

Scottish COVID-19 Inquiry

The Delivery of Education and Certification, Impact on Children and Young People:

The impact on children and young people in relation to learning and academic progress in general, known benefits and disadvantages of online learning, and digital poverty and inequality and effects of this on access and outcomes

Final Draft

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Disclaimer:

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List of Abbreviations

- ASN/ASL: Additional Support Needs/Learning
- CDT: Craft Design and Technology
- CfE: Curriculum for Excellence
- ES: Education Scotland
- EIS: The Educational Institute of Scotland
- ERT: Emergency Remote Teaching
- FE: Further Education
- FSM: Free School Meal
- GTCS: General Teaching Council for Scotland
- HE: Higher Education
- PEF: Pupil Equity Fund
- SQA: Scottish Qualification Agency
- SCQF: The Scottish Credit and Qualifications Framework
- SFC: Scottish Funding Council
- SSTA: Scottish Secondary Teachers' Association

Executive Summary

Aim and Focus of This Study

This new research builds on the findings of our earlier study ‘The Delivery of Education and Certification, Impact of COVID-19 on Children and Young People’, led by Professor McCluskey in 2022 ([reference 1](#)), commissioned for the Scottish COVID-19 Inquiry.

It focuses specifically on:

- a) the impact on children and young people in relation to learning and academic progress in general,
- b) the known benefits and disadvantages of online learning, and
- c) digital poverty and inequality and effects of this on access and outcomes.

In this way, it aims to support the overall aim of the Inquiry: to establish the facts of, and learn lessons from, the strategic response to the COVID-19 pandemic in Scotland. It covers only the strategic response of the devolved administration in Scotland.

Key Issues

The initial months of the pandemic produced an unprecedented level of research. As the pandemic progressed, evidence was gathered for different phases and on how changes impacted the learning and engagement of children and young people, particularly in relation to school closures and remote learning. The research has continued to slow down, and there are indications that research on education and certification has ‘moved on’ from its focus on COVID-19. The key findings are summarised below.

Learning, Academic Progress and Youth Work

- While the achievement of CfE Levels data shows an increased attainment gap between least- and most-deprived children and young people, there isn't clear data on other dimensions such as engagement in learning, health and wellbeing, which are important to understand long-term impacts on learning and progress.
- Some data suggests that children and young people in Scotland experienced greater learning loss than their peers in England. Gaps in learning have been identified in core literacy and numeracy, language, and concentration, in addition to loss of confidence in ability to learn.
- Policy focus on literacy, numeracy and wellbeing was well-intended, especially in the first school closure, but it led to narrowed curriculum provisions during the pandemic. In addition, learning from home had a specific impact on practical and creative subjects in secondary and FE levels due to lack of access to particular resources and physical spaces.
- Since the return to school following the lockdown periods, schools have maintained a strong focus on identifying gaps and providing targeted support to close them. This raises particular challenges for teachers at secondary level, as some children need to prepare for exams on subject areas that they missed out on during remote learning.
- Parental engagement was important during the lockdown period and impact of this was felt differently across social groups. This area received little attention and requires further investigation.
- In addition to loss of learning, children and young people lost out on social interaction with their peers and teachers during the school closures.

- Understanding the needs and progress of every child (e.g. diagnosing the need for additional support) was disrupted during the pandemic. This will impact children's ability to learn and achieve their full potential.
- Negative experiences of young people have been compounded by the intersection of protected characteristics and family circumstances.
- Studies from Scotland and across the UK report large negative impacts of the pandemic on young people's mental health and well-being, which worsened the conditions for those with pre-existing mental illness and created new disadvantages.
- Scotland's youth work sector provided crucial support for children and young people's health and wellbeing by swiftly and creatively adapting to the pandemic restrictions. Informal and non-formal learning opportunities were maintained at reduced levels, in-person services were disrupted; however, transition to online services increased reach across rural communities and large geographical areas.
- While many in-person services have been re-established since the COVID-19 restrictions were lifted, use of online and hybrid options also increased as a result of practitioners developing their digital skills during the pandemic. Digital youth work is likely to stay and develop as an integral feature of the sector in Scotland.

Benefits and Disadvantages of Online Learning

- It is important to recognise that the remote (online) learning during the school closures was atypical due its emergency nature. Therefore, benefits and advantages reported here should not be generalised to all online learning.
- School attendance was impacted negatively but remote learning alleviated some of the losses as it enabled a degree of continuation in educational provision during lockdowns.

