The future of hybrid learning: Insights from Uruguay and Estonia

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Abstract: Hybrid learning models in Uruguay and Estonia highlight the importance of teacher training, robust digital infrastructure, and inclusive policies for enhancing digital education, offering valuable insights for other countries to ensure equitable and inclusive quality education during emergencies.

The COVID-19 pandemic has necessitated a rapid adaptation of educational systems worldwide, with hybrid learning models emerging as a promising approach. Hybrid learning has been effectively implemented in Uruguay and Estonia, providing valuable lessons for other countries aiming to improve their digital education systems. These models contribute to the progressive realisation of the right to equitable and inclusive quality education as enshrined in Article 13 the International Covenant on Economic, Social and Cultural Rights (ICESCR) as well as Article 28

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and Article 29 the United Nations Convention on the Rights of the Child (UNCRC), and Article 24 of the Convention on the Rights of Persons with Disabilities (CRPD)

Uruguay: Plan Ceibal and the hybrid learning approach

The implementation of Plan Ceibal in 2007 marked Uruguay's transition to hybrid learning. This initiative aimed to provide every student and teacher in public primary and lower secondary education with personal computers and internet access, alongside comprehensive educational and training programs.

The fundamental elements of Plan Ceibal were four. First, personal computers were allocated to students and teachers, guaranteeing universal access to digital learning resources. Second, the program expanded internet connectivity across the country, including remote and rural areas. Third, the plan included a wide range of comprehensive educational resources and platforms to facilitate digital learning. Fourth, the effort prioritised continuous professional development for teachers, enabling them to proficiently use digital tools in their instruction.

Importantly, throughout the COVID-19 pandemic, Uruguay was able to adopt a hybrid learning strategy by implementing the 'Ceibal en Casa' program. This state effort utilised the existing infrastructure and resources of Plan Ceibal to reduce educational interruptions, providing a wide range of online resources, platforms, and assistance for both students and teachers.

The positive impact of Plan Ceibal has been significant. Precisely, by 2020, 88 percent of students had access to the Ceibal virtual learning platform, which was ranked fifth in website traffic nationally.The initiative led to higher levels of student participation and proficiency in using digital tools, with approximately 85 percent of students reporting higher engagement levels.Particularly in disadvantaged areas, students showed enhanced academic performance, with a 20 percent increase in standardised test scores in rural areas. Continuous professional development helped teachers effectively integrate digital tools into their teaching practices, with over 90 percent of teachers reporting improved skills in using digital resources. Although Plan Ceibal has achieved significant progress in improving digital education, it has also encountered several disadvantages.

However, challenges persist in securing enduring financial support, the maintenance of regular training for teacher education, and the possible solution to the issue of limited access to technology in rural regions. In particular, there have been technical and connectivity issues: despite significant efforts , 23 percent of students claimed not to have a working computer or tablet, and 14 percent of families reported no computer access at home. In terms of digital competency, 24.8 percent of primary school students and 28.4 percent of secondary school students found it difficult to understand school activities by using computers. Motivation and engagement with digital learning are also concerns, particularly among lower secondary students, with only 31 percent expressing satisfaction in using the CREA platform. Broad

participation remains a challenge: by the first semester of 2021, around 49,000 students did not access the platform, and 133,000 students connected less than once a week. Despite this, more than 180,000 students were engaged in the platform, reflecting a broad reach and impact on student learning.

Estonia: a digital pioneer in education

Estonia's commitment to digital education dates back to 2001 when it recognised internet access as a human right. The country's early investment in digital infrastructure laid the foundation for a robust hybrid learning model that has been particularly effective during the COVID-19 pandemic.

The key features of Estonia's hybrid learning model include various aspects, First, its comprehensive digital infrastructure encompasses fast internet connectivity and digital platforms such as eKool and Opiq; these platforms facilitate both real-time and self-paced learning. Second, educational platforms such as eKool provide easy interaction among educators, learners, and guardians, while Opiq offers digital textbooks and educational resources.Third, consistent training programs guarantee that educators are skilled in utilising digital resources and can proficiently conduct hybrid instruction, Fourth, national education regulations place a high importance on digital literacy and diversity, guaranteeing that students from all socioeconomic backgrounds have equal access to high-quality education.

The positive impact of Estonia's digital education efforts is evident in several areas.

The comprehensive digital infrastructure and platforms like eKool and Opiq have facilitated a seamless transition to remote learning during the COVID-19 pandemic. By 2020, Estonia had achieved a 100 percent internet penetration rate in schools, ensuring all students had access to online learning tools – currently trying to modernise the internet connection. Estonia's educational platforms are widely used, with eKool serving 99 percent of schools and providing a robust framework for student-teacher-parent interactions. Additionally, Estonia's investment in digital education has resulted in significant improvements in basic skills. The proportion of underachieving 15-year-olds in reading decreased to 11.1 percent, in mathematics to 10.2 percent, and in science to 8.8 percent, all of which are significantly below the EU average (e-Estonia).

Although Estonia has made significant progress, there are still human rights-related obstacles to overcome, such as providing equitable access to technology and preserving the quality of digital resources to guarantee the right to equitable and inclusive quality education. These limitations emphasise the necessity for ongoing investment in digital infrastructure and improvements in policies.

Lessons for other countries

The experiences of Uruguay and Estonia provide helpful insights for other countries seeking to develop or improve hybrid learning approaches.

First, allocating resources to digital infrastructure is important. A strong and reliable digital infrastructure is essential for successful hybrid learning. Governments should give priority to expenditures in high-speed internet access, digital gadgets, and educational platforms in order to facilitate both in-person and distant learning.

Second, continuous professional development for teachers is essential. Training programmes should prioritise the incorporation of digital resources into teaching practices, the creation of innovative pedagogical strategies for hybrid learning, and the enhancement of teachers' ability to effectively engage students both online and offline.

Third, education policies should prioritise inclusivity, guaranteeing that all students, irrespective of their socioeconomic status, have access to high-quality education. This encompasses the provision of support services, internet access, and digital devices to economically disadvantaged students.

Fourth, community and stakeholder engagements are important. The successful implementation of hybrid learning models necessitates the active participation of all stakeholders, including instructors, students, parents, and the broader community. The overall efficacy of hybrid learning can be improved by platforms that enable communication and collaboration.

The examples of Uruguay and Estonia demonstrate that successful hybrid learning models rely on strong digital infrastructure, continuous teacher training, and inclusive education policies. These important elements ensure that pupils receive a superior level of education, regardless of any disruptions. By prioritising these strategies, many countries may develop education systems that are robust and flexible, guaranteeing equitable access to learning opportunities for all students.