

Advancing Digital Learning in a Traditional System: Uruguay During the COVID-19 Pandemic

Romina Quezada Morales
Teachers College, Columbia University

Figure 1
APRENDER school children using Ceibal laptops in 2020



Source: Personal communication, November 15, 2020.

Uruguay: a new government and a novel virus

The Oriental Republic of Uruguay is located in South America, next to the River of Silver, and is the second smallest country of the region, with 176,215 sq. km. (Sistema de Información de Tendencias Educativas de América Latina [SITEAL], 2020). It shares borders with Brazil and Argentina, and faces the Atlantic Ocean (SITEAL, 2020). According to the 2011 census, there were 3,286,314 people living in Uruguay, but the country registered a negative population growth rate in 13 out of its 19 departments. Back then, 21.8% of the population were between 0 and 14 years of age. Regarding ethnicity,

90.7% of the population identified as white, 4.9% as indigenous, and 7.8% as Afro-descendants (Instituto Nacional de Estadística [INE], 2011).¹

After 15 years of left-wing government (Risso, 2020), Luis Lacalle Pou took office as president for 2020 to 2025 in March, 2020 when the COVID-19 disease was spreading throughout the world (Horwitz, 2020). Lacalle Pou declared a national health emergency on March 13, 2020 when the first 4 cases of COVID-19 were registered in the country (Horwitz, 2020). Although quarantine was only required for those over 65 years of age (Fernández Simón, 2020), the administration of COVID-19 tests was swift and effective – 1,000 daily tests were being administered by May 5, 2020 (*El Observador*, 2020b). Because of those quick actions, school activity cautiously resumed in June, 2020 (Fernández Simón, 2020). As early as April 22, 2020, certain rural schools re-opened, registering 50% of physical attendance; by May, 2020, all schools began to reopen progressively: on June 1, all rural and special schools except for the capital Montevideo and the metropolitan area; on June 15, all primary education schools, high schools, early childhood centers, pre-school education centers, and technical education, except for Montevideo and the metropolitan area; on June 30, 2020, all educational establishments (Uruguay Presidencia, 2020). However, cases began rising rapidly in early 2021, which led Uruguay to close schools again on March 24, 2021; from May until June 21, 2021, students gradually went back again to their classrooms (Xinhua, 2021).

A universal education system, but with limited completion

Uruguay's educational system is centralized, with five agencies involved in education: the National Public Education Administration (Administración Nacional de Educación Pública [ANEP]), the Ministry of Education and Culture (Ministerio de Educación y Cultura [MEC]), the Child and Adolescent Institute of Uruguay (Instituto del Niño y Adolescente del Uruguay [INAU]), the University of the Republic (Universidad de la República [UDELAR]), and the Technological University (Universidad Tecnológica [UTEC]) (Instituto Nacional de Estadísticas de la Educación [INEEd], 2015). While MEC represents education at the legislative level, links education with technology and culture, and revalidates certificates, it does not issue policies (Poder Legislativo, 2020). Under the coordination of the Central Governing Council (Consejo Directivo Central [CODICEN]), ANEP is the body that oversees some pre-primary education establishments² and all school, teacher, and technical and professional education, as well as the National Institute of Education Statistics (INEEd) and national policy (INEEd, 2015). Each year, ANEP sends inspections to upper secondary schools to monitor that these are meeting the needs of the schooling population (INEEd, 2019).

Uruguay's education system is divided into early childhood (primera infancia, ages 0 to 3), pre-primary education (educación inicial, ages 3 to 5), primary education (educación primaria, years 1 to 6), lower secondary education (media básica, years 7 to 9), and upper secondary education (media superior, years 10 to 12). Education is compulsory from age 4 until the completion of upper secondary education. Urban pre-primary and primary schools may be common, full-time, extended-time, practice or APREnDER³, which welcome children from the most vulnerable backgrounds (INEEd, 2015). Secondary education schools (liceos) are standard, nocturnal, full-time, extended-time, rural, or integrative educational centers (INEEd, 2019). Tertiary education is divided into non-university education and degree-granting universities (Poder Legislativo, 2020). The school year in Uruguay runs from early March to mid-December, with vacation breaks at the end of June and mid-September (Uruguay Educa, 2020).

