# The impact of the Covid-19 pandemic on education
# Rapid review of the literature
# Covid and Society – British Academy

**Adrian Zancajo**
**School of Education, University of Glasgow**

**CONTENTS**



## 1. General overview and objectives

This document synthesises the main findings of a rapid review of the literature relating to the effects on education of the Covid-19 pandemic. The objectives of this literature review are twofold. First, to analyse the dimensions and areas of research that have captured the greatest interest in the published academic literature on the impact of the pandemic on the education sector, and to sumarise the main findings. Second, to identify the main short- and long-term challenges for education as a consequence of the pandemic, based on the evidence available.

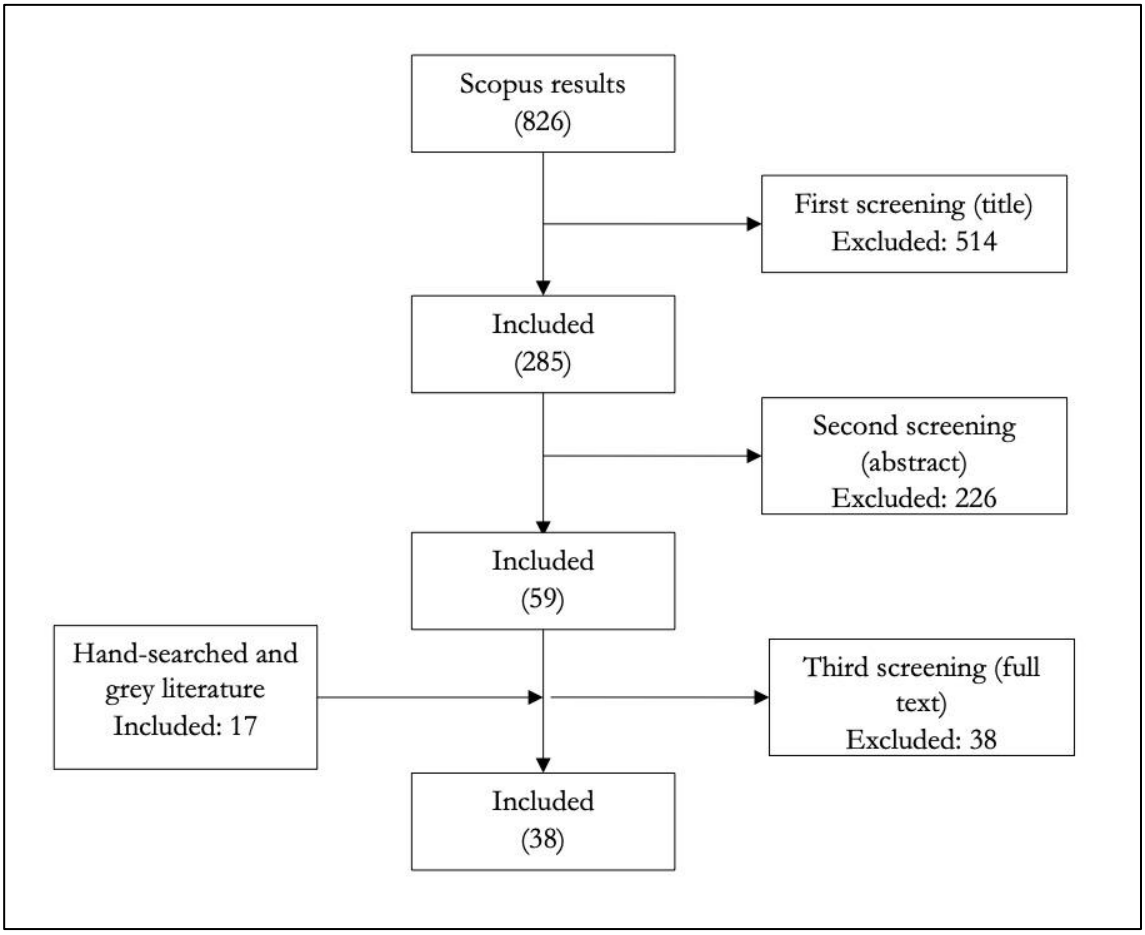
## 2. Review methodology

The evidence synthesised in this document is based on a rapid review of the available literature on the impact of the Covid-19 pandemic on education. The objective of the literature review is to provide a synthesis of the evidence produced to date and, based on this evidence, elaborate on the implications and challenges in the short- and long-term for the education sector of the pandemic. With these objectives, a search was conducted in Scopus by combining 'Covid' and 'Education' terms[1]. The search was restricted to studies published in English, French and Spanish. In order to increase the relevance of the results obtained, the search was limited to the subject area of social sciences.

[1] Based on the results obtained in the preliminary searches, these terms were combined with other educational terms to improve the relevance of the results obtained. The complete search syntaxis used in Scopus was: TITLE-ABS-KEY ("education" AND "Covid" AND ("school*" OR "learning" OR "teach*" OR (student* AND NOT "medical student"))) AND (LIMIT-TO (SUBJAREA, "SOCI")) AND (LIMIT-TO (LANGUAGE, "English") OR LIMIT-TO (LANGUAGE, "French") OR LIMIT-TO (LANGUAGE, "Spanish")).

The primary studies retrieved from this search were screened based on a three-step selection process, with a first screening based on the title, a second based on the abstract, and a third based on the full text. Studies were included in the final sample if they fulfilled the following requirements[2]: 1) referred to the impact on the education sector of the Covid-19 pandemic, 2) were based on empirical evidence, 3) analysed OECD or other high-income countries. Figure 1 provides an overview of the screening process.

**Figure 1. Overview of the screening process**




Studies included in the analysis were complemented with hand-searched papers and grey literature. This step was particularly relevant in the case of this review since an important part of the evidence released to date has been published in the form of working papers or research reports, which frequently are not included in the academic repositories.

