Early childhood education for children with disabilities; system strengthening and innovation; – Harnessing technology to promote communication, education and social inclusion for young children with developmental delays and disabilities in Croatia, Montenegro, and Serbia.

Every child has the right to learn – In the case of Croatia, Montenegro and Serbia, affordable Assistive Technology for Augmentative and Alternative Communication (AAC) is being introduced to support young children with complex communication needs who may otherwise may be left out of early childhood education services. This innovation promotes interaction and helps vulnerable children to develop language, steering them towards an education and active social life right from the early years.

Problem

Many young children with communication-related disabilities are not identified or referred for necessary attention in a timely fashion, resulting in their exclusion from critical early learning opportunities. This is due to a lack of: 1) capacity among professionals to identify developmental delays early on; 2) familiarity with using assistive technology with young children; and 3) access to affordable and appropriate assistive technological solutions that can be operated in local languages.

Initiative

In Croatia, Montenegro, and Serbia, preschool teachers, speech and language therapists, psychologists, and special educators are being trained to identify and support young children with speech, language, and communication-related difficulties who could benefit from assistive technology. An open license AAC tablet-based communicator – Cboard, which has been customized for languages in the pilot countries – is being tested for effectiveness. UNICEF’s Innovation Fund supported the development of Cboard to improve the availability of affordable AAC solutions that can be scaled up sustainably.
Innovation to improve access to early childhood education for all children

Assistive technology for AAC supports children to communicate within their environment, to learn and function independently and improve developmental outcomes. In the medium- to long-term, this leads to educational inclusion, participation and community involvement. UNICEF’s Regional Office in Europe and Central Asia and country offices in Croatia, Montenegro and Serbia, in partnership with the UNICEF Office of Innovation, are leading the initiative to pilot the use of this innovative approach to support universal access to early childhood education.

Key partners include private sector developers of assistive technology and related communities. In addition, international experts and universities have worked with national counterparts to develop a blended training package for professionals working with young children who have communication-related disabilities.

Partnerships with government stakeholders aim to make this assistive technology available for more children in need. Associations of children and parents and organizations for persons with disabilities are key to design, promote, and use these tools.

Overall, there are about 12,000 children ages 0-6 years in Croatia, Montenegro and Serbia in need of AAC solutions. In the Europe and Central Asia region, approximately 840,000 could potentially benefit. Although the initial pilot will focus on 125 children, the Cboard app is open source, meaning that it can be used for free to reach many more children in the future. In low-tech settings, the open source pictographic symbol set could also be printed to support communication work with children using paper-based resources.

840,000 children below 6 years of age in Europe and Central Asia could benefit from affordable, widely available AAC solutions.
Preparations

The following are initial inputs of the pilot project:

1. Open source pictographic symbol sets used for communication have been customized for Croatia, Montenegro and Serbia and are available for any user or developer. The web platform and on-line course on pictographic symbols have been developed to allow for other countries to customize the symbols to their needs.

2. An open source on-line training package has been developed for early childhood education specialists to enhance their professional skills in supporting children with communication difficulties by using assistive technology. It is now available in three languages: English, Croatian and Serbian.

3. The blended (online and face-to-face) training reached 70 professionals who will start using the new approach with children from November 2019 to April 2020.

Next steps

The recently trained professionals will begin using the Cboard communicator with children. Its use and effectiveness with children with complex communication needs will be monitored and analysed to inform scale up.

The use of Cboard will be monitored through two types of real time data collection. The first measures how Cboard affects child wellbeing, and the second measures different technical parameters, frequency of use and the different features of the app.

Final data will be available in 6 months and will inform scale up of this approach to other countries and regions. These data will be triangulated and complemented with feedback from early childhood professionals brought together in focus groups.

Cost effectiveness

An initial investment of US$350,000 over 12 months is intended to pilot this assistive technology in three countries. These funds have enabled the development of free, open source communication symbol sets, training, and the development of the Cboard app which can be adapted and used by any country in the future.

In the Europe and Central Asia region, 840,000 young children could benefit from AAC solutions once they are widely available. Globally, countless more could be served after the innovation is expanded. This pilot highlights the flexibility and scalability of solutions that can help to ensure that “Every Child Learns,” starting from the very beginning of their learning journey.

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