**Education for children with disabilities; innovation; digital skills**

**“Accessible digital textbooks for children in Kenya”**

**Problem:**

In Kenya, a significant number of children with disabilities do not attend school, and those who do are generally in separate classes in special schools or special units attached to mainstream schools. One major barrier is a lack of learning materials tailored to their needs. For example, schools do not have books with audio narration for children who are blind or low vision or sign language options for children who are deaf or hard of hearing. Nor do schools have books with simplified text for children with intellectual and/or learning disabilities.

**Promising solution:**

To promote equal opportunities for learning among all children, UNICEF, in partnership with the Ministry of Education, local technology partner, eKitabu, and Kenya Institute of Curriculum Development (KICD) have piloted the development of an accessible digital textbook using the principles of Universal Design for Learning.
What is an accessible digital textbook based on universal design for learning?

This is a digital book with various options that allow students to choose how they want to learn. These may include audio narration, sign language video, and simplified text. They aim to remove barriers for children with disabilities but may also benefit any student as they broaden the ways children can tailor educational resources to their specific learning needs and preferences.

As one stakeholder in Kenya put it: “Imagine a book with choices so the visually impaired can read through audio, and the deaf can read it with a sign language video.”¹ With simplified text and hints, children with learning or intellectual disabilities can also read it. A sample page with these features is set out below and in a brief video highlighting the reaction of children, teachers and school directors.

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### Inclusive education and disability in Kenya: Accessible Digital Textbook Project

#### Details on the Kenya pilot project textbook

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<th>Features:</th>
<th>Experience so far:</th>
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<tr>
<td>- Simplified text and glossary for complex terms to support learning for all</td>
<td>- Need to create awareness for Universal Design for learning instead of segregated learning categories with stakeholders (MoE, content adapters/approvers)</td>
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<td>- Instructions for all learners, following Universal Design</td>
<td>- Innovative process with many technology elements requires technical capacity</td>
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<td>- Kenya Sign Language video for children with hearing impairment</td>
<td>- Following innovation principles requires user-testing and iterating as well as stakeholder participation – results in longer timelines</td>
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<td>- Audio output and text size scalable for children with visual impairment</td>
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The journey to an accessible digital textbook in Kenya

With seed funding totaling approximately US $200,000 from UNICEF’s Innovation Fund, the UN Partnership on the Rights of Persons with Disabilities, the Finnish National Committee and Nokia, UNICEF Kenya support enabled the Ministry of Education and Science and KICD to lead the collaboration with eKitabu to develop an accessible digital textbook for first graders on environmental activities. In 2018, the pilot began with three

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¹ Robert Nkwandu, National Union of Disabled Persons, Uganda shown in UNICEF Easter and Southern Regional Office, Accessible Digital Textbook Initiative video, online:  [https://www.youtube.com/watch?v=7uV1IRyffrs](https://www.youtube.com/watch?v=7uV1IRyffrs) (1:04).
versions of the textbook: one with audio, one with a sign language video, and one with simplified language and hints. The next step was to develop and pilot test a chapter of the textbook as a single UDL version that consolidated all these features. In the second quarter of 2020, the full UDL textbook is expected to be finished. This initial funding also covered the pilot testing in 25 schools, involving 130 students with disabilities and 30 teachers, and linked more broadly with UNICEF advocacy efforts, which contributed to national policy that lays the groundwork for inclusive education. The power of assistive technology for learners was specifically noted by the Kenyan President Uhuru Kenyatta during the launch of the policy as was the transformative potential of education as “the greatest equalizer”.

Preliminary lessons learnt and next steps

Although the digital textbook has yet to be distributed officially to primary schools, the pilot has been critical to ensuring that feedback from learners with and without disabilities informed the development of this resource. It also provided an opportunity for KICD to take a leadership role in developing inclusive textbooks fully aligned to the governing competency-based curriculum.

Next steps within Kenya are to support training of relevant stakeholders, including teachers. This will enable further feedback to strengthen digital textbooks moving forward and also will teachers to be able to use the digital textbooks effectively in the classroom. Once national scale-up occurs, the digital textbook will be distributed to all primary schools in the country, including those in Arid, Semi-Arid, and informal urban settlements. Further engagement with the Ministry of Education, KICD, publishers and eKitabu on how to make more digital textbooks available is planned. As well, further evidence will be gathered on cost as well as the impact on learning for learners with and without disabilities.

More broadly, UNICEF Kenya will share its experiences with digital textbooks with others who are also piloting accessible digital textbooks: Rwanda, Uganda, Nicaragua, Paraguay, and Uruguay. For more information on UNICEF’s global initiative on Accessible Textbooks for All.

Cost effectiveness: The initial investment for the accessible digital textbook project in Kenya was approximately US $200,000 from May 2018 to June 2021. It covered development of a first accessible digital textbook, pilot testing, and will be used in 2020 for training and gathering more evidence regarding cost and learning outcomes.
The successful pilot of an accessible digital textbook in Kenya evidences UNICEF’s ongoing efforts to ensure that “Every Child Learns”.

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