- Most children and young people struggled with remote/home learning and they were happy to return to school after the restrictions were lifted. Independent learning skills, essential for remote learning (or self-paced learning), were a determinant of learner engagement. Remote learning was particularly challenging for disadvantaged children and those with additional support needs.
- Teaching staff also had difficulty transitioning to remote learning. Support and professional learning resources enabled them to be more effective and creative during the second lockdown. They also struggled with teaching from home, feeling ‘always on’ or isolated, or burdened with multiple roles at home.
- Parents played a key role in supporting remote learning as the agency for supporting children’s learning shifted from teachers to parents. Effective communication between teachers, schools and parents improved the learner experience. Differences in parents’ digital skills, income status, and family circumstances may have impacted children’s experiences of remote learning, which are under-researched.
- While FE and HE institutions had more dedicated resources and familiarity with remote learning, rapid transition created challenges and disrupted the learning experience, which was adversely experienced by first-year students, students from disadvantaged backgrounds and in courses with practical and placement elements.
- Professional and academic staff in FE and HE showed tremendous effort, developed innovative approaches and upskilled their digital teaching skills to alleviate the negative impacts of remote learning. While this demonstrates capacity for teaching with technology more effectively, to maintain and improve the quality of learning staff wellbeing should not be ignored.

Digital Poverty and Inequality

- Digital poverty goes beyond lack of access to digital devices and internet to include digital skills for learners, teachers and parents, and the availability of a safe place to learn during remote learning.
- Equal access to remote learning was disrupted by not having access to devices or internet despite government and local funding for such, particularly during the first school closures and for disadvantaged children and young people.
- Varying digital skills among learners, teachers, and parents contributed to inequalities in terms of benefitting from remote learning.
- Digital exclusion had the most negative impact on children with additional support needs and disabilities, since using digital systems created additional barriers for learners and parents, and they did not receive specialised instructions based on their individual needs.
- Digital poverty was an issue for FE and HE students as well during the pandemic, stemming from lack of access to IT devices, reliable internet, and safe study space. The institutions worked really hard to close the 'digital divide', using their own resources and funding from SFC. Nevertheless, they couldn't fully bridge the gap and it may widen again without sustained funds to support it.

Introduction

The right to education is enshrined in the United Nations Convention on the Rights of the Child. This right has been profoundly affected by the COVID-19 pandemic. UNESCO estimates that nearly 1.6 billion (91.3%) learners in 194 countries experienced closures of schools and universities.

In response, education practitioners at all levels adapted to an ever-changing context, utilising technology and finding new and creative ways to meet young people's needs.

The impact of the COVID-19 pandemic here in Scotland has been vast and deep. Although education practitioners here have used technology and found new and creative ways to meet the needs of learners, the pandemic, and responses to it, have profoundly affected the lives of children and young people. As a cohort, young people have been less likely to fall seriously ill but evidence confirms the impact of changes to the education landscape on their learning, academic progress, personal health and wellbeing overall.

The pandemic has highlighted a number of key gaps in knowledge and understanding of the education sector, including around risk, resilience, and digital technologies. It has also demonstrated the need for better understanding of the long-term impact of COVID-19 across different geographies and communities. The move to online teaching, learning and youth work created additional demands in terms of the need for rapid upskilling of digital skills for some; access to appropriate digital resources and infrastructure more generally; relevant support and professional learning relating to effective digital pedagogy; shifting expectations with the introduction of 'hybrid' approaches; and navigating the proliferation of resources and offers available alongside often variable guidance on use of digital resources. Significant challenges arose in relation to equality of digital provision, access, infrastructure and connectivity, individual teacher skill levels and home availability of digital resources where multiple family use was required. This has had disruptive effects on teaching and learning for all pupils.

Prior to the pandemic, the majority of youth work was delivered in-person. Like most education providers, the youth work sector, where possible, moved the bulk of its services online during the first lockdown period. Many organisations creatively adapted their practice to stay connected with young people and their families. The operation of the sector has been transformed, with practitioners utilising an array of online platforms to ensure that young people stay or become engaged with local services. This significant change has not been without challenges for practitioners and young people alike. It is also apparent that while youth groups adapted their services, not all young people were in a position to access the online support available to them. A survey by Youth Scotland identified a range of barriers. These included a lack of digital equipment and software, and poor connectivity to Wi-Fi.

This new research builds on the findings of our earlier study ‘The Delivery of Education and Certification, Impact of COVID-19 on Children and Young People’, led by Professor McCluskey in 2022 ([reference 2](#)) as part of scoping research commissioned for the Scottish COVID-19 Inquiry. It focuses specifically on: a) the impact on children and young people in relation to learning and academic progress in general, b) the known benefits and disadvantages of online learning, and c) digital poverty and inequality and effects of this on access and outcomes. In this way, it aims to support the overall aim of the Inquiry to establish the facts of, and learn lessons from, the strategic response to the COVID-19 pandemic in Scotland. It covers only the strategic response of the devolved administration in Scotland.

