education and learning for the most marginalised</u>	07
<u>The five most important things for governments to get right in using digital technologies for education and learning by the most marginalised</u>	07
A whole society approach: delivering equity in education	08
Enabling access: building resilient infrastructures for education	09
Being context specific: technologies and content	09
Ensuring appropriate pedagogies: the practices of teaching and learning	10
Making wise use of technology: security, privacy and data	11
<u>Financing the use of digital technologies within public education systems to serve the poorest and most marginalised</u>	11
In conclusion	12

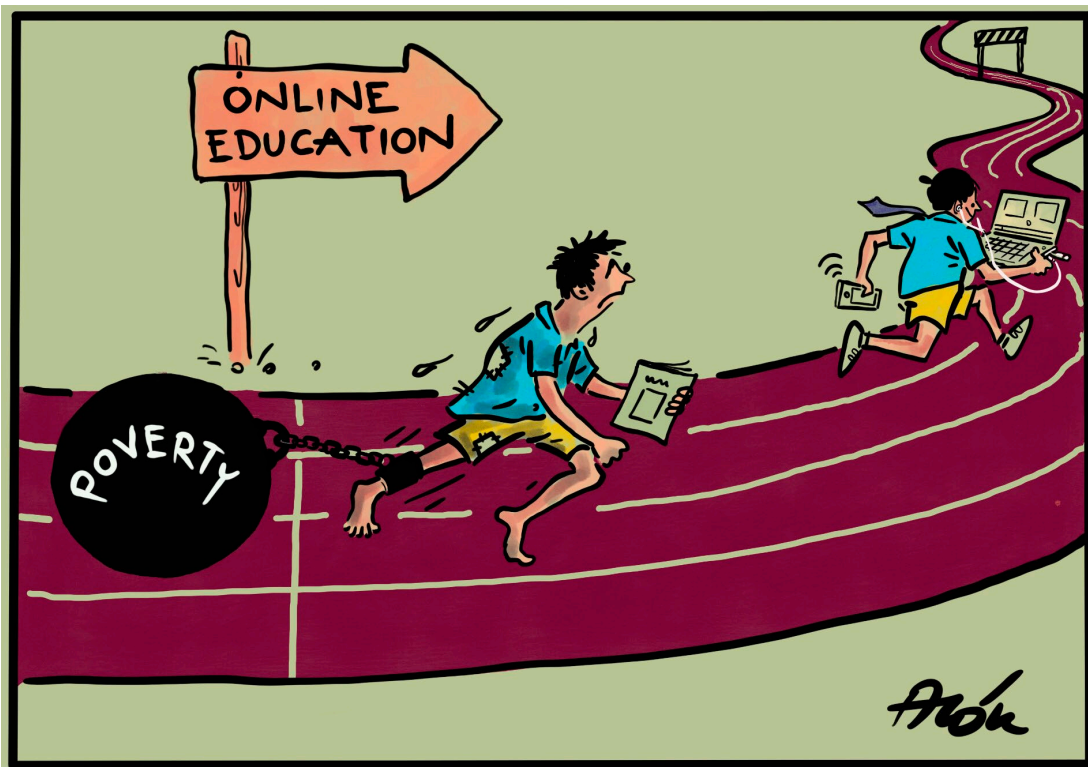
Act One: Executive summary

If you read no more...

There are five things that a government must do once a holistic vision has been crafted that is committed to using digital technologies to create a resilient education system that provides education and learning for all:

- Create a whole society approach that delivers equity in education.
- Enable access for all to digital technologies by providing resilient funded infrastructures for learning, funded by Central Government rather than Ministries of Education.
- Be context specific at all times, especially in terms of the technologies used in education and the content crafted for learners.
- Ensure that appropriate pedagogies are used in the practices of teaching and learning.
- Use digital technologies wisely and safely.

Above all, it is essential to begin by thinking about the educational outcomes that you want to achieve, and only then seek to identify the technological modalities that best suit your context and financial capabilities.



