Ukraine Country Brief
Connectivity in Education

A Crisis of Learning in Education...

In Ukraine, there exists a crisis of learning in education. This is exemplified by out-of-school rates in the country, as well as those not achieving minimum proficiency. While 792,952 children and adolescents are enrolled in primary and secondary schools, **45,473 between the age of 6 and 17 are out-of-school**. Additionally, approximately **37.2% of children and young people do not achieve minimum proficiency** in foundational skills needed for further learning and skills development.[1,2]

- Enrolled, achieving minimum proficiency
- Enrolled, not achieving minimum proficiency
- Out of School

... becomes acute.

When the COVID-19 pandemic disrupted in-person learning in Ukraine starting in March 2020, the importance of devices and connectivity for the education system was placed in stark relief — as were the inequitable access to such crucial tools.

Increasing Importance of ICTs for Education

All strategies for continuing education during COVID-19 depended on ICTs as a medium for delivery. But **unequal preexisting infrastructure** in households and schools is also a major driver of the longer-term crisis of learning. Access to **connectivity** and **devices** is a **crucial enabler** of the learning process, particularly in:

1. allowing a more effective administration of education systems, and
2. developing digital skills to prepare students for the future workforce

COVID-19: Strategies for Distance Learning[3]

Online School initiative
80 teachers
500 lessons

All-Ukrainian School-online 2.0 project
Particular attention to marginalized children and children with specific needs.

What's been done?

Government Strategies Addressing Challenges

In 2013, the Ukrainian government launched the National Strategy for the Development of Education in Ukraine for the period up to 2021.[4] Among the strategic decisions needed, those related to digitalization included:

1. **Accelerating the development of** scientific and innovative activities **in education;**
2. **Modernizing the** informatization **of education;**
3. **Ensuring** national monitoring **of the education system;**

The **National Broadband Development Strategy 2020-2025** is strongly focused on addressing the **school connectivity** gap. As such, the Strategy sets the target for 1 Gbps for all schools, transport hubs, and main providers of public services and digitally intensive enterprises by 2025, in line with EU targets.[5]

Since 2014, the **Institute for Educational Analytics (IEA)** has a mandate is to collect, analyse and disseminate education data, which is captured and validated in the **State Information System of Education (DISO)**,[6] an existing, functioning **Education Management Information System (EMIS)** that is managed by the IEA

Many solutions involve digital technology. This, in turn, requires both **connectivity** and **devices.**

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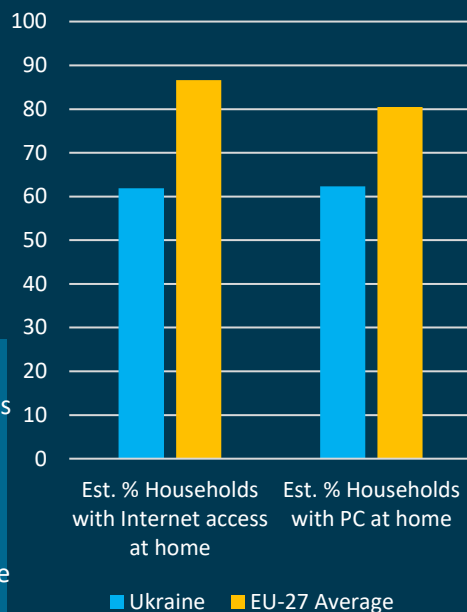# What Gaps Remain?

Connectivity and Devices at Home[7]

7.3 million
Ukrainian households are not in possession of a PC

7.4 million
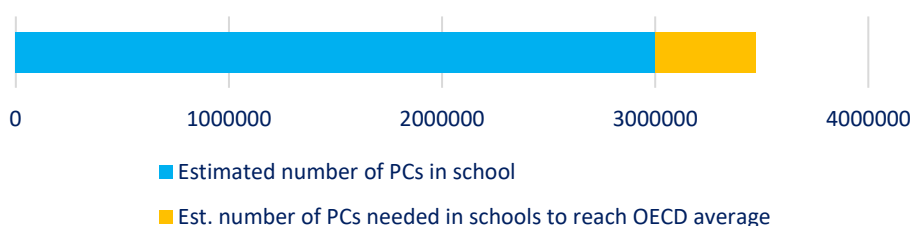Ukrainian n households do not have access to the Internet

Exacerbating pre-existing inequalities:
The persistent lack of PCs in households is particularly significant when lockdowns triggered by COVID-19 facilitated the transition of economic activity to the digital sphere and transferred both educational and work activities to the household. According to the Ukrainian government, **about 65% of Ukrainian villages are not covered by high-quality broadband, which corresponds to about 5.75 million citizens**, suggesting that a significant number of students do not have appropriate connectivity at home. [8]

Contextualizing the Gaps

Bar chart (y-axis 0–100):
- Est. % Households with Internet access at home — Ukraine: ~62, EU-27 Average: ~87
- Est. % Households with PC at home — Ukraine: ~62, EU-27 Average: ~81

Legend: ■ Ukraine ■ EU-27 Average

Connectivity and Devices at School

Computers per Student in School[9]

Horizontal bar chart (x-axis 0 – 4000000):
Legend:
- ■ Estimated number of PCs in school
- ■ Est. number of PCs needed in schools to reach OECD average

474,086
computers are needed in Ukraine to reach the OECD average of 0.83 PCs per student.