The majority of students attend public education in Uruguay, but many repeat grades and eventually drop out. For instance, in 2020, about 83% of Uruguayans attended a public primary or lower secondary education establishment (INE, 2020). However, from 2006 to 2018, secondary education students who were repeating a grade were more numerous than those who studied the grade that corresponded to their age, and in 2018 51% of all 23 year-old students had not finished compulsory education (INEEd, 2019). In addition, about 40% of the students who finish upper secondary education do so below the expected academic goals, which places Uruguay far below Latin America's average of around 61% (see CEPAL Stat in INEEEd, 2019). To aggravate the problem, while attendance is crucial for students to succeed, about 20% of the teaching staff in public elementary schools were absent more than 20 times in 2017 (11% of the school year), and 48% of teachers in pre-primary and primary education suffer from chronic absenteeism (INEEd, 2019). In sum, according to the 2018 Continuous Household Survey (Encuesta Continua de Datos [ECH]), 98% of Uruguay's youth completed primary education, but 73% completed lower secondary education, and only 40% completed upper secondary education (INE, 2018).

Uruguay lived under civic and military dictatorship between 1972 and 1985, but education reforms became a priority immediately afterwards. In March, 1985, the Education Law was adopted, initially for two years, but stayed in place until 2008. The 2008 General Law on Education (Ley General de Educación, No. 18.437) dictates Uruguayan education nowadays (INEEd, 2014). Ever since, Uruguayan education programs have focused on the expansion of schooling – primary education is basically universal, but secondary education is not –, new topics such as social and educational inclusion, and equal access to Information and Communications Technology (ICT) (Informe sobre el estado de la educación en Uruguay, 2014). Some programs that stand out are the Community Classroom Program (Programa de Aulas Comunitarias, PAC), which aims to reinforce knowledge and offer class flexibility among students in first grade of secondary education to prevent them from dropping out (Mancebo & Monteiro, 2009), Community Teachers (Maestros Comunitarios), where regular teachers work beyond their work hours to locate and attract students in basic education at risk of dropping out of school (Así nos va, 2020), and Plan CEIBAL, which focuses on ICTs and is further explored in the following lines.

Digital learning in Uruguay: A priority before COVID-19

As of 2019, Uruguay had four plans related to ICT teaching. The most widely spread one is Plan Ceibal. In Spanish, CEIBAL stands for Educational Connectivity in Basic Computing for Online Learning (Plan de Conectividad Educativa de Informática Básica para el Aprendizaje en Línea) (Plan Ceibal Online, n.d.). Plan Ceibal originated from the initiative by the non-profit One Laptop per Child (OLPC), which has operated in different countries in Latin America since 2005 (One Laptop per Child) (n.d.). In Uruguay, Ceibal began functioning in 2007 as a multi-stakeholder initiative that involved, among others, the Presidency, the Technological Laboratory of Uruguay (Laboratorio Tecnológico de Uruguay [LATU]), ANEP, MEC, and the National Telecommunications Administration (Administración Nacional de Telecomunicaciones [ANTEL]) (United Nations Educational, Scientific, and Cultural Organization [UNESCO] et al, 2011). Plan Ceibal's aims at distributing free, wireless connection laptops to students and teachers (United Nations Educational, Scientific, and Cultural Organization *et al.*, 2011). It has an educational component, flexible in nature, which encourages the development of activities in class; a social component that ensures equity and inclusion; and a technological component that provides Internet and computer access. By 2009, Plan Ceibal

had achieved all the goals above in primary education (UNESCO et al., 2011). Table 1 displays the evolution of Plan Ceibal.

Table 1
Evolution of Plan Ceibal

Year	Steps taken
2007	Plan Ceibal began operations by delivering laptops to students
2009	All primary education students had a Ceibal laptop
2011	Implementation of a digital learning platform with a digital library
2013	Development of platforms specific to mathematics and English learning, as well as a laboratory specialized in 3D modelling, programming and robotics
2015	Some schools in Montevideo began working with optic fiber
2016	All 6 th graders had access to English language lessons through Ceibal
2017	All public education centers in the country had free wifi access and about 564,000 students and teachers had Ceibal laptops.

Note: Information adapted from Consejo de Dirección (2017).

ANEP decided to close schools on March 18, 2020, except for those that provided meals. One day earlier, on March 17, ANEP made available the CREA platform, an existing part of Plan Ceibal, so that teachers and students and their families could communicate virtually (*El Observador*, 2020a). Within CREA, Ceibal implemented Ceibal en Casa (Ceibal at Home), Uruguay's online platform, with the aim of adapting the existing content of Plan Ceibal's resources – which complement face-to-face education – to a platform that could function as a full package for teaching and learning at the pre-primary and primary levels (personal communication, May 10, 2021).