The purpose of the Report and who it is for

The central purpose of this Report is to provide recommendations to governments in the light of the COVID-19 pandemic about how to use digital technologies to deliver better

quality and more resilient education systems that enable everyone to have access to equitable learning opportunities. The pandemic has shown the huge potential of digital technologies, both hardware (including desktop and laptop computers, tablets, mobile phones, radios and TVs) and software (including applications, learning management systems, administrative systems, networks, platforms, content and data analytics) to be used to support the delivery of better and more extensive education and learning. However, it has also served as a stark reminder that all technologies can be used to create both positive and negative impacts, and that one of the main effects of COVID-19 has been to increase educational inequalities at all scales.

The Report has been written primarily for senior government officials who have already taken the first steps towards creating fairer and better education systems in their countries, and are thirsty to know more about how they can use digital technologies effectively and appropriately to deliver that vision under the new conditions prevailing as a result of the COVID-19 pandemic. It is also mindful of the financial stringencies resulting from the economic downturn caused by the pandemic, and is very focused on ways through which governments can deliver such benefits whilst also representing real value for money for taxpayers. It is driven fundamentally by a commitment to equity and inclusion within education systems, and consciously builds on the foundations of existing UN (United Nations) policies and advice such as those included in the Incheon Declaration.

Reading and using the Report

This Report contains three separate documents (Acts), each of which can be read and used independently. Act One is intended primarily for the most senior government officials and contains a summary of the Report's approach and main recommendations. Act Two provides the detailed exposition, arguments and evidence upon which these recommendations are based, and is intended primarily for those in government who are charged with implementing them. Act Three contains 14 Guidance Notes which provide succinct advice on delivering important distinct aspects of the overall Report. The word 'Act' (deriving from Latin *Actus*, meaning an event or something done) for each of these main documents has been chosen specifically as a reminder that we must all take **action** if the poorest and most marginalised are indeed to benefit from the use of digital technologies in education and learning. It is of course also a reminder that it must now be performed for it to come into effect, as in a theatrical play, on the world stage.

Act One provides a high-level summary of the most important recommendations to help shape better government policies and fairer allocations of resources to and within the education system. It begins with a brief description of how it was crafted collaboratively, and the innovative approach taken in providing these recommendations. This is important for understanding why they should be acted on. It then describes the preconditions that must be in place for its recommendations to be effective. The most important of these recommendations are subsequently summarised under five main headings. In conclusion it addresses questions of financing and the first steps that governments can take to implement the recommendations.

What is innovative about this Report

This Report was crafted consultatively and collaboratively between June and September 2020. Working in the midst of COVID-19 it was impossible to hold face-to-face

consultations in person, and so all of the work was done through the use of online digital systems. A core team of seven people undertook this work, supported by a board of eight advisors, including senior government and donor officials. Three elements were especially creative and innovative, helping to ensure that the Report is robust, while also being based on the best possible existing evidence:

- First, it used an innovative consultative process that involved 87 people (43 women and 44 men) from 34 countries in online consensus decision making exercises to identify the five most important areas on which governments need to act when using digital technologies in education systems designed to include the poorest and most marginalised.
- Second, all of the draft materials were shared publicly online (<https://ict4d.org.uk/technology-and-education-post-covid-19/>) so that people could provide further recommendations and advice. These suggestions were then used further to improve the Report.
- Third, it includes 14 short guidance notes (*Act Three*), that provide specific practical advice on distinct things that need to be done, many of which cut across the five broad themes of the Report. These guidance notes include boxed checklists that can readily be used to develop context specific checklists, infographics (examples are provided) and programmes to implement change. Many of them were crafted by groups of colleagues from international agencies and organisations committed to delivering truly inclusive education and learning.

Conceptualising the Report

The Report begins by providing an overview of the context, challenges and opportunities provided by COVID-19 for using digital technologies to help create resilient and inclusive education systems (*Act Two, Part 1*). *Act Two Part 2* then provides the core recommendations of the Report. These begin with the overarching recommendation that governments first need to put in place a holistic vision and commitment to the resilient transformation of education and learning that focuses especially on the most marginalised (*Act Two, Part 2, Section 8*). Unless this is in place, education systems will be made more unequal through the use of digital technologies, and the poorest and most marginalised will become ever more marginalised.