## 3. Synthesis of the evidence

### 3.1. Impact on learning

A substantial body of evidence identified is dedicated to analysing how the pandemic has impacted or could impact on students' learning outcomes in the short-term, and how this impact can increase educational inequalities or the attainment gap between social groups.

[2] The lack of high-quality studies on the issue to date meant that it was not possible to apply other quality selection criteria.

The evidence available on the impact on learning of school closures in the context of the Covid-19 pandemic shows that the aggregate effect is not particularly significant, but it is distributed very unequally among social groups. In the case of the Netherlands, Engzell, Frey and Verhagen (2020) found that students from homes with low levels of education suffered learning losses 40% higher than the average student. Nevertheless, the same study also demonstrates that other students' characteristics such as sex, grade or prior performance did not affect the impact on learning during school closures. In the case of the Flemish Community of Belgium, Maldonado and De Witte (2020) show that not only has the level of academic performance decreased as a consequence of the school closures, but also the learning inequalities have increased significantly within and across schools. Using different indicators of inequality (i.e., Gini, ratio 90/10 and entropy), the study shows that learning inequalities grew in the context of the pandemic, and this is mainly explained by a significant performance decrease by those students at the bottom of the performance distribution. Finally, the authors also examined how different socioeconomic factors impacted on learning losses. In this regard, they found that students whose mothers had low levels of education, and recipients of social benefits, are the most affected by learning losses as a consequence of the pandemic.

Another set of studies is oriented towards estimates of the potential impact on learning and inequalities of the 2020 school closures based on the available literature that analyses similar situations (e.g., teachers' strikes, natural disasters, summer holidays, etc.). This includes, for example, the study carried out by the Education Endowment Foundation (2020), whose median-estimate forecast predicts that the attainment gap of pupils eligible for Free School Meals (FSM) will increase by 36% in the UK, with a range between 11% and 75%. The study highlights that this increase in the attainment gap will reverse the progress made since 2011 in narrowing performance differences. Another estimation of the learning loss in the UK points out that primary education children from advantaged socioeconomic backgrounds could have lost 24% of a standard deviation in their performance across subjects as a result of the school closures, whilst socially disadvantaged children could have lost 31% of a standard deviation. In the case of secondary education, the learning loss is estimated to be 14% of a standard deviation for socially advantaged students and 28% for the socially disadvantaged ones (Pensiero, Kelly & Bokhove, 2020). Kuhfeld et al. (2020) and Wyse et al. (2020), also used the previous literature to estimate the potential effects of school closures in the US. According to Kuhfeld et al. (2020), the expected learning loss will vary between 37% and 63% depending on the scenario and domain of learning considered. As in the analysis by Maldonado and De Witte (2020), the estimate for the US also predicts higher learning losses among those placed at the bottom of the distribution of performance, as well as an increase in performance inequalities by the socioeconomic status of the students. Likewise, Wyse et al. (2020) estimate that the percentage of students achieving the expected learning benchmarks will be reduced significantly as a result of school closures, particularly in lower grades of primary education.

Finally, regarding the long-term impact of Covid-19 on learning, based on schooling economic returns, Psacharopoulos et al. (2020) estimate that in the case of high-income countries the impact of the pandemic on learning will lead to a reduction of 21,158 US dollars in an individual's lifetime earnings, which represents between 6% and 9% of the current GDP of high-income countries.

### 3.2. Impact on opportunities to learn

#### *Students' and families' responses to school closures*

The second area of interest in the studies published about the Covid-19 pandemic and education, refers to how students, families and schools have dealt with the unexpected situation, as well as how socioeconomic inequalities have mediated their responses.

Andrew et al. (2020a) provide a complete analysis of children's learning experiences at home in England during the lockdown. The study found that children from low-income backgrounds spent

significantly fewer hours learning than their peers from more affluent households. Beyond the hours dedicated to learning, there were also significant differences in the learning activities carried out during the lockdown. In this regard, socially advantaged students had higher access to individualized activities such as private tutoring and chats with their teachers than their peers from disadvantaged backgrounds. Pensiero et al. (2020) found that children with parents who regularly work from home and have a service class occupation, tended to spend more hours learning than their peers with other circumstances. Similar patterns are found regarding the number of offline lessons and hours of support from adults.

A more specific analysis of home-learning inequalities demonstrates that whilst before the lockdown, primary students' learning time (in school and out school) was not associated with family income, during school closures, family earnings were positively correlated with the hours dedicated to learning. Nevertheless, in the case of secondary students, there was a positive association between the time spent learning and family income before the lockdown, and these differences remained stable during school closures. Finally, the same study analyses the socioeconomic inequalities in home-learning resources and resources provided by educational institutions, particularly relevant during school closures. The results show that, for primary and secondary students, the income of the household is positively associated with the resources provided by the schools, and with the availability of digital devices and dedicated study space at home (Andrew et al., 2020b). Similar results are found by Cullinane and Montacute (2020), who show that working-class children were less likely to take online classes and spent less time learning at home than those from the most advantaged backgrounds. Finally, Bayrakdar and Guveli (2020), using a regression analysis, demonstrate that students with parents with a low level of education, beneficiaries of free school meals, and students with Pakistani or Bangladeshi backgrounds, spent significantly less time on schoolwork at home during the school closures.