Ceibal en Casa offered two options to continue learning. The first one was through interactive video-conferencing and social networking, and the second one was through assisted activities and lessons organized by grade (Ripani, 2020). Ceibal en Casa's activities aimed at providing information and skill building on how to support students during the COVID-19 pandemic (Plan Ceibal, 2020). Plan Ceibal and Ceibal en Casa have been featured by UNESCO (UNESCO et al., 2011) and the OECD (Ripani, 2020) as successful digital learning models. Ceibal en Casa is not open for public display, but all Uruguayans have access to it at ceibal.schoology.com. Figure 2 shows Ceibal en Casa's main interface, while Appendix A provides some facts and figures that describe the platform and its usage.

Figure 2
Ceibal en Casa's main interface, once users log in



Source: Personal communication, May 10, 2021.

In addition to Ceibal, Uruguay's MEC implements the Digital Literacy National Plan (Plan Nacional de Alfabetización Digital) to provide all adults with tools that allow them to use technologies (MEC, 2010), the Ibirapitá Plan, which provides retired adults with tablets and organizes workshops to teach them how to use them (Plan Ibirapitá, n.d.), and the Youth Programmers Plan, part of Plan Ceibal, and which focuses on teaching the new generation how to do programming (Jóvenes a Programar [JAP], n.d.). The most recent document regarding ICTs and inclusion is the *Agenda Uruguay Digital 2025*, which focuses on the adoption of technologies for sustainable use in all social areas (Uruguay Presidencia & Agencia de Gobierno Electrónico y Sociedad de la Información [AGESIC], n.d.).

Digital learning during the COVID-19 emergency context: The old and the new

To have a better understanding of the strategy implemented by Uruguay's Plan Ceibal during the COVID-19 pandemic, this report presents an exploratory study with three interviewees: a private school director in Montevideo, an APRENDER school director in Montevideo, and a Plan Ceibal member who occupies a leadership position. The semi-structured interviews were conducted between November, 2020 and May, 2021, and centered on the leaders' experiences to implement suitable teaching and outreach strategies to continue providing education. The findings suggest that Uruguay's digital

learning strategy has grappled with conciliating traditional views on education and digital learning. They further point to not all schools using digital learning resources during the pandemic even when these were available to them and their students, which suggests in some cases a digital divide originated by choice (Gunkel, 2003). The socio-economic gap seems then to depend not so much on the lack of means to acquire technological devices, but on the balance between the traditionally valued education system and the incorporation of new technologies. The research findings are discussed below.

Technology and education: Conciliating the modern within tradition

The interviews suggested that international educational assessments influence Uruguay's education policy and that Plan Ceibal, as an institution, partly aims at filling any gaps identified through them. More precisely, the Program of International Student Assessment (PISA) has a considerable impact on what subjects and skills should be prioritized.⁴ In 2018, Uruguay ranked 2nd in the region with 424 points, only behind Chile with 438, and before Mexico with 416 (OECD, n.d. b). The importance paid to PISA by the interviewees coincide with official releases from ANEP (2018a, 2018b, 2018c, 2019; Uruguay Presidencia, 2019). However, despite obtaining good results in the region, the interviewee from Plan Ceibal expressed that "...PISA results are out. We all become very concerned with the terrible results and everyone has a different explanation for that" (personal communication, May 10, 2021). Concerned with public criticism, the same interviewee highlighted the work that Ceibal does to improve PISA results: "I believe that, as an external factor outside of the administration, Ceibal was somehow achieving results in some projects" (personal communication, May 10, 2021). In other words, Ceibal has been working towards achieving the international standards that PISA demands. As a result, when the COVID-19 pandemic arrived, the structure of Ceibal en Casa continued to reflect those priorities.

Uruguay's interest in standing out internationally is reflected in digital learning, but national realities are experienced otherwise. In 2018, Fundación Ceibal created an international network to foster good digital education practices throughout Latin America called ADELA (n.d.), and Plan Ceibal offers teacher training teachers opportunities abroad, as was the case of the training in Mexico in 2017/18 (Plan Ceibal, n.d.). However, schools in the country see education differently. For instance, the director from the private school conceded that, "although Uruguay's standards are well recognized at the global level...there was a plateau where teachers had stagnated in their training, updates, challenges, and we had to constantly upload strategies to see if we could get them going" (personal communication, November 30, 2020). For the private establishment, the rapid pace of the COVID-19 pandemic was an opportunity for teachers to catch up with the use of digital technologies, or the "21st century skills" (personal communication, November 30, 2020), but progress did not take place through Plan Ceibal. Therefore, it may have been that Plan Ceibal offered the resources for many other private schools to catch up with ICTs, but that they opted for different strategies.

