



United Nations  
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# Guidance Note 4

## Inclusion and accessible learning for people with disabilities

From the Report: Education for the most marginalised post-COVID-19: Guidance for governments on the use of digital technologies in education  
**ACT THREE (OF THREE): GUIDANCE NOTES**

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# Guidance Note: Inclusion and accessible learning for people with disabilities<sup>1</sup>

## Context

People with greater disabilities have much more to gain from using appropriate technologies to transform their lives than do those who have fewer disabilities. Using text-to-speech technologies, blind people can hear what is written; deaf people can likewise understand what someone is saying by reading their words on a device through speech-to-text technologies. However, all too often, people with disabilities have to pay extra for having access to such 'assistive technologies'. Likewise, in countries with limited financial resources, it is still often argued that those resources should mainly be spent on supporting the education of those who are seen as being most able to contribute to national development, and these rarely include those with disabilities. UN agencies such as the WHO and the World Bank suggest that around 15% of the world's population live with some form of disability, of whom between 2 and 4% experience significant difficulties in functioning.<sup>2</sup> That means that more than a billion people have some kind of disability; digital technologies are a powerful tool to help them learn more and better, and thereby to transform their lives. Governments can make this happen.

It is very important for governments to understand the distinction between *assistive technologies* and truly *universally inclusive* technologies, and work together with people with disabilities to ensure that as much digital technology as possible is universally accessible. In the past, much emphasis has been placed on the value of assistive technologies, which can help people with a specific disability to overcome it. Text-to-speech technology, is one such assistive technology. Usually, assistive technologies are made commercially, and because of small market size they are expensive and have tended to be beyond the financial means of many people with disabilities, especially in the world's economically poorest countries. However, if all digital technologies were designed to be universally inclusive and accessible, then those with disabilities would not be further disadvantaged by having to pay additional costs for assistive technology.

There has been much progress in this area in recent years, with computer operating systems now having universal access features, and many more websites being designed in accordance with the W3C web accessibility guidelines, but there is still a long way to go. There will also always be the need for specialist assistive technologies to help with specific disabilities, although the use of open Source software can help reduce these costs. Optikey, for example, is an open source and forever free to end user solution which was created especially for people with motor and speech limitations to challenge the existing very expensive alternative and augmentative communication products on the market.

<sup>1</sup> Lead authors Akber Gardezi and Tim Unwin.

<sup>2</sup> WHO (2011) *World report on disability*, Geneva: WHO and World Bank, [https://apps.who.int/iris/bitstream/handle/10665/70670/WHO\\_NMH\\_VIP\\_11.01\\_eng.pdf;jsessionid=551B5757B82CA74E0040FF7BA062934F?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/70670/WHO_NMH_VIP_11.01_eng.pdf;jsessionid=551B5757B82CA74E0040FF7BA062934F?sequence=1); World Bank (2020) *Disability inclusion*, <https://www.worldbank.org/en/topic/disability>; The Education Commission (2016) *The learning generation: Investing in education for a changing world*, <https://report.educationcommission.org/>.

A further fundamental point that governments need to grasp is that there is also a powerful economic argument for investing in digital learning by people with disabilities. By ensuring that they have appropriate digital technologies for learning and can also use them in employment, governments can help to empower people with disabilities by enabling them to earn their own livelihoods, rather than having to rely on charity or state benefits. Instead of being seen as a drain on the economy, people with special abilities can become taxpayers, contributing thereby to the wider well-being of the societies of which they are a part, as well as to their own more fulfilled lives.

In essence, governments need to ensure that four things are in place to deliver the effective use of inclusive and assistive digital technologies in education:

- The technologies need to be appropriate to the needs of the learners with disabilities.
- Teachers and students need to be trained in the appropriate use of digital technologies by people with disabilities.
- These technologies need to be affordable, especially where the only available solution is an assistive technology.
- Local language content needs to be available in accessible formats.