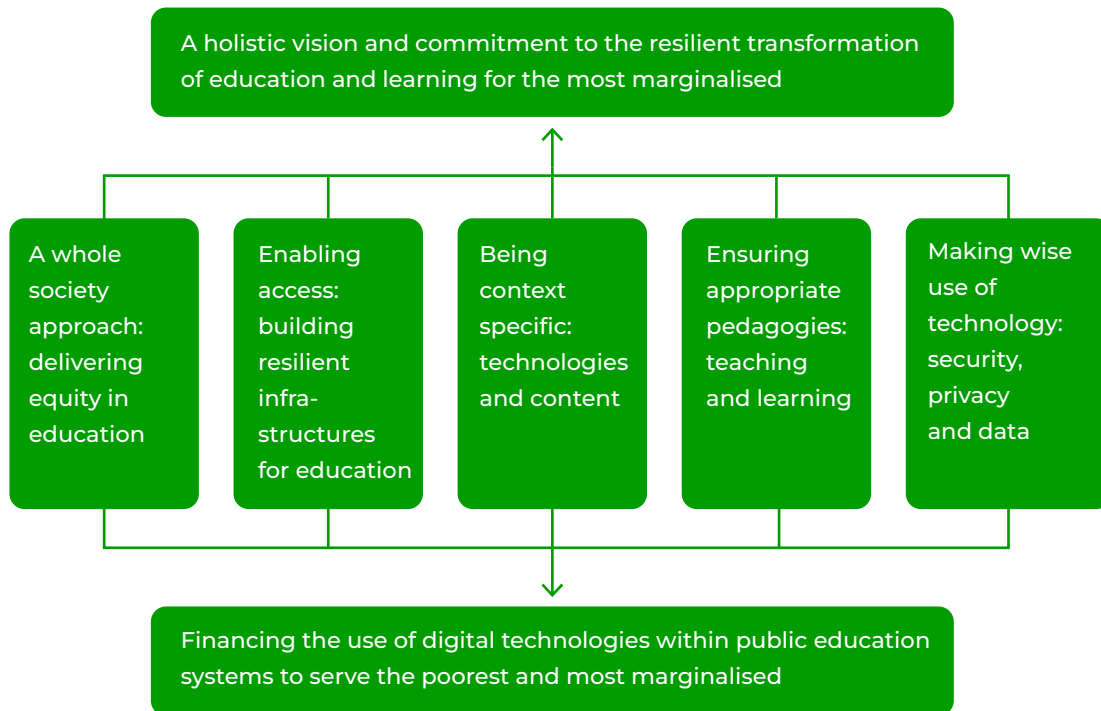
Five sets of recommendations then follow, each grouped around a particular theme (*Act Two, Part 2, Sections 9–13*):

- Creating a whole society approach that delivers equity in education.
- Enabling access for all to digital technologies by providing resilient infrastructures for learning.
- Being context specific at all times, especially in terms of the technologies used in education and the content crafted for learners.
- Ensuring that appropriate pedagogies are used in the practices of teaching and learning.
- Using digital technologies wisely and safely.

This executive summary highlights the three most important practical recommendations under each of these headings, although the full Report (*Act Two*) contains further specific recommendations that governments are also advised to follow.

A final set of recommendations addresses ways through which these activities can be financed, paying particular attention to contexts where resources are limited, and recognising that different priorities will also be required in varying contexts.

This structure is encapsulated in the diagram below.



In interpreting this diagram, it is important to emphasise that all of the five sets of recommendations featured in green in the middle are important, and that the precise ways and order in which they are implemented are likely to vary in different contexts. In practice, most of them are likely to be developed at various rates in parallel, and a core role of those charged with implementation will be to ensure that there is indeed effective coordination between each set of recommendations. [Annex 2](#) of the main Report ([Act Two](#)) offers a diagrammatic representation of which Ministries and Regulators need to be involved in overseeing or implementing each of these broad sets of recommendations.

