

BUILDING BACK BETTER FOR ALL

WEBINAR: Technology-enabled inclusive education: Emerging practices from COVID-19 for learners with disabilities

15 June 2021

WEBINAR REPORT

Webinar recording link:

<https://www.youtube.com/watch?v=TibMPPTDZOk&t=21s>



INTRODUCTION

The COVID-19 pandemic is deepening pre-existing inequalities, disproportionately affecting persons with disabilities (UN, 2020). Even prior to widespread school closures, one billion persons with disabilities worldwide were less likely to access quality education, healthcare, or livelihoods, and were less likely to be included within a community. The pandemic has intensified these inequalities: persons with disabilities are at a greater risk of marginalisation and are more likely to experience the related socio-economic or health impacts¹. Any response to this crisis must, therefore, consider the pre-existing marginalisation and inequalities of persons with disabilities to ensure that they are not even further left behind.

As restrictions to prevent the spread of COVID-19 led to school closures in 191 countries, 85 per cent of the world's learners were forced out of school² (UNESCO, 2020). Teaching moved either online or

¹ As outlined in the UN policy brief *A Disability Inclusive Response to COVID-19*.

² See <https://en.unesco.org/covid19/educationresponse> for more information and data on school closures.

was broadcast through televisions or radio programmes: this ‘open and distance learning’³ (ODL) enabled education to continue for millions of students.

Access to ODL, however, is not universal. The pandemic has exposed significant levels of exclusion and inequality in this area, particularly for populations at risk ([ITU, 2020](#)). Almost one third of schoolchildren worldwide (463 million) cannot be reached by internet- or broadcast-based learning initiatives due to a lack of connectivity or access to technology ([UNICEF, 2020a](#)), with three quarters of these students living in the poorest households or in rural areas ([UNICEF, 2020b](#)). Learners with disabilities - 80 percent of whom live in developing countries and are more likely to live below the poverty line in all countries ([UN, 2018](#)) - are particularly at risk; those at the intersection of disability, poverty and remoteness are even more so ([Dube, 2020](#)). In short, learners with disabilities, above all those in poor and/or remote areas, are being left behind; stranded on the wrong side of the digital divide.

- Existing inequalities in education have been intensified by the pandemic
- Learners with disabilities are less likely to be able to access ODL
- These students are being left behind: more must be done to ensure that ODL is inclusive and accessible for all
- Technology is key for ensuring continued education during school closures (and beyond), but it must be designed and delivered so as to include all learners

THE WEBINAR



Funded by the [United Nations Partnership on the Rights of Persons with Disabilities](#) (UNPRPD), this webinar was hosted on Zoom by UNESCO’s [International Institute for Educational Planning](#) (UNESCO-IIEP) and [Institute for Information Technologies in Education](#) (UNESCO-IITE).

The main focus for the webinar was technology and access to learning opportunities for learners with disabilities during COVID-19, and beyond. The primary objective was to present key findings and recommendations related to the implementation of technology-enabled ODL initiatives in order to explore ways to enhance future initiatives. The webinar presented technology-enabled ODL case studies and technology assessments from Bangladesh (case study), Rwanda (assessment), and Mauritius (case study and assessment). Following these presentations, panellists answered key questions and discussed lessons learned during the pandemic, along with their recommendations for future programmes. A recording of this webinar can be found [here](#).

The webinar was aimed at Ministry of Education staff; Ministry of ICT staff; non-governmental organizations (NGOs); Disability People’s organizations (DPOs); development partners; and UN country teams. The high number of participants from around the globe that registered for this event demonstrates a recognition for the fact that education systems must do more to support learners with

³ ODL is a broad term that embraces online learning, e-learning, distance education, correspondence education, external studies, flexible learning, and the massive open online courses (MOOCs) movement. As defined by UNESCO (who draw from Spector, 2009), ODL is learning that incorporates: teacher-learner separation by space and time (or both); two-way communication and group communication (network); the use of media and technology; more personalised educational experience.

disabilities, particularly in regard to ODL: in total, 314 attendees from 91 countries participated in the webinar.