Analogous analyses have been developed in other national contexts beyond the UK, providing very similar results. In the case of Catalonia (Spain), Bonal and González (2020) examine the 'opportunities to learn'[3] of different social groups during the lockdown. The study, based on an online survey administered during the first weeks of the lockdown, demonstrates that low-income students enjoyed significantly fewer learning resources (e.g., digital devices) and family support during school closures than their peers from the most advantaged backgrounds. Also, the study observes significant differences in informal learning practices depending on the education level of parents. Parents with a university degree were more likely to accompany children in reading, foreign language practice and sporting activities. In the Netherlands, Bol (2020) analyses how schools and families have responded to home learning during the pandemic. In the case of primary education, the study found that most parents reported they got information from schools. However, there were significant differences regarding the clarity of the information provided, the amount of contact that students had with teachers, and the extent to which teachers checked homework. Differences in these perceptions were not associated with the socioeconomic background of parents. In contrast, important differences were found in terms of parents' involvement based on their education level. Highly educated families were more likely to help their children with homework, and in addition, perceived themselves as more capable of dealing with the challenges of home learning. In the case of secondary students, Bol (2020) shows that parents with a low level of education had a higher positive perception of the frequency of school contact, communication and teachers' homework checks than parents with a higher level of education. For

[3] The authors define opportunities to learn as the 'time children invested in schoolwork every day since the beginning of the school lockdown, how frequent the contact was with their school and teacher/s, how often they received online teaching lessons, whether they had to complete specific homework tasks, and how often these tasks were reviewed and returned to children' (p. 12).

the author, these results 'confirm the idea that during the Covid-19 pandemic schools reach out more to students in disadvantaged families and might also support them more' (p. 9). However, as in the case of primary education, highly educated parents reported providing more help to their children and perceive themselves to be more capable of supporting them during school closures.

Another set of studies are specifically focused on the personal experiences of parents regarding their children learning at home. Brom et al. (2020) examine how parents coped with their children's online learning during the lockdown in the Czech Republic. One of the main findings of the study is that a higher percentage of parents with a non-university degree consider they are coping poorly with the situation than families with a university education. The main factors that explain why some families perceive the situation as challenging is the lack of ITC devices, time and expertise to support their children's learning. Parczewska (2020) analyses the factors that cause parents to perceive home education during the pandemic as a 'difficult situation'.[4] The study shows that parents reporting home schooling as a difficult situation, attribute it to the excess of duties, and the lack of appropriate equipment and pedagogical competence. In the case of Finland, Koskela et al. (2020) present a qualitative analysis of the parents' views on family resilience in the context of remote schooling during the pandemic. The study found that the main concerns among parents during the Covid-19 pandemic were for their children's learning and wellbeing, as well as the use of ICT learning technologies. In this regard, the level of support received from schools appears to be one of the most significant factors to reduce parents' concerns. Wang (2020) explores parents' emotional responses to their children required daily academic activities during school closures in the US. According to the study, parents' experience is correlated with the children's responses to these actives, that is to say, that children's positive or negative responses determined how parents dealt with the unexpected circumstances. The analysis also demonstrates that parents' emotional responses were affected by the extent to which their children's learning activities affected their daily routines and other competing priorities.

Finally, two interesting 'alternative' approaches to examine families' responses to school closures are based on the analysis of internet searches of learning resources and library takeout. The first study shows how the internet search for learning materials increased dramatically as a consequence of school closures. However, there was a significant gap between socioeconomic groups, the level of technological access, rurality and race (Bacher-Hicks, Goodman & Mulhern, 2020). Likewise, Jæger and Blaabæk (2020) examine the inequality in opportunities to learn based on library takeout in Denmark during the first phase of the pandemic. What the study found is that differences in the library takeout depending on families' socioeconomic characteristics (parents' education and income) before the pandemic, increased significantly as a result of the lockdown.

### *Schools' responses to the lockdown*

As mentioned previously, studies analysing students' and families' responses also found that schools' involvement was an important factor in mediating the time spent by children on schoolwork. In this regard, the amount of learning material provided by the school, the level of online teaching provision and the fact that teachers checked schoolwork, increased the time children spent learning at home (Bayrakdar & Guveli, 2020). Andrew et al. (2020a) show that in the UK, private schools were more likely to provide online resources to their students than state ones, particularly online classes and chats with teachers. Regarding learning inequalities, Cullinane and Montacute (2020) found that schools' involvement in home learning (i.e., online and offline

[4] The concept 'difficult situation' is defined as 'a disharmony of subjective conditions and limitation of the subject's ability to rationally solve tasks and function efficiently in the biographical cycle' (Parczewska, 2020: 2).

schoolwork provision and teachers checking schoolwork) can significantly mitigate the influence of students' socioeconomic characteristics on time spent learning.

Based on a survey of different educational actors, Huber and Helm (2020) provide preliminary evidence on how schools (teachers and headteachers) have responded to the closure of educational institutions in three European countries (Germany, Austria and Switzerland). Most teachers and principals in Germany considered that the technical capacity of their school was not sufficient for web-based formats or to tackle the challenges of online learning. A significantly smaller percentage of school staff in Austria and Switzerland felt this way. The study also shows how, on average, teachers from the three countries have a low self-perception of their competence to deliver online forms of teaching. Harris et al. (2020) analyse the responses of US schools during the Covid-19 crisis. In terms of demographics, the study found that schools located in poverty contexts responded more comprehensively to students' learning needs, particularly in terms of breadth of services (i.e., meals, mental health and counselling) and equitable access to learning resources. At the same time, those schools located in areas with better internet access were able to provide more personalization and engagement in their online teaching provision, as well as guarantee more equitable access to their students. In Tennessee (US) a survey given to teachers and headteachers showed that the most important concerns for educators during the school closures were the barriers preventing the students from accessing remote learning (e.g., lack of internet connection or digital devices) and the fact that students missed essential services such as subsidised meals or counselling. The survey also shows that 89% sent electronic learning resources to their students at least once, but only 38% held online sessions (Patrick & Newsome, 2020).