Methodology

We have undertaken a comprehensive, systematic desk-based review to provide in-depth analysis of the most recent relevant national and international, qualitative and quantitative empirical research reporting on issues relating to education and certification in the context of the pandemic.

Key Questions

- a) This report offers a rigorous and robust assessment of:
- b) The impact of the pandemic on children and young people, particularly on their learning and academic progress,
- c) Benefits and disadvantages of online learning during the pandemic, and
- d) Digital poverty and inequality and the effects of this on access and outcomes.

Research Design

Search Criteria

The terms ‘education’ and ‘certification’ are necessarily broad and, while recognising the challenges of definitional agreement, we include here issues related to the following: formal and informal education, including youth work; school structures and environment; leadership; teaching and teachers; access to schools and other educational establishments; pedagogies (including digital literacies); assessment and attainment, formal and informal curricula; inter-professional and cross-disciplinary partnership working; personal and social aspects of education; pastoral care; and transition arrangements. In addition, measures of performance such as attainment levels and other accredited learning, rates of attendance, absence and exclusion are included.

The terms 'learning' and 'academic progress' may seem self-evident, but it is important for the study to have clarity about the parameters of these terms too. Learning and academic progress are often understood through a narrow lens of 'outcomes', such as exam performance, and 'Achievement of Curriculum for Excellence Levels' (ACEL). These provide some helpful measures but are not sufficient in themselves to capture the wide-ranging impacts. We have therefore included this data alongside other complementary data that may help to elucidate the impact on learning and progress, including e.g. issues relating to parental engagement, and accessibility of schools for in-person meetings to discuss progress. Attendance and engagement data were also included to help understand potential impacts on learning and academic progress. The focus for informal and non-formal learning in the youth work sector was affected by the changing needs of young people whilst out-of-school, so this too was examined. Implications on and for staffing in schools and other educational settings were also considered, e.g. where there is data relating to additional staff to provide support, or changing of the staff profile to reflect changed needs in schools. Terminology such as 'attainment gaps' or 'gaps in learning', 'lost' learning and a focus on 'recovery', 'accelerating progress' and publication of 'stretch aims' are widely used in relation to impacts on learning resulting from the pandemic, and helped to inform the study.

In the same way, there is a need for clear definition of terms associated with online learning. While the sudden shift in mode of educational delivery across all formal education settings at the height of the pandemic is commonly referred to as 'online learning', this experience was defined as 'emergency remote learning' by scholars in the field to differentiate from the planned and designed online learning (Hodges et al. 2020) ([reference 3](#)). The reports and publications on online learning during COVID-19 used other alternative terms such as 'remote learning' and 'home learning'. Therefore, this study took into

account these alternative terms to fulfil the aims set out for it by the Inquiry.

The search included:

- Literature published in English since January 2020, and by 31 March 2023, relevant to Scotland.
- Literature focused on children and young people between ages 5 to age 24.
- Literature focused on the delivery of education and certification, learning, academic progress and online learning.
- Literature including national surveys and statistical datasets, empirical research (qualitative and quantitative), meta-analyses, relevant legislation, policy guidance and briefings, trades union and professional association documents.

The following were excluded from the search:

- Literature not published in English.
- Literature related to pre-school education.
- Literature with a clinical focus.

Data Sources

Data sources included:

- national surveys and statistical data sets on e.g. achievement, attendance, exclusion, qualifications and accreditation;
- national, UK and international research studies relating to education and certification, published in the period January 2020 to the end of May 2023, in the context of existing literature on the impacts of COVID-19 and broader historical patterns and trends;
- relevant national legislation, guidance and briefings; and
- trade union and professional association documents.

Search Strategy and Analysis

The search included analysis of national surveys and statistical datasets, empirical research (qualitative and quantitative), meta-analyses, relevant legislation, policy guidance and briefings, and trade union and professional association documents published before 31st May 2023. This search has taken full account of the methodological rigour, reliability and generalisability of each source.

Search terms included: Scotland, children, young people, student, school, college, further education, higher education, COVID-19/pandemic, education 5 to 24 years, community, family, key worker, youth work(er), disadvantage, vulnerability, disruption, attendance, exclusion, attainment, achievement, accreditation, online/remote/hybrid/blended/home learning, isolation, lockdown, recovery, school/building closure, digital access/exclusion/poverty, additional support needs/special needs/disability, wellbeing/health/mental health, teacher, education workforce.

