

POLICY BRIEF 2:2022

The purpose of FINEEC's Policy Brief series is to support discussion and decision-making on education policy and societal issues and to promote the use of evaluation information in support of decision-making.

The COVID-19 pandemic, skills gap and differentiation of skills

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The impacts of the pandemic on education can exacerbate social disparities

The United Nations (UN) estimates that the global crisis caused by the COVID-19 pandemic in spring 2020 and beyond “created the largest disruption of education systems in history” and “exacerbated pre-existing education disparities by reducing the opportunities for many of the most vulnerable children, youth, and adults – those living in poor or rural areas, girls, refugees, persons with disabilities and forcibly displaced persons – to continue their learning” (UN, 2020). The OECD also finds that “this crisis has exposed the many inadequacies and inequities in our education systems – from access to the broadband and computers needed for online education, and the supportive environments needed to focus on learning, up to the misalignment between resources and needs” (Schleicher, 2020, 4). Finland also faced a situation in which continuing teaching as normal was no longer possible: schools, educational institutions and higher education institutions had to transition from classroom teaching to distance learning over a short period, without having time to prepare teaching technology infrastructure, suitable new learning materials or training in the use of new teaching technologies. By international comparison, Finland managed this transition fairly successfully; thanks to a rapid digital leap, schools and educational institutions soon had distance learning and its practices up and running (Goman et al., 2021, 112).



However, distance learning and studying remotely did not prove effective for all pupils and students. It appears that the pupils and students who were motivated, had a capability for self-regulation and benefited from strong support from their families made at least equally good progress in distance learning as in normal classroom teaching. Correspondingly, those with less motivation, ability for self-regulation and support from their families seem to have been left behind. A FINEEC report on the impacts of COVID-19 in Finland sums this up as follows: "However, the emphasis on self-regulation places learners to a mutually unequal position. In the exceptional situation, problems in life management, learning difficulties and different possibilities to study at home strengthen the differences between learners" (Goman et al., 2021, 4; see also Schleicher, 2020, 4). Exceptional circumstances highlight the possible weaknesses of education systems, including challenges related to support and guidance as well as the structure, quantity and digital capabilities of the teaching and guidance staff.

The impacts of the pandemic on learning compound previously identified economic and demographic differences between the regions and well-being gaps, which have increased in recent years. These impacts are reflected in learners' equal opportunities for learning at all levels of education (see Ukkola & Väättäin, 2021). Finland has launched several national measures to curb the trend towards educational inequality (Government, 2019). The Development Programme for Quality and Equality in Comprehensive School Education and Early Childhood Education and Care (the 'Right to Learn') referred to in the Government Programme aims to improve equality in education and to reduce and prevent socio-economic inequalities. The Right to Learn project strives for permanent and impactful development through a reform of structures and legislation and special government grants. Grants have also been allocated for balancing out the impacts of the exceptional conditions, guidance, support and development of digital environments. In the years to come, the effectiveness of these measures should be monitored systematically at both national and local level.

In the following section, we discuss the challenges brought about by the COVID-19 pandemic from three perspectives: the learning and skills gap, vulnerable groups of learners, and the modern philosophy of learning.

COVID-19 and the learning and skills gap

The exceptional conditions and their consequences have brought to light four new phenomena: gaps in learning, skills, security and well-being, the mutual relationships of which are still taking shape. In this Policy Brief the term *learning gap* refers to, on the one hand, a situation in which the institutional learning process has been essentially disrupted by the fact that it has not been possible to provide any instruction whatsoever. This may have been the case when participation in distance learning has been prevented by a lack of computers and data connections, or when a study unit or training period has been cancelled. In the latter case, we could also talk about a *teaching*

gap. A FINEEC report (Goman et al., 2021) found that the exceptional conditions have had significant negative effects on work-based learning, especially in services, trade and administration as well as in the health and well-being sector. Many students had to interrupt their work-based learning, and many education providers saw the number of their training and apprenticeship agreements reduced in the exceptional conditions. The transition to distance learning hampered learning and improving practical skills in many fields of education. On the other hand, personal learning processes may have been temporarily disrupted; they may have become ineffective or even completely stalled due to such reasons as lack of motivation or support, or general anxiety. The FINEEC evaluation (Goman et al., 2021) found that especially those students who experienced accumulating problems related to motivation, stress and studying in the exceptional conditions found the progress of their studies and the support received from their educational institution poorer than other students. It is obvious that the COVID-19 pandemic has resulted in an institutional learning gap, as we know that in vocational education and training and higher education, for example, lockdowns have made it impossible to arrange some working life periods, internships or international traineeships (Goman et al., 2021). We also know that for some pupils and students, working remotely and focusing on assignments independently have been difficult and would have required more support in the form of remedial teaching or from the student's family, for example; in other words, inefficiency or disruption of studies has resulted in a personal learning gap.