### 3.3. Online teaching and learning

One of the main consequences of school and university closures during the Covid-19 pandemic has been the expansion of online learning. Studies in this area have analysed the benefits and challenges of the rapid transition from face-to-face to remote education as a consequence of the unexpected circumstances. Although the number of empirical studies in this area is relatively scarce, this dimension has been included in the review since the available literature demonstrates that it has significantly affected the impact on learning and students' and teachers' experiences during the global health crisis.

Studies in this area put a particular emphasis on how teachers have adapted to the new situation. For instance, Bergdahl and Nouri (2020) examine the experiences of Swedish teachers making the transition to online teaching. One of the topics highlighted by teachers is the lack of school strategy to transition from face-to-face to online teaching or that the strategies were out of date. Although in general teachers assess the experience as positive regarding students' engagement, they also identified several challenges. For instance, teachers consider that a significant number of students need technical support with online learning technologies, have difficulty understanding written instructions or have parents who cannot support them. Related to this, teachers also considered that online teaching made it difficult to monitor students' learning and to identify those who need additional support. Finally, teachers also consider that online teaching has increased the number of students who display distress from isolation and show a decrease in their motivation and a decline in discipline. In Germany, König, Jäger-Biela and Glutsch (2020) analyse the particular case of early career teachers in the transition towards online teaching during the school closures. The study identified six main challenges faced by early-career educators: maintaining social contact with their students, providing quality online lessons, introducing new learning content, providing task differentiation, providing feedback, and conducting online assessments. The study also explores the factors affecting the mastery of early-career teachers in all these challenges. The results show that teacher competence, school computer technology, and teacher education are predictors of the capacity of these teachers to maintain social contact with their students, whilst self-efficacy appears to be a determinant factor in providing task differentiation or feedback. Finally, the use of online

tutorials was identified as a significant factor to improve their perceived success in providing online lessons.

Bojović et al. (2020) assess the implementation of a model enabling schools to rapidly transition from traditional to online learning[5] designed by the University of Belgrade (Serbia). The evaluation showed that teachers were more amenable to the rapid transition to online learning and teaching than students, however, they experienced more difficulties managing new technologies (e.g., Zoom or Moodle). The study also found that, on average, teachers were more satisfied with online courses than students. Nevertheless, the quality of the assessment was more valued by students than teachers. Finally, Obrad (2020) analyses how the professional activity of teachers in Romania was affected by the rapid adoption of online teaching during the pandemic. In this regard, job constraints and stress significantly affected the capacity of teachers to engage with online teaching. Interestingly, the study also demonstrates that teachers' stress caused by the technological challenges of online learning can be significantly reduced by providing them with proper organisational and professional support. Those educators that perceived they had received a high level of support from their organisations were more resilient to the challenges posed by the rapid transition to online teaching.

### 3.4 Teachers' working conditions and wellbeing

A particular area of concern regarding the effects of Covid-19 on education is teachers' working conditions and wellbeing. Indeed, UNESCO identified confusion and stress for teachers as one of the main adverse consequences of school closures during the pandemic.[6] A number of studies have analysed the impact on teachers' experiences during school closures during the first phases of the pandemic.

The first approach to studying teachers' working conditions during the pandemic are studies that analyse educators' personal experiences. Based on teacher interviews, Reich et al. (2020) found that maintaining students' motivation in an online learning environment has been one of the main challenges for US teachers during school closures. This concern was combined with a significant loss of self-perceived efficacy and professional identity, as well as the perception of burnout. The analysis also shows that increasing inequalities among students have been particularly worrying and a cause of distress for teachers. Kraft and Simon (2020) found that female teachers are more likely to report that they have struggled to balance their professional duties with other responsibilities, around 40% of teachers consider caretaking responsibilities for children or dependent adults have made it difficult to develop their professional tasks and more experienced teachers were more likely to feel uncomfortable teaching online. Teachers also reported that the socioeconomic characteristics of their students and schools impacted on their capacity to guarantee student engagement with online learning and their access to technological tools. This was particularly challenging for teachers working in schools in which most of the students are black and from low-income backgrounds. Hamilton, Kaufman and Diliberti (2020) also provide relevant insight into teachers' experiences during the pandemic and school closures based on a survey of a representative sample of preschool, primary and secondary teachers in the US. The study found that most of the teachers monitored the completion of learning activities, but also, most of them did not provide feedback to students. Furthermore, only 12% of teachers report covering all the curricular content that they would have covered in a regular academic year. As in the case of Kraft

[5] The description of the transition model adopted by this higher education institution is presented in the paper. However, here we focus on the evaluation results that can be more informative for the scope of the review.

[6] UNESCO (2020). Adverse consequences of school closures. UNESCO. Available on: https://en.unesco.org/covid19/educationresponse/consequences

and Simon (2020), the study also shows that the capacity of teachers to maintain the engagement and contact with their students was significantly mediated by socioeconomic characteristics of the school population. Teachers working in schools with high poverty levels and with a majority of black students have been less able to maintain contact with students than their peers working in other contexts.

Košir et al. (2020) examine the factors associated with teachers' work stress as a consequence of online teaching during the beginning of the pandemic in Slovenia. The study found three main factors that increased the likelihood of work stress among teachers: child-care responsibilities, low levels of ICT self-efficacy, and negative attitudes toward online education. Based on a qualitative approach, Kim and Asbury (2020) found that school closures and the need to suddenly move to online teaching produced a high level of uncertainty and stress among educators in England. Although over time, teachers report that they found a way forward, concerns about the most vulnerable students increased over the school closure period.