Mapping School Connectivity…
Assessing the level and quality of broadband in schools, and proactively addressing infrastructure gaps, is increasingly important as students return to the classroom post-COVID. This will ensure that connectivity is leveraged to deliver educational content and to manage the education system in an efficient manner, and that digital skills development is thoroughly included in curricula.

… is improving.
Ukraine has a broad overview of the connectivity situation in school, also thanks to broadband.gov.ua, a one-stop-shop solution for mapping connectivity of schools in the country.[10] However, more accurate data on school-level infrastructure (e.g. PCs) is needed.

Filling the Device Gap in Schools

Low-Range Estimate[11]
$34.9 million
to reach the OECD average of 0.83 PCs per student.

High-Range Estimate[12]
$403 million
to reach the OECD average of 0.83 PCs per student.

To bridge learning gaps, devices are only as important as the connection that supports them and the access to high quality content and learning they enable. Investment in school and household connectivity as well as content development and robust digital education is vital and must be considered alongside device provision.

Funding not a Challenge
Public spending on education and training was **5.4%** of the country's GDP in 2017, while the European Union countries' average for 2017 was **4.7%**.[13]

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Ukraine has a successful history of leveraging innovative financing mechanisms and multistakeholder partnerships toward achieving appropriate levels of devices and connectivity in education. Three key examples are outlined below.

Diia: Digital Education

The platform, developed already in **January 2020**, was created in the form of "**edutainment**," where free series are combined with experts and celebrities to explain how to use websites, the possible applications of smartphones and laptops, basic Internet safety rules, use of online services, and courses on how to find jobs and how to acquire new skills to combat rising unemployment.[14] It provided instrumental at the onset of the COVID-19 pandemic.

The 2018 **Digital Agenda for Ukraine 2020** put the digitalization of education as one of the priority sectors alongside other initiatives aiming to bridge the digital divide through the development of digital infrastructure. **29.16 million EUR** (1 billion UAH) was allocated in **2019** to acquire computer equipment for students and teachers, as well as to expand of high-speed Internet in schools.

ITU and UNICEF are committed to helping the Government of Ukraine and other stakeholders achieve national objectives. School connectivity is widely recognized as a means to a more efficient administration of educational systems, a building block in supporting innovative ways to distribute education content and increase access, and — most importantly — a fundamental prerequisite to endow pupils with the digital skills necessary to thrive in the job market. The achievement of appropriate device and connectivity levels, both at school and in the home, thus remain priorities of both the ITU Office for Europe and UNICEF Regional Office for Europe and Central Asia. Both offices cherish the opportunity to engage with partners and provide support through **technical assistance**, **capacity building** and **research**, as well as **knowledge exchange**.

Endnotes

[1] Data from UNESCO UIS Database. http://data.uis.unesco.org

[2] UNICEF calculation of the number of students in primary, lower and upper secondary not achieving minimum proficiency in math; Data for Ukraine is calculated using the latest figures available from UIS and PISA.

[3] See: https://www.unicef.org/media/79691/file/ECARO-COVID19-SitRep-5-May-2020.pdf

[4] See: http://oneu.edu.ua/wp-content/uploads/2017/11/nsro_1221.pdf

[5] See: https://documents1.worldbank.org/curated/en/896591621848142525/pdf/A-National-Broadband-Development-Strategy-and-Implementation-Plan-Recommendations-to-the-Ministry-of-Digital-Transformation-Government-of-Ukraine.pdf

[6] See: http://documents1.worldbank.org/curated/en/242991505976233066/pdf/119782-BRI-PUBLIC-SABER-EMIS-Ukraine-Country-Report-Final-2017.pdf

[7] ITU WTID Database.

[8] See: https://thedigital.gov.ua/news/17-tisyach-naselenikh-punktiv-ne-mayut-zhodnogo-optichnogo-provaydera-doslidzhennya-mintsifri

[9] PISA 2018 Results (Volume V); OECD 2020 (Figure V.5.4 School computers per student, school characteristics and reading performance)

[10] See: https://documents1.worldbank.org/curated/en/896591621848142525/pdf/A-National-Broadband-Development-Strategy-and-Implementation-Plan-Recommendations-to-the-Ministry-of-Digital-Transformation-Government-of-Ukraine.pdf

[11] This estimate is calculated using the cheapest smartphone available in the region, at $73.60 per device. Price estimate is taken from A4AI price data, averaging the cost of the cheapest smartphones available in Georgia, Turkey and Ukraine. Although Smartphones are used as a proxy for the cheapest way to access online educational content and represent a baseline cost, they are not ideal for sustained learning nor comparable to PCs for educational purposes.

[12] This estimate is calculated using using a price of $850 per computer and monitor, which is a UNICEF price estimation of a high-end computer and monitor more suitable for learning. It thus represents the most expensive end of the spectrum.

[13] See: http://data.uis.unesco.org/

[14] See: https://osvita.diia.gov.ua/

[15] See: https://issuu.com/mineconomdev/docs/digital_agenda_ukraine-v2__1_