Marginalisation as a process

Marginalisation is the process through which people are excluded from access to resources and opportunities. One of the most profound and important ways through which this is maintained is through differential access to and participation in education systems. Using digital technologies to support the poorest and most marginalised is therefore of critical importance in shaping fairer societies and more productive economies. The most excluded are those who remain completely unseen and unheard. However, there are seven groups of people who have become increasingly recognised by the UN and other organisations as being particularly susceptible to processes of marginalisation, and for whom specific and focused educational actions making use of digital technologies should be taken: out-of-school youth, those with disabilities, girls and women, refugees and displaced persons, ethnic minorities and indigenous peoples, those in isolated areas, and those in informal or irregular employment. [Act Three](#) contains specific guidance notes on ways through which governments can most effectively empower people in these groups through the use of digital technologies for learning.

The recommendations

In the beginning: a holistic vision and commitment to the resilient transformation of education and learning for the most marginalised

Creating a digitally-informed resilient education system requires a whole government approach that involves many ministries other than just the Education Ministry. It must also begin with a profound commitment to the inclusion of the poorest and most-marginalised; digital technologies must be used in ways that serve their needs and interests, and not just those of the rich and privileged. Three key practical actions are necessary for this to be achieved:

- **Crafting leadership and continuity.** Heads of State should put in place an experienced senior leadership team to deliver the required educational transformation. In democracies this should be based on cross-party 5–10 year commitments to use digital technologies appropriately to deliver inclusive education. These require absolute adherence to the principle of equity, but must also be sufficiently flexible to adapt to new circumstances (such as COVID-19) and new technological developments.
- **Putting in place a holistic, cross-government approach.** It is essential for government leaders and ministries or departments to work collaboratively together to develop and implement a cohesive strategy that delivers effective learning for the most marginalised through the use of digital technologies. At the very least, Ministries of Education, finance, ICTs/telecommunications, infrastructure, labour, planning, internal affairs/security and health/welfare should be involved, alongside ICT/telecommunications and media regulators. This is essential, not least so that coherent, joined-up policies can be developed that provide an integrated approach for infrastructure to be funded centrally, which is particularly crucial in low-resource contexts.
- **Engaging all of society through effective partnerships.** Governments need to lead the process of systemic educational transformation, but should put in place clear mechanisms through which all sectors of society own and support it. Such mechanisms will vary depending on national contexts and political systems, but at the very least they need to involve both private sector companies and civil society organisations. The private sector should be valued primarily for its understanding of the technologies, its management expertise, and its focus on sustainability, rather than merely as a vehicle for providing additional funding or technological resources for education systems.

The five most important things for governments to get right in using digital technologies for education and learning by the most marginalised

Once the leadership and commitment are in place, governments need to focus on five inter-related areas through which their strategies and implementation processes should be delivered. The recommendations below summarise the most important practical recommendations under each heading. These are elaborated in much greater detail in [Act Two](#) of the Report.

1. A whole society approach: delivering equity in education.
2. Enabling access: building resilient infrastructures for education.
3. Being context specific: technologies and content.
4. Ensuring appropriate pedagogies: the practices of teaching and learning.
5. Making wise use of technology: security, privacy and data.

| A whole society approach: delivering equity in education

Ensuring that education systems are equitable implies that resources are allocated disproportionately to those who have most need of them. Put simply, it usually costs more to educate the poorest and most marginalised, and additional resources therefore often need to be allocated to such delivery. Crafting a whole society approach to making such education happen is not only a means of sharing resources more efficiently, but it also enhances a stronger sense of community and greater realisation of the need for continuous learning throughout the life-cycle. As a starting point, to deliver equity in the use of digital technologies in education means beginning where it is most difficult.

This means that pilot projects should not be done where they are easiest to do and are most likely to succeed, but instead with and amongst the poorest and most marginalised, where the circumstances are most challenging, and where most innovation and creativity is required to make them succeed.

