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Researchers join hands to bridge gaps in digital education across Europe

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Across Europe, researchers and industry are making digital education better, smarter and more accessible. By building strong partnerships and sharing knowledge, they are helping shape a future where everyone benefits from high-quality online learning.

Children in Serbia may soon be learning basic literacy and maths with the help of a friendly virtual alpaca called Alpa, thanks to EU-funded research that is improving access to first-rate educational technology across Europe.

Alpa is a key, albeit non-human, member of the team at ALPA Kids, an education technology company based in Estonia that offers native-language educational games for children aged three to eight through an interactive app.

Multilingual access

“Europe is such a multilingual, multicultural region that it’s very important that all children have the opportunity to learn in their native language,” said Estonian entrepreneur and linguist Kelly Lilles, the co-founder and CEO of ALPA.

Lilles’ journey with ALPA Kids began when she and her family moved to Spain and struggled to find educational content in Estonian for their children.

This experience highlighted the scarcity of native-language

digital resources for children, prompting her to develop solutions that cater to linguistic diversity.

This led to the app, which was created in 2020. It teaches basic skills like alphabet, vocabulary, numeracy, logic and cognitive skills. Although it first appeared in Estonian, the app now has versions in half a dozen languages, including English.

Since 2023, the company has benefitted from collaboration with researchers from the Universidad Rey Juan Carlos in Spain and the Faculty of Technical Sciences at the University of Novi Sad in Serbia, as part of an EU-funded initiative called EdTech Talents.

This four-year research and development effort brings together researchers and companies from six EU countries, coordinated by Tallinn University in Estonia. For ALPA Kids, it provides an opportunity to test the app's English-language version as a means for learning a second language.

"This collaboration is helping us to provide research-based solutions," said Lilles. "It is a wonderful opportunity to have international researchers on your doorstep to bounce ideas off."

Digital education in focus

Digital education is more than just a buzzword – it is one of Europe's top priorities for building a future-ready society. From improving access to learning for students in remote areas, to equipping people of all ages with essential digital skills, educational technology is transforming how we teach, learn and grow.

To make this transformation truly inclusive, the EU is driving forward a shared vision through its Digital Education Action Plan for 2021-2027. The goal is to ensure that every learner in Europe benefits from high-quality, accessible digital education supported by modern infrastructure, engaging tools and digitally skilled teachers.

EU-funded initiatives like EdTech Talents are helping build stronger innovation ecosystems in Europe's less research-intensive regions.

At the heart of this effort is the Widening Initiative, launched in 2014 to boost collaboration and rebalance research and innovation disparities across the continent. Today, 24 countries, including Estonia, Hungary and Serbia, are designated as

widening countries.

Industry experience

The EdTech research team aims to create new opportunities for educational technology companies like ALPA Kids in Estonia, Hungary and Serbia.

Their strategy is to build links between business and academia in those countries and establish exchanges with more experienced researchers and tech companies in Austria, Germany and Spain.

Dr Janika Leoste, an Estonian educator and researcher with a string of awards for her work in science, education and business, is coordinating the initiative.

Leoste is an associate professor of educational robotics at Tallinn University and an assistant professor at Tallinn University of Technology. Her research centres on integrating robotics into teaching, hybrid and blended learning, and fostering educational innovation.

“In Estonia, like in other widening countries, we were used to doing research in a closed ecosystem,” she said.

A key feature of the initiative is the opportunity for early-career researchers to complete three-month secondments at companies in Austria, Germany and Spain to gain hands-on industry experience.

Researchers from universities in Austria, Germany and Spain in turn provide consultancy services for educational technology businesses in Estonia, Hungary and Serbia to help them improve their business models and become more competitive.

Every researcher taking part in the project has the goal of offering up a so-called employable prototype, said Leoste.

The objective is not necessarily to produce a market-ready product, explained Leoste, but to develop the know-how that will support the development of educational technology products, ultimately benefitting society as well.

“We hope this experience will show researchers here that they need to collaborate with industry, like more advanced countries do,” she said.

Usability first

As part of the joint efforts, the app is currently being evaluated through the Usability Platform Test developed by Dr Slavko Rakić, a Serbian member of the EdTech Talents team and assistant professor of industrial engineering and management at the Faculty of Technical Sciences, the University of Novi Sad.

Rakić's Usability Platform Test aims to assist technology companies in assessing and improving their products, focusing on the technological, pedagogical and socio-cultural dimension.

By using surveys and visual tools to display data such as radar charts, the platform provides actionable insights to improve user experience and adapt products for different educational contexts. The goal is to understand how well the app is likely to be received by potential users.

Once the testing in Serbia is complete, EdTech Talents and ALPA Kids plan to publish articles detailing their findings, though Lilles says the benefits of participation are already clear.

Mobile talent

International exchanges like those supported through EdTech are vital, said Rakić, especially since early-career researchers often find it hard to gain industry experience while juggling academic duties.

"The main goal of the EdTech Talents project is to boost knowledge-sharing for researchers in widening countries," he explained.

Part of the EU's ERA Talents programme, the project helps to bridge the gap between academia and industry by encouraging cross-sector collaboration and talent mobility across Europe. For Leoste, opening the door to more international and industry partnerships is key to advancing digital education across the continent.

And there is a broader benefit too. By building the digital and entrepreneurial skills of researchers and support staff, EdTech Talents is also helping bring to life the EU's vision of a Union of Skills, where Europeans continuously advance their

competences and training.

“Education is the basis of everything for our future generations,” Lilles said.

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More info

EdTech Talents

EdTech Talents project website

EU Digital Education Action Plan

ERA Talents

European Skills Agenda

Union of Skills

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