Open Education as a game changer – stories from the pandemic

Karolina Szczepaniak,
Magdalena Biernat,
Maria Mirecka,
Aleksander Tarkowski,
Nikolaos Panagiotou,
Chrysoula Lazou,
Matteo Uggeri,
Virginia Rodés,
Patricia Díaz Charquero,
Renata Aquino Ribeiro,
Kamil Śliwowski,
Tomasz Piątek

CENTRUM CYFROWE

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Authors

- Magdalena Biernat, Poland, Centrum Cyfrowe – originator of the study, author and editor
- Karolina Szczepaniak, Poland, Centrum Cyfrowe
- Maria Mirecka, Poland, Centrum Cyfrowe
- Alek Tarkowski, PhD, Poland, Centrum Cyfrowe
- Nikolaos Panagiotou, PhD, Greece
- Chrysoula Lazou, Greece
- Matteo Uggeri, Italy
- Virginia Rodés, Uruguay
- Patricia Díaz Charquero, Uruguay
- Renata Aquino Ribeiro, Brazil
- Kamil Śliwowski, Poland
- Tomasz Piątek, Poland

Workshop participants:
Nikolaos Panagiotou, Matteo Uggeri, Kamil Śliwowski, Patricia Diaz, Alek Tarkowski, Magdalena Biernat, Karolina Szczepaniak, Maria Mirecka, Aleksandra Czetwertyńska, Leo Havemann, Javiera Atenas, Virgina Rodés, Renata Aquino Ribeiro, Dominik Theis, Cable Green, Jennryn Wetzler, Ebba Ossiannilsson, Vanessa Proudman, Neil Shel

Editing and translation
Nestor Kaszycki

https://centrumcyfrowe.pl/
https://oerpolicy.eu/
kontakt@centrumcyfrowe.pl

Fundacja Centrum Cyfrowe
ul. Chmielna 24/2
00-020 Warszawa,
Poland

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Executive summary

This document presents examples of positive initiatives and changes in education originated as a reaction to the closure of schools during the COVID-19 pandemic in 2020 and which are part of what is known as Open Educational Practices and Open Educational Resources. The aim of analysis is to gather information about the most interesting and influential Open Education initiatives which could inspire and hopefully permanently revolutionize remote education systems around the world. An important objective is to initiate a discussion on the role played by Open Education during the pandemic and to provide arguments to support public policy making.

We describe initiatives from five countries – Greece, Italy, Poland, Uruguay and Brazil. For each country we provide:
a) specific stories about the broadly understood Open Education in the pandemic to encourage discussion and inspiration. Each initiative is connected with a corresponding UNESCO Recommendation on OER Objective.
b) the reactions by the governments to the pandemic and the actions taken, also from the point of view of using Open Education in remote learning.
c) a brief description of the education systems in the days before the pandemic.

Story from Greece:

- Cooperation changes everything - the community of practice in Greece

Stories from Italy:

- How to open what is closed – the MOOC “E-collaboration at school and beyond” from Politecnico di Milano
- The Didactics of Proximity - the municipality of Turin for parents and educators

Stories from Poland:

- Invite me to your lesson – a grassroots initiative for the exchange and cooperation of teachers from thousands of Polish schools
- Wolne Lektury – a grassroots digital library visited by 1,500,000 readers per month in the pandemic
- Pistacja.tv – how to teach millions of maths students during the pandemic
- Remote Lessons and Open Educational Network - Polish government initiatives

Stories from Uruguay:

- Plan Ceibal and Portal Uruguay Educa - how systematic building of national OER repositories can help as a response to emergency remote education
- RedREA (OER Network) - how to ensure the continued creation of open resources that feed national repositories

Story from Brazil:

- Mobile Apps in Education – teachers widely open to mobile communication with students

Key conclusions from the study drawn on the basis of the records of discussions between the authors of the report and the activists of Open Education during a two-day workshop in October 2020:

a) Resources, institutions and infrastructure built on the Open Education model provide resilience to educational systems.

b) Teachers were the first responders during the educational crisis. Networks of teachers were quickly formed, using communication technologies available to them. These networks created and shared teaching resources, and provided teachers with mutual support.

c) Grassroots initiatives require support to function for a longer time. Public institutions need to partner with informal initiatives, in order to make them sustainable and help them scale up.

d) Actors of many types took action and supported remote education: non-governmental organisations, universities, city governments. Ministries of Education need to adopt a multi-stakeholder model to manage remote education which acknowledges this support.

e) Open Education does not solely rely on sharing openly licensed educational resources. It also harnesses practices of collaboration, content creation, networking and mutual support based on values of openness, solidarity and equality.

f) At the time of crisis, educators and learners used any technologies and resources available. Over time, remote education requires the provision of necessary public infrastructure, educational services and resources.

g) The digital divide – lack of access to equipment and the internet as well as insufficient conditions for teaching and learning – became even more prominent during the pandemic.

Introduction

Context and form

This document presents examples of positive initiatives and changes in education originated as a reaction to the closure of schools during the COVID-19 pandemic in 2020 and which are part of what is known as Open Educational Practices and Open Educational Resources.

We describe initiatives from five countries – Brazil, Greece, Poland, Uruguay and Italy. For each country we provide:
a) specific stories about the broadly understood Open Education in the pandemic to encourage discussion and inspiration. We also quote people who have been involved in these initiatives. Each initiative is connected with a corresponding UNESCO Recommendation on OER Objective.
b) the reactions by the governments of the individual countries to the pandemic and the actions taken, also from the point of view of using Open Education in remote learning.
c) a brief description of the education systems in Poland, Uruguay, Greece, Italy and Brazil in the days before the pandemic. It also contains information on the regulations on Open Education in these countries.

The aim of our analysis is to gather information about the most interesting and influential Open Education initiatives which could inspire and hopefully permanently revolutionize remote education systems around the world. An important objective for us is to initiate a discussion on the role played by Open Education during the pandemic and to provide arguments to support public policy making in the areas of Open Educational Practices and Open Educational Resources.

The target group of the document are people involved in promoting policy making in support of Open Education worldwide, representatives of international and national institutions operating in the field of education as well as representatives of Ministries of Education and educators.

This is not a typical academic report, the choice of material is very subjective. It is important that even in a deep crisis it is possible to take meaningful and impactful actions. These

individual stories, much more than scientific studies, can provide us with new solutions and an energy boost to act.

In all these stories, Open Education has been given the role of a hero undertaking the task to ensure access to education for primary and lower secondary students in the situation of emergency remote education. What differs one story from another are the challenges that our hero has to face and the skills they have to demonstrate in overcoming them.

Using the metaphor of 'stories' encourages simplification and gravitating towards a happy ending. However, we realize that reality is far away from it, being much more complex, as the same actions can be judged differently and, above all, without 'the end'. On the contrary, when we have dealt with one challenge, other tasks appear on the horizon. Therefore, just collecting and reading stories is not enough. We constantly have to gather and analyse our experiences from the perspective of what they have taught us and how we can use this knowledge in overcoming subsequent crises.

Analysis methodology

In the first stage of the study, we prepared a questionnaire which was sent out to people connected with Open Education all over the world. Through the survey, we gathered general information about the situation during the pandemic in individual countries as well as top-down and bottom-up initiatives taken to support remote learning for pupils, teachers, educators and parents.

The second stage of the survey was the analysis of the answers to the questionnaire (13 countries), analysis of the report A global outlook to the interruption of education due to COVID-19 Pandemic: Navigating in a time of uncertainty and crisis, analysis of the study Guidance on Open Educational Practices during School Closures and documents developed by UNESCO. This analysis was designed to lead us to identify the most interesting Open Education initiatives undertaken during the COVID-19 pandemic.

Based on the conclusions of the study, we decided to choose initiatives from five countries – Brazil, Greece, Poland, Uruguay and Italy. In each of the selected countries, we contacted one or two researchers from the area of Open Education who, using the desk research method and interviewing 2-3 teachers, described the picture of Open Education during the pandemic and selected initiatives.

After preparing the first drafts of the publication, we organized a two-day workshop where, together with researchers and several open education activists from all over the world, we worked on the final shape of the publication, the conclusions from the collected stories, the importance of these examples from the perspective of UNESCO Recommendation on Open Educational Resources and their use for advocacy activities in the field of Open Education. The conclusions from the workshop have been incorporated into the content and form of this publication.

How do we understand Open Education?

Open Education means many things to different people and organisations, and it is impossible to identify the single approach of this educational philosophy and movement. Yet there is general agreement on key values and the two pillars of this model: Open Educational Resources (OER) and Open Educational Practices (OEP).

The Cape Town Open Education Declaration is a document, written collaboratively in 2007 by a group of Open Education leaders, often pointed to as a reference.[1] The Declaration defines a belief foundational for Open Education, that 'everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint'. The goal is to make education more accessible, and more effective at the same time.

Creating, providing and enabling use of Open Educational Resources constitute some of the key pillars of Open Education. OER are defined by Creative Commons as 'teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free and perpetual permission to engage in the 5R activities– retaining, remixing, revising, reusing and redistributing the resources'[2].

Open Education is more than just a set of characteristics of content. Just as important are practices and values that help achieve benefits for teachers and learners. The Cape Town Declaration lists open technologies and open sharing of teaching practices as other important elements of Open Education.

In recent years, we have seen the growing importance of Open Education Practices. The Cape Town Declaration mentions the importance of 'creating, using, adapting and improving

[1] https://www.capetowndeclaration.org/
[2] https://creativecommons.org/about/program-areas/education-oer/

open educational resources; embracing educational practices built around collaboration, discovery and the creation of knowledge; and inviting peers and colleagues to get involved'.

Just as an OER can be seen as supported by open technologies and open practices, Open Education Practices draw on open technologies, pedagogical approaches and open educational resources. The goal is to support collaborative and flexible learning.[3] We would also like to highlight collaboration as a crucial Open Education Practice engaging teachers and learners in the co-creation of resources and experiences, peer support and mutual sharing of knowledge. The related term Open Pedagogy describes teaching and learning practices that are only possible when using OER and benefiting from the permissions they provide.[4]

[3] https://hewlett.org/strategy/open-education/
[4] https://opencontent.org/blog/archives/4943

Key conclusions

The following conclusions were drawn on the basis of the records of discussions between the authors of the report and the activists of Open Education during a two-day workshop in October 2020.

a) Resources, institutions and infrastructure built on the Open Education model provide resilience to educational systems. Countries with existing OER repositories or communities of practice based on the vision of Open Education were better prepared for the emergency switch to remote education.
-> See stories from Uruguay, Poland, Italy

b) Teachers were the first responders during the educational crisis. Networks of teachers were quickly formed, using communication technologies available to them. These networks created and shared teaching resources, and provided teachers with mutual support.
-> See stories from Brazil, Poland, Greece

c) Grassroots initiatives require support to function for a longer time. Public institutions need to partner with informal initiatives, in order to make them sustainable and help them scale up.
-> See stories from Greece, Uruguay, Poland

d) Actors of many types took action and supported remote education: non-governmental organisations, universities, city governments. Ministries of Education need to adopt a multi-stakeholder model to manage remote education which acknowledges this support.
-> See stories from Italy, Greece, Poland, Uruguay, Brazil

e) Open Education does not solely rely on sharing openly licensed educational resources. It also harnesses practices of collaboration, content creation, networking and mutual support based on values of openness, solidarity and equality.
-> See stories from Italy, Greece, Poland, Uruguay, Brazil

f) At the time of crisis, educators and learners used any technologies and resources available. Over time, remote education requires the provision of necessary public

infrastructure, educational services and resources. Openness of resources ensures legal clarity for educators and learners.
-> See stories from Italy, Greece, Poland, Uruguay, Brazil

g) The digital divide – lack of access to equipment and the internet as well as insufficient conditions for teaching and learning – became even more prominent during the pandemic. More than ever, the Open Education approach must ensure justice and equality of education by securing the basic access for everyone and by developing educational models that aim to limit these inequalities and make remote education accessible to all.
-> See stories from Italy, Greece, Poland, Uruguay, Brazil

— Population (2019)
10,724,599[5]
— Greece spends 3.9%
of GDP on education[6]

Story from Greece

5 "Statistics – ELSTAT", *www.statistics.gr*

6 Based on current available data published by the World Bank. https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?end=2017&locations=UY-PL-BR-IT-GR&start=2006

Cooperation changes everything – the community of practice in Greece

https://www.facebook.com/groups/837504746729916/

#OER #OEP #grassroots #cooperation #mutual support

UNESCO Recommendation (iv) nurturing the creation of sustainability models for OER
(c) promoting and raising awareness of other value-added models using OER across institutions and countries where the focus is on participation, co-creation, generating value collectively, community partnerships, spurring innovation, and bringing people together for a common cause[7]

"*I have always believed in Open Education. I think that the most important lesson is the realisation of the need for the OE to become an integral part of our education system not only because access to Open Educational Resources helps to create engaging online classes. OE also provides a concrete vision of solving problems and facing challenges' –* Lia, a teacher from Greece, primary education, July 2020

'*OER can facilitate both internal and external collaborations among instructors and institutions, both locally and internationally, while ensuring equitable access to knowledge and learning*', McGreal (2017).