## **Guidance**

The following are the most important practical action points for governments to take in ensuring appropriate and effective learning by people with disabilities through the use of digital technologies:

1. **Appropriate and effective policies and strategies should be in place to enable people with disabilities to learn and work using digital technologies, and where these already exist they need to be implemented enthusiastically.**
2. **A charismatic and effective digital inclusion champion should be appointed, to lead on all aspects of digital inclusion in the country, and especially within the education system.**
3. **Governments should use their procurement processes to insist on inclusive design when procuring ICT technologies, especially within the education system. They should encourage the private sector to do likewise.**
4. **Import duties and general sales taxes on assistive technologies should be waived in order to encourage the development of local private sector distributorships of these technologies.**
5. **Effective training programmes on digital inclusion should be introduced throughout the education system, and should especially be implemented in vocational qualifications programmes.<sup>3</sup>**
6. **All school districts should support learners with special needs by establishing digital accessibility centres, which can also be used as community resource and learning centres for people with disabilities.**

3 See for example, the Assistive Technology Foundation Course established in Qatar by the College of Education and Mada, <http://www.qu.edu.qa/education/centers/nced/programs/mada>.

## Examples

Examples of relevant initiatives to support digital inclusion and appropriate use of assistive technologies for learning include:

- Apple, Accessibility, <https://www.apple.com/accessibility/>.
- Mada — Digital Access for All, <https://mada.org.qa/>.
- Microsoft, Microsoft is committed to accessibility, <https://www.microsoft.com/en-us/accessibility>.
- New South Wales Government — Disability, learning and support, <https://education.nsw.gov.au/teaching-and-learning/disability-learning-and-support/resources/assistive-technology>.
- Optikey, <https://github.com/OptiKey/OptiKey/wiki>.
- UK Government (2018) Government announces tech fund to support disabled people and their employers, <https://www.gov.uk/government/news/government-https://www.microsoft.com/en-us/accessibility-tech-fund-to-support-disabled-people-and-their-employers>.
- UNESCO (2014) *Model policy for inclusive IOCTs in education for persons with disabilities*, Paris: UNESCO, <https://unesdoc.unesco.org/ark:/48223/pf0000227229>.
- W3C web design and applications: accessibility, <https://www.w3.org/WAI/redirect/2011/w3-sketch1.html>.

## Suggested further reading

- Eid, N. (2016) *Disability and bridging the digital divide: ICT accessibility and assistive technology for people of all abilities*, <http://www.ruhglobal.com/wp-content/uploads/2017/01/Nabil-Eid-from-Syria-Middle-East-ICT-accessibility-for-persons-with-disabilities.pdf>.
  - International Commission on Financing Global Education Opportunity (2016) *The learning generation: Investing in education for a changing world*, [https://report.educationcommission.org/wp-content/uploads/2016/09/Learning\\_Generation\\_Full\\_Report.pdf](https://report.educationcommission.org/wp-content/uploads/2016/09/Learning_Generation_Full_Report.pdf).
  - ITU (2014) *Model ICT accessibility policy report*, Geneva: ITU with the G3ICT (lead author Mandla Msimang), <https://www.itu.int/en/ITU-D/Digital-Inclusion/Persons-with-Disabilities/Documents/ICT%20Accessibility%20Policy%20Report.pdf>.
  - Mizunoya, S., Mitra, S. and Yamasaki, I. (2016) Towards inclusive education: The impact of disability on school attendance in developing countries, *Innocenti Working Paper No. 2016–03*, [https://papers.ssrn.com/sol3/Delivery.cfm/SSRN\\_ID2782430\\_code552378.pdf?abstractid=2782430&mirid=1](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID2782430_code552378.pdf?abstractid=2782430&mirid=1).
  - UNESCAP (2017) *Building disability-inclusive societies in Asia and the Pacific: Assessing progress of the Incheon Strategy*, Bangkok: UNESCAP, <https://www.unescap.org/sites/default/files/publications/SDD%20BDIS%20report%20A4%20v14-5-E.pdf>.
  - UNESCO (2016) *Digital empowerment: Access to information and knowledge using ICTs for persons with disabilities*, Paris: UNESCO, <https://unesdoc.unesco.org/ark:/48223/pf0000244543>.
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