Ready for the future? – The third Education Report for Luxembourg (Supplement)

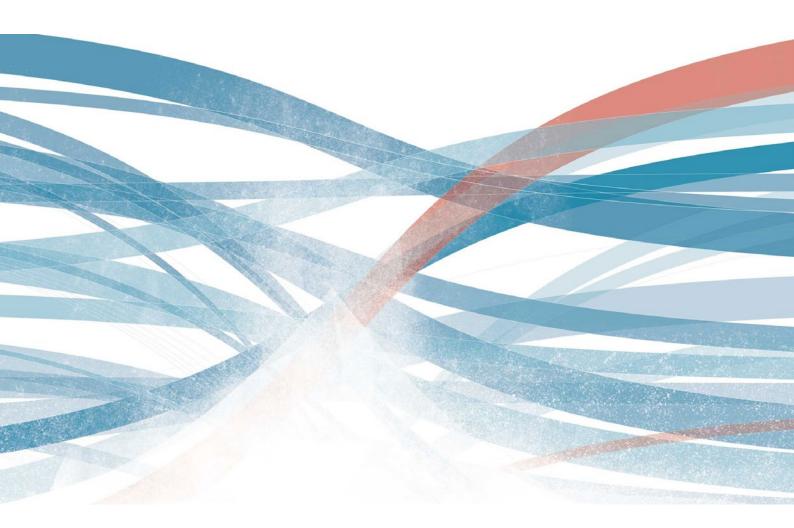**Thomas Lenz, Susanne Backes, Sonja Ugen & Antoine Fischbach**

This document appears as supplementary material in connection with the Luxembourg National Education Report 2021 – specifically as a translation of the following article:

Bereit für die Zukunft? Der dritte Bildungsbericht für Luxemburg
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www.bildungsbericht.lu

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Sometimes the future arrives more quickly than expected: when we determined the key topics to be covered in the Education Report in 2019, in collaboration with the SCRIPT[1] (the Ministry of Education's Department for the Coordination of Educational and Technological Research and Innovation), we were primarily concerned to address the question whether the Luxembourg school system was "ready for the future". The fields of "digitalisation" and "education for sustainable development (ESD)" were at the forefront of our considerations, and they remain the focal point of this Report.

In that regard, it was clear that the processes of digitalisation and education for sustainable development are inseparable – they can only be conceived and analysed together. Accordingly, the analysis of the ecological and social consequences of digitalisation constitutes one of the core digital competences, and is at the same time a genuine area of ESD. Additionally, research into sustainability is in essence based on computer simulations and the digital processing of large volumes of data.

In both fields – digitalisation and ESD – numerous educational initiatives and projects already exist in Luxembourg. In the area of digitalisation in particular, much has happened in the Grand Duchy in recent years.

However, at the start of 2019, no one could have guessed that precisely these two topics would present Luxembourg's society and its education system with unprecedented challenges in the form of a pandemic and disastrous floods. The effects of the Covid 19 pandemic in particular, have severely impacted everyday school life and have dramatically changed teaching and learning practices and the way we live our lives. In consequence, it became clear that those effects on everyday school life, together with the problem of new and old inequalities, should necessarily also be included as key topics in the 2021 Education Report.

Main findings of the third Education Report

The pandemic:
All in all, with regards to the impact on its education system, Luxembourg coped relatively well with the initial phases of the pandemic (see Fischbach et al.). One of the reasons for this is undoubtedly the relatively limited number of days on which schools remained closed compared to other countries. During the period from 1 January 2020 to 20 May 2021, Luxembourg's primary schools were closed on 48 days and secondary schools for approximately 34 days. The average number of days of school closures was markedly higher in other OECD countries, i.e.55 days for primary schools and between 92 and 101 days for secondary schools.[2]

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[1] *Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques.*
[2] See OECD. (2021). "Luxembourg", in *Education at a Glance 2021: OECD Indicators,* Paris: OECD Publishing.