The biggest community of practice in Greece that incorporated all educational levels and fields was a Facebook community created on March 18, 2020, after school closure in response to the COVID-19 pandemic announced by the Ministry of Education (March 10). The name of the group is Distance Education.

The main reason for the creation of this group was the need for **interaction and solidarity** among practitioners with the intent to support each other in asking and responding to questions on issues related to the creation of materials suitable for emergency remote teaching they had never experienced before.

In less than a month over 24,000 members (as of Aug 30, 2020 – 30,000 members) asked for access and were admitted to the group, sharing their expertise, open educational resources and practices, discussing licensing issues, privacy, learners' safe internet exploration and open education policy making on a national level.

[7] http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html

Education officials, ICT trainers and Greek School Network developers were invited to the group, in turn responding to practitioners' worries as well as lack of skills and experience in online teaching and learning environments.

In a short period of time, numerous good practices were developed, setting an example for teachers that lacked skills and knowledge in distance education to create their own materials, becoming more and more efficient in responding to the new demands. This led to a rapid response culture of produsage, promoting sharing peer feedback and crowd-sourced open practices as well as establishing a high-level community of practice. By the end of April, there were 9,100 entries, which received 89,000 comments and 940,000 reactions/ likes by members of different fields of education.

The posted questions received immediate response, usually providing a variety of alternative solutions. Questions on how to use digital tools or how to organize material in LMS platforms received high quality answers. Some members, apart from sharing existing tutorials, took the initiative to create their own, responding to their fellow colleagues with outstanding commitment and in a spirit of solidarity and mutual respect.

Apart from the ‘question and answer’ and material development focus of the community, other issues were discussed – educational policy interest as well as psychological support provided to students in the unprecedented lockdown period they experienced. Discussions on distance education were initiated, expressing different standpoints circulating in the society and published in the media. This publication of the practitioners’ experiences, objections, and further suggestions provided the education stakeholders and officials with valuable feedback to their decisions as well as further orientation and modification of the educational policy in action.

The administrators of this page, being active on an international level with collaborations and exchange programs, took the initiative to broaden the borders of this initiative and further invite their global friends to participate actively, contribute to the group and share experiences. As such, in June, when schools in Greece closed, they decided to translate and add key labels in English, encouraging new members to international dialogue and exchange of OER for further sustainability of the community and new collaborations.

Key benefits:
a) encouragement of a culture of sharing,

b) rapid response produsage which enables all participants to be the users as well as the producers of information and knowledge (Bruns),
c) raising awareness on OER and OEP, as educators can promote quality distance education,
d) solidarity and mutual support among educators for sustainable development and rich quality education opportunities for students,
e) inclusive practices,
f) creation of new repositories of open educational resources and practices (based on both curated and crowd-sourced/ peer-reviewed practices),
g) enrichment of teaching scenarios based on ICT,
h) professional development,
i) a collective voice to the officials that received the necessary feedback so as to adapt to realistic needs during emergency remote teaching and design a future policy based on more inclusive and open educational community standards.

Decisions on education in early lockdown – Greece

Given the new reality that COVID-19 pandemic provoked, the government took proactive, careful steps and measures to protect the learning community from undesirable health threats. On March 10, face-to-face sessions were interrupted and the Ministry of Education started working on updating the existing digital school repositories and the Greek School Network so that all learners and educators on primary and secondary education levels can gain access to the repositories and deliver online lessons, synchronous and asynchronous, as smoothly and seamlessly as possible. This unprecedented situation required emergency strategies as there was no time available for capacity development. By the time the official online platforms were updated to host large numbers of users, educators, in an effort to keep up with their curriculum, were struggling to reach students via e-mail at the beginning, providing support, emotional presence, and educational materials. They relied on their own technical equipment and previous knowledge on how to leverage open educational resources, with numerous occasions of additional expenses to update their equipment or even buy new devices for reliable quality response. As such, all measures – computer/internet-based, mobile phones and tablets, and educational television – especially for primary level students – were all employed in an effort to respond to the challenge. The government provided a limited number of tablets for each school, based on donations, but this initiative could at least cover realistic needs. Large families with many siblings prioritized

needs, providing equipment according to necessity, especially in case of older children who underwent university level exams, leaving some members out of access to remote education. Primary education was further supported by an educational television series initiative, under the supervision of the Ministry of Education, in an effort to provide inclusive education opportunities.

From a pedagogical standpoint, emergency remote teaching cannot make for face-to-face education nor does it equate online teaching. Online pedagogical practices should be employed, ensuring quality in the delivery of materials and adaptable means of assessment in emergency remote teaching. The role of the family in primary and secondary education levels was of primary importance as parents became facilitators and part of their children's learning process. As Riggs (2020) notes, '[p]roviding access to content is a great first step, but access on its own does not make for a quality learning experience'. There is a need for interaction; student-content, student-instructor, and student-student interaction. Furthermore, there was an enhanced need for interaction with parents and reliance on their support.

On this premise, given the unforeseen situation in the educational landscape as well as the lack of readiness on educators' and parents' part to efficiently respond to the new demands and learners' expectations, social media groups were created to reduce transactional distance as well as share experiences and worries. In about a week, over 24,000 educators asked for and were given access to the group. In addition to this, education stakeholders, in response to the demands of emergency remote teaching, organized a two-day online seminar with distance education experts analyzing not only the importance of the instructional and learning design but also pedagogy in online education that should be taken into consideration. Good practices were presented and shared, while a marathon of developing online materials and modules, on a 24/7 basis, led to a quick response in a large number of students. Synchronous and asynchronous sessions started, with the use of all kinds of educational technologies to accommodate needs.

The digital tools employed by educators were mainly open access. It was observed that their free edition could not always accommodate needs. The official platforms for asynchronous sessions supported by the Greek School Network are 'e-class' and 'e-me'. They allow teachers to develop modules, invite students, upload files and material, create quizzes and assign homework. Asynchronous chats and email exchange are also supported. Students and educators can have access to these platforms using their unique credentials provided by the Greek School Network. For synchronous sessions, Cisco Webex platform was employed by the Ministry of Education. Teachers received a unique meeting room link each, where

recording of sessions was deactivated for personal data security purposes. Students could ask and be given permission to the sessions. Learners, depending on their digital skills, responded to this call, mainly addressing their need to socialize and keep in touch with the learning community and their friends while in lockdown. Nevertheless, high school learners proved to have developed new digital skills in asynchronous learning environments, at their own pace and time, not previously practiced, on the grounds that they should respond to the demands of the new reality. Additionally, it was observed that online asynchronous learning boosted the performance of dyslexic, hesitant, and low face-to-face achievers, as they embraced the opportunities for personalized, differentiated instruction that digital tools can provide.

The digital divide as well as lack of equipment and accessibility in all households was a major inhibitor. 24% of primary and secondary education level students have no access to the internet. Given this reality, the Ministry decided that lessons would not include new materials, instead, they decided to limit the scope of classes to revisions unless all students in the class could have access. In addition, a considerable number of teachers, in an effort to do their best, lacking experience and pedagogical background in online distance education, delivered lessons imitating face-to-face education, without dividing the information into digestible size. As Hodges et al. (2020) posit, though ‘[m]oving instruction online can enable the flexibility of teaching and learning anywhere, anytime", it might not be as effective as expected as the speed to this transition was ‘unprecedented and staggering’’.

Stories from Italy

— Population (2020)
60,317,116[8]
— Italy spends 4.0%
of GDP on education[9]

8 Indicatori demografici. *www.istat.it*

9 Based on current available data published by the World Bank. https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=UY

1. How to open what is closed – the MOOC 'E-collaboration at school and beyond' from Politecnico di Milano

https://www.dol.polimi.it/wp-content/uploads/2020/03/E-collaboration_sillabo.pdf

#OER #OEP #cooperation #mutual support #university

UNESCO Recommendation (iii) encouraging inclusive and equitable quality OER
(a) ensuring access to OER that most suitably meets both the needs and material circumstances of target learners and the educational objectives of the courses or subjects for which they are being provided[10]

'I learned that sharing increases personal and collective knowledge. Personally, I've done something I've never done before. I have experienced multiple platforms and I am reaping the rewards of this MOOC. I am really excited. Who would have thought that in a week I would've made three videos using the skills acquired in about a month from registration, experimenting, throwing myself towards what I'd never tried?' – a teacher from Italy.

DOL MOOC is the proposal of the Hypermedia Open Center Laboratory of the Politecnico di Milano as part of the online Master's program in teaching technologies, dedicated to the use of new technologies in teaching. The delivery method harnesses the potential of online learning and responds immediately to the request for training that adapts to every need of place, time and learning time.

The MOOC is a spin-off initiative of a paid course that the same institution created before the COVID-19 emergency. It was made freely available in March 2020 to support the schools in difficult times. The most important goal of the MOOC was the development of the basic competences in the participants to manage e-learning and e-collaboration projects, with a positive approach towards Open Education.

The first edition included about 2,250 participants. Later, the staff decided that it was necessary to make it available for every teacher and it was reopened until it reached **3,660 subscribers.**

The MOOC included the following modules:
a) E-learning and **e-collaboration** solutions for schools,

[10] http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html

b) Open Source tools for teaching,
c) Technologies for extended teaching activities outside the building and opening hours.

The delivery of the program was unique as it allowed a choice between e-learning solutions and Open Source tools. A tutor visited the forums inserting icebreakers, various activities, in-depth reflections and focusing on the resources of the teaching module with the cloud. It also included access to the DOL Supplementary Resource Library presenting a collection of articles, websites, tools and software resources organized by topic or according to the DOL modules.

Participants provided the following feedback:

'I learned that ... sharing is the strength that united us in this difficult period, asking for help and expressing doubts and fears was easier during our stories. I learned that ... we sailed marvellously in this rough sea. I learned that ... we, teachers, are an inexhaustible source of strength and ideas. I learned that ... I really enjoyed taking this course. Thank you!' - a teacher from Italy.