- **Involving families, learners and communities in the education system.** One of the key impacts of COVID-19 has been the realisation that families and communities have a crucial role to play in delivering education, especially in circumstances where access to schools is not possible, be it as a result of a pandemic or physical disasters such as earthquakes or tsunamis. Governments therefore need to put in place mechanisms to involve and support parents, grandparents and other community leaders in helping to deliver effective education for young learners. This is especially significant in supporting out-of-school children and youth. It is also important for governments to put in place formal and informal mechanisms through which learners' voices can be heard and listened to when crafting the content and practices involved in education.
- **Ensuring effective learning for employment.** Rapidly changing societies and economies require flexible approaches to delivering learning that is lifelong (throughout the life cycle) and lifewide (involving real contexts and settings). Much traditional vocational training has been insufficiently effective in supporting the needs of employers and in enabling employees to gain fulfilling work. Governments therefore need to put in place and support novel and relevant systems of training using appropriate digital technologies to ensure that everyone has the skills and expertise to find gainful employment.
- **Creating learning environments that promote wellness and wellbeing.** The consultations upon which this Report is based highlighted the increased mental stresses in countries across the world caused by lockdown and domestic pressures in circumstances where parents had to work while supporting their children's learning, especially when living in confined and enclosed spaces. It is therefore important for governments to build on the positive lessons learnt from COVID-19 about how digital technologies can indeed be used to support wellness (referring to physical health) and wellbeing (the holistic experience of feeling well and content) in the context of education rather than simply allowing education systems to revert to an 'old normal'.

| Enabling access: building resilient infrastructures for education

Funding national infrastructure initiatives including school connectivity and power supply should never be a cost placed purely on Ministries of Education that are already overstretched not least in paying teachers' salaries. Rather, they must be a shared responsibility across government through the holistic approach advocated above. Nevertheless, it is impossible for learners to benefit fully from many of the latest digital technologies unless connectivity and electricity are available. Moreover, much can also be done by appropriate use of old technologies (such as radio and TV) in new ways, and it is therefore essential for governments to consider what technologies they should best use to ensure that everyone can have access to basic learning opportunities. For those for whom digital technologies are not feasible, governments need to continue to make available alternative (often paper-based) educational resources and content. These recommendations should be read alongside those pertaining to financing below.

- **Ensuring appropriate and resilient connectivity.** Resilience is the ability of education systems to continue or restart operations when schools close due to unforeseen circumstances such as COVID-19. Governments with a high level of resilience act and rebuild quicker than those with fragile systems. Governments need to address four specific issues in order to ensure resilience: continuity of electricity and internet connectivity; alternative ways through which to deliver distance education (for example, radio, TV, online learning, mobile phones); ensuring continued instructional and technical teacher support; and creating safe and convenient learning environments.
- **Resolving the challenges in providing access for the most marginalised.** Absence of access to digital technologies further marginalises the most marginalised. Governments therefore need to resolve the following main challenges: access to electricity, access to affordable internet, access to devices, low levels of digital literacy, lack of local content, concerns around safety and security, and social norms. [Act's Two](#) and [Three](#) provide detailed examples and advice on how this can be achieved. Where digital technologies are unavailable, alternative (often paper-based) resources and content must continue to be provided.
- **Providing infrastructure for lifelong and lifewide learning.** Governments need to ensure that they put in place flexible systems that can be adapted and enhanced so that learning provision may readily be continually improved. This can often be achieved by adhering to open standards and using free and open source software (FOSS). It is also important that regulatory systems are designed that serve the interests of learners as much as they do of those who supply digital technologies and content.

| Being context specific: technologies and content

There is no one size fits all, universal digital solution, that will deliver appropriate global education for everyone. Governments must understand that context matters, and should resist initiatives by companies intent on offering a single 'best' solution. Instead, they should draw on the many good examples highlighted in [Act Two](#) and [Act Three](#) of

this Report, carefully to craft the most appropriate uses of relevant digital technologies for their own social, cultural, political and economic context.

