Covid-19 learning deficits in Europe: analysis and practical recommendations

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The school closures, that aimed to prevent spreading the coronavirus COVID-19, seriously affected the learning process of millions of students worldwide. As the school closures prevented students from making progress at the same pace as before, and as knowledge and skills were forgotten, a 'learning deficit' was developed. However, this learning deficit was not homogenously spread across the population. Even within Europe, there is a significant heterogeneity in learning deficits both within and across countries. This report provides a systematic country-by-country overview of the average learning deficit due to the pandemic at the compulsory education level. We include publications in English based on standardised tests until 1 December 2022. The differences between European countries covered in this report are highlighted and, if possible, underlying reasons for these differences are explored. Moreover, we document the student characteristics that correlate with learning deficits.

The influence of COVID-19 on educational attainment in the EU

Overall, the learning deficit varies between no effect at all, reported in the Nordic countries (Denmark, Finland, Sweden), and large observed effects in Greece and Poland. On average, we observe a learning deficit across all European studies of around 0.11 of a standard deviation (SD). Given that students learn differently in different age groups, it is hard to give a valid and conclusive interpretation of these standardised effect sizes in terms of number of weeks. Still, to give a broad range, 0.11 of SD can be considered as one to three months of learning deficit. As an alternative interpretation, as one standard deviation represents 34% of the distribution of students, the estimated 0.11 SD suggests that a median student before the pandemic would be at the 46 percentile after the pandemic.

Important observations:

- **The more a country is using ICT for educational purposes, the more resilient are the test scores of the country.**
- **Advanced digitalisation is only a necessary condition for avoiding large learning deficits; a sufficient condition to reduce learning deficits is the intensive use of ICT in education prior to the pandemic.**
- **The younger the students, the larger the learning deficits observed.**
- **The longer the school closure, the larger the learning deficit.**
- **COVID-19 reinforces existing trends.**
- **Future trends are unclear.** Early simulations suggested that the learning deficits following the COVID-19 pandemic would increase over time and could lead to 3% decrease in lifetime income. Today, the overall picture remains unclear since it is mainly country specific. Overall, prior analyses and empirical evidence emphasise the needs of acting quickly to maintain a high-quality education among the generation that was at school during the COVID-19 disruptions.

Attention to specific groups

The literature review has identified multiple population groups among whom learning deficits are more evident. Although the population groups have an independent influence on learning deficits, they also correlate with one another.

- **Socio-Economic Status (SES).** Across all analysed articles, SES is the most regularly studied variable. Low-SES students are commonly identified as those with parents who have a low level of education, living in a disadvantaged neighbourhood, and/or earning a low income. Students in low-SES groups are, on average, associated with more than double the learning deficit compared with average pupils.
- **Inequalities between high- and low-performing students.** The COVID-19 crisis also raised the gap between the highest- and lowest-performing students.
- **Gender gap.** We observe mixed evidence regarding whether school closures reinforced a gender gap in education. This mixed evidence seems to be rooted in the methodologies applied.
- **Mental health.** The school closures have been associated with negative effects on the well-being of students, including feelings of loneliness, anxiety, depression and suicidal behaviour. However, inequalities also exist in relation to pre-existing characteristics such as personality traits, parents' educational background, or the SES.
- **Children of parents who are essential workers** face similar learning deficits as children from low SES parents.
- **Migrants.** A majority of earlier literature did not find amplified learning deficits among students with a migration background, probably because they are hidden behind the figures related to low-SES. Still, it is possible that immigrant students were more vulnerable to learning deficits due to the COVID-19 crisis, especially because of the language barriers.
- **Students with special educational needs (SEN).** Evidence is mixed for students with SEN. There were increased difficulty in receiving learning support, lost access to certain specialised tools and reduction of social interactions.

Recommendations

From the disparities between and within EU Member States, five policy recommendations are derived targeted at the country and student level.

- **Short term – Compensatory policies.** The implementation of compensatory policies, such as summer schools or tutoring programmes, is an evidence-based way to help recover from the effects of the pandemic.
- **Short term – Targeted compensatory policy.** Given the larger learning deficits among low-SES students, compensatory policies should focus on disadvantaged students. In addition, our analysis shows that in relation to socio-emotional skills, a "one-size-fits-all" approach to education does not work and should be targeted depending on the students' needs. Remedial programmes should also focus on the youngest students. In countries where the length of school closures differed by location, efforts should focus on those areas that underwent longer periods of remote teaching.
- **Short and long term – Monitoring.** To implement recommendations (a) and (b) in an adequate way, standardised tests could be used to detect needs, but also to monitor whether or not progress has been made.
- **Long term – Adapt the curriculum.** Simplifying and adapting the curriculum to what is needed for subsequent academic years is suggested in order to focus on the needs and strengths of the students. The idea is to prioritise those basic skills in which learning attainments were lowered by the pandemic: numeracy, literacy, etc. On the other hand, to ensure that a focus is not lost on top-performing students, such students could receive a more demanding curriculum.
- **Long term – Investment.** The Recovery and Resilience Facility (RRF) helps EU Member States to make large investments in education, i.e. EUR 71 billion directed towards education. We recommend rigorous testing (e.g. through the use of experiments or quasi-experiments) of the impact of such investments, linking the costs of each initiative with its effectiveness.

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