Uruguay's leading international efforts in digital learning may find it hard to fit within a traditional education system. The previous example on the struggles of the private school to provide training so that teachers reach PISA's standards shows that Ceibal provides the tools, but that its schools may choose not to use them. As the interviewee from Plan Ceibal recalled, Ceibal is an external institution within a centralized system, which "has been an important factor to inject the education system with new aspects and projects which have at least made us be aware of our capacity to do and achieve great things" (personal communication, May 10, 2021). At the same time, technologies may be

perceived as a reason for Uruguay's decline in quality education. The director of the APREnDER school, for instance, believes that technology has negatively impacted education by leading youth to be more socially isolated and interact only with their devices (personal communication, November 15, 2020). Both of the above perspectives together reflect the intricacies of digital learning in Uruguay, namely the availability of modern resources coupled with teacher awareness of their negative consequences on society.

Technology for learning: eruption, irruption, or disruption?

As a country with quite successful digital learning policies in place, Uruguay had the resources in place to face the COVID-19 pandemic, so it did not see an eruption – multiplication from all sides – of digital tools to teach. Ceibal en Casa was created thinking of parents' demands to have their children make good use of their time spent at home (personal communication, May 10, 2021), while Plan Ceibal continued to be available. As time went by, Ceibal en Casa evolved into a more complete platform where teachers could find additional resources for class and send their students to use them, but there was no need to produce material against the clock because Plan Ceibal already existed (personal communication, May 10, 2021). In addition, through Plan Ceibal's (2017) YouTube channel, students with disabilities could access some videos that complemented activities. Ceibal en Casa attracted about 12,000 users, as Appendix A shows.

While Uruguay's interest to close the digital divide in access to technologies before the pandemic helped the country to make Ceibal en Casa available, the way in which digital learning was implemented in schools varied according to their administration. As the director of the private school explained, many other private schools in the country opted for hiring a provider to build their digital platform according to their needs. That process was possible because "the platform evolved and improved as it received input from educational centers" (personal communication, November 30, 2021). The platform, called Educational Administration System (Sistema de Gestión Educativa [SIGED]),⁵ existed as a paid service in the private school prior to the pandemic, so the flexibility and rapidity to adapt to customers turned it into an effective option. Therefore, although the platform "was working at 20% capacity or less, because there was no need for it" before COVID-19, this private school still preferred the private provider and not Plan Ceibal during the pandemic because it met its needs faster and in a customized way.

Digital learning was perceived as disruptive for many teachers, which cannot be fully explained by their lack of access to technologies (NTIA, 1999), but by their choice and reluctance to use them (Gunkel, 2003). The teachers in the APREnDER school used mostly WhatsApp to communicate with parents, and eventually opted for printed material because there were households without mobile connectivity even though schools and students were equipped with laptops: "all work related to networks, at home, relied on WhatsApp and the printed packets that teachers made paying from their own pockets because teachers were providing for their kids" (personal communication, November 15, 2020). Meanwhile, the private school underwent a slow process in adapting to SIGED and even using computers: "[teachers] didn't want to [teach online] because that somehow meant invading their privacy. We had to overcome all those things. Then, they didn't even have a laptop" (personal communication, November 30, 2021). Therefore, the digital divide for some teachers was disruptive because their students' access to technologies at home was not appropriate despite connectivity provision strategies or because of their own resistance to have technology take over their lives.

Does technology contribute to the social function of schools?

The use of digital technologies for learning in Uruguay during the pandemic was mostly motivated by the need to stay connected with one another, for students and their families, and for schools. The director of the APREnDER school explained that schooling is not questioned within Uruguayan society, so children attend school; APREnDER schools are also the alternative for children who would be out in the street wasting their time if they were not at school learning in the afternoon shift, and are important meal providers (personal communication, November 15, 2020). Therefore, staying in touch with students during the COVID-19 pandemic was vital to avoid dropouts. This APREnDER school made use of its Maestros Comunitarios program to reach out their students by going to their homes and helping them fill out their homework. In some cases, communication through Whatsapp was possible, but seeking contact through other digital means was not an option. The private school also mentioned the importance of staying in touch: “we had never had that many meetings with parents as we did this year, on Zoom... because communication strategies are a priority for us during the crisis. So, every time we were about to adopt any policy, we would anticipate a parent Zoom. We have organized as many as 15 in one week” (personal communication, November 30, 2020). The differences in outreach strategies are visible, but they also show that digital technologies met a social function by connecting with students and parents.