'Thanks to this course I discovered unusual ways of teaching and offering materials to the students, the material delivered to us is really vast and precious. So much food for thought related to new ways of teaching methods and interpretation. I will treasure what I have acquired!' – a teacher from Italy.

2. The Didactics of Proximity – the municipality of Turin for parents and educators

http://www.comune.torino.it/servizieducativi/risorse/index.html

#repository #OER #OEP #cooperation #city government #mutual support

UNESCO Recommendation (iii) encouraging inclusive and equitable quality OER
(d) ensuring public investments and incentivizing private investments in ICT infrastructure and broadband, as well as other mechanisms, to provide increased access to OER, particularly for low-income, rural and urban communities[11]

[11] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation

The Didactics of Proximity – a website with freely available educational resources was created during the lockdown caused by the COVID-19 emergency in spring 2020 to provide families with educational resources to support the education of children. The materials were produced by the Integrated Education System Services of the municipality of Turin. Together with the collection of other online resources will remain accessible and will continue to be updated as useful references for families, teachers and educators.

The Didactics was an initiative of the Department of Education and School Building of the Municipality of Turin and an idea presented by Elenora Pantò, in the hectic days of the closure of the schools. The site was created with the aim of publishing a collection of links to educational resources useful for schools, teachers who had to invent new teaching methods, families and students. The primary goal behind the initiative was to provide immediate support to schools, teachers and all other actors. The secondary goal was to show to pupils 'that the teachers did not disappear and that they were thinking about their children'. Among the resources included on the website are stories produced by children and teachers. **This was accompanied by practical initiatives such as starting a collection of PCs to be given away to the less fortunate students and making agreements with operators to provide free internet access**. All this was performed in collaboration with the metropolitan city and the universities in the area as well as the USR.

The content of the site is – for internal resources – entirely dedicated to the 0-6 age group, most of the materials are videos, but also some are text. The sections are divided into stories created with and by children, video stories, activities to do at home, games, advice for parents and two augmentative communication notebooks. For external resources, the collection includes a set of links to verified sites divided by age groups: 0-6, 6-14+, and without age limit. **Analytics show that in March and April the page counted over 50,000 users**.

Torino City Love, a Turin initiative, also launched a call open to **all companies that wanted to make digital content or services available to the city, businesses and schools**. The initiative generated a huge interest among businesses (https://www.torinocitylab.it/it/submit-to/challenge/torino-city-love).
Together with the Department of Innovation, Torino City Love created the Integrated Education System Services with other initiatives such as virtual visits via Microsoft Teams to urban gardens and visits to 3D museums. These initiatives were also part of Edu-Lab, another project of Torino City Love, aimed at innovative teaching.

Decisions on education in early lockdown – Italy

Italy was one of the first countries in Europe hit by the COVID-19 health crisis. The below account is based on official releases and press publications, however, according to our research, the level of instability of the situation was so high that the actual experiences from that time regarding the educational system vary a lot depending on the witnesses (‘It was a mess’).

Between February 21 and 23, Italy imposed a strict quarantine in the northern regions, after the detection of a cluster of cases in the Lombardy. Restrictions included schools and universities closure in the hardest hit areas.[12] On February 22, in the whole country, all educational trips to destinations in Italy and abroad were suspended.[13] Until the beginning of March, educational activities were suspended successively in other regions affected by the virus. There was a lot of disinformation and fake news circulating on the internet, also ones connected to the educational system. In response, the Ministry of Education appealed ‘not to consider any news concerning schools that does not come from or is not confirmed by official sources.’[14]

On March 2, the Ministry of Education activated a website to support distance learning (https://www.ificazione.it/coronavirus/didattica-a-distanza.html). And yet, on March 4, the Italian government imposed the shutdown of all schools and universities nationwide for two weeks, after the country reached 100 deaths from the outbreak.[15]

On March 16, the government gave ‘a green light for further measures for agile work’, with schools open only in case of non-postponable activities – the presence of auxiliary, technical and administrative staff was provided only in cases of strict necessity recognized and reported by school managers.[16]

On March 17, the Ministry of Education created and spread the hashtag #LaScuolaNonSiFerma to animate the story of good practices, and to put school institutions in contact – ‘These will be stories of resilience, of solidarity, expressing the will that the school wants to move forward, even in such a difficult and unpredictable time.’

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[12] https://abcnews.go.com/International/hundreds-chinese-inmates-infected-coronavirus-outbreak-spreads-prisons/story?id=69120484; https://www.ft.com/content/2f937640-5621-11ea-abe5-8e03987b7b20

[13] https://www.miur.gov.it/web/guest/-/coronavirus-azzolina-stop-visite-didattiche-e-viaggi-istruzione-italia-e-estero

[14] https://www.miur.gov.it/web/guest/-/coronavirus-attenersi-a-notizie-ufficiali-no-a-circolazione-di-informazioni-non-verificate

[15] https://www.miur.gov.it/web/guest/-/universita-manfredi-fino-al-15-marzo-sospensione-attivita-didattiche https://www.miur.gov.it/web/guest/-/coronavirus-azzolina-attivita-didattiche-sospese-fino-al-15-marzo

[16] https://www.miur.gov.it/web/guest/-/coronavirus-azzolina-via-libera-a-ulteriori-misure-per-il-lavoro-agile-scuole-aperte-solo-in-caso-di-attivita-indifferibili

On May 13, Lucia Azzolina, the Minister of Education, announced that schools would remain closed until September.

The day before the pandemic – brief description of Italian educational system

Basic information about the educational system

In Italy public schools are free of charge at least from the first year of primary school up to the last year of high school. Such schools are managed centrally by the Ministry of Education (MIUR). Families usually need to pay for the meals if their children stay for lunch, but normally it is an affordable amount (about EUR 500 per year). The average expenditure for textbooks in the school year of 2019-2020 is calculated at around EUR 286 in the first class of secondary education level, EUR 111 in the second class, EUR 127 in the third class. In primary school all textbooks are free of charge and can be obtained at any bookshop, the booklet is provided by the municipality and delivered directly by the school in the first days of the school year.

According to the European Commission's EACEA National Policies Platform[17], the Ministry of Education and the Ministry of University and Research are responsible for the general administration of education in Italy at national level in their relevant fields. The Ministry of education features decentralized offices (Regional School Offices – USRs) that guarantee the application of general provisions as well as the respect of the minimum performance requirements and standards in each Italian region.

Regions share joint responsibility with the State in some sectors of the education system (e.g. the organisation of early education, school calendar, the distribution of schools in their territory, the right to pursue studies at a higher level of education). Regions enjoy exclusive legislative competence in the organisation of the regional vocational education and training system.

Local authorities are responsible for managing the educational infrastructure (e.g. the maintenance of premises, merging or establishment of schools, transporting pupils) from early education to upper secondary education at local level.

Schools have a high degree of autonomy: they define curricula, widen the educational offer, organize teaching (regular and extracurricular classes). Every three years, schools draw up

[17] https://eacea.ec.europa.eu/national-policies/eurydice/content/italy_en

their own three-year educational plan.

Open education in documents, strategies and regulations

At the macro policy level, Open Educational Resources are included as a component of the national policy for digitalization in schools and are encompassed in some regional initiatives. On the other hand, university education in Italy does not feature either a specific policy on Open Educational Resources nor does it mention Open Educational Resources in existing public policy initiatives (Tammaro et al 2016, Nascimbeni 2020).

In 2010, CRUI started to devote attention to Open Educational Resources by running a survey in collaboration with the Italian publishers association and copyright association, aiming to understand the state of the art of the management of intellectual property rights for e-learning in the country. The survey showed a rather undeveloped Open Educational Resources ecosystem, with only 14% of the responding universities using Creative Commons licenses, 5% having an OpenCourseWare policy, and 28% authorizing the reuse of their resources outside the university. On the bright side, 90% of respondents declared willingness to use Open Educational Resources in their courses. (Tammaro 2015, NAscimbeni 2020).

The Italian legislation provides for the use of Open Educational Resources, as specified in the attachment of the Decreto Ministeriale 781/2013 (Ministerial Decree), expressly providing for the use of ‘content acquired specifically or available on the internet or produced through the individual or collaborative work of the teachers, possibly also through the involvement of the learners. A particularly important role is played in this field by open educational resources (OER), of which we intend to promote the use and production.’
The Decree, which is mainly focused on textbooks and digital textbooks, is available under the following link (Italian only): https://www.istruzione.it/allegati/decreto_libri_digitali.pdf

Excerpt from the Annex of the Decree, point 1:
‘In defining the characteristics of the platforms of use and the methods of their adoption, the following considerations should be kept in mind:
1) the characteristics and functions of the platforms of use are highly dependent on technological evolution, and have so far been the object of insufficient attention;
2) currently, various content providers have created and adopted various platforms, often with restricted access and not interoperable;
3) however, it is not conceivable that students and teachers are forced to use a plurality of

different platforms in daily use, which often overlap in terms of functionality and tools offered, but adopt different interfaces, conventions and operating methods in this regard;
4) at the current stage, however, it is not probable that a unique platform is conceivable to be created, also considering that in a situation of particularly rapid and often unpredictable technological evolution this would risk jeopardizing the development of innovative features and functionalities.

For these reasons, the Ministry believes it is necessary – through the establishment of a technical expert group – a joint effort by publishers and content providers, schools, universities, associations of teachers engaged in the field of didactic innovation, for the development of a framework for a common, open, interoperable and expandable software, in line with the state of the art and best international practices on the subject; undertakes to promote this effort through appropriate initiatives; in any case, invites all those involved in the development of platforms to consider the need – also for the purpose of safeguarding the investments made over time – to work using open and interoperable tools and standards, in order to integrate the functionalities implemented within a common framework.

We also invite you to keep in mind that any type of personal data and activity tracking collected from the platforms of use must be accessible to teachers and students, and must be fully managed in compliance with existing privacy and personal data protection regulations.'

Excerpt from point 3, 'Pedagogical Aspects':
'The pedagogical characteristics of the digital learning contents to be used in schools of all levels and degrees, both as regards the textbook and with regard to the supplementary digital contents, can be summarized in the following terms:
[…] foster learning open to the use of new forms of digital communication, and capable of using them as a tool and vehicle for formative interaction (social learning) and openness towards forms of transversal aggregation, also different from the class group'.

Unfortunately, at the institutional level, little of this is currently being done, although there are many local, individual initiatives operating in this fashion.