As in other countries, the results of the Luxembourg school monitoring programme *ÉpStan*[3] for 2020 indicate that the learning deficits caused by the pandemic are slightly less marked in the field of mathematics than in the case of language skills. The most significant deterioration amongst Luxembourg pupils occurred in the area of German language skills – both in primary and in secondary schools (see Fischbach, Colling et al.). As reflected in the findings from other countries, Luxembourg's pupils from socio-economically disadvantaged households are more severely affected by performance losses attributable to the pandemic than pupils from better-off households.

However, the resources (see Lomos et al.) poured into the digitalisation of schools have proven to be a good investment in terms of alleviating the effects of the pandemic – during the first lockdown, the education system switched over promptly and successfully to distance learning – and other support measures, such as the summer school in September 2020, also helped to some extent to mitigate the learning deficits that occurred through the pandemic amongst school pupils.

Digitalisation:

The "Medienkompass" [Media Compass][4] offers a global strategy for media activities in Luxembourg's schools; the "one2one" strategy[5] has ensured that pupils in secondary schools have access to digital devices; and the key new elements of the syllabus in Luxembourg's schools are of a digital nature (see Milmeister & Baumann). In addition, coding has been introduced into the curriculum in primary schools, and digital sciences have been introduced as a new subject of study in secondary schools. These measures establish the framework for a digital school culture. However, it will take some time before this strategy has an impact on the corresponding capabilities of pupils.

The Education Report shows that the skills of Luxembourg's eighth-grade students, both in the Computer and Information Literacy and in Computational Thinking, still rank below the international average (see Boualam et al.). The relevance of including IT and communication technology in the normal curriculum was also apparent from an analysis of the competences evaluated through the *ÉpStan*, which showed that, in addition to reading narrative texts, pupils need regular exposure to digital texts (e.g. blogs, internet forums, etc.) as a means of developing their German and French-language reading comprehension (see Reichert & Krämer).

Education for sustainable development:

In the field of education for sustainable development there exist numerous projects (see Andersen et al.), tools (see Rohles & Backes; Nicolay et al.) and educational approaches (see Raber & König) in Luxembourg. However, these local and school-based initiatives often lack consistent structural integration in teaching materials and curricula (see Andersen; de Haan). Thus, for example, the documentary analysis carried out by the sustainability researcher de

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[3] *Épreuves Standardisées* (epstan.lu).
[4] https://www.edumedia.lu/medienkompass/medienkompass/.
[5] https://portal.education.lu/cgie/INNOVATION/ONE2ONE.

Haan shows that, a decade on from the ESD strategy formulation in 2009, Luxembourg has yet to build up any real, binding momentum as a feature of the educational landscape. Whilst it is true that, in the field of non-formal work with young people, the references to the ESD in the framework plan may be described as exemplary, there still is a discernible structural implementation deficit when it comes to embedding ESD in the syllabuses of primary and secondary schools. The introductory contribution by SCRIPT points to concrete development schemes – both structural and project-related in nature – in these fields. In direct comparison to digitalisation, the theme of "sustainable development" all too often loses out – not only in the area of education, and certainly not only in Luxembourg.

Old and new inequalities
The socio-economic and linguistic background of pupils continues to have a decisive influence on their school career (see Hadjar & Backes; Chauvel & Schiele). Compared to the last Education Report, published three years ago, the performance of pupils who speak neither Luxembourgish nor German at home and who come from socially disadvantaged families has continued to degrade in all competences evaluated without considering the effects of Covid 19? (see Hornung et al.; Sonnleitner et al.). In consequence of this, the social divide in Luxembourg's education system is becoming wider, and the differences in performance between the various pupil groups are increasing. The present findings show that Luxembourg's education system is failing to properly reflect the country's social diversity: for example, disproportionate importance is still being attached, to a large extent, on literacy in the German language. In the process, the multicultural and increasingly multilingual school student body is not receiving adequate preparation for literacy acquisition in German as a foreign language. It is also apparent that the strategy for extending the schooling of pupils (i.e., grade retention) who do not achieve the requisite grades is not working (see Ertel et al.; Sonnleitner et al.). The issue of diversity in the classroom needs to be addressed by means of differentiated language profiles rather than by grade retention. In the future, it will therefore be necessary to monitor whether, and to what extent, the international public schools are able to successfully manage diversity; corresponding studies are currently being carried out, and the next Education Report will report, for the first time, empirically based findings in this regard.