Whenever communication was not possible, students lagged behind. In the APREnDER school, evaluations took place according to teacher appreciations, as stated in the national policy, while the private school was able to grade their students as usual; appreciations determined whether students could pass to the next grade (personal communications, November 15 & 30, 2020). That strategy was positive for children who had not attained the expected year outcomes (i.e., students did not automatically pass into the next grade), but also showed that some students suffered more than others from social distancing and the lack of connectivity, possibly increasing Uruguay’s problem of those who lag behind. Plan Ceibal is aware of its limits, but it also strives to address them: “it is a fact that there are people who are not being able to participate [in Ceibal en Casa] due to private infrastructure issues, to their equipment not being suitable or are broken or because they do not have connectivity or their connectivity is poor, and the gap between those who have less and those who have more resources is increasing. We know that and we feel it. But, well, I believe that an effort is being made to let the gap increase as little as possible” (personal communication, May 10, 2021).

Curiously enough, neither the lack of connectivity nor the use – or not – of Ceibal prevented these schools from creating caring communities during social distancing. The private school, for instance, is of Catholic orientation, so it would organize meetings to follow up with students’ well-being; follow-ups were individualized and could be carried out via Zoom. Possibly because the care expressed through the meetings and the individual attention paid by schools, when students returned to in-person classes, the director mentioned not seeing any socioemotional issues as consequences of social distancing (personal communication, November 30, 2020). The APREnDER school sent encouragement videos to their students via WhatsApp with the goal of helping children cope with isolation, and some students replied by sending videos as well (personal communication, November 15, 2020). These examples show that digital learning is indeed more isolating than in-person schooling, but that smart ideas and technology can help increase students’ socioemotional well-being in emergency situations like the COVID-19 pandemic.

Figure 3

Sequence of students working on their socioemotional well-being and how teachers compiled their work in a Whatsapp video in the APRENDER school (2020)



Source: personal communication, November 15, 2020.

Conclusions

Uruguay's digital learning strategy during the pandemic made use of its existing digital platform Plan Ceibal to implement Ceibal en Casa, a space for basic education children to stay in touch with learning, but which did not aim at replacing classes based on the national curriculum. While Ceibal en Casa registered a constant number of student users in 2020, it was less used in 2021 when students went back to social distancing because both teachers and students had already gone through a period of adaptation to distance learning (personal communication, May 10, 2021). As for Plan Ceibal, the schools in this work opted for different strategies despite all schools and all primary students having access to a laptop through Ceibal. While some of those choices can be explained by students' lack of connectivity at home – which is indicative of their economic situations – they depended on how open teachers and school administrators were to digital technologies, as well as on the importance that they gave to international standards. Therefore, Ceibal's digital learning strategy did not impact the socio-economic gap in

terms of access to technology, but in terms of which teachers took a leap forward in digital learning.

Looking ahead, Uruguay's successful Plan Ceibal is keeping the country in a very good PISA ranking in Latin America, but domestic policies in digital learning must understand the digital divide both as a lack of connectivity in all homes, and as a choice by many teachers and administrators to willingly find a way around digital learning. Uruguay's education policy is centralized, which opens spaces for closing the divide understood as access to technologies, as Plan Ceibal has successfully proved. Still, even with those tools available in schools, social and economic realities may not allow to make the best use of the platform. Attention should be paid to why both the directors of the private school and the APRENDER school did not choose Plan Ceibal or Ceibal en Casa during the pandemic. What could Plan Ceibal improve to become private schools' first choice? How can it be effective for vulnerable school children at risk of dropping out in emergency situations? Can Uruguay's plans to implement a hybrid system in 2022 (Infobae, 2022) help close the socio-educational gaps above, or will they increase them even further? These are among the questions that need consideration to achieve not only high results in international standardized tests, but also effective, quality education in the country.

Notes

[1] Each person may indicate more than one identification.

[2] In Uruguay, depending on the type of institutions and programs, pre-primary education may be overseen by ANEP, MEC, or INAU.

[3] *Aprender* is a word that reads learning in Spanish, but, in this case, it also stands for Priority Attention in Environments with Relative Structural Difficulties (Atención Prioritaria en Entornos con Dificultades Estructurales Relativas). These schools aim at providing individualized support and accompaniment to marginalized students so that they stay in the system and do not need to miss class due to difficult personal situations (see <https://www.dgeip.edu.uy/programas/aprender/>).

[4] PISA is part of the Organization for Economic Cooperation and Development (OECD) and takes place every three years in any country that may wish to participate to measure whether 15-year-old students are learning and how, traditionally focusing on reading literacy, mathematics, and the natural sciences, and expanding on other skills such as financial literacy (OECD, n.d. a). PISA exists since 2000, and Uruguay has constantly participated since 2003 (ANEP, 2018).