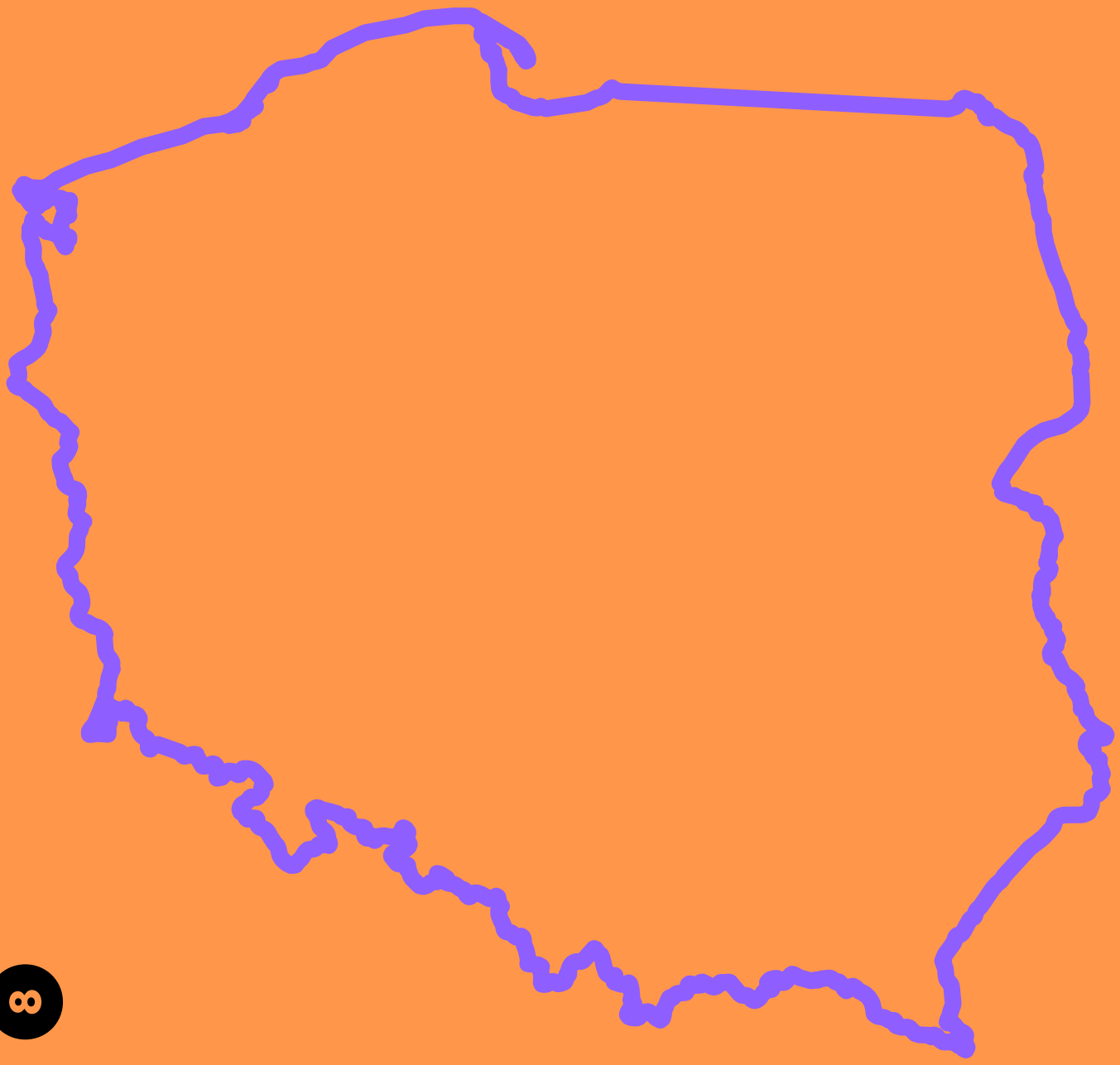
Infrastructure and digital repositories

Before the pandemic, Italian teachers and students could search for education materials at several online repositories. One of them was Scuaola valore which provided access to more than 800 resources in several subjects, adapted to the different levels of the Italian school system and downloadable without the need to register. In copyright terms, the platform allows teachers to use the content for non-commercial educational and scientific purposes, but at the same time all the content of the platform is copyright protected, therefore not allowing mixing the resources. Although in primary school all textbooks are available for free, they are not available online. The online version of textbooks will be provided in the coming years.

To sum up, digital divides are still an issue in Italy. Especially in some areas where, for instance, the fiber connection is not available yet, or in the mountains, where the telephone signal is low. During the lockdown many students had to follow the lectures via smartphone as the computers in the families, if available, were used by their parents for smart working. The clash between smart working and home schooling is another big issue, not only in Italy, spanning beyond the use of computers and phones. In some cases in Italy, parents had to hire a babysitter to take care of their children while they worked (especially those who had to keep going to their office, shop or factory). The government provided financial bonuses for them, but they were not easy to get.

Stories from Poland

— Population (2019) 38,386,000[18]
— Poland spends 4.9% of GDP on education (2019)



18 The Central Statistical Office. Population. The Current Situation, Structure and Natural Traffic in Geographical Cross-Section in 2019.

Invite me to your lesson – a grassroots initiative for the exchange and cooperation of teachers from thousands of Polish schools

https://www.facebook.com/groups/232873317780219/

#OEP #grassroot #cooperation #mutual support

UNESCO Recommendation (iv) nurturing the creation of sustainability models for OER
(c) promoting and raising awareness of other value-added models using OER across institutions and countries where the focus is on participation, co-creation, generating value collectively, community partnerships, spurring innovation, and bringing people together for a common cause[19]

'Invite me to your lesson' is a grassroots initiative of teachers organized by means of a Facebook group based on cross-invitations and conducting remote lessons by other teachers or experts.

The project was spontaneously originated by Irmina Żarska and Magdalena Krajewska. Initially, it was supposed to be a place bringing together a small group of teachers who wanted to invite each other to online lessons at schools to diversify their students' classes and revive the remote education formula. Instead of conducting the lessons on their own, sticking rigidly to the textbook, experts in the given fields and teachers passionate about the given topics are invited to present the discussed topic to the students using their knowledge and experience.

The group adopted the principle of sharing as many lessons as possible from each other, i.e. to accept and offer a similar number of lessons at home. The members of the group adopted the terms 'lesson taker' and 'lesson provider' which, although humorous, were well accepted as describing the role of teachers in a given situation.

'It soon turned out that this is also a very interesting experience from the point of view of teachers because many teachers joined in and we know them from various competitions – Teachers of the Year, the ones popular on Facebook sites or authors of various publications. And it was great to observe how they make contact with a student, how they conduct lessons. It was very interesting. You know, of course, a teacher can talk a lot about how they

[19] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation

teach lessons, but only when you see how it really looks you can tell if it suits you' – Irmina Żarska, a teacher from Poland.

On the lessons, the exact same issues that were included in the annual plan are often pursued, with the difference being that instead of following the handbook, students can pursue the program in a meeting with experts.

In a short period of time, a large number of teachers started to join the group and after about two weeks it already had more than one thousand members. Currently [as of September 16, 2020] the group features over 4,400 users.

The group's originators, in an effort to appreciate teachers, over time established the title of a 'project leader' which they award to the most active people in the group. The group also developed a coherent visual identity, created by the members of the group.

As part of the initiative, about 1,500 lessons have been conducted online [as of July 30, 2020]. The idea has been communicated to educational and national media and has also inspired teachers outside the group.

'Currently, we have 300 lessons on offer [conversation of July 30, 2020]. A lot of people have joined in, not only our friends. It was a bit shocking for me because we were not planning a big bottom-up initiative at all. We just wanted to put our lessons in order in the group where we know each other well' – Irmina Żarska, a teacher from Poland.

Post submitted by a project participant:

'Thank you very much for this project which allowed me to meet a lot of committed students and teachers. I am very happy that you have let me present the topic of hospice volunteering in your schools. I have visited 20 different schools, I've been in almost every corner of Poland answering questions, without even leaving my own room' – a teacher from Poland.

Wolne Lektury – a grassroots digital library visited by 1,500,000 readers per month in the pandemic

https://wolnelektury.pl/

#NGO #repository #OER

UNESCO Recommendation (iii) encouraging inclusive and equitable quality OER

(a) ensuring access to OER that most suitably meets both the needs and material circumstances of target learners and the educational objectives of the courses or subjects for which they are being provided. This would include offline (including printed) modalities for accessing resources where appropriate[20]

Wolne Lektury (Free Readings), is a digital library run since 2007 by Fundacja Nowoczesna Polska (Modern Poland Foundation), a non-governmental organization. It has been successively expanding its collection and reaching a growing number of users. 'The library's collection contains 5,611 works, including many school books recommended for use by the Ministry of National Education which have already been made available in the public domain'. Books from Wolne Lektury are perfectly edited and available in many formats – as text or mobile versions, adapted to the needs of people with disabilities. In addition to school books, you will also find the classics of Polish and foreign literature. All items are available free of charge in the public domain or on free licences.

In March 2020, following the closure of schools and libraries, Wolne Lektury was the only place where students and teachers could download school books in mobile formats. User statistics are impressive: 800,000 unique users visited the library in February 2020, the number doubled to 1,500,000 in March. In the first days of September 2020, the number of visitors has already reached 5,800,000 since the beginning of the year, compared to 5,000,000 in the whole of 2019.

Despite the sudden suspension of in-school education and the associated rapid increase in demand for online educational resources, Wolne Lektury were well prepared for the growth of users during the pandemic. The service operated without failure throughout the whole period of remote education, with a huge growth of users. This was possible thanks to the current focus on universal remote education from the beginning of the library's existence – the resources available, the infrastructure and the mode of work remained at the core of the concept of Wolne Lektury.

During the pandemic, many small initiatives approached Wolne Lektury, wanting to develop their projects on Wolne Lektury books, e.g. the Teatr Układ Formalny, a theater from Wrocław, who organized daily readings from Wolne Lektury on Facebook. Wolne Lektury also established cooperation with PFR (Polish Development Fund). As part of their joint activities, an audiobook was recorded and currently the two organizations have been implementing a project on teaching about literature using new technologies.

[20] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation

Wolne Lektury is one of the most important and commonly used projects of Open Education, without which Polish language education in Poland would be much less accessible. Interestingly, however, the Ministry of National Education is not interested in supporting the project – the library is financed from self-received grants and donor support [Financing structure: Ministry of Culture and National Heritage – 39%; Donor contributions – 31%; Cooperation with companies – 22%; Funds from taxpayers with 1% tax – 8%].

Pistacja.tv – how to teach millions of maths students during the pandemic

https://pistacja.tv/

#NGO #repository #OER

UNESCO Recommendation (iii) encouraging inclusive and equitable quality OER *(a) ensuring access to OER that most suitably meets both the needs and material circumstances of target learners and the educational objectives of the courses or subjects for which they are being provided. This would include offline (including printed) modalities for accessing resources where appropriate*[21]

'The Pi-stacja is an ever-growing collection of short educational films that very precisely pursue the core curriculum of general education. We start with mathematics – on our pistacja.tv website and on the YouTube channel we already have more than 500 videos lasting several minutes, in which our tutors explain everything that the core curriculum includes: from natural numbers to multiplication of powers. We provide our audience with high quality, free educational materials which you can use anywhere and anytime on your computer, tablet or mobile phone.'[22]

The aim of the Pistacja *(*Pi-station*)* channels is to provide high quality video lessons that can be used in a reverse lesson model, alone or as a complement to the lesson. The lessons are adjusted very precisely to the Polish core curriculum, which during the pandemic made it easier for teachers to use them by providing materials remotely and to include Pistacja in the materials recommended by the Ministry of National Education. The Pistacja videos and additional materials they create are available entirely under a free licence.

[21] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation
[22] https://pistacja.tv/o-projekcie

By the mid-March 2020, the Pistacja Mathematics channel had a total of 2,500,000 views (for 4 years of operation). In turn, three months later, at the end of the school year, this number increased to 15,000,000. In view of the dire threat of gaps in the knowledge of the students who were about to take exams, Katalyst Education Foundation, which runs the Pistacja channel, launched open and free live shows with teachers presenting for 8-year-olds and high school graduates. The shows attracted over 190,000 views in two months (and about 4-5,000 live viewers).

'Before the pandemic we had about 6 thousand views per day. In the pandemic – as many as 120-150 thousand views per day (over 20 times the increase in viewership...). I think this is a good illustration of the scale of the needs of pupils and teachers at that time' – Klaudia Stano, an education specialist and data analyst, Catalyst Education.