PRESENTATIONS

After introductions were made by **Ms Jennifer Pye** (of UNESCO-IIEP) and **Ms Natalia Amelina** (of UNESCO-IIET), **Mr Ken Chua**, Director of [\(these\)abilities](#), gave a keynote presentation that explored the key principles of [universal design for learning](#) (UDL). In his talk, Mr Chua commented on how more must be done to adapt its seven key principles to craft ‘guideposts’ for “Building Back Better: More Inclusive Education Affordances in a Covid-era and Beyond”. These guideposts were described as equitable education; flexibility in teaching and the ease of new learning environments; simple and intuitive tools with low-to-gentle learning curves; perceptible classroom material; and tolerance for crises.

Presentations on case studies/rapid assessments were then given by the consultants that conducted the research. **Mr Sergey Pankin**, adviser to the Director-General of the International Research Institute for Advanced Systems in the Russian Federation, presented on a rapid assessment conducted in Rwanda and Mauritius. Mr Pankin discussed barriers for students and teachers that included: a lack of tools for remote education; the high cost of internet data; a lack of digital skills in schools and at home; insufficient training opportunities for teachers; a gap between rural and urban areas; and insufficient leadership and management strategies. For students, he highlighted particular issues such as low engagement in virtual learning, the difficulties in accessing ODL, and the lack of alternative learning materials.

As general recommendations based on the study, Mr Pankin highlighted the need for enhanced technology infrastructure and connectivity, and the need to develop teacher competencies in technology and ODL solutions, focusing on more flexible and personalized approaches to learning.

The full report can be found [here](#).

Ms Anuradah Gungadeen, Senior Lecturer in Open and Distance Learning, Mauritius Institute of Education, presented on a case study carried out in Mauritius. Ms Gungadeen emphasised the need for cost-effective, accessible, affordable, and scalable technologies. In this context, she also addressed the issue of collective intelligence and scalable actions that can be structured on pre-existing technologies and experiences, noting that stakeholder focus should be on translating policies into action - a process that must be monitored and evaluated.

The full Mauritius case study can be found [here](#).

Mr Vashkar Bhattacharjee, National Consultant for Accessibility in the [Aspire to Innovate](#) (a2i) Programme, Government of Bangladesh, presented on a case study of Bangladesh. In his presentation, Mr Bhattacharjee focused on the issue of accessible print materials and how the government of Bangladesh, through its multi-model virtual educational approach, has been addressing this issue with its [Accessible Reading Materials](#) (ARM) initiative. He highlighted some of the advantages, such as the online distribution of digital books. He also stressed the importance of launching a national online accessible books platform, and an accessible Android application. At the policy level, he stressed the need for Bangladesh to urgently ratify the [Marrakesh Treaty](#) to facilitate access to published works for persons who are blind, visually impaired, or otherwise print disabled.

The full Bangladesh case study, that includes additional examples of technology-enabled ODL, can be found [here](#).

DISCUSSION



Following the presentations, a selection of panellists answered key questions on ODL issues. Three questions, drawn from a background paper by Dr Sobhi Tawil, Director of Future of Learning and Innovation, UNESCO ([Six months into a crisis: Reflections on international efforts to harness technology to maintain the continuity of learning, 2020](#)), focussed on the measuring of ODL initiatives, the human dimension of ODL, and how ODL can be optimised to deliver a well-rounded education.