Other studies have focused on the impact of teachers' working conditions on their professional success during the pandemic. For instance, Kraft, Simon and Lyon (2020) analyse how teachers' professional sense of success during school closures in the US was strongly influenced by their working conditions (i.e., professional development support, communication with their headteacher, recognition, collaboration and professional expectations). In line with this, those teachers who enjoyed strong communication, fair expectations and recognition from their headteachers and school districts, experienced a lower reduction of their sense of success. Similar to other studies, the analysis also found that those teachers working in socially disadvantaged communities faced more challenges during school closures. Finally, Kaden (2020) provides a complete single case study that examines the experience of a rural teacher in Alaska (US) during Covid-19 school closures. The analysis shows how the sudden transition to online teaching dramatically increased the workload of the teacher, as well as his concerns about those students who were not able to participate in online classes due to social and home environmental issues.

### 3.5 Higher education

The last set of studies presented in this review refers to the impact and consequences of the Covid-19 pandemic for higher education. Although some of the sections presented previously include studies related to higher education, this section synthesises those primary studies analysing specific aspects of the impact of the pandemic on this education level.

Among the studies identified in this area, two of them analyse the impact of Covid-19 on higher education students' experiences and expectations. Aucejo et al. (2020) explore the impact of the crisis on university students based on a survey at Arizona State University. In terms of the academic effects of the pandemic, the study shows that as a result of the Covid-19 crisis, more than 50% of the students expected a decrease in their grades, 13% delayed their graduation, and 11% withdrew from a class during the second semester of 2020. In the case of labour market outcomes, 29% of students lost their job, 13% had their internship or job offer rescinded, and 61% had a close family member who experienced an income reduction or lost their job. Furthermore, the crisis also reduced the labour market expectations of higher education students significantly. For instance, 44% of the students think that they will not be able to find a job after graduation. They reported that compared to before the pandemic, their reservation wages decreased by 2% and their expected earnings at age 35 declined by 2.3%. For the authors of this study, the impact on the labour market expectations demonstrates that higher education students perceive that the effects of the Covid-19 crisis will not only affect them in the short term but also in the long term. However, it is important to point out that the impact of the pandemic on students' experiences and expectations was significantly mediated by their demographic and socioeconomic background. Low-income, racial minorities and first-generation immigrant students experienced a more negative impact on their academic outcomes (delay in graduation, decrease in grades or withdrawing from a class) than

their peers from other backgrounds. However, no statistical differences between socioeconomic groups were found regarding expected labour market outcomes. From a comparative perspective, Aristovnik et al. (2020) analyse the impact of the Covid-19 pandemic on higher education students experiences from 62 different countries. In general terms, most of the students surveyed were satisfied with their experience of transition to online learning, but students enrolled in Oceanian and European higher education institutions show the highest levels of satisfaction. However, analysis of the different factors affecting the satisfaction with online learning shows that the access to recorded videos, the availability of adequate information about exams, and satisfaction with teaching staff, significantly increase the probability of students being satisfied with their online learning experience during the pandemic. Regarding sociodemographic factors, while gender or nationality are not statistically significant predictors of students' satisfaction, social science students or those receiving a scholarship show a higher probability of being satisfied with their online learning.

Three other studies examine the capacity of higher education institutions to adapt to the challenges of online teaching during the pandemic. Firstly, Watermeyer et al. (2020) analyse the process of online teaching transition during the pandemic from the perspective of academics working in UK universities. The analysis of the survey carried out shows that most of the academics did not feel prepared to deliver online teaching. However, most of them feel confident in their abilities to facilitate online learning. Furthermore, the vast majority of academics consider that their institution has been supportive in the transition to online teaching, and they have had access to appropriate technologies. Regarding different disciplines, academics from computer science and education show more positive perceptions relating to their preparedness and confidence to deliver online teaching, as well as on institutional support received and access to the necessary technologies. The analysis of the survey responses also shows how, on average, academics consider that as a consequence of the Covid-19 pandemic, their workload has increased significantly, and this increase will remain for the next three years. The open questions included in the survey show that academics are afraid that the turn to online teaching and learning reduces the attractiveness of their educational institutions and will affect their capacity to recruit students in the next academic years.

Secondly, a study in five higher institutions in the US and one in Hong-Kong examines the immediate impact of the Covid-19 pandemic (Day et al., 2020). The study concludes that despite the fact that academic continuity was maintained in all the higher education institutions analysed, the impact of the crisis was unequally distributed among students and staff. For instance, students from minority populations, females or low-income students were more affected by the health and economic effects of the pandemic and they experienced a higher disruption in their academic activity. Similarly, staff in precarious employment positions were more vulnerable to the impacts of the crisis.

Thirdly, the last study within this category analyses not only the experiences of academics in the early weeks of the pandemic in the US, but also looks at how post-secondary educational institution administrators have dealt with the challenges posed by the unexpected circumstances (Johnson, Veletsianos & Seaman, 2020). In the concrete case of administrators, the results of the survey show that most of them consider that they need more support in areas such as how to guide remote students, access to online materials or information about the best practices on how to support faculty members working from home.

Finally, Halterbeck et al. (2020) estimate the potential financial consequences of the crisis for the higher education sector in the UK by combining the expected impact on the international economy and students deferring their decision to undertake a higher education programme. The analysis predicts a 24% decrease in first-year enrolments, which would have a financial impact of £2.47 billion for UK universities. This financial impact is expected to mean 30,280 job losses in the

higher education sector. These estimations would translate to a £6.1 billion of direct, indirect and induced economic impact.

## 4. Conclusions

This final section is dedicated to analysing the short- and long-term implications of the Covid-19 pandemic for education. These final reflections aim to provide preliminary answers and insight into the questions formulated by the British Academy 'Covid and Society' framework. The reflections presented here are based on the evidence reviewed above, but also on reflections and recommendations made in non-empirical papers and policy documents.