Remote Lessons and Open Educational Network - Polish government initiatives

https://www.gov.pl/web/zdalnelekcje
https://ose.gov.pl/

UNESCO Recommendation (ii) developing supportive policy

(b) encouraging and supporting institutions to develop or update legal or policy frameworks to stimulate the creation, access, re-use, re-purpose, adaptation and redistribution of quality OER by educators and learners in a manner consistent with national copyright legislation and international obligations; and to develop and integrate a quality assurance mechanism for OER into the existing quality assurance strategies for teaching and learning materials[23]

Remote Lessons (Zdalne Lekcje)g
"A portal, which is a joint undertaking of the Ministry of Digitization, the Ministry of National Education and the Scientific-Academic Computer Network – National Research Institute, offering links to specific resources useful in the implementation of individual lesson topics. The experts have gathered in one place, in the form of lesson plans for individual classes, educational materials available in the network free of charge. The materials came from the

[23] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation

www.epodreczniki.pl, scholaris.pl and NGO portals and other sites with educational content or films"[24].

Initially, the service offered weekly sets of teaching materials for each grade. This was criticized by some teachers as being insufficiently flexible, as teachers implement the core curriculum at different speeds and according to a self-selected order of topics. In the following weeks, a more detailed list of recommended digital resources was also published. This list included resources not just of public institutions, but also selected educational NGOS. This also included resources made available for free, for the time of the pandemic, by some educational publishers. Open Educational Resources comprised a large part of the recommended resources (e.g. Khan Academy, educational films from Pistacja.tv, content from epodreczniki.pl open textbooks and Scholaris, a public repository of educational resources). The service was also accompanied by tutorial videos developed by the Ministry of Digitization, which explained how to use educational applications and how to implement Microsoft Teams and Google Classroom tools in a school. In the period between the lockdown of schools in March and the end of the school year in June, 2,6 million users generated 67 million views of the service. The content registry ultimately linked to 3500 proposals of lessons and activities.[25]

The success of the Remote Lessons service can be considered, to a large extent, only possible thanks to the open textbooks from the epodreczniki.pl platform and open educational resources created by non-governmental organisations.

The Polish Educational Network (Ogólnopolska Sieć Edukacyjna - OSE) was aunched in 2017 with the aim to provide schools with access to a high speed broadband connection and additional services, such as content repositories. The project also includes skills training for teachers and schoolmasters. During the pandemic, the OSE network website was redesigned and also contained educational resources and recommened educational tools and services.

Decisions on education in early lockdown - Poland

'So, the pupils tell me 'Ma'am, they are closing the school'. And I thought they were joking as the students do – that they want to come home early, they're always up to something interesting. And it turned out that this is true. I immediately grabbed the phone and checked.

[24] https://www.gov.pl/web/zdalnelekcje
[25] https://www.gov.pl/web/edukacja/govplzdalnelekcje

The pupils had a lot of questions: how will it be organised? What will happen now? - I said: 'I don't know, I've just heard it from you that the schools will be closed.' Well, it was just terrible.' - teacher from Poland.

In view of the growing number of cases of SARS-CoV-2 infection in Poland, on 12 March, the Ministry of National Education decided to suspend teaching, educational and care-taking activities in schools. It was one of the quickest decisions of this kind in the world, only 8 days after the first case of the infection was found in the country.

On March 20, a regulation was issued concerning the legal framework for remote education – since March 25, this has been the main form of implementation of tasks carried out by the education system units[26]. Shortly after the schools were closed, the Ministry of National Education took care of the preparation of educational materials and tools that could be used by students and teachers. The main activity of this type was the National Integrated Education Platform (available at https://epodreczniki.pl), where since 2015, a total of 6,800 free educational materials (textbooks, mutlimedia, additional materials developed, among others, in cooperation with cultural institutions) have been shared. These cover the core curriculum for primary and lower secondary education (grades 1-12) as well as specialized resources, for example for foreign language learning or vocational training. Contents of the epodreczniki.pl repository were connected with the Zdalne Lekcje portal, described above. In mid-April, Polish Television began broadcasting recordings of lessons based on the general curriculum. Thanks to cooperation with commercial publishers, it was also possible to provide teachers and students with temporary, free access to selected textbooks in digital versions[27].

An important barrier in conducting remote education was infrastructure deficits – the lack of equipment necessary to conduct online lessons and participate in them. In response to this, the government launched the Remote School programs, under which a total of PLN 367million was allocated to local governments to purchase computer equipment.[28]

The switch to remote education and its consequences are the subject of a report of the Ministry of National Education.[29] Independent evidence was provided by a range of reports published, among others, by Centrum Cyfrowe[30], Skriware (a company),

[26] Report of the Minister of National Education. Ensuring the functioning of the educational system units during the COVID-19 epidemic. Source: https://www.gov.pl/attachment/5bf4821b-b007-402c-82ab-0138998003df

[27] https://www.gov.pl/web/edukacja/elektroniczne-wersje-podrecznikow-i-materialow-dydaktycznych

[28] Report of the Minister of National Education. Ensuring the functioning of the educational system units during the COVID-19 epidemic. Source: https://www.gov.pl/attachment/5bf4821b-b007-402c-82ab-0138998003df

[29] https://www.gov.pl/attachment/5bf4821b-b007-402c-82ab-0138998003df

[30] https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2020/05/Edukacja_zdalna_w_czasie_pandemii.pptx-2.pdf

zdalnenauczanie.org[31] (a learning service), *Lekcja:Enter* (Lesson:Enter, an Orange Foundation project) and Fundacja Rozwoju Społeczeństwa Informacyjnego[32] (Information Society Development Foundation) as well as Librus[33], an e-teaching company. Understandably, none of the parties to the educational process – students, parents and teachers – were prepared for such a drastic change in teaching and learning. The first obstacle was the lack of infrastructure – in May 2020, after two months of remote learning, as many as 31% of parents declared that they were unable to provide the necessary facilities for every child.[34]. According to the surveyed schoolmasters, this is by far the biggest barrier in the remote learning process [35]. In addition to the lack of equipment, problems with the quality of the internet connection on the part of the students were also often pointed out, especially in rural areas[36].

Secondly, teachers had to completely change their working environment overnight, often without any preparation – only 15% of them declare previous experience with remote education[37]. So they often had to learn the tools from scratch, which made their working time significantly longer. The new form of teaching has also undoubtedly influenced the methods used – teachers most often sent educational materials or homework to students electronically, and only about 63% declared to teach live lessons[38]. Such passive teaching forms stand in contrast to the progressive trends currently prevailing in pedagogy, where it is the pupil and their activity that are the focus of attention.

The choice of tools used by teachers during the pandemic resulted from the most commonly used teaching forms. Therefore, the most popular were applications and platforms for sharing content – presentations, films or other types of materials[39]. Examples of such tools include e-mails, but also G Suite and Microsoft Teams platforms,[40] whose popularity has increased exponentially during the months of school closures. In addition, live teaching has been carried out using telecommunication applications such as Zoom, Skype and Messenger. The rest of the tools were already very diverse – teachers pointed to programmes such as Kahoot, Padlet, Jamboard, resources such as Khan Academy, Eduelo

[31] https://zdalnenauczanie.org/wp-content/uploads/2020/06/Badanie-zdalnenauczanie_org_prezentacja.pdf
[32] https://lekcjaenter.pl/uploads/RAPORT_Dyrektorzy%20do%20zadan%CC%81%20specjalnych.pdf
[33] https://files.librus.pl/articles/00pic/20/05/29/librus/Librus_RAPORT2_nauczanie_zdalne_maj2020.pdf
[34] https://files.librus.pl/articles/00pic/20/05/29/librus/Librus_RAPORT2_nauczanie_zdalne_maj2020.pdf
[35] https://lekcjaenter.pl/uploads/RAPORT_Dyrektorzy%20do%20zadan%CC%81%20specjalnych.pdf
[36] https://lekcjaenter.pl/uploads/RAPORT_Dyrektorzy%20do%20zadan%CC%81%20specjalnych.pdf
[37] https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2020/05/Edukacja_zdalna_w_czasie_pandemii.pptx-2.pdf
[38] https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2020/05/Edukacja_zdalna_w_czasie_pandemii.pptx-2.pdf
[39] https://zdalnenauczanie.org/wp-content/uploads/2020/06/Badanie-zdalnenauczanie_org_prezentacja.pdf
[40] https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2020/05/Edukacja_zdalna_w_czasie_pandemii.pptx-2.pdf

and educational communities exchanging resources such as eTwinning. It is worth noting, however, that a comparison of the results of two studies commissioned by Librus (the first one carried out at the beginning of April and the second one at the end of May) indicates a trend of a slow transition from passive teaching methods to activating methods, in which pupils are engaged in collaborative work[41].

Some people point out the gaps in content and in the assimilation of material that cannot be made up for anymore – this is where the youngest pupils from early childhood education have lost the most. It seems, however, that the most serious 'losses' have been suffered by the mental well-being of all the actors involved in the educational process: pupils, teachers and parents alike. They all agree that their current mental and physical well-being is worse than before the pandemic.[42] (although it should, of course, be borne in mind that this is influenced not only by the situation in the education system, but also, and above all, by the global situation). The pandemic has caused a lot of damage in the process of building school relations. Both between pupils and teachers and, to an even greater extent, between peers[43].

Since May, the educational system has been slowly unfreezing, starting with facilities for the youngest pupils. Examinations at the end of the stage of education – both the eighth-grade and secondary school graduation exams – were conducted in the normal mode, although there was a lot of controversy over the numerous changes in their dates.

The day before pandemic – brief description of Polish educational system

Key assumptions of the education systems

The educational system in Poland consists of three stages: early education (nurseries and kindergartens), primary education and secondary education. Primary school starts at the age of 7, although parents can also apply for a 6-year-old child to be admitted to school. Education in Poland is financed primarily from public funds – at the level of primary and secondary schools, they account for as much as 91% of the total funds allocated for this purpose[44]. Nevertheless, there is also a non-public education system in Poland, which is also partly financed from the state budget, although the greater part of its costs is covered by

[41] https://files.librus.pl/articles/00pic/20/05/29/librus/Librus_RAPORT2_nauczanie_zdalne_maj2020.pdf
[42] https://zdalnenauczanie.org/wp-content/uploads/2020/06/Badanie-zdalnenauczanie_org_prezentacja.pdf
[43] https://zdalnenauczanie.org/wp-content/uploads/2020/06/Badanie-zdalnenauczanie_org_prezentacja.pdf
[44] OECD. Education at a Glance 2019.

parents. Both the number of non-public institutions and the number of students attending them is steadily increasing from year to year[45].

Learning in a public school is free of charge and does not involve significant additional fees. Various forms of support for families are available in the form of government programmes which subsidize the purchase of school books (targeted grants for schools transferred every 3 years for textbooks selected by teachers) or school meals. The education system in Poland has been restructured several times over the last 30 years – the last time in 2017, when it was decided to liquidate *gimnazjum* (lower secondary school, an educational stage between primary and secondary school). The situation of teachers working in public institutions is difficult – both in terms of employment conditions and remuneration, as well as the declining social position of the profession, which results in fewer and fewer people choosing to work as teachers.

Growing expenditure in recent years – resulting, among other things, from a higher number of students and the occurrence of the so-called 'double year cohorts' as a result of education reform or remote education – is increasingly being transferred to local authorities[46].