In this context, a personal *skills gap* refers to an individual's lack of competence, skills or knowledge, which may result from a learning gap. However, an institutional learning or teaching gap does not automatically result in a personal skills gap if the pupil or student was able to acquire the relevant knowledge or skills independently. Although it is obvious that a learning gap did emerge during the COVID-19 pandemic, we have less knowledge of how genuine and permanent this gap is. We do know, however, that in an assessment of grade 9 students' learning outcomes in mathematics (Metsämuuronen & Nousiainen, 2021), the national distribution of skills differs significantly from distributions seen in previous years. In the past, the students' skills more or less followed the normal distribution, in which students with average skills were the largest group, and the proportion of those who did less well and better than average was clearly smaller. In 2021, the distribution of skills clearly produces three separate populations: those with poor, average and extremely good skills. This distribution no longer is anywhere near normal. From the perspective of the skills gap, the fact that the least successful students have formed a group of their own is significant. It is likely that this can be partly explained by the consequences of the COVID-19 pandemic; the learning gap has resulted in a skills gap. In future national learning outcomes assessments, an effort will be made to examine this issue more closely. In connection with an assessment of grade 3 students' learning outcomes, for example, the guardians were asked about issues related to processes during the exceptional teaching arrangements, and an effort will be made to link information on distance learning from individual municipalities collected by the Regional State Administrative Agencies (AVIs) to data sets concerning grade 9 students. While it is fairly certain that at least a temporary skills gap has emerged, some of this can be made up for by accumulating knowledge and skills independently; in basic education, students can take complementary studies in higher grades, and in upper secondary education and higher education institutions they can, for example, take a course, go for a traineeship or opt for an international internship at a later date.

The personal *security gap* is associated with an increased sense of personal insecurity. This gap may have been created by general discussions on issues that shadow the future, including global warming, international crises, more frequent terrorist attacks and uncontrolled technological development. Overall, general concerns over the future may have led to a sense of insecurity, which has been exacerbated by the COVID-19 pandemic. The *well-being gap*, on the other hand, is related to income, employment and health (see Finnish Institute for Health and Welfare, 2015) or experiences of loneliness and social isolation (see Junttila, 2021). The security and well-being gap may be directly associated with the emergence of the skills gap. The pandemic has had an impact on all of these areas.

COVID-19 and the most vulnerable groups of learners

The impacts of the exceptional conditions can also be approached from the viewpoint of long-term trends in differentiation of knowledge and skills. We have known for some time that the level of knowledge and skills has been declining and that differences between schools have increased in the Nordic countries (e.g. Kavli, 2018). Significant differences have been observed between the capital and rural areas in different countries (Nissinen et al. 2018, p. 203), which was largely explained by pupils' socio-economic background and cultural capital as well as students' personal goals and expectations. FINEEC's most recent assessment of grade 9 students' mathematics skills (Metsämuuronen & Nousiainen, 2021) also noted that outside the Helsinki Metropolitan Area, the school's coefficient of determination for variations between pupils is very small (approx. 6.7%). In Helsinki Metropolitan Area, it was roughly twice this figure; this means that while the differences between schools are large in the Metropolitan Area, they are less significant in other parts of the country. Both the latest PISA results and findings of national assessments of learning outcomes in mathematics indicate that the difference between students with poor and good skills has also become more evident in Finland: the number of students with poor literacy skills had increased (Ministry of Education and Culture, 2019), and in mathematics, the difference between students with good and poor skills has become clearer compared to previous assessments (Metsämuuronen & Nousiainen, 2021). "[I]n 2018, the differences between students in literacy skills were larger than ever before in the history of Finland's PISA studies" (Ministry of Education and Culture, 2019, 1). In 2021, "rather than showing the normal distribution, the students are clearly divided into three populations regarding their overall mathematics skills: those with a low score, those with an extremely high score, and a population with an average score between them" (Metsämuuronen & Nousiainen, 2021, 2). The Nordic Council of Ministers had already published the same message earlier: "Some of [the Nordic countries] have fallen behind in what has long been a feature of the Region: the ability of the school system to compensate for social inequality" and "[the] socioeconomic background has also started to exert more of an influence on PISA results in Finland" (Nordic Co-operation, 2017, p. 1).

