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Uruguay: Ceibal at home

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Type of intervention: governmental – Plan Ceibal (National Digital Education Plan)

Website: <https://www.ceibal.edu.uy/es>

General description

Ceibal en casa (Ceibal at Home) was the contingency plan implemented by the Uruguayan government to mitigate the disruption to education caused by school closures across the country due to the COVID-19 pandemic. It consisted of offering digital platforms and services together with support and guidance for teachers, students and their families to allow for distance learning for primary and middle public schools. About 85% of the total students in Uruguay study at those levels. Ceibal en casa offers a versatile learning management system with communication features, digital learning platforms and more than 173 000 educational resources, including adaptive solutions and gamification.

Ceibal en casa was launched immediately after school closures were announced because it could draw on the pre-existing systematic deployment of Plan Ceibal's digital resources. Created in 2007, Plan Ceibal is the National Digital Education Plan (Ceibal is the Spanish acronym for "Basic IT Educative Connectivity for Online Learning"). It provides every student and teacher at primary and lower secondary public education with a personal computer, Internet access in schools, a comprehensive set of educational resources, as well as pedagogical services and programmes.

To implement Ceibal en casa, Ceibal worked in co-operation with the [National Administration of Public Education](#) to transform its layout and migrate from being programme designed to complement and enhance face-to-face classes to a fully digital distance-learning solution. This transformation included technical and pedagogical aspects, ranging from new videoconferencing functionalities in the learning

management system to *ad hoc* teacher training as well as guidance for parents (given that their role as mediators in the teaching and learning process became even more crucial than before).

Although complementary content for alternative outputs to reach students with no connectivity at home were put in place (for example, new educational TV programmes), [Ceibal en casa](#) relied primarily on digital media. This was possible given the relatively high level of households with Internet access in Uruguay: 88% of households have access to Internet on average, but this is true for 93% of households with children aged 14 or younger; over 76% of households have access to a computer, partly thanks to the devices provided by Plan Ceibal.¹

According to data analytics and to a national survey conducted among teachers, Ceibal en casa's resources were widely used by most students and teachers during the school closures.

Main problems addressed

The main problems that Ceibal en casa had to address in relation to the COVID-19 pandemic were those related to the disruption of pedagogical activities due to school closures and the resulting challenging context of social isolation. To cope with this situation, the programme has two dimensions: one related to the provision and adaptation of technical and pedagogical infrastructure and resources; the other addressed the social and emotional impact of social isolation.

- Adapting the technical and pedagogical infrastructure and resources. Ceibal en casa required training teachers and providing support on how to interact with students exclusively through digital platforms, in both synchronous and asynchronous exchanges. Communication campaigns and content delivery layouts were also necessary to make the educational resources visible, accessible and easy to use. To this end, Ceibal en casa organised a strategic process of data collection and collation to study the changes in use and the reach of the digital educational resources. This allowed adjusting and introducing innovations to the programme based on this information. Through learning analytics, Ceibal en casa monitored the use of the platforms, of specific resources and general trends, including times and days of high demand. This information was complemented with telephone and email surveys completed by teachers.
- **Addressing the social and emotional impact of social isolation.** This focused on providing support on how to cope with the social and emotional impact of isolation and on providing relevant information about well-being within the context of the pandemic. The target audience – teachers, students and their families – were reached mainly through digital communication channels with specific messages according to their needs, including Ceibal's educational platforms, sites and social networks.

To sum up, what makes Ceibal en casa an interesting programme is its combination of a robust pre-existing digital infrastructure, pedagogical resources, and data access and collation, and its remodelling through specific innovations to adapt to the emerging situation.

Mobilising and developing resources

Plan Ceibal had a whole ecosystem of contents and platforms, offering more than 173 000 educational resources that were already available prior to the pandemic. This includes a learning management system ([CREA](#)) accessible to all public schools across Uruguay, gamification and adaptive maths platforms for primary and secondary education, a digital library with more than 7 000 books, a collection of 1 500 open educational resources and school texts for students free of charge. It also provided a number of educational sites, online resources and software installed in Ceibal computers and tablets, for example robotics and coding accessories among other materials.