Coding and thematic analysis adopted approaches from Braun and Clarke (2019) ([reference 4](#)). A coding frame was developed based on the frame used for Phase 1 of the study, and extended to include a review of all newly available data. Emerging themes and sub-themes were cross-checked against search criteria and through an iterative process, used as a basis to create thematic summaries and identify key findings.

Limitations

It is important to recognise that desk-based research, even as we emerge from the COVID-19 pandemic, often still draws on early findings because the pandemic itself is so recent. At the time of writing, the World Health Organisation (WHO) declared that the pandemic is over ([reference 5](#)); however, the impacts of it still constitute a major global issue. It is important to note again that there was a pre-existing paucity of large-scale qualitative research generally in the field of education and this is true also in relation to the delivery of education and certification. Furthermore, our analysis in the report prepared in Phase 1 revealed how quickly some of the available data has become obsolete and how quickly assumptions made, e.g. about school closures, financial and resource costs, have been overtaken by the rapidly changing shape and impact of the pandemic. These limitations notwithstanding, the updated study provides a necessary and invaluable synthesis of the most recent evidence available.

Ethical Considerations

This research study has been subject to the detailed scrutiny and approvals process of the Moray House School of Education and Sport's research ethics, integrity and governance committee. As the study is focused on secondary data analysis rather than primary data collection, issues of confidentiality and anonymity are relatively unproblematic. Nonetheless, ethical considerations have remained central throughout, centred on ensuring that the greatest possible good comes from the study. Following the guidelines provided by the Ethics Guidance for Scottish Government Social Science Researchers ([reference 6](#)), and the British Educational Research Association ([reference 7](#)), our duties were: to ensure we were transparent and explicit about choices and decisions in relation to

methodology and findings, to protect the integrity of the study undertaken, conduct this research to the highest standards, to be open to and engage with critical analysis and constructive criticism aimed at improving research practice and knowledge, and to protect but also extend understanding of existing research related to education and certification in Scotland overall during the pandemic.

Quality Assurance

Professor McCluskey has been responsible for all aspects of quality assurance and data management, including responsibility for data collection, quality and management and the overall data management plan as well as data storage, security and back up requirements. Professor McCluskey has also been responsible for ensuring all ethical approvals.

Section 1: Learning, Academic Progress and Youth Work

Summary

- While the achievement of CfE Levels data shows an increased attainment gap between least- and most-deprived children and young people, there isn't clear data on other dimensions such as engagement in learning, health and wellbeing, which are important to understand long-term impacts on learning and progress.
- Some data suggest that children and young people in Scotland experienced greater learning loss than their peers in England. Gaps in learning have been identified in core literacy and numeracy, language and concentration, in addition to loss of confidence in ability to learn.
- Policy focus on literacy, numeracy and wellbeing was well-intended especially in the first school closure, but it led to narrowed curriculum provisions during the pandemic. In addition, learning from home had specific impacts on practical and creative subjects in secondary and FE levels, due to lack of access to particular resources and physical spaces.
- Since the return to school following the lockdown periods, schools have maintained a strong focus on identifying gaps and providing targeted support to close them. This raises particular challenges for teachers in secondary level as some children need to prepare for exams on subject areas that they missed out on during remote learning
- Parental engagement was important during the lockdown period and the impact of this was felt differently across social groups. This area received little attention, indicating a need for further investigation.

- In addition to loss of learning, children and young people lost out on social interaction with their peers and teachers during the school closures.
- Understanding the needs and progress of every child (e.g. diagnosing the need for additional needs) was disrupted during the pandemic. This will impact children's ability to learn and achieve their full potential.
- Negative experiences of young people have been compounded by the intersection of protected characteristics and family circumstances.
- Studies from Scotland and across the UK report large negative impacts of the pandemic on young people's mental health and well-being, which worsened the conditions for those with pre-existing mental illness and created new disadvantages.
- Scotland's youth work sector provided crucial support for children and young people's health and wellbeing by swiftly and creatively adapting to the pandemic restrictions. Informal and non-formal learning opportunities were maintained at reduced levels, in-person services were disrupted; however, transition to online services increased reach across rural communities and large geographical areas.
- While many in-person services have been re-established since the COVID-19 restrictions were lifted, use of online and hybrid options also increased as a result of practitioners developing their digital skills during the pandemic. Digital youth work is likely to stay and develop as an integral feature of the sector in Scotland.

Impact on Children and Young People, Especially in Relation to Learning and Academic Progress.

As indicated in the previous report the educational impacts on children and young people have been vast and varