



BULGARIA

Every Child Learns

UNICEF Education Strategy 2019–2030

Learning; primary education; innovation

“Learning can be fun and easy” – development and testing of online diagnostic screening and tutoring to improve learning among marginalised children in Bulgaria

Problem: In recent years, barriers such as poverty, disability, social exclusion and discrimination have increasingly undermined children’s access to a quality education in Bulgaria. Over 150,000 children ages 5 to 16 are out of school. Every year, around 15,000 children drop out from primary and lower-secondary education. Even those that are in school are not necessarily learning as they should. The 2019 round of OECD’s **Programme for International Student Assessment (PISA)** showed that over 50 per cent of 15-year-olds were functionally illiterate. According to the National Institute of Statistics, only 40 per cent of Roma adolescents are enrolled in upper secondary education, compared to 83 per cent of non-Roma adolescents. The data also shows that 78 per cent of young people with disabilities aged 15 to 24 are not in employment, education, or training.

Promising solution: In partnership with the Ministry of Education and Science, UNICEF and a business partner with an educational [tutoring website \(ucha.se\)](https://ucha.se)¹ co-created and pilot tested online diagnostic screening for core subjects from Grades 1 to 8 and tutoring resources for Grades 1 to 4 to round out the resources available for the early grades. The diagnostic screening identifies learning gaps and generates a personalized learning programme that links to the online tutoring resources. These include engaging video lessons involving well-known public figures, which allow progress to be tracked as the child advances. The idea is to provide a fun, self-paced way for children and adolescents who are lagging behind their peers to catch up.

¹ Ucha.se means “I am learning” in Bulgarian.

Online individualized learning

The 'Learning can be fun and easy' initiative is an example of an online technology-based individualized learning programme that can help support children and adolescents' learning needs in a sustainable way. The model co-created by UNICEF has the following key elements:

- an [online education platform](#) to enable interactive, self-paced learning opportunities;
- a **diagnostic tool** comprised of several tests to assess children's education level and identify specific learning gaps. It does so with questions that probe four different levels of difficulty. The tool is in line with the state educational requirements on knowledge, skills and attitudes expected of each student in a given grade and include pictures as well as audio files for children with poor command of the written Bulgarian language.
- **individualized learning programmes** that are automatically generated from the results of the previous diagnostic screening. The learning programmes are presented to the child as an interactive game, and each includes a **set of suggested video lessons and exercises on the educational website**, structured by grade and subject. They are designed to be engaging for children with appealing visuals and narration often by famous people well known to the child. Progress reports track individual student progress.

Preliminary results, lessons learnt and next steps

With a seed investment of US \$75,000 over the period 2015 to 2018, UNICEF Bulgaria identified a business partner with a suitable educational website and co-developed online diagnostic screening (Grades 1 to 8) and interactive tutoring content (Grades 1 to 4) so that the online platform covered all core subjects throughout the primary grades. It also supported two rounds of pilot testing focusing on results in reading and math to validate the model.

In 2016, the first round of pilot testing was carried out among 100 students in Grades 1 to 4 in seven schools in the districts of Sofia City, Shumen and Sliven. Within a month of using the platform, students showed an 18 per cent improvement in reading scores (from 56 points to 66 points) and a 36 per cent improvement in mathematics scores (from 58 points to 79 points).

The second round was held in 2017 with 200 Grade 5 to 8 students in 15 schools with higher than average dropout rates. The results were similarly encouraging. On average, student scores improved 21 per cent in reading (from 38 points to 46 points) and 41 per cent in mathematics (from 44 to 62 points) within a one month period.

Student learning achievement results from pilot testing

In the 2016 pilot testing, children showed an average:

18%
increase
in reading scores

36%
increase
in mathematics scores

In the 2017-2018 pilot testing, children showed an average:

21%
increase
in reading scores

41%
increase
in mathematics scores

The approach has effectively been scaled up. Following the pilot testing, UNICEF's business partner has expanded the online diagnostic testing tool to all grades from 1 through 12. As well, since 2017, a national programme led by the Ministry of Education and Science has provided funding for technology-based catch up programmes. The ucha.se platform is one of the options available to public primary and lower secondary schools. Approximately, 1,200 public schools or two-thirds of the total used the funding to cover the annual subscription fees (an individual subscription costs US \$80 per child) to enable children and adolescents access free of charge. In 2018 and 2019, a total of 119,517 children and adolescents (67,299 girls or 56 per cent) in Grades 1 to 12 have increased their knowledge through the catch up opportunity provided through the online resources co-created by ucha.se and UNICEF. Of these, 104,173 are children in primary education, 14,828 are adolescents in lower secondary education, and 516 are in upper secondary.

Challenges/lesson learnt:

- **Co-creation with business:** Co-creation of the model with a highly motivated business partner was a key to success and longer-term sustainability.
- **Not yet available to all children:** All of the diagnostic screening on the website is free. However, the platform charges a subscription fee for the individual learning programmes; that is, the online tutoring resources. Only students in public schools who have applied for funding through the Ministry of Education and Science have access free of charge.
- **Self-learning is not the best solution for every child:** The pilot testing showed that children with very significant knowledge gaps (over 50 per cent) needed more intensive support. In such cases, in-person tutoring with an adult or peer would likely be required.

Next steps:

UNICEF is in early discussions to explore how to make the platform more accessible to children with disabilities.

Cost effectiveness

UNICEF made a seed investment of US \$75,000 over four years from 2015 to 2018, which covered the development and testing of the first 50 diagnostic tests for the core subjects in Grades 1 to 8 and the development of interactive videos and exercises for Grades 1 to 4. Since scale up, the online platform has provided a catch-up opportunity for over 119,500 students.

The innovative 'Learning can be fun and easy' model in Bulgaria highlights the potential of harnessing an online educational platform and resources to provide self-paced, tailored learning opportunities so that **"Every Child Learns"**.

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February 2020

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