Consequently, it is obvious that the trend towards differentiation in knowledge and skills already existed before the COVID-19 pandemic, and among other things, this appears to be connected to

children's socioeconomic status (SES) or economic, social and cultural status (ESCS; OECD, 2017, pp. 339–340; see e.g. Ahmar & Anwar, 2013; Chmielewski, 2019; OECD, 2019; Salmela-Aro & Chmielewski, 2019). However, this trend seems to have levelled out in recent years (see Metsämuuronen & Nousiainen, 2021). A high SES usually is linked to guardians' higher levels of education and wealth and better social and cultural status by definition. Correspondingly, guardians in families belonging to the lowest SES groups typically have lower levels of education and wealth and less social and cultural capital. The global pandemic has hampered the learning of the most vulnerable children and young people, in particular, (e.g. UN, 2020; Schleicher, 2020) – which describes precisely children and young people in the lowest SES or ESCS groups. Similar vulnerable groups in Finland include those with a migrant background, learners needing special and intensified support, or learners with unreliable information network connections; for example, girls with a migrant background account for a considerably large proportion of pupils in the group with the lowest scores. (Metsämuuronen & Nousiainen, 2021).

In basic education, there no longer was such a large-scale need for exceptional teaching arrangements in autumn 2021 as there was in the early stages of the pandemic. We may expect, however, that the COVID-19 pandemic and the exceptional teaching arrangements necessitated by it have affected the equal opportunities for learning of the more vulnerable pupil and student groups, especially in lower grades, as in many cases a guardian who had an interest in and time for supporting the child's school attendance was a precondition for the pupils' participation in remote studies. While family support may be linked to the family's socio-economic background as discussed above, convincing research evidence is not yet available. Preliminary information indicates that in addition to many other factors, what the pupils in the group with the poorest knowledge and skills described above had in common also was parents with a lower level of education and a lack of traditional higher SES class indicators in the home, including books, objects of art and musical instruments (Metsämuuronen & Nousiainen, 2021). It stands to reason that as children of families in the highest SES groups may accumulate more intellectual, academic, social and economic capital than their peers in the lower SES groups even in normal circumstances (see discussion in Metsämuuronen, 2017; Ukkola, Metsämuuronen, & Paananen, 2020), the COVID-19 pandemic may have had an additional impact on the child's academic capital, in particular. Predictably, the current skills gap will make the differences between pupil and student groups more evident, at least on a temporary basis.

COVID-19 and the challenge of self-regulation

Shortcomings in learning support but also in pupils' capabilities for self-regulation appear to be some of the key reasons that have turned the adverse effects of the COVID-19 pandemic into a real problem, both in Finland (Goman et al., 2021) and internationally (e.g. Schleicher, 2020; UNESCO, 2020). The pandemic had little or no negative impact on pupils and students who were motivated and capable of self-regulation, whereas less motivated pupils and those for whom a poor level or lack of self-regulation proved to be a problem were not necessarily successful in distance learning.

Teaching practices based on (social) constructivist learning theories (Bruner, Goodnow, & Austin, 1956, Bruner, 1961; Vygotsky, 1925) encourage pupils and students to be active learners rather than passive recipients of information. The basic principle of constructivism, according to which people build their understanding and knowledge of the world by experiencing the world and reflecting on these experiences (Bruner, 1961), has over the past few decades radically changed our thinking of what a good teacher and a good learner are like. Enabling learning is emphasised in the teacher's role. As concepts, 'teacher' and 'teaching' have also expanded to include consciously organised teaching materials, including books, articles, online materials, lectures or lecture notes (see Metsämuuronen & Räsänen, 2018). The key to learning is that learners set their personal goals and solve problems both independently and with others. Learning is about doing things alone and together, thinking, planning and exploring, and assessing these processes in a versatile manner (Finnish National Agency for Education, 2014). This is a major step forward in education in many cases. However, this is not true for those children and young people who do not have the capabilities or motivation needed for active processing of information. From a pedagogical point of view, it is evident that some children and young people continue to need more guidance and support from the teacher than others, and many types of pedagogical solutions are needed to support learning. It is also important to examine how self-regulation could be the most effectively improved in the context of the school, enabling future generations to avoid potential learning and skills gaps created by changing learning environments with minimal damage.

As the COVID19 pandemic and distance learning emphasised the learner's personal role in learning, in particular, it is obvious that pupils' lack of personal interest, self-regulation and motivation combined with a possible lack of support provided by the home have led to a situation where some pupils' skills in mathematics, for example, have declined (Metsämuuronen & Nousiainen, 2021). It is easy to believe that guardians in higher SES groups and especially those with a higher level of education have taken an even greater interest in their children's school attendance during the pandemic. The guardians in these families ensured that the connections needed for attending remote lessons worked, that their children attended the lessons, and that they completed any homework. Some parents guided and supervised the child in completing assignments and verified their learning by checking their homework. Against this background, the differentiation in skills of the two extremes is understandable.