The new features introduced by Ceibal en casa were mostly related to enhancing the digital interaction between students and teachers, and the involvement of families as key facilitators in the teaching and learning process. In light of the suspension of face-to-face teaching, videoconferencing capabilities were added to the learning management system to leverage synchronous activities and allow group audiovisual interaction between teachers and students. Although Plan Ceibal had already introduced videoconferencing on a massive scale to teach English remotely in schools in 2013 (Plan Ceibal was a precursor in teaching English as a foreign language remotely by videoconferencing to address the shortage of English language teachers in Uruguay. This method facilitated the interaction between students in Uruguayan schools and remote teachers both in Uruguay and overseas.), Ceibal en casa marked the first time that this distance-learning method was fully integrated into the main Ceibal learning management system, becoming universally accessible to all primary and secondary public school teachers and students.

In addition, a special section of the programme's site was specifically created to provide content and guidance on how to support pedagogical continuity from home, targeting parents and students' families. This material was also delivered through other platforms, such as social networks.

Fostering effective use and learning

Ceibal en casa offered two learning experience options. Students could interact with teachers and peers through the programme's learning management system, which included social networking and videoconferencing functionalities, following structured and organised activities. Alternatively, they could access auto-assisted teaching platforms, books, games, challenges and other on-demand learning resources organised by age group.

To facilitate the learning journey and provide clear options and support, Ceibal en casa deployed resources addressing the main actors involved in the pedagogical continuity agenda: teachers, students and their families. Through dedicated subsections on the programme's site and social networks, specific communication and pedagogical strategies were delivered to engage each of the relevant groups in the proposed virtual learning environments. For example, students were offered games and creative activities relevant to the curriculum; teachers could access not only teaching resources, but also consultation services, discussion forums, tutorials, and virtual training and guidelines for remote teaching. Finally, families received daily tips on how to support their children with recommended content for different knowledge areas.

Implementation challenges

Ceibal en casa's main implementation challenges were related to providing infrastructure and services. This was mainly due to the exponential increase in the use of Ceibal's learning digital platforms across Uruguay, along with the request to stay at home and implement social distancing measures. In this respect, the main concern was to guarantee the provision of resources to all students, particularly those from disadvantaged backgrounds.

Most difficulties were solved with contingency plans, which, in some cases, involved the co-operation of key partners. For example, Ceibal en casa made an agreement with the National Telecommunication Agency, [ANTEL](#); the national Internet provider and market leader; and Claro, a private Internet provider, to facilitate access to educational resources and platforms without charging Internet data usage. This was key to guarantee equal access to educational resources, especially for those students whose families could not afford extra costs.

In addition, a special contingency procedure was designed and put in place to deliver computers to students while ensuring social distancing. This was key to reach students in rural or vulnerable areas.

Likewise, it was necessary to create a protocol to safeguard sanitary measures for essential in-person activities (5%) on Ceibal premises, such as computer repairs. All other activities (95%) were conducted remotely using internal and external virtual communication networks and systems, thanks to the virtual systems previously adopted by Plan Ceibal.

Finally, it was crucial to increase the capacity of the technological infrastructure by 400% and to redesign its architecture to increase concurrency capabilities, allowing night shifts for maintenance works to avoid service downtime during high-traffic hours. To deal with the increasing customer service demands, Ceibal en casa implemented an automated end-user tool, which included account set-up and password reset functionalities.

Monitoring success

Ceibal en casa was monitored through data analytics and a survey completed by a nationally representative sample of teachers from primary and secondary education.² Based on data analytics, the reach of Ceibal en casa among primary and secondary students was 85% and 90%, respectively, increasing up to 95% among teachers, including teaching and training platforms.³ Access to Ceibal's educational online resources increased by 2 452% in March 2020 compared to the same period in 2019.

According to the survey's results, Ceibal resources were the most used to support teaching activities in public education (93%). Data collected suggest that 98% of teachers from public schools sent assignments to students, 90% received activities submitted by students and 87% used it to provide feedback. The activities that teachers reported doing the most frequently were sending homework, uploading documents and videos to support assignments, co-ordinating with colleagues, and creating groups of students and shared documents.