- **Being technology agnostic: balancing older and future technologies.** Governments need to ensure that the appropriate technologies are used to deliver the optimal services in any specific context. To this end, it is important for governments to be technology agnostic, meaning that they should not place all of their investments into one particular kind or model of technology, but instead set educational objectives and then explore ways of providing the optimal technological solutions in different contexts. This applies as much to the networks used to provide content and instruction as it does to the devices used to access that content.
- **Supporting the design of a relevant curriculum.** The curriculum must be appropriate for the learning needs of children and adults in a world that is becoming increasingly dominated by digital technologies, but governments must at the same time also recognise the potential that these new technologies have for enhancing the effective delivery of a national curriculum. In particular, it is essential that any legislated education policy and curriculum is explicitly designed to be relevant for the needs of a country as a whole, and should especially serve the interests of the poorest and most marginalised.
- **Ensuring that content is relevant and appropriate.** Governments must have in place national strategies for the delivery of high quality, localised and above all relevant digital content that can enable teacher-facilitators and learners to access materials in support of the curriculum. In contexts where digital technologies are unlikely to be able to be used in the short- to medium-term, it is also incumbent on governments to have in place alternative mechanisms, often paper-based, for children to access content. Governments should always consider the benefits of making all publicly funded content available freely, especially as open content through Creative Commons licences.

| Ensuring appropriate pedagogies: the practices of teaching and learning

One of the overwhelming outcomes of the COVID-19 pandemic has been the realisation that teachers really do matter. This has presented a good opportunity for education systems to be recrafted so that they place excellence in teaching at their heart. To achieve this, the highest priority must be placed on relevant in-service and pre-service teacher training that focuses on enabling teachers and learning facilitators of all kinds to use digital technologies to enhance their own learning and thereby improve the quality of their teaching so that all of their pupils and students have better learning outcomes.

- **Empowering teachers, trainers and facilitators.** The single most important thing that governments can do is to ensure that teachers, trainers, and learning facilitators are appropriately and rigorously trained in the effective use of digital technologies. This is not just about teaching them ‘office’ or ‘digital’ skills, but rather ensuring that they all have the ability to use a diversity of technologies to support learners in their varying needs.
- **Ensuring that appropriate pedagogies are in place.** The explosion of information available online over the last decade, has meant that it is impossible for teachers any longer to be seen as the sources of all knowledge. Changing theories and practices of teaching are closely related to such externalities, and it is therefore

essential for governments to ensure that the pedagogies in use in their countries are fit for purpose. This will often mean the replacement of traditional didactic modes with more constructivist, or constructionist pedagogies.

- **Using relevant assessments.** Teaching and assessment go hand in hand; it is important to have appropriate mechanisms in place so that learners and employers can have a shared understanding of the skills and competencies that students have acquired. Digital technologies offer many strengths and opportunities for enhanced formative and summative assessments, and these should feature highly in government educational agendas. Nevertheless, governments must also ensure that these assessments are indeed relevant to their countries' needs.

Making wise use of technology: security, privacy and data

COVID-19 has illustrated very clearly how increased levels of digital connectivity and use during the pandemic have translated into increases in harms. It has also highlighted difficult issues surrounding privacy and the use, or abuse, of personal data. Governments must therefore ensure that the potential harms of using digital technologies in education and learning are mitigated, so that their benefits can be safely and fully achieved, especially by the most vulnerable.

- **Ensuring the safety of everyone involved in education and learning.** Governments must place the highest priority on the safe use (in the broadest sense including harmful content, health-related issues and data loss) of digital technologies as an integral part of all learning and training programmes for children and adults alike. This requires comprehensive legislation, enforcement of that legislation, and widespread training and support for learners and teachers alike.
- **Making systems secure.** It is essential to protect individual data and prevent education digital system disruption. Governments should therefore ensure that clear guidance is given to heads and administrators throughout the system, from ministries to schools and community learning centres, and that breaches are treated with the utmost seriousness.
- **Caring about privacy and data.** Governments should create mechanisms for citizens to have open and sustained discussion with them about digital privacy in general, and also specifically within the educational context. The marginalised are already by definition less fortunate than are most others within any society, and the dangers of any further loss of privacy for them are likely to marginalise and harm them even further. In general, governments should tend towards the precautionary principle in managing educational data.