A FINEEC evaluation (Goman et al., 2021) found that a significant proportion of learners at all levels of education experienced stress related to their studies and a lack of study skills during the exceptional conditions. The support received by learners while engaged in distance learning was not sufficient in all respects, and in places, there were also challenges in organising student welfare in basic education, upper secondary schools and vocational institutions. The evaluation found that the lack of contact teaching increased the need for support, especially for learners who found it more difficult than others to make progress with their studies. Especially the needs of learners whose mother tongue is other than Finnish or Swedish and those who need support should have been identified more efficiently at all levels of education. It is obvious that these groups of learners developed a particular learning and skills gap during the pandemic.

Challenges to educational equality in the future

We are facing challenges from the perspective of educational equality. The findings of national evaluations show that the COVID-19 pandemic and exceptional teaching arrangements have exacerbated the trend of increasing inequalities and resulted in a learning gap and possibly a skills gap. The scale and permanent impacts of the skills gap are not yet known. The impact of the skills gap is reinforced by an underlying decline in the skills reserve which has continued for a while and appears to be linked to socio-economic background, social exclusion and lack of self-regulation in studies, in particular. On the other hand, learning is increasingly associated with digitalisation, algorithms used for information searches, and access to the data connections needed for such searches. The acquisition of information has undergone a fundamental change over the past 20 years, and we have not even seen all AI solutions and their impacts on teaching and learning yet. It is important to monitor and assess the future balance between the learning of common issues and the shared skills pool on the one hand, and personalised and individual skills resources on the other. From the viewpoint of equality, the question is how we can guarantee that all learners acquire sufficient quantities, or at least a minimum level, of uniform skills that enable continuous learning and skills for working life, and how this can be controlled.

Earlier trends indicate that differences in skills are increasing. In terms of equality, the question is how we can curb the trend of increasing inequalities. How can we ensure that all learners become active knowledge-builders and problem-solvers, both independently and together with others? How successful will the Finnish education system be in identifying support needs and producing effective solutions for supporting learners? We may be facing a new or enhanced paradox of equality, in keeping with the idea of 'equality of opportunity' formulated by Rawls (1999, 91): "Equality of opportunity means an equal chance to leave the less fortunate behind in the personal quest for influence and social positions." In other words, when we wish to provide all students with similar opportunities to benefit from education, as Levin (2010) defines equity in education, and when we give everyone equal opportunities to study, we also make it possible for some people to study more, more efficiently, longer or with higher motivation than others. Paradoxically, this drives stronger inequality between individuals.

One of the long-term trends in learning outcomes is that differences between schools appear to grow, albeit moderately. However, this phenomenon does not seem to be significant outside large cities – and not necessarily even outside the Helsinki Metropolitan Area. (Metsämuuronen & Nousiainen, 2021.) In the largest cities, where there may be major differences between residential areas, the differences between such areas appear to be increasing (Bernelius & Huilla, 2021), and this also seems to affect the school as a coefficient of determination at the national level (Metsämuuronen & Nousiainen, 2021). Bernelius (2015) has noted that, especially in Helsinki, residential areas have become segregated based on income levels, and their order has remained stable. This has coincided with differentiation of skills (e.g. Berisha & Seppänen, 2015; Bernelius &

Huilla, 2021; Hautamäki, Kupiainen, Marjanen, Vainikainen, & Hotulainen, 2013), especially in the light of social and ethnic background factors (see Bernelius & Vilkkama, 2019; Saikkonen, Hannikainen, Kauppinen, Rasinkangas & Vaalavuo, 2018). Similarly, the proportion of children speaking languages other than Finnish, Swedish and Sámi has increased in Vantaa throughout the 2000s; in some residential areas, they account for over 60% of the age group (Bernelius & Huilla, 2021). From the viewpoint of equality, the question is how we can slow down the process of segregation. When planning national measures to curb the increase in differences between schools, taking into account the experiences of measures taken by the cities of Helsinki, Espoo, Vantaa and Turku to slow down the development of inequalities between areas would presumably be justified.

In addition to questions related to earlier trends, we are also facing a new and essential equality issue in the post-COVID-19 world: How can we identify and correct the skills and well-being gaps created during the exceptional conditions as effectively as possible, ensuring that they will not result in lifelong disadvantage in later studies and working life? How should responsibilities and tasks related to promoting equal learning be shared within the education system and at its different levels in this situation? In case of individual subjects, schools and teachers can modify their teaching to address knowledge and skills gaps before teaching a new topic. Based on FINEEC recommendations (Goman et al., 2021), the methods for achieving this also include providing more learning support and guidance, improving teachers' digital pedagogy skills, better national steering, and monitoring and evaluating the quality of teaching at the local level. Improving self-regulation and study skills serves both preparedness for similar exceptional conditions and the increased integration of multiform learning and different learning environments at various levels of education. In the future, digital pedagogy should be developed at all levels of education, ensuring that the needs of different learners, special groups and learners from different backgrounds are addressed.

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