Open education in documents, strategies and regulations

Since 2012, Poland has a policy of supporting the development of Open Educational Resources and the promotion of open licensing for educational resources - although this policy is not confirmed in law or defined in any of the strategic documents. Such references will only be found in documents regulating the detailed operation of public projects or in national rules concerning the expenditure of EU funds from the European Social Fund. Here, the example of the Digital School program is particularly worth examining – within this program, an open e-textbooks project was launched in 2012, featuring open, digital e-books issued by the Ministry of National Education under the CC BY licence. The openness of the results of projects financed from EU funds (in particular, Erasmus programmes for secondary schools and higher education) is ensured by the Foundation for the Development of the Education System under the Ministry of National Education. In this case, the results remain atomized and often difficult to find after the project duration (publication of project results on a shared platform is optional).

[45] https://ciekaweliczby.pl/szkoly/

[46] https://serwisy.gazetaprawna.pl/edukacja/galerie/1454393,duze-zdjecie,2,rok-szkolny-2020-2021-subwencja-oswiatowa-podwyzki.html

Infrastructure and digital repositories

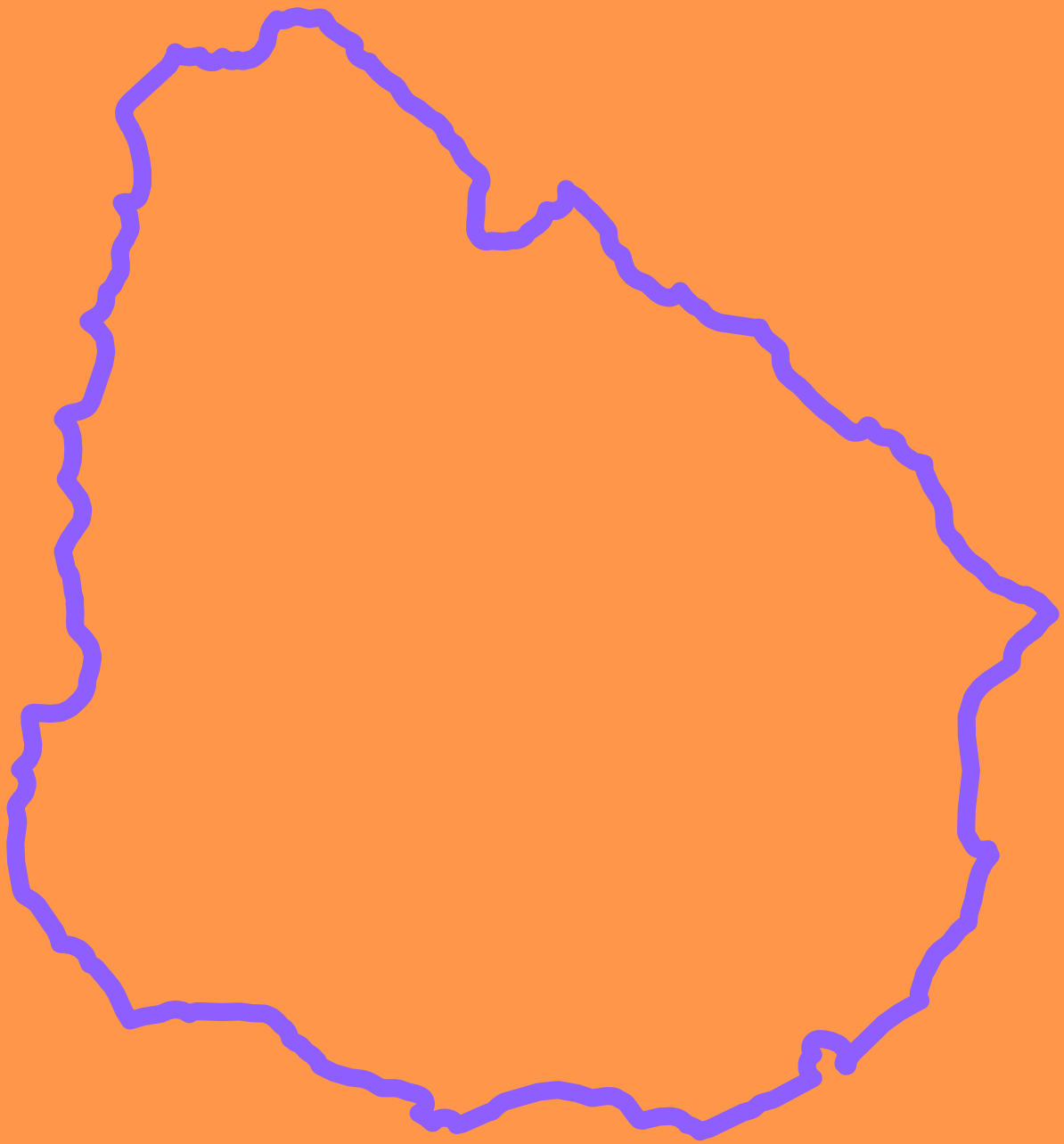
One of the most important government portals with educational materials in Poland is the National Integrated Education Platform (available at https://epodreczniki.pl), where a total of 6,800 free educational materials have been posted since 2015. These cover the core curriculum for primary and lower secondary education (grades 1-12) as well as specialized resources, for example for foreign language learning or vocational training. The portal and textbooks have been updated since their inception, successive government textbooks (e.g. for vocational education) are still published under the same open licence and added to the site.

The most recent project of strategic importance for education, of which the Open Educational Resources are part, is the Polish Educational Network (*Ogólnopolska Sieć Edukacyjna - OSE*). Launched in 2017, the project aims to provide schools with access to high speed broadband internet connection and additional services such as securing and integrating educational resources into a single access point for teachers. The project also includes components for improving digital competences in teachers and schoolmasters.

Stories from Uruguay

— Population (2019) 3,518,552[47]

— Uruguay spends 4.84% of GDP on education[48]



47 Estimaciones y Proyecciones – Instituto Nacional de Estadística. https://web.archive.org/web/20190322200708/http://www.ine.gub.uy/web/guest/estimaciones-y-proyecciones

48 Based on current available data published by the World Bank. https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=UY

Plan Ceibal and Portal Uruguay Educa – how systematic building of national OER repositories can help as a response to emergency remote education

https://rea.ceibal.edu.uy/
https://uruguayeduca.anep.edu.uy/

#government #repository #OER #OEP #cooperation

UNESCO Recommendation (iv) nurturing the creation of sustainability models for OER
(d) enacting regulatory frameworks that support the development of OER products and related services that align with national and international standards as well as the interest and values of the OER stakeholders[49]

'Thanks to the pandemic, teachers discovered the world of open digital resources. They don't really know they are 'open', let's leave it up to 'digital'. I don't know if they knew that all this existed, now they are shocked' – a teacher from Uruguay

'My point of view regarding OER is not going to change at all because I always believed that this is the best way of collaboration worldwide [...] I was looking for a way of collaboration between different countries, to participate in the creation of teaching resources' – a teacher from Uruguay.

Once the national emergency was declared, Uruguay introduced the Programa Ceibal en Casa (Ceibal at Home Program), **a contingency plan implemented by the Uruguayan government to improve the continuity of education during the Coronavirus crisis**. This reconfigured the operation of the Plan Ceibal program to adapt to the situation generated by the pandemic, taking advantage of robust pre-existing digital infrastructure, educational resources, public access and data collection (Ripani, 2020).

Among the multiple platforms and tools provided by the Plan Ceibal we can find the Repository of Open Educational Resources. The repository was created in 2008 and since its creation it was designed as a support instrument for the different services provided by the Plan Ceibal Training Department. The Open Educational Resources stored in the repository

[49] https://en.unesco.org/themes/building-knowledge-societies/oer/recommendation

are managed by a team of primary and secondary education teachers, called ‘content creators’, specialized in the development of OER.

To date, the Repository features about 1,100 OER, mostly Learning Objects classified by area of knowledge and level of education (primary and secondary). More than half of the resources available were sent for publication by teachers from the OEP community promoted by the Ceibal Training Area and evaluated by the content creators team acting as content curator. The OER Repository is part of a strategy towards the generalization of OEP, in other words it is one of the tools of the OEP system of the Plan Ceibal Training Area.

The OER Repository is not the only strategy for accessing educational content, Ceibal also features the Content Department with a variety of offers. Among them we can find a Digital Library, known as Biblioteca País as it grants any citizen reading rights to some 7,000 books (mostly recreational reading), offered by the provider (ODILO) whose rights were negotiated with local publishers (all with DRM). It also offers platforms for activities and content, such as Matific (a gamified platform for mathematics) or EduCiences (a platform for science books adapted to primary education curriculum), among other offers of educational resources with exclusive access for users of Ceibal and with limited reuse.

Statistics: Repository of Open Educational Resources of Plan Ceibal
https://rea.ceibal.edu.uy/

March to May, 2019	March to May, 2020
Number of visits 117,008	***Number of visits*** 518,128
Number of users: 79,505	***Number of users:*** 329,135

Portal Uruguay Educa: https://uruguayeduca.anep.edu.uy/

The repository was created in 2007. Uruguay Educa is the educational portal of the National Administration of Public Education (ANEP) which aims at the creation and adaptation of digital resources to enhance the teachers' work. It is managed by the ANEP Sectorial Directorate for Management and Communication in coordination with representatives from all levels of public education. Like the Ceibal Plan Repository, it also features a ‘content creators team’ aimed at the creation of, curation of and training in OER. There are currently three teams, one for early and primary education (shared with Plan Ceibal), another for secondary education and the third focused on education of adults.

To date, the Repository features 2,748 educational resources (from comprehensive teaching solutions to simple activities) and 198 mixed-purpose materials. In this repository the vast majority of resources have been created by the content creation team, with very little participation from the teachers' communities, characterized by the special care in adapting the contents to the curriculum. In this way, the classification of content within the repository is directly related to the grade and area of knowledge, according to the curriculum structure.

The Repository Management team disseminates successful educational experiences, methodologies and practices through the project Seeding Experiences, organizing the ICT Experiences Educational Contest and publishing selected experiences.

Stats: Portal Uruguay Educa https://uruguayeduca.anep.edu.uy/

April-June 2019	April-June 2020
Number of visits 161,328	***Number of visits*** 291,263
Number of pages visited: 413,335	***Number of pages visited:*** 776,984

Both repositories became very popular during the pandemic. Teachers initially knew the tools, now they embrace their real use, determined by the hybrid education model, according to the respondents. There are 'real reasons now for the use of technologies and the creation and use of digital resources, as part of a need' for adopting these tools. The classrooms 'began to change, to be more dynamic, with interactive images, games'. External activities and resources from repositories were integrated into the classrooms.

'This is like in any teaching practice, you learn when you need to. So, I came to teach something that teachers could actually solve without using them [OER], why are they going to learn it? Now they have already used these resources, so it will be much easier for me to go back on track and teach them how to modify those resources' – a teacher from Uruguay.

'I think teachers did learn something. They did not believe in the virtual world, they only believed in face-to-face, and it seems to me that what has happened is going to change teaching. I think that if the authorities embrace this opportunity, it will offer an infinite world of possibilities' – a teacher from Uruguay.