### *What are the main challenges and opportunities of the policy area and how have these changed, or not, in light of the Covid-19 pandemic?*

**Social inequalities in education**, particularly in northern countries, have played an important role in the debate around this policy area over the past few decades. However, the evidence presented demonstrates that the impact of the Covid-19 crisis in education has been particularly mediated by the students' socioeconomic characteristics, and that the pandemic has exacerbated educational inequalities dramatically (UN, 2020). In terms of learning impact, the evidence released to date reveals that socially disadvantaged students have been significantly more affected by the learning losses experienced as a consequence of the pandemic. Although there is still no solid evidence on the long-term effects of these learning losses, studies of other similar situations in the past show that the impact on learning is likely to affect the long-term educational, social and economic outcomes of the children and youth affected by the current crisis (OECD, 2020).

The higher impact of learning loss on socially disadvantaged children can, at least partially, be explained by the difficulties faced by working-class families to tackle the challenges posed by home learning during school closures. Evidence of families' responses to home learning during school closures shows that socially disadvantaged parents have experienced more difficulties in supporting their children's learning during the crisis both in terms of material resources and self-perceived competence. The evidence also found that the unequal capacity of schools and teachers to respond to the unexpected educational crisis is another factor explaining why the Covid-19 crisis has had a greater impact on socially disadvantaged students. In this regard, the effects of the pandemic are expected to increase the relevance of social inequalities in the debate around education. The Education Endowment Foundation (2020) estimates that for the UK, the Covid-19 impact on the learning gap between socially advantaged and disadvantaged students will reverse the progress made since 2011to narrow the performance gap.

**Online teaching and learning** were also important topics of debate in the education policy field before the pandemic. However, the current crisis could become an opportunity to accelerate progress in this area. In order to achieve this objective, it is important to take into account the experiences of students, teachers and educational institutions regarding the sudden transition to online learning during the pandemic. What the evidence in this area demonstrates is that policies to increase the role of online educational provision should be accompanied by the necessary institutional support for students and teachers in this process. If proper support is not put in place, the evidence shows that students and teachers face important problems in enacting online learning, which affects their educational and professional experience. As in the case of the impact on learning, the capacity of educational policies to tackle the challenges posed by social inequalities in the implementation of online learning is essential to guarantee their success.

**Teachers' working conditions and wellbeing** have also been significantly affected by the Covid-19 pandemic. In England, teachers' working conditions have been a recurrent topic of debate in the past years (see, for instance, Worth et al., 2018). However, school closures have significantly altered the working conditions of educators and increased their perception of stress

and burnout. In this regard, it is important to point out that the evidence shows that the working conditions of teachers during the pandemic have influenced the experiences of their students. In a context in which the role of online learning increases, it is necessary to develop policies and institutional support that guarantee certain working conditions for teachers as a means to ensure that potential future disruptions do not affect their professional activity.

Finally, in the case of **higher education**, the evidence available shows similar patterns to those observed at other educational levels. However, as Aucejo et al. (2020) point out, the Covid-19 pandemic will have a more immediate effect on academic, labour and social outcomes of those students currently enrolled in higher education. Although the labour and social outcomes of university graduates were also part of the global debate on this level of education, the effects of the Covid-19 pandemic will require specific compensatory policies for higher education students affected by the crisis, as they are more likely to be affected by the economic and social effects of the pandemic.

### *What are the acute (1-2 year) challenges and opportunities to consider and what are the longer-term ones (2-5 years)?*

In the short term, three main challenges need to be considered, particularly if the Covid-19 pandemic persists in the next months and new school closures are required. First, to ensure that the necessary resources, remedial programmes and policies are put in place to compensate for the learning loss of socially disadvantaged children and young people, as well provide their families with the necessary support (Reimers & Schleicher, 2020). This means that compensatory policies need to be designed and implemented to ensure that the learning gap between socially advantaged and disadvantaged students does not increase, but is reduced, at least to the levels before the pandemic. The second challenge, and also an opportunity, is to adopt policies and programmes to improve the online teaching provision of schools and higher education institutions. What the current crisis has demonstrated is that most educational institutions are not fully prepared to provide high-quality online teaching on a large scale. Public policies need to ensure that students are provided with the necessary resources and support to engage properly with online learning. Teachers and educators require training programmes, institutional support and material resources to improve their skills and experience with online learning. Third, it is particularly important to adopt policies and programmes to support teachers and academics of higher education institutions facing the new challenges of distance teaching or teaching in the context of the health crisis. In this area, one of the policy priorities pointed out by Reimers and Schleicher (2020) is to 'clearly define roles and expectations for teachers to effectively steer and support students' learning in the new situation' (p. 5).

In the long term, the main challenges refer to the lasting impact of the pandemic in the education sector. Although further research is needed, it is essential to consider how the important learning losses experienced by some social groups during the pandemic will affect their future academic trajectories and social outcomes. Evidence for other similar situations shows that learning losses impact significantly on the educational and labour trajectories of those children more affected over several years. In the case of higher education, the evidence provided by Aucejo et al. (2020) indicates that the Covid-19 pandemic will significantly affect the academic and labour outcomes of the current undergraduate students. In the next few years, educational, economic, social and labour-market policies must take into account how this cohort of children and young people have been affected by this unprecedented pandemic. Indeed, the OECD (2020) has warned about the long-term effects of the Covid-19 crisis, encouraging national governments not to focus only on the short-term effects, but to adopt policies able to deal with the impact on students' educational trajectories. Broadly speaking, this means developing educational and social policies able to adequately address the long-term effects on children and youth affected by the Covid-19 crisis.