They also reported videoconferencing with other teachers as a regular activity (59% and 60% in primary and secondary education, respectively), although this activity was less frequent with their students (32% in primary education and 27% in secondary education).

The survey suggests that 92% of teachers were satisfied or very satisfied with the training activities provided by Ceibal, although 70% expressed the need for further training for a more effective use of resources. These data may reflect teachers' awareness of the potential of digital environments to enhance their teaching practices, which could be achieved through a higher level of digital literacy and specific professional development.

Plan Ceibal is planning to use the information collected and lessons learnt through the implementation of Ceibal en casa to design a "Response Protocol for Massive Migration to Distance and Blended Learning" and propose a transition from an emergency phase solution to a normal time expansion and systematic integration of digital learning into face-to-face education.

Adaptability to new contexts

This solution could be adapted in countries which already have a digital resource infrastructure at the national scale – since it is building on Plan Ceibal, Uruguay's national digital education programme.

Since Ceibal has a flexible and comprehensive combination of resources, experiences could be adapted to different countries, although they would require certain levels of investment and access to digital infrastructure and resources.

Plan Ceibal has a long tradition of collaboration in the region. It has already started sharing its knowledge within the pandemic context with low- and middle-income countries in Latin America through a

collaboration with [Fundación Ceibal](#), which co-ordinates the Alliance for the Digitalization of Education in Latin America ([ADELA](#)).

The initiative in itself allows for a larger scale use of the platforms in the future. The number of users of Ceibal's platforms grew exponentially during the school closures, reaching most public school students and teachers. (According to internal reports, the reach of Ceibal's platforms in primary public education increased from 42% in May 2019 to 85% in May 2020, mainly due to the suspension of face-to-face classes. Similarly, reach among teachers increased from 58% to 95% in the same period.) This increase of use during the health crisis represents a unique opportunity for Ceibal to capitalise on the greater awareness among teachers, students and families of the importance of an available ecosystem for teaching and learning practices facilitated by digital technologies in order to implement it systematically. It also represents a great opportunity to further explore appropriate and effective models and pedagogical approaches suitable for massive use of platforms and digital environments in normal times.)

Box 48.1. Key points to keep in mind for a successful adaptation

1. Consider students' and teachers' access to technology and connectivity to analyse the suitability of a programme mainly based on digital media.
2. Analyse the context and the layout of your existing programme and make strategic adaptations, including technical and pedagogical infrastructure to cope with the increase in traffic and demand of educational content.
3. Build partnerships with Internet and mobile phone providers to apply reduced rates or free access to educational resources.
4. Focus your strategy on enhancing the digital interaction between students and teachers, and the involvement and support of families.
5. Present all existing educational resources in a single output platform (this could be a website or mobile app).
6. Provide a robust learning management system with communication features to keep a fluid exchange among teachers and students (videoconferencing and other additional functionalities might be needed).
7. Include adaptive and gamification platforms to facilitate teaching and make learning more accessible and enjoyable.
8. Collect as much data as possible to monitor progress and improve the layout of the plan as it is being implemented (it is crucial to determine questions, indicators and metrics to get the most from data access).
9. Design the programme as an ecosystem and implement it with sustainable and scalable solutions, suitable to increase in scope and quality, and adjust to unpredictable future scenarios.

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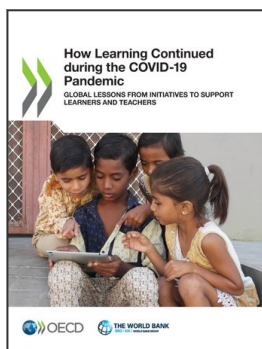
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Notes

¹ This information comes from the collation of various sources including (Agesic, 2020^[1]) and (INE (Statistics National Institute), 2018^[2]).

² The survey was conducted among 1 245 teachers: 636 answered the survey by phone and the remaining were reached by e-mail and responded to the same questions on the SurveyMonkey platform. The results were processed by the Monitoring and Evaluation Department of Plan Ceibal.

³ The information and all data analytics presented in this section are based on Ceibal en casa internal reports produced from when schools closed, on 16 March, to the end of May 2020, including single sign-on data taken from Google Analytics on [Ceibal's site](#). The reach was calculated based on students who accessed any of the offered platforms at least once.



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