RedREA (OER Network) – how to ensure the continued creation of open resources that feed national repositories

https://redreauy.org/

#NGO #OER #OEP #grassroot #cooperation

UNESCO Recommendation (iv) nurturing the creation of sustainability models for OER

(b) catalyzing sustainability models, not only through traditional funding sources, but also through non-traditional reciprocity-based resource mobilization, through partnerships, networking, and revenue generation such as donations, memberships, pay what you want, and crowdfunding that may provide revenues and sustainability to OER provision while ensuring that costs for accessing essential materials for teaching and learning are not shifted to individual educators or students[50]

RedREA is a network of teachers' trainers aimed to incorporate training in OER in the future generations of teachers. RedREA was established in 2017 as a joint strategy between the Academic Unit of Educational Technology of the Uruguayan Education Training Council (CFE) and the Training Department of Plan Ceibal. This is a network of centers for the creation of digital educational resources, whose main objective is to position teachers and students of the Initial Teacher Training Centers as producers of educational content to improve the quality of learning and strengthen the teaching profession (Educational Goals 2021, General Goal 5 and 8). It also includes the recommendations made to the countries arising from The World Congress on Open Educational Resources (OER), held in Paris from June 20 to 22, 2012.

This Network currently functions as **a community of practice that works with third and fourth year students of teacher education implementing a strategy for developing digital skills based on the development of Open Educational Resources.**

99% of teachers, technical teachers, professors and social educators across the country graduated from public Teacher Education Centers. Currently, the RedREA is being implemented in 9 of the 33 Teacher Education Centers and it has been growing every year.

[50] http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html

During the COVID19 crisis, **RedREA members sent a selection of the best OERs to the Institutional Open Access Repository (RIdAA-CFE)**. In July 2020, a collection called OER Student Production was created and shared in the national repositories.

'The advantage of the OER is that you can download the resources and modify them, as several teachers did. Because sometimes it is difficult to find just the resource you need, adapt to your context and your reality and to what you specifically want to work on. So being able to have editable resources and being able to adapt them is a great advantage' – a teacher from Uruguay.

'The pandemic was what sparked the interest of teachers for all this (OERs). Until now, for them, they could teach the same, without having these resources. Now they were forced during the pandemic to teach with digital forms, so that's where their real interest arose. The teachers with previous training served as props, because they were leading the process by working in pairs. Only now, as a result of the pandemic, we started using them [OERs] on a daily basis. That's because after the children leave, we stay at school working like in a workshop' – a teacher from Uruguay.

Decisions on education in early lockdown – Uruguay

The national health emergency was declared on March 13, 2020. This coincided with the start of the school year in Uruguay that had occurred on March 2, the day after the emergency declaration (March 14) the government decided to close all schools. Uruguay features an important technological infrastructure and a wide and strong public education sector that has allowed the country to continue education despite the pandemic. Following the declaration of a national emergency, the authorities launched the Ceibal en Casa program, a contingency plan implemented by the Uruguayan government to improve the continuity of education during the coronavirus crisis. This reconfigured the operation of the Plan Ceibal to the situation generated by the pandemic, taking advantage of robust pre-existing digital infrastructure, educational resources, generalized access and data collection. The school meals program Programa de Alimentación Escolar continued, and was fundamental in terms of mitigating the disengagement, equity and food security. Around 70% of the students in public education have registered and maintained some connection with their teachers on different platforms, but the situation varied among the subsystems. To identify those who have not connected, the administration resolved to strengthen the bond through community teachers, aiming to maintain the link with students. However, not all the families were reached, and differences in digital skills occurred in both students and teachers. The search for solutions was left to the educational communities, with general

guidelines and foci on some curricular priorities and objectives during this difficult period. The Central Board of Directors (Codicen) issued public supportive statements, for both teachers and students, to maintain relations. A technical advisory team was formed, made up of representatives from different subsystems in the educational structure, to formulate the response to the pandemic and established guidelines for action that involved planning, registration and greater engagement of students. This advisory team also planned returning to face-to-face courses, which were partially resumed in June with a reduction of school days and class hours.

In relation to the access to educational resources in the context of emergency distance education, is relevant to highlight that:
a) despite having one of the most outdated copyright laws in the region (there are practically no exceptions and limitations for education), the issue of respect for copyright is not a concern in Uruguay and teachers developed a wide variety of creation or reuse strategies of materials using, both legally or illegally, all available resources.

b) the role of Open Educational Resources in the available repositories was central to gaining access to quality educational materials suitable for the national curriculum.

The identified challenges are the following:

a) strengthening the efficiency of the distance learning system in the context of the pandemic. With a robust public ICT infrastructure, the biggest challenge is training teachers in digital competencies and reaching the poorest families that have not been able for different reasons to access Ceibal's services.

b) the urgency to develop strategies to bring disengaged students back to school, and mitigate student disengagement in case of future lockdowns.

c) articulating the efforts to increase efficiency in public spending on education, in particular, the acquisition and / or creation of study materials compatible with the logic of legal reuse and work in communities of practice.

d) the continuation and deepening the guidelines in the design of quality educational resources and open educational practices.

The day before the pandemic – brief description of Uruguayan educational system

Basic information about the educational system

In Uruguay, public education prevails at all levels of education with particular characteristics: public education is free of charge and autonomous. Therefore, the governing bodies of public education play a prominent role in designing educational policies.

According to the General Education Law (Law No. 18,437 of 2008), public education in Uruguay at the initial, primary and middle levels, as well as technical education and teacher training, remain under the responsibility of the National Administration of Education Public (ANEP). According to data from the Education Observatory of ANEP (ANEP, n.d.-b), public education comprises 85% of total enrolment at initial, primary and secondary education levels.

In addition to free public education at all levels, Uruguay offers several programs aimed to promote equal access and educational retention. Among these programs, *Programa de Alimentación Escolar* (School Meal Program) provides meals at schools for all children at all primary and secondary levels. Secondary education students and teachers are offered two social and educational inclusion programs called *Programa Uruguay Estudia* (Uruguay Study Program) (ANEP, n.d.-c) and *Programa Compromiso Educativo* (Educational Commitment Program) (ANEP, n.d.-a) which grant scholarships to students to guarantee the continuity of their studies. Finally, at the university level students can apply for *Programa Bienestar Universitario* (University Welfare Program), a welfare program that grants scholarships and free meals for students at public universities.

Public education in Uruguay does not foresee compulsory bibliography or official textbooks. Each teacher is free to choose the texts or educational materials to comply with the official curriculum. Thus, it is not surprising that Uruguay does not feature a centralized network for the production, printing and distribution of study materials (textbooks or other resources). This does not mean that there are no policies or programs aimed to produce and deliver educational resources, especially at the primary and secondary level. ANEP has chosen to promote a strategy focused on the supply of materials in a digital format. It is a hybrid strategy that involves, on the one hand, the negotiation of copyrights with publishers and developers to offer digital content platforms in line with the copyright law and, on the other,

the creation of repositories of Open Educational Resources (OER) as well as incentives for the creation of OER. With practically no exceptions and limitations for education, however, Uruguay features one of the most outdated copyright laws in the region, which compounds the situation of OER development in this country.

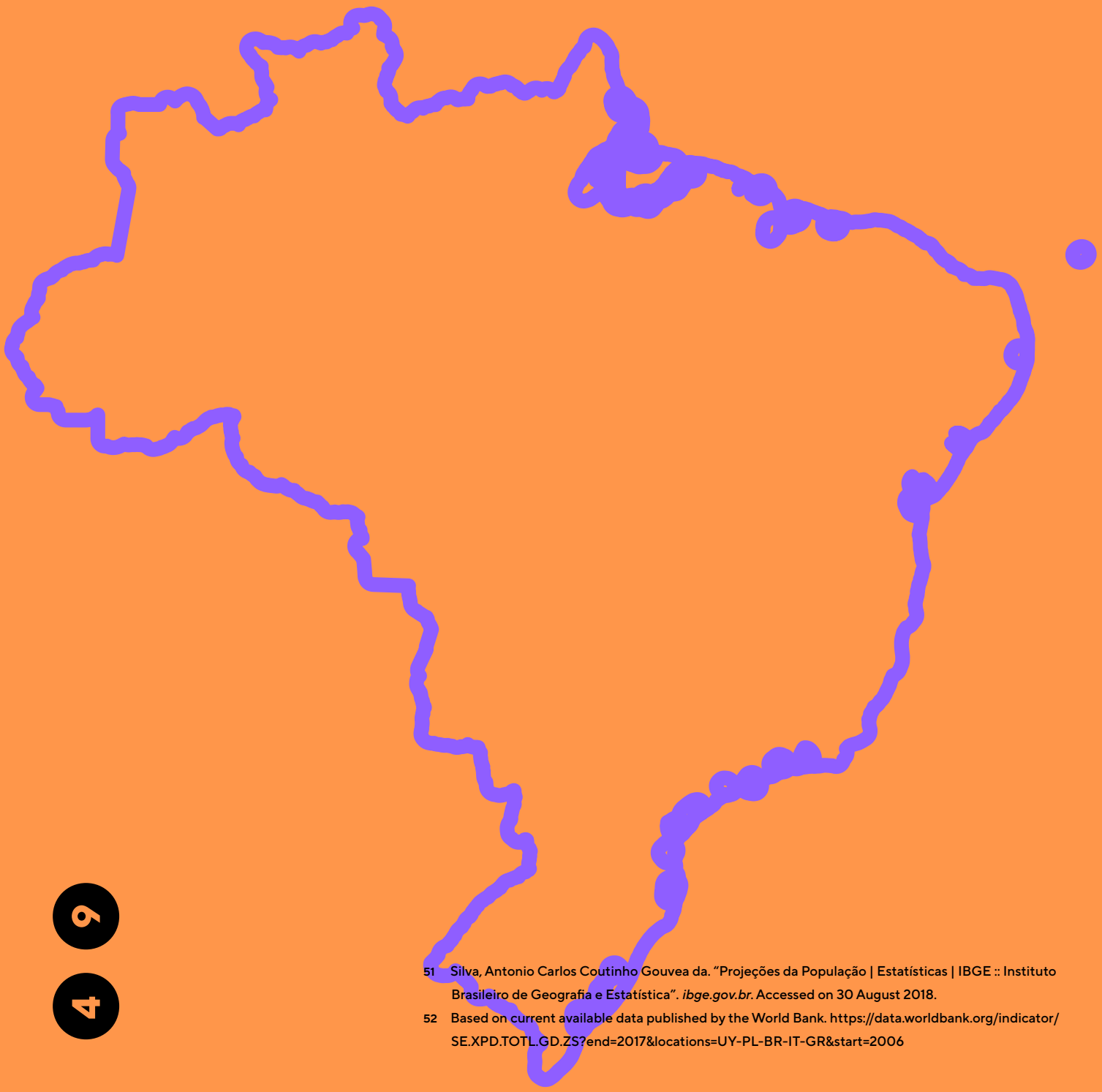
Infrastructure and digital repositories

In 2007, Plan Ceibal (Uruguayan initiative to implement the One Laptop per Child project) was created within the Presidency of the Republic, conceived as a plan for inclusion and equal opportunities with the aim of supporting Uruguayan educational technology policies. With time, Plan Ceibal has evolved and increased its scope, providing, in addition to laptops for teachers and students, connectivity in schools and public spaces, a number of educational platforms and a wide variety of educational materials, initiatives and programs, both for public and private educational institutions (Plan Ceibal). Uruguay features an important technological infrastructure as well as a wide and strong public education sector that has allowed the country to continue education during the lockdown.
As far as infrastructure is concerned, schools in Uruguay were in a privileged situation to face the pandemic, due to the investment in infrastructure and national capacities made in the last 15 years. In addition to the devices, platforms and resources provided by Plan Ceibal, Uruguay records a relatively high level of households with internet access, many of them free of charge through a state-run program providing universal internet accessibility. On average, 88% of households have the access to the internet, but this percentage increases to 93% in households with children aged 14 and under. Furthermore, over 76% of households have access to a computer (Ripani, 2020).