***What, if any, are the implications of these effects when viewed through the lens of cross-cutting analytical themes like governance … trust … cohesion … inequalities … sustainability (see below)?***

As highlighted above, concerning the education sector, the main implications of the Covid-19 crisis refer to inequalities. Based on the evidence reviewed, it is possible to affirm that the most important impact of the pandemic for the education sector is and will be the exacerbation of socioeconomic inequalities regarding the learning and the educational experience of different social groups of students. The impact of educational inequalities far beyond education itself has been well-documented in the literature. In this regard, the increase of educational inequalities as a consequence of the Covid-19 pandemic can have important future consequences for other areas such as social cohesion, the labour market, and social and economic development. The evidence on educational inequalities demonstrates how significant and important the consequences of these inequalities are for other economic and social areas. Children more affected by performance inequalities are more likely, for instance, to obtain poor outcomes in the labour market, low levels of political and social engagement, more health problems or high use of social benefits.

***For any of the above cross-cutting themes or areas of policy are there different challenges, opportunities or insights when considered against the dimensions of place, scale and time?***

All the challenges and opportunities considered previously have different implications in terms of place, scale and time. Regarding the time dimension, it is expected that the Covid-19 pandemic will have immediate effects on educational policy in terms of inequalities and online learning and present immediate challenges. However, as was mentioned previously, it is expected that these challenges will evolve, but last over time. In parallel, it is also important to consider the scale dimension since the individual effects of Covid-19 have implications for communities and for society as a whole, for instance, in terms of social and economic development. Finally, place also appears to be an essential dimension to consider. While the short-term effects on education of Covid-19 are mainly concentrated in more socially disadvantaged local areas, it is expected that the long-term effects will affect regional and national levels.

***What is not covered above but you think should be considered?***

Some relevant topics and issues have not been covered by the rapid review of the literature due to the lack of primary studies analysing them. However, the impact of Covid-19 in collectives such as children with special needs and vocational education students would require specific analysis to understand the impact on these groups of students.

**References**


Andrew, A., Cattan, S., D, Costa-Dias, M. C., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A., & Sevilla, A. (2020a). *Learning during the lockdown: real-time data on children's experiences during home learning.* (IFS Briefing Note BN288). The Institute for Fiscal Studies.

Andrew, A., Cattan, S., D, Costa-Dias, M. C., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A., & Sevilla, A. (2020b). *Inequalities in children's experiences of home learning during the COVID-19 lockdown in England.* (Working paper, 20/26). The Institute for Fiscal Studies.

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20), 8438. doi: 10.3390/su12208438

Aucejo, E. M., French, J., Araya, M. P. U., & Zafar, B. (2020). The impact of COVID-19 on student experiences and expectations: Evidence from a survey. *Journal of Public Economics*, 191, 104271.

Bacher-Hicks, A., Goodman, J., & Mulhern, C. (2020). *Inequality in household adaptation to schooling shocks: Covid-induced online learning engagement in real time* (NBER Working Paper, 27555). National Bureau of Economic Research.

Bayrakdar, S., & Guveli, A. (2020). *Inequalities in home learning and schools' pro- vision of distance teaching during school closure of COVID-19 lockdown in the UK* (ISER Working Paper Series, 2020-09). Institute for Social & Economic Research, University of Essex.

Bergdahl, N., & Nouri, J. (2020). Covid-19 and Crisis-Promted Distance Education in Sweden. *Technology, Knowledge and Learning*. Advance online publication. doi: 10.1007/s10758-020-09470-6

Bojović, Ž., Bojović, P. D., Vujošević, D., & Šuh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education*. Advance online publication. doi: 10.1002/cae.22318

Bol, T. (2020). Inequality in homeschooling during the Corona crisis in the Netherlands: First results from the LISS Panel. *SocArXiv*. doi:10.31235/osf.io/hf32q.

Bonal, X., & González, S. (2020). The impact of lockdown on the learning gap: family and school divisions in times of crisis. *International Review of Education*. Advance online publication. doi: 10.1007/s11159-020-09860-z

Brom, C., Lukavský, J., Greger, D., Hannemann, T., Straková, J., & Švaříček, R. (2020). Mandatory Home Education During the COVID-19 Lockdown in the Czech Republic: A Rapid Survey of 1st-9th Graders' Parents. In Frontiers in Education, 5, 103. doi: 10.3389/feduc.2020.00103

Cullinane, C., & Montacute, R. (2020). COVID-19 and social mobility impact brief #1: School Shutdown. The Sutton Trust. Retrieved from: https://www.suttontrust.com/wp-content/uploads/2020/04/COVID-19-Impact-Brief-School-Shutdown.pdf

Day, T., Chang, I. C. C., Chung, C. K. L., Doolittle, W. E., Housel, J., & McDaniel, P. N. (2020). The Immediate Impact of COVID-19 on Postsecondary Teaching and Learning. *The Professional Geographer*. Advance online publication. doi: 10.1080/00330124.2020.1823864

Education Endowment Foundation (2020). Impact of school closures on the attainment gap: Rapid Evidence Assessment. Education Endowment Foundation.

Engzell, P., Frey, A., & Verhagen, M. (2020). Learning inequality during the COVID-19 pandemic. *SocArXiv*. doi: 10.31235/osf.io/ve4z7

Halterbeck, M., Conlon, G., Williams, R., & Miller, J. (2020). Impact of the Covid-19 pandemic on university finances: Report for the University and College Union. London Economics. Retrieved from: https://londoneconomics.co.uk/wp-content/uploads/2020/04/LE-Impact-of-Covid-19-on-university-finances-FINAL.pdf

Hamilton, L. S., Kaufman, J. H., & Diliberti, M. (2020). Teaching and leading through a pandemic: Key findings from the American educator panels spring 2020 COVID-19 surveys. RAND. Retrieved from: https://www.rand.org/content/dam/rand/pubs/research_reports/RRA100/RRA168-2/RAND_RRA168-2.pdf

Harris, D. N., Liu, L., Oliver, D., Balfe, C., Slaughter, S., & Mattei, N. (2020). *How America's Schools Responded to the COVID Crisis*. (EdWorkingPaper: 20-262). Annenberg Institute at Brown University. doi: 10.26300/3sg2-ep57

Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability*, 32, 1-34.