Mr Anir Chowdhury, Policy Advisor of the a2i Programme of the ICT Division and the Cabinet Division of the Government of Bangladesh supported by the UNDP, was asked the first question: *Measuring the impact of technology enabled distance learning is vital to enhance practice and to plan for future initiatives. How can the impact of programmes such as the Accessible Reading Materials Initiative best be measured?*

In response to this question, Mr Chowdhury noted current challenges such as a lack of understanding of disability issues by policy makers, a lack of appropriate design for ODL, and issues around communication; on this last point he spoke about how learners with disabilities still fall under the remit of the Ministry of Social Welfare, rather than the Ministry of Education, and how this inhibited communication.

In terms of the need to effectively measure ODL initiatives, Mr Chowdhury affirmed the importance of quality data: he explained that there are 1.8 million people with disability in Bangladesh, but disability data is not disaggregated in any way. It was suggested that a national database on disability, contributed to by all

How can the impact of ODL programmes best be measured?

- **A national disability database is required**
- **Metrics and goals can help plan and deliver future programmes**

stakeholders, needs to be launched by the government. Metrics, such as the number of students with a disability attending mainstream school and levels of appropriate design of ODL solutions, along with corresponding goals, can help. Mr Chowdhury stated that: “the studies presented in the webinar have given us a glimpse of this, but it must be done on a continuous basis.” The creation of a social safety net that is in place to support learners with disabilities with access to ODL was described by Mr Chowdhury as a necessary and disruptive innovation.

Mr Enock Niyibizi, Director of [TUBITEHO Day Care Centre](#) in Kigali, Rwanda was asked the second question: *The human dimensions of distance learning are often underestimated; however, they are even more crucial when it comes to learners with disabilities: What role do you see for technology-enabled distance learning solutions for learners with disabilities (both digital and non-digital) in the post-COVID era in Rwanda and how can different stakeholders including organizations of persons with disabilities play an active role in supporting this agenda in Rwanda?*

The human dimension of ODL:

- **Parents play a key role in ODL; they must be supported by schools**
- **Content must be accessible to help both students and those that support them**
- **ICT as part of the curriculum can help to enhance skills needed for ODL**

Mr Niyibizi described the contribution of parents as a crucial component to learning and an important ‘human dimension’ of ODL. In Rwanda, parents were seen to play an important role during school closures. Mr Niyibizi also stated that it is essential to focus on the content delivered through ODL: content and curricula must be accessible to all learners, along with parents/carers so that they can offer support. Mr Niyibizi suggested that ICT skills must make up a greater part of the school curriculum to enhance technology skills.

Ms Sharmila Sobee, Head of specialized schools, Ministry of Education, Tertiary Education, Science and Technology, Government of Mauritius, answered the third question: *A child’s education must be well-rounded, encompassing more than just curriculum study. Social, civic and emotional learning are all important factors. How can technology-enabled distance learning help to facilitate the delivery of a well-rounded education, particularly for students with disabilities?*

Ms Sobee spoke briefly about how Ministry staff are collaborating with educators to deliver ODL to learners with disabilities in Mauritius. This has mainly taken the form of online learning, with platforms such as MS Teams and WhatsApp being used. She noted that these platforms have been useful in terms of learner engagement and group learning, but many could not participate due to lack of access; she noted that in cases where students did not have access to the internet, paper worksheets (including Braille) were physically distributed. In both digital and non-digital ODL solutions, the support of parents was seen as an enabling factor.

Online video conferencing over WhatsApp and regular phone calls were used by psychologists to connect with students who were isolated from their peers, and therapy sessions were offered online and were broadcast on television. These initiatives were put in

Technology-enabled distance learning and peer-peer engagement:

- **Live video lessons on MS Teams or WhatsApp were beneficial in terms of peer-peer engagement, although some users faced access issues**
- **Carers, therapists, and psychologists were able to connect with students on WhatsApp or with regular mobile phones**

place after the first lockdown; it was noted then that many children, particularly those with disabilities, returned to school showing signs of anxiety.