Story from Brazil

— Population (2019) 210,147,125[51]

— Brazil spends 6.24% of GDP on education[52]



51 Silva, Antonio Carlos Coutinho Gouvea da. "Projeções da População | Estatísticas | IBGE :: Instituto Brasileiro de Geografia e Estatística". *ibge.gov.br*. Accessed on 30 August 2018.

52 Based on current available data published by the World Bank. https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?end=2017&locations=UY-PL-BR-IT-GR&start=2006

#OER #OEP #grassroot #cooperation #mutual support

UNESCO Recommendation (iii) encouraging inclusive and equitable quality OER

(d) ensuring public investments and incentivizing private investments in ICT infrastructure and broadband, as well as other mechanisms, to provide increased access to OER, particularly for low-income, rural and urban communities[53]

Mobile Apps in Education – teachers widely open to mobile communication with students

According to TIC Kids Online 2019, 89% of children and young people in Brazil use the internet, of which **95% use mobile phones** and 68% use social networks. Many teachers during the pandemic opened up to students' needs and tried to adapt to the way they learn and interact with students, as students mainly use mobile phones.

The soaring popularity of Instagram as a social medium in Brazil made an interesting impact on Open Education Practices. Instagram Lives were broadcast by teachers, parents and even students trying to expose their learning practices and exchange ideas with others through hashtags.

These broadcasts went beyond online lessons and transformed also into debates, thanks to the fact that on Instagram the user can start an IGTV (Instagram TV) broadcast and invite another user, sharing a screen. Meanwhile, profile visitors can watch the live and post their reactions with emojis or comments. In an effort to go beyond a single social medium, apps like StreamYard were also used to broadcast at the same time on Instagram, Youtube and other platforms. The results of these live broadcasts impacted a lot the educational production and research during the pandemic days in Brazil.

The use of social media like Instagram or Whatsapp video calls for classes is also directly linked to the popularity of mobile phone usage for online lessons. Most of these initiatives were bottom-up, from teachers who tried to be present for their students' online learning experience. However, a few top-to-bottom initiatives also occurred, mainly originating from public education authorities providing information on online class portals that the government made available and how students and teachers could use them. The push to be present on several social media using apps like Streamyard were mainly performed in a bottom-up

[53] http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html

manner by teachers, who became acquainted with mobile social media tools during the pandemic and had to improvise and test out which choices were best suited to communicate with students.

Furthermore, several public education departments initiated funding processes for SIM cards and mobile device distribution for low-income students, who had difficulty participating in online education due to low connectivity or devoid of equipment suited to use with up-to-date tools.

'I haven't used OERs in their full definition but I have used these online education resources. I was the author of live broadcasts on Youtube and other social media but these were mainly about highlighting the content and discussing students' doubts. The first live stream was just to show the students how to access online educational content related to our classes, the second was interdisciplinary with several teachers to answer most common doubts, the third one was a teacher training initiative in which I participated to help other teachers create their online content' – Renata Kelly da Silva, education technology teacher and researcher in education, São Paulo State School Maria de Lourdes de Aranha Assis Pacheco.

'The pandemic was an intensive period and interesting to learn and teach new things. The State Secretary of Education did not obligate teachers to plan live broadcasts, so actions in this sense were self-initiated and I couldn't do them all the time. However, I think it was important to learn how to do them and share this experience with other teachers. Just an online lesson video is not enough and we were able to get more results from students with self-initiated projects like live broadcasts' – Renata Kelly da Silva, education technology teacher and researcher in education, São Paulo State School Maria de Lourdes de Aranha Assis Pacheco.

'OERs were very important to help students carry out their activities during the pandemic, especially the ones that included evaluation and participation purposes. I've also done a live web conference with my students using Google Meet. Most of the time I've used Youtube videos of the Media Center of São Paulo State Education public school network, mainly using the Android app with students' – Elza Geralda Marques, Science teacher in São Paulo State School Fadlo Haider.

'I believe the pandemic has completely changed my view towards OERs. It is clear to me now how important they are for education. Also, how much their use has become necessary in an exceptional situation like the pandemic. Educators need to know and use them more in

the future' – Elza Geralda Marques, science teacher in São Paulo State School Fadlo Haider.

Decisions on education in early lockdown – Brazil

Being the largest country in Latin America, Brazil features 26 states and 1 federal district. The way COVID-19 hit the country varied greatly between those states, also grouped by increasing regional contrasts in the economic, cultural and educational background. Also, the country faced differences in strategies implemented to overcome education challenges in each state. Additionally, there were differences between private and municipal schools. For example, in late April 2020 Brazilians began to receive printed didactic workbooks which parents needed to pick up at the schools, while private schools decided to teach students using WhatsApp. At the beginning of May 2020, private schools introduced a two-week break so that students could better prepare for online teaching and learning. Vacations in July were cancelled for all primary and secondary schools.

In this analysis, the overview of the educational crisis during COVID-19 will take into account some solutions which happened locally, mainly in the most populous state of São Paulo, and also those that scaled up to the national and possibly international practice.

In mid-March, most schools had already started distance education initiatives. On March 16, schools started to close in the Sao Paulo state. The size of the education system in the state of Sao Paulo itself counts over 4 million students[54] in primary education. The state implemented a gradual closure of schools for a week, starting from primary education to universities[55].

The CGI.br (Council for Internet Management), a governmental organization in Brazil, published COVID-19 Panel, the first research volume on this topic, which investigated distance education, electronic commerce and cultural activities during the pandemic. In Distance Education, the online search for Open Educational Resources was highlighted as an important focus for students and educators. The need to search for Open Educational Resources and educational portals also points to the lack of a central platform used for online lessons – instead, a variety of tools and sites are in use, for example, the highly popular Whatsapp and Whatsapp Web. Teachers and students shared messages with online resources and they were integrated into lessons.

[54] https://www.educacao.sp.gov.br/dados-educacionais

[55] https://g1.globo.com/sp/sao-paulo/noticia/2020/03/16/escolas-publicas-e-particulares-de-sp-comecam-suspensao-de-aulas-nesta-segunda-feira-16.ghtml

One of the main conclusions from the COVID-19 Panel is that seeking online education resources also broadened the horizons of lower- and middle-income students. With the suspension of onsite classes, students' tendency was to search for online courses and portals. However, most of these resources were already available and used by higher-income students prior to COVID-19, creating an inequality in knowledge and use of online education.

A study[56] with 19,000 teachers in the public school system of São Paulo, the largest state in Brazil, has shown that COVID-19 days have changed dramatically and possibly forever the way educators plan their teaching. And in most of those changes, OERs are present.

The day before the pandemic – brief description of Brazilian educational system

Basic information about the educational system

Brazil features a huge educational landscape – with a population of over 211 million people, the country has 47.9 million students in the formal educational system (public and private institutions of all levels), according to data collected from the official government reports by Todos pela Educação (All for Education), a major Brazilian NGO. The Ministry of Education census also registers 2.2 million teachers in primary and secondary education alone. The country manages 181,000 schools, with about 78% in the public education system.

The number of children and teenagers attending school has soared to 96.8% in the last census, but that still leaves 1.3 million Brazilians from 4 to 17 years old out of school (data from the 2018 census). In 2019, 78% of Brazilians up to 16 years old have concluded primary education. Key problem areas for Brazilians hampering graduation at secondary level are languages and mathematics.

Even though the majority of schools in Brazil remain within the realm of the public education system, the educational resources they use come mainly from the major private publishing conglomerates. The National Program for the Didactic Books (*PNLD – Programa Nacional do Livro Didático*) is launched by the federal government each year to guide publishing

56 http://www.iea.usp.br/pesquisa/projetos-institucionais/usp-cidades-globais/pesquisa-educacao-docencia-e-a-covid-19

companies on the standards books should meet for educational requirements. Government education departments and parents acquire these books for public and private schools at a hefty price.

It is also the PNLD which states that books in the public education system need to turn digital. This is where opportunity opens up for publishing companies, schools and teachers to create online content to use along the traditional paper books.

Open education in documents, strategies and regulations

According to the National Program for the Didactic Books (PNLD), the national legislation regarding the use of materials in education indicates that digital versions of books and other items shared with students are required in the Brazilian public education system. However, this recommendation cannot be directly linked to the use of Open Educational Resources as materials to share online with students are not required to have open licenses, featuring traditional proprietary ones instead. Still, the strategic documents created by education councils in cities and state level usually include the production of collaborative educational material between teachers and students. These documents, called 'educational policy plans', refer to the reuse and sharing the authorship of these materials, which is characteristic of Open Educational Resources.

The link between the use of Open Educational Resources and UNESCO Recommendations is more visible in the exchange between education researchers and primary and secondary education projects in which they participate in. The universities have a major role in connecting globally to research centers and to documents issued by UNESCO and other intergovernmental institutions recommending the use of Open Educational Resources.

One example is the Open Educational Resources guide by Fiocruz (Federation Oswaldo Cruz), a public university education think tank, which includes recommendations by OPAS (Pan-American Organization for Health) and the United Nations 2030 Agenda concerning the Sustainable Development Goals (SDGs) related to education. University educators share and support the guide between educators of the public education system mainly but also make it widely available to all educators.

Infrastructure and digital repositories

According to A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis, '93% of the households possess a

smartphone, 96% possess a TV, while 20.6% of households in urban areas and 53.5% in rural areas do not possess any internet access. Because of this several public education departments initiated funding processes for SIM cards and mobile devices distribution for the low-income students, who had difficulty participating in online education due to low connectivity or not having equipment suited to use with current tools. Although in Brazil there is a plethora of Open Education resources, it is important to note that until the COVID-19 crisis, the Brazilian legislation did not allow distance education courses for early childhood education and elementary education. What is more, Brazil has just approved its own data protection law and educators are starting to understand the terms and conditions of using these tools. Data collection laws have also impacted the way education is applied in social media. Furthermore, most teachers in Brazil have not yet fully understood the concept of Open Education Resources sufficiently enough to make a difference between it and online tools widely available to the public, such as Whatsapp. Consequently, despite the tremendous surge in distance education in the last decade, especially in higher education, there are still stigmas attached to the quality of online courses. These stigmas compounded by the lack of knowledge among teachers on how to use Information and Communication Technologies (ICTs) (OECD, 2015; Pelgrum, 2001) are obstacles that need to be overcome to ensure effective course planning, design, delivery, tutoring and the appropriate use of varied technologies for educational purposes.'[57]

We wanted to contribute in particular to the three objectives described in the Recommendation on Open Educational Resources (OER):

(ii) Developing supportive policy: encouraging governments, and education authorities and institutions to adopt regulatory frameworks to support open licensing of publicly funded educational and research materials, develop strategies to enable the use and adaptation of OER in support of high quality, inclusive education and lifelong learning for all, supported by relevant research in the area;

[57] https://www.asianjde.org/ojs/index.php/AsianJDE/article/view/462

(iv) Nurturing the creation of sustainability models for OER: supporting and encouraging the creation of sustainability models for OER at national, regional and institutional levels, and the planning and pilot testing of new sustainable forms of education and learning;

(v) Fostering and facilitating international cooperation: supporting international cooperation between stakeholders to minimize unnecessary duplication of OER development investments and to develop a global pool of culturally diverse, locally relevant, gender-sensitive, accessible, educational materials in multiple languages and formats.