[5] See Edutec at siged.com.uy/web/ (retrieved October 14, 2021).

Acknowledgements

The author would like to thank the school directors and Plan Ceibal leader who kindly accepted to participate in this project, and for their additional feedback and material. Thanks as well to those who enabled the author to contact the interviewees, and to those who provided input on the methodology of the reports. May this series of reports be useful to you. Last, the author would like to thank CICE, the authors and reviewers for their contributions to this Special Issue's report section, and Marcella Winter, Co-Principal Investigator of the project.

Romina Quezada Morales is a doctoral candidate in International and Comparative Education, political science concentration, at Teachers College, Columbia University. Her academic background is a combination of linguistics and international politics. Her current research analyzes the participation of Indigenous peoples in education, with a focus on Latin America. Romina has worked for several international institutions, organizations and diplomatic bodies, focusing on

language, culture and education. Since 2018, Romina has been serving as Coordinator of the K-12 Outreach Program and the Americas Dialogue on Education Policy initiative at the Institute of Latin American Studies, Columbia University.

References

- ADELA. (n.d.). Sobre ADELA. <https://adeladigital.net/es/sobre-adel/>
- Administración Nacional de Educación Pública (ANEP). (n.d.). Programa de Escuelas A.PR.EN.D.E.R. Accessed February 22, 2022. <https://www.dgeip.edu.uy/programas/aprender/>
- Administración Nacional de Educación Pública (ANEP). (2018a). Programa para la Evaluación Internacional de Alumnos (PISA). <https://www.anep.edu.uy/codicen/dspe/division-investigacion/departamento-evaluacion-aprendizajes/pisa>
- Administración Nacional de Educación Pública (ANEP). (2018b). Laboratorio Latinoamericano para la Evaluación de la Calidad de la Educación (LLECE). <http://anep.edu.uy/llece/>
- Administración Nacional de Educación Pública (ANEP). (2018c). <https://www.anep.edu.uy/codicen/dspe/division-investigacion/departamento-evaluacion-aprendizajes/pisa/2018>
- Administración Nacional de Educación Pública (ANEP). (2019). PISA 2018: Uruguay a la cabeza de la región en matemática. <https://www.anep.edu.uy/15-d/pisa-2018-uruguay-cabeza-regi-n-en-matem-tica>
- Administración Nacional de Educación Pública (ANEP). (2021). Datos Nacionales [Monitor educativo de la DGEIP database]. Accessed October 11, 2021, <http://www.anep.edu.uy/monitor/servlet/datosnacionales>
- Así nos va (2020, August 17). Maestros comunitarios, el programa de Primaria que acerca el aula a los alumnos y sus familias. Montevideo: Radio Carve. Accessed September 10, 2020, <http://www.carve850.com.uy/2020/08/17/maestros-comunitarios-el-programa-de-primaria-que-acerca-el-aula-a-los-alumnos-y-sus-familias/>
- Consejo de Dirección (2017). Plan Ceibal, 10 años. Montevideo: Plan Ceibal. Accessed October 28, 2021, https://www.siteal.iiep.unesco.org/sites/default/files/sit_accion_files/uy_8088.pdf
- Educec. (n.d.). SIGED- Sistema de Gestión Educativa. Accessed October 14, 2021, siged.com.uy/web/
- El Observador (2020a, March 17). Cierran todas las escuelas y liceos por coronavirus, pero se seguirá dando alimentación. Montevideo: *El Observador*. <https://www.elobservador.com.uy/nota/cierran-todas-las-escuelas-y-liceos-pero-se-seguira-dando-alimentacion-2020317155450>