Jæger, M. M., & Blaabæk, E. H. (2020). Inequality in learning opportunities during Covid-19: Evidence from library takeout. *Research in Social Stratification and Mobility*, 68, 100524.

Johnson, N., Veletsianos, G., & Seaman, J. (2020). US Faculty and Administrators' Experiences and Approaches in the Early Weeks of the COVID-19 Pandemic. *Online Learning*, 24(2), 6-21.

Kaden, U. (2020). COVID-19 School Closure-Related Changes to the Professional Life of a K–12 Teacher. *Education Sciences*, 10, 165.

Kim, L. E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90, 1062-1083.

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: Teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, 93(4), 608-622.

Košir, K., Dugonik, Š., Huskić, A., Gračner, J., Kokol, Z., & Krajnc, Ž. (2020). Predictors of perceived teachers' and school counsellors' work stress in the transition period of online education in schools during the COVID-19 pandemic. *Educational Studies.* Advance online publication. doi: 10.1080/03055698.2020.1833840

Koskela, T., Pihlainen, K., Piispa-Hakala, S., Vornanen, R., & Hämäläinen, J. (2020). Parents' Views on Family Resiliency in Sustainable Remote Schooling during the COVID-19 Outbreak in Finland. *Sustainability*, 12(21), 8844.

Kraft, M. A., & Simon, N. S. (2020). Teachers' Experiences Working from Home During the COVID-19 Pandemic. Upbeat. Retrieved from: https://f.hubspotusercontent20.net/hubfs/2914128/Upbeat%20Memo_Teaching_From_Home_Survey_June_24_2020.pdf

Kraft, M.A., Simon, N.S., Lyon, M.A. (2020). *Sustaining a Sense of Success: The Importance of Teacher Working Conditions During the COVID-19 Pandemic.* (EdWorkingPaper, 20-279). Annenberg Institute at Brown University.

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impacts of COVID-19 school closures on academic achievement. *Educational Researcher*, 49(8), 549-565.

Maldonado, J.E. & De Witte, K. (2020). *The effect of school closures on standardised student test outcomes*. (Discussion paper series, 20.17). Faculty of Economics and Business. KU Leuven.

Obrad, C. (2020). Constraints and Consequences of Online Teaching. *Sustainability*, 12(17), 6982.

Parczewska, T. (2020). Difficult situations and ways of coping with them in the experiences of parents homeschooling their children during the COVID-19 pandemic in Poland. *Education 3-13*, 1-12. Advance online publication. doi: 10.1080/03004279.2020.1812689

Patrick, S.K. & Newsome, U. (2020). Teaching Through a Global Pandemic. COVID-19 Insights from the Tennessee Educator Survey. TN Education Research Alliance. Retrieved from: https://peabody.vanderbilt.edu/TERA/files/TES2020_COVID_Brief_FINAL.pdf

Pensiero, N., Kelly, A. & Bokhove, C. (2020). *Learning inequalities during the Covid-19 pandemic: how families cope with home-schooling.* University of Southampton research report. doi: 10.5258/SOTON/P0025

Psacharopoulos, G., Collis, V., Patrinos, H. A., & Vegas, E. (2020). *Lost Wages: The COVID-19 Cost of School Closures* (World Bank Policy Research Working Paper, 9246). World Bank.

Reich, J., Buttimer, C. J., Coleman, D., Colwell, R. D., Faruqi, F., & Larke, L. R. (2020). *What's Lost, What's Left, What's Next: Lessons Learned from the Lived Experiences of Teachers During the 2020 Novel Coronavirus Pandemic.* Teaching Systems Lab. Retrieved from https://edarxiv.org/8exp9

Reimers, F. M., & Schleicher, A. (2020). *A framework to guide an education response to the COVID-19 Pandemic of 2020.* Retrieved from: https://www.hm.ee/sites/default/files/framework_guide_v1_002_harward.pdf

OECD (2020). *Education and COVID-19: Focusing on the long-term impact of school closur*es. Retrieved from: https://read.oecd-ilibrary.org/view/?ref=135_135187-

1piyg9kc7w&title=Education-and-COVID-19-Focusing-on-the-long-term-impact-of-school-closures

UN (2020). *Policy Brief: Education during COVID-19 and beyond*. Retrieved from: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf

Wang, K.Y.C. (2020). Information Behavior of Parents during COVID-19 in Relation to Their Young School-age Children's Education. *The Serials Librarian*. Advance online publication. doi: 10.1080/0361526X.2020.1806179

Watermeyer, R., Crick, T., Knight, C., & Goodall, J. (2020). COVID-19 and digital disruption in UK universities: afflictions and affordances of emergency online migration. *Higher Education*. Advance online publication. doi: 10.1007/s10734-020-00561-y

Wyse, A. E., Stickney, E. M., Butz, D., Beckler, A., & Close, C. N. (2020). The Potential Impact of COVID-19 on Student Learning and How Schools Can Respond. *Educational Measurement: Issues and Practice*, 39(3), 60-64.

Worth, J., Lynch, S., Hilary, J., Rennie, C., & Andrade, J. (2018). *Teacher Workforce Dynamics in England: Nurturing, Supporting and Valuing Teachers*. Slough, UK: National Foundation for Educational Research.