Mr Moses Serwadda, Programme Coordinator at [Uganda Federation of the Hard of Hearing](#) (UFHOH), gave the closing presentation, speaking from the perspective of an organisation of persons with disabilities. Mr Serwadda structured his talk around key lessons that had been learned during the pandemic that both summarised and complemented the earlier presentations. These lessons, including the importance of consultation with learners and DPOs; the necessity of accessible content and assessments; the earmarking of specific budgets to support learners with disabilities and their families; the role of parents and carers and how they must be supported; and the capacity building of teachers and support staff have fed into the ‘key steps’ presented in the final section of this report.



THE WAY FORWARD

One thing that almost all education systems have in common is the fact that they have been rapidly forced into the uncharted waters of technology-enabled ODL by the COVID-19 pandemic. Governments and educators have, in many cases, relied on often untested technologies when responding to the education crisis ([Teräs, 2020](#)); the case of Bangladesh and the ARM initiative is a rare exception to this, as is radio or television learning.

Due to the rapidly developing nature of the education crisis, ‘good practice’ in ODL is difficult to identify; the term ‘emerging practices’ is perhaps more appropriate. The emerging practices described in this webinar, along with those from other programmes, can be used to guide the development and implementation of inclusive digital technologies (IDT) - an umbrella term used to describe various assistive technologies/resources to support pupils with additional learning needs. If IDTs are designed and used effectively, they have the potential to drastically enhance the educational chances of learners with disabilities and can help to build more inclusive education systems.

Important considerations for the development and delivery of inclusive digital technologies

The best technology is the one already in use.

Students with disabilities can often struggle to access new and untested technology ([Shaheen and Watulak, 2019](#)): it is often more effective to use, and build on, what is readily available. In many places, particularly remote areas, the technologies most available to many are radios, televisions, or mobile phones. Implementers of inclusive ODL solutions and IDTs can take advantage of both the ubiquity of these devices and the sustainability that they offer ([Madhushree, Bhuvana and Aithal, 2020](#)).

The urgent shift to digital technologies has excluded learners with access issues (both in terms of educational needs and affordability); this shift is accompanied by rapid technological transformations that are increasingly effecting education systems. While technology develops, however, half of the people in the world are still not connected to the internet, the majority of whom live in developing countries (just 15 per cent of people in least developed countries are connected [[ITU, 2018](#)]). Even in wealthier nations, a digital divide is present. In the EU, for example, a quarter of low-income households have no access to computers or to broadband internet ([Digital Education Action Plan, 2021](#)). With the pandemic widening this digital divide, it is essential to develop and scale-up IDTs that are built on technology that is already accessible to the hardest to reach and most vulnerable learners.

Technology is just a tool to deliver content

For many, assistive technologies can mean the difference between educational access and exclusion. Many functionalities, previously performed by separate devices, are now being mainstreamed thanks to increasingly powerful devices and advancements in artificial intelligence (AI). Examples of recent developments include the description of images for visually impaired learners and sign language recognition (or creation) for deaf students ([The Alan Turing Institute, 2021](#)). Experts and policy makers, working closely with DPOs, can help to address the “unmet need of assistive products crucial to achieve the Sustainable Development Goals [...] and to implement the UN Convention on the Rights of Persons with Disabilities” ([WHO, 2018](#)).

However, the most accessible and far-reaching technology can be ineffectual if the content that it is being used to deliver is poorly designed or inaccessible. When designing and implementing IDTs, accessible curricula and content development must be at the top of the agenda and must be designed to be inclusive of all learners ([OECD, 2016](#)). Learners and DPOs can contribute to the discussions surrounding more accessible curricula; more formative assessments can also benefit some learners.

Key steps that can be taken to enhance inclusive digital technologies and their use

The following key steps have been adapted from documents such as the [United Nations policy brief on a disability-inclusive response to COVID-19 \(2020\)](#) and the [Convention on the Rights of Persons with Disabilities](#), other bodies of literature, and the research conducted for this webinar. They should not be seen as prescriptive; every region has a diverse range of contexts to consider. They can, however, be used as a guide for governments, development partners, and school leadership teams to use when designing and implementing IDTs and future programmes.