At all events, the fostering and advancement of German-language skills remains a decisive element for academic success, and needs to begin at the earliest possible opportunity in primary schools. For, as the *ÉpStan* results for German listening comprehension in Cycle 3.1 show (see Hornung et al.), the acquisition of these skills represents, for large parts of Luxembourg's school student body, a key challenge which cannot be associated with individual linguistic groups or specific socio-economic factors. The extent to which the professionalisation and further development of the early childhood education sector can likewise contribute to improving the situation is currently still the subject of scientific evaluation; in this regard too, the next Education Report will provide more information.

Additionally, within Luxembourg's education system, particular difficulties are faced by pupils who come from socio-economically disadvantaged households, who do not speak any of the

teaching languages at home, or who attend one of the two streams comprised in the *Enseignement secondaire général* (general secondary education - ESG). In light of the present findings, there appears to be an urgent need in this regard for targeted support to tackle the learning lags suffered by such pupils (including those resulting from the pandemic).

Concept and structure of the Education Report

The 2021 Education Report for Luxembourg describes the Grand Duchy's education system as a whole, and takes an analytical look at the opportunities open to it and the challenges that it faces. The Report is aimed at decision-makers in education policy, the educational administration and practice, and – in particular – the interested public. Like the earlier reports from 2015 and 2018, the present Report brings together contributions from a variety of disciplines (pedagogics, psychology, linguistics, sociology, etc.) – and is jointly published by the SCRIPT and the University of Luxembourg's LUCET[6].

Three features of the Luxembourg Education Report that may be singled out as particularly noteworthy: first, it is an author-driven report, involving contributions from over 70 authors, for which they have taken personal responsibility and to which they have put their name, with the result that the Education Report may be seen as a joint product of educational research in Luxembourg, reflecting multiple perspectives. Second, each edition of the Education Report, whilst addressing selected key topics, also tackles the "big issues" characterising Luxembourg's education system, such as multilingualism and educational inequalities. And third, the Education Report is founded on an extensive database of different (inter)national studies, programmes and projects (e.g. ICILS, PISA, Eurostudent), and is able, in particular, to rely on *ÉpStan*, the Luxembourg school monitoring programme. With the help of *Épstan*, this Report presents longitudinal findings which amount to more than mere snapshots, and which provide important insights into the educational trajectories of children and young people in Luxembourg. This feature has also influenced the Education Report's new look, based on so-called Sankey diagrams, whereby changes in education-related issues can be illustrated in terms of the course of time over which they occur. One new aspect of the Education Report is the fact that, in addition to focused analyses, it now brings together, figures, tables, charts and graphics in *Factsheets* relating to specific areas of education. These allow an overview of key topics – addressed principally in terms of timelines. The combination of in-depth analyses, in the form of scientific essays, and data-driven factsheets makes it possible to consider *conditions*, *outcomes* and *processes* in Luxembourg's education system.

The 2021 Education Report focuses on the key topics of "digital education" and "education for sustainable development", as well as previously identified thematic areas of ongoing importance such as "old and new challenges" in Luxembourg's education sector. For easier orientation, the various contributions dealing with the key topics are indicated by symbols.

In addition, three different text formats are used: *Essays* for more in-depth analyses, *Factsheets* as data compendiums for figures and development trends in the field of education,

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[6] *Luxembourg Centre for Educational Testing.*

and *Spotlights* providing an insight into current studies and/or more practice-oriented research projects. Since it is not possible, for reasons of scale, to present all the analyses and data in the Education Report itself, the Report's homepage, which can be found at *bildungsbericht.lu*, offers a wide range of additional relevant information.

The Education Report accordingly provides the requisite scientific, independent basis for an informed debate on the future of education in Luxembourg.