Financing the use of digital technologies within public education systems to serve the poorest and most marginalised

The Report concludes with an overview of ways through which funding can be made available in support of learning initiatives that make use of digital technologies. This emphasises in particular the importance of ensuring a cross-government approach to the funding of digital infrastructure. As already highlighted, Ministries of Education should not, for example, be required to cover the costs of providing connectivity and electricity to all learning establishments, but instead this should be undertaken through a holistic cross-government programme for delivering comprehensive services to communities.

Eight basic recommendations that governments should adopt in funding are highlighted:

- Funding should be based on the principle of equity, so that additional funding is made available to those most in need.
- Holistic cross-government approaches are essential.
- The state has the main responsibility for funding public education, but when used effectively and appropriately donors, the private sector, households and civil society can also contribute funding.
- All funding models must be based on the lifetime total cost of ownership of an initiative and include both CAPEX (capital expenditures) and OPEX (operating expenses).
- Multi-sector partnerships can offer significant benefits, but only if undertaken appropriately and effectively.
- Initiatives should be designed at scale, even if they are only started with pilot projects; nothing will 'go to scale' unless it is 'designed at scale'.
- All government policies relating to the use of digital technologies in education should be based on the principle of technology neutrality.
- In general, public sector education should be free to end-user; this is especially so for the poorest and most marginalised.

In conclusion

There is no one-size-fits-all way in which governments should promote and implement initiatives that use digital technologies to improve the learning outcomes of the most marginalised, and governments always need to take into consideration their local contexts and priorities. However, in very general terms, the following order of initial priorities and actions is often appropriate:

1. Creating a **long-term cross-party vision** for ensuring that digital technologies are used to enhance learning by the poorest and most marginalised.
- ↓
2. Establishing an **integrated and holistic cross-government team** to deliver that vision.
- ↓
3. Beginning by ensuring that all **teacher training colleges have as high-quality digital infrastructures as affordable**, and that pre-service and in-service training programmes are implemented to ensure that teachers are trained in appropriate and relevant pedagogies.
- ↓

4. Prioritising the **specific educational challenges for which digital technologies can have the most significant impact** for the most marginalised in your country (this could, for example, be high numbers of refugees, very dispersed island communities, or numerous minority ethnic groups for whom learning content in the main language is inappropriate).



5. Identifying and **implementing technology-relevant** (in terms of what is both feasible and affordable) **approaches** to resolve these challenges, remembering that low-tech options (such as radio or TV) and Open Educational Resources can often deliver very cost-effective and resilient options, and that multi-sector **partnerships** with the private sector and civil society can be valuable in ensuring appropriateness and sustainability.



6. At all times ensuring that **security, safety and privacy** receive the highest priority in using digital technology for delivering education and training, especially for children and vulnerable adults.

As emphasised throughout this Report, the precise order in which the more detailed recommendations are implemented will depend heavily on the character of the existing educational systems, the political will, the levels of funding available, the extent of infrastructural provision (such as school buildings, libraries, electricity, and internet connectivity), and the geographical size and complexity of the country.

Two basic principles about what not to do also often seem to be forgotten, and should always be remembered:

1. Don't put digital technologies into schools without sufficient teachers first being trained in how to use them effectively to enhance learning outcomes.
2. Pilot projects using digital technologies for education should not be done where they are easiest to do and are most likely to succeed, but instead with and amongst the poorest and most marginalised, where the circumstances are most challenging, and where most innovation and creativity is required to make them succeed.



United Nations
Educational, Scientific and
Cultural Organization



UNESCO Chair in
ICT for Development
Royal Holloway, University of London

EdTech Hub

Clear evidence, better decisions, more learning.

Publication typesetting by User Design,
Illustration and Typesetting
www.userdesignillustrationandtypesetting.com