Government level

- **Meaningful consultation must take place between policy/decision makers and members of vulnerable groups, such as DPOs, in all stages of the IDT design and implementation.** Many persons with disabilities have experience of alternative working arrangements and can contribute to the development of IDTs and their implementation. A ministerial task force or steering committee can be helpful in setting up links with relevant organisations.
- **Accountability mechanisms must be established to ensure the provision of necessary funding.** Governments can support schools and learners by budgeting for the provision of assistive technologies, along with their maintenance and insurance; however, all stakeholders must have mechanisms in place to monitor investment and spending to ensure that funding reaches its target. Disaggregating data by disability can help in this respect.
- **Effective measurement of initiatives is crucial to guide future planning.** Disaggregated data on disability and access to ODL is essential: a national database that all key stakeholders contribute to can promote this. Measurement of the impact of current ODL programmes and IDTs is required to plan for future initiatives: metrics, such as **reach, engagement, and outcomes** ([USAID, 2021](#)), and goals set in consultation with all stakeholders, can provide guidance and structure.
- **Technology and content must be made accessible to all learners.** Students with disabilities, particularly those living in hard-to-reach areas, must be considered early in the design process. ‘Scaling up’ initiatives aimed at the most marginalised learners is more effective than ‘scaling down’ initiatives designed for the majority ([Trucano, 2013](#)): the principles of UDL can help to guide this process. The funding of research and development in the area of ITDs – particularly in [open and educational resources](#) and [free and open-source software](#) – can improve access.

School/community level

- **Regular pre-and in-service training must be provided to teachers and support staff.** Heads of schools play a key role in facilitating the professional development of teaching staff in ODL and IDTs. Roundtables or Ministry-led training can help to encourage this: Ministry staff are well placed to reach out to heads of schools and to encourage professional development. Heads of schools are also well positioned to lead training on data protection and privacy.
- **Parents and carers must be supported by schools so that they, in turn, can support the children in their care.** A lack of skills, or a lack of access to technology/connectivity, has meant that caregivers and parents have often been unable to support their children during school closures. Schools are well positioned to reach out to parents and carers (particularly those that care for a child with a disability) and offer training and support (financial or otherwise).
- **School finance departments can support IDT implementation.** Specific funding can be earmarked for the implementation and maintenance of IDTs, or to directly support families with children with disabilities. This must come with accountability mechanisms and effective measurement systems devised by heads of schools in consultation with stakeholders.
- **Heads of schools are well placed to ensure that content is inclusive of all learners.** School leadership teams can consult with learners, DPOs, and other stakeholders to ensure that curricula assessments inclusive and accessible to all students. Heads of schools can encourage teachers to adopt [project-based learning](#) techniques and measure progress through [formative assessments](#).



IMPORTANT DOCUMENTS AND FURTHER READING

[Information on disability inclusion and COVID-19 \(UNPRPD, 2020\)](#)

[ITU Guidelines on how to ensure that digital information, services, and products are accessible by all people, including Persons with Disabilities during COVID-19 \(ITU, 2020\)](#)

[Learning for All: guidelines on the inclusion of learners with disabilities in open and distance learning \(UNESCO, 2016- Link to updated version to follow\)](#)

[Pivoting to Inclusion: Leveraging Lessons from the COVID-19 Crisis for Learners with Disabilities \(World Bank, 2020\)](#)

[Six months into a crisis: Reflections on international efforts to harness technology to maintain the continuity of learning \(Background paper for Mobile Learning Week, Tawil/UNESCO, 2020\)](#)

[The need for increased digital accessibility during COVID-19 - and beyond \(ITU, 2020\)](#)

[Understanding the impact of COVID-19 on education of persons with disabilities: Challenges and opportunities of distance education \(Link to follow\)](#)



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