- El Observador (2020b, May 5). Por primera vez se superaron los 1,000 análisis diarios de coronavirus. Montevideo: *El Observador*.
<https://www.elobservador.com.uy/nota/por-primera-vez-se-superaron-los-1-000-analisis-diarios-de-coronavirus-20205520028>
- Fernández Simón, M. (2020, July 21). How tiny Uruguay, wedged between Brazil and Argentina, has avoided the worst of the coronavirus. Washington, D.C.: The Washington Post.
https://www.washingtonpost.com/world/the_americas/coronavirus-uruguay-paraguay-brazil-argentina/2020/07/20/a7894830-c57c-11ea-a99f-3bbdff1af38_story.html
- France24 (2020, August 13). Uruguay fortalece educación a distancia pero apuesta a la presencialidad. Accessed September 8, 2020,
<https://www.france24.com/es/20200813-uruguay-fortalece-educaci%C3%B3n-a-distancia-pero-apuesta-a-la-presencialidad>
- Gunkel, D.J. (2003). Second thoughts: Toward a critique of the digital divide. *New Media & Society*, 5(4), 499-522. <https://doi.org/10.1177/146144480354003>
- Horwitz, L. (2020, June 20). Uruguay's Luis Lacalle Pou and his Pandemic Honeymoon. New York: Americas Society/Council of the Americas. <https://www.as-coa.org/articles/uruguays-luis-lacalle-pou-and-his-pandemic-honeymoon>
- Infobae (2022, January 26). Uruguay busca recuperar la educación perdida en pandemia con un modelo "híbrido", presencial y virtual.
<https://www.infobae.com/america/america-latina/2022/01/26/uruguay-busca-recuperar-la-educacion-perdida-en-pandemia-con-un-modelo-hibrido-presencial-y-virtual/>
- Instituto Nacional de Estadística (INE) (2011). *Resultados del Censo de Población 2011: población, crecimiento y estructura por sexo y edad*. Montevideo: Instituto Nacional de Estadística. Accessed October 28, 2021,
http://www.ine.gub.uy/c/document_library/get_file?uuid=12d80f63-afe4-4b2c-bf5b-bff6666c0c80&groupId=10181
- Instituto Nacional de Estadística (INE) (2018). Encuesta Continua de Hogares. [database]. <https://www.ine.gub.uy/encuesta-continua-de-hogares1>
- Instituto Nacional de Estadística (INE) (2020). Anuario Estadístico Nacional. [database]. <https://www.ine.gub.uy/anuario-estadistico-nacional>
- Instituto Nacional para la Evaluación Educativa (INEEd) (2015). *Informe sobre el estado de la educación en Uruguay 2014*. Montevideo: INEEd.
<https://www.ineed.edu.uy/images/pdf/informe-educacion-2014.pdf>
- Instituto Nacional para la Evaluación Educativa (INEEd). (2019). Informe sobre el estado de la educación en Uruguay 2017-2018. Montevideo: INEEd.
<https://www.ineed.edu.uy/images/ieeuy/2017-2018/pdf/Informe-sobre-el-estado-de-la-educacion-en-Uruguay-2017-2018.pdf>

- Jóvenes a programar (JAP). Jóvenes a programar Álvaro Lamé.
<https://jovenesaprogramar.edu.uy/>
- Poder Legislativo (Uruguay). (2020, July 8). Ley de Urgente Consideración. Montevideo: Uruguay. Accessed October 28, 2021 <https://www.subrayado.com.uy/lacalle-pou-promulgo-la-ley-urgente-consideracion-repase-aqui-todo-su-contenido-n645954>
- National Telecommunications and Information Administration (NTIA). (1999). Falling through the net: Defining the digital divide. A report on the telecommunications and information technology gap in America. Accessed October 28, 2021, Falling Through the Net: Table of Contents (doc.gov)
- Mancebo, M.E. & Monteiro, L. (2009). El Programa de aulas comunitarias de Uruguay: un puente hacia la inclusión en la educación media. *Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 7(4), 278-291.
<http://hdl.handle.net/10486/661281>
- Ministerio de Educación y Cultura (MEC) (2010). Plan Nacional de Alfabetización Digital. Montevideo: Centro MEC. Accessed October 28, 2021, https://www.siteal.iiep.unesco.org/sites/default/files/sit_accion_files/siteal_uruguay_5044.pdf
- One Laptop per Child (OLPC). One Laptop per Child. Accessed September 8, 2020, <http://one.laptop.org/about/countries>
- Organization for Economic Cooperation and Development (OECD) (n.d.a). What is PISA. Accessed October 28, 2021, <https://www.oecd.org/pisa/>
- Organization for Economic Cooperation and Development (OECD) (n.d.b). Uruguay. Student Performance (PISA 2018). Accessed October 28, 2021, Education GPS, OECD, <http://gpseducation.oecd.org>
- Plan Ceibal. (n.d.). Finalizó una nueva edición del diplomado en recursos educativos abiertos de Plan Ceibal en México. Accessed October 12, 2021, <https://www.ceibal.edu.uy/es/articulo/finalizo-una-nueva-edicion-del-diplomado-en-recursos-educativos-abiertos-de-plan-ceibal-en-mexico>
- Plan Ceibal (2017). Aplicación Ceibal LSU. Accessed September 8, 2020, <https://www.youtube.com/watch?reload=9&v=jdQODfq6Wwc>
- Plan Ceibal (2020, July 14). Ceibal en Casa: Actividades para hacer en familia. Accessed September 8, 2020, <https://www.ceibal.edu.uy/es/articulo/ceibal-en-Casa-actividades-para-hacer-familia>
- Plan Ceibal Online (n.d.). Conoce sobre el Plan Ceibal. Accessed October 28, 2021, <https://planceibal.online/>
- Plan Ibirapitá. (n.d.). Plan Ibirapitá. Inclusión digital de personas mayores. Accessed September 8, 2020, <https://ibirapita.org.uy/>

- Ripani, F. (2020). *Uruguay: Ceibal en Casa (Ceibal at home)*. Paris: OECD Publishing. <https://oecdutoday.com/wp-content/uploads/2020/07/Uruguay-Ceibal-en-Casa.pdf>
- Risso, E. (2020, February 29). Luis Lacalle Pou asume en Uruguay: quién es el surfista que pone fin a 15 años de gobierno de izquierda. London: BBC. Accessed October 28, 2021, <https://www.bbc.com/mundo/noticias-america-latina-50502866>
- Sistema de Educación y Tendencias Educativas en América Latina (SITEAL) (2020, March). Uruguay. Accessed October 28, 2021, <https://siteal.iiep.unesco.org/pais/uruguay>
- United Nations Educational, Scientific, and Cultural Organization (UNESCO) et al. (2011). *Plan CEIBAL in Uruguay. From pedagogical reality to an ICT road map for the future*. Montevideo: UNESCO. Accessed October 28, 2021, <http://www.anep.edu.uy/sites/default/files/images/Archivos/publicaciones/plan-ceibal/plan%20ceibal%20in%20uruguay.pdf>
- Uruguay Presidencia (2019, December 3). Uruguay mantuvo sus registros en pruebas PISA con más alumnos incorporados al sistema. Montevideo: Uruguay. Accessed September 10, 2020, <https://www.presidencia.gub.uy/comunicacion/comunicacionnoticias/pisa-2018-matematica-lengua-ciencias-uruguay>
- Uruguay Presidencia (2020, May 21). Gobierno anunció retorno presencial y voluntario a clases a partir de junio. Accessed September 8, 2020, <https://www.presidencia.gub.uy/comunicacion/comunicacionnoticias/conferencia-lacalle-pou-retorno-clases>
- Uruguay Presidencia & Agencia de Gobierno Electrónico y Sociedad de la Información (AGESIC) (n.d.). Agenda Uruguay Digital 2025. Accessed October 28, 2021, https://uruguaydigital.uy/wps/wcm/connect/urudigital/44f1500c-6415-4e21-aa33-1e5210527d94/Download+Digital+Agenda+%28English+Version%29.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=44f1500c-6415-4e21-aa33-1e5210527d94
- Uruguay Educa (2020, January 31). Calendario ANEP para el 2020. Accessed September 10, 2020. <https://uruguayeduca.anep.edu.uy/noticias/4057>
- Xinhua. (2021, June 8). ESPECIAL: Uruguay amplía retorno a clases presenciales en escuelas primarias. Accessed October 9, 2021, http://spanish.xinhuanet.com/2021-06/08/c_139994845.htm

Image Credits

- Figure 1. APREnDER school in Montevideo, Uruguay. (2020). Taken from personal communication, November 15, 2020.
- Figure 2. Plan Ceibal. (2021). Taken from personal communication, May 10, 2021.
- Figure 3. APREnDER school in Montevideo, Uruguay. (2020). Taken from personal communication, November 15, 2020.

Appendix A

Facts and figures of Uruguay's digital strategy during the COVID-19 pandemic

Number of Plan Ceibal uses during the pandemic after Ceibal en Casa was implemented	730,000, as opposed to 90,000 before the pandemic (France 24, 2020).
Number of student users in Ceibal en Casa	12,000 (personal communication, May 10, 2021), out of a national enrollment of 87,929 children in pre- primary education and 244, 303 students in primary education in 2020 (ANEP, 2021)
Mobile data use	Not needed. A pact was made with ANTEL to provide national free internet during the health emergency (Ripani, 2020).
Focus of Ceibal en Casa	Two foci of implementation: technical and pedagogical, and socioemotional to deal with isolation (Ripani, 2020). Featured sections include reading at home, computational thinking, programming, mathematics, and recreational activities (personal communication, May 10, 2021).
Number of resources available through Ceibal en Casa	More than 173,000 resources, 7,000 books, 1,500 open access resources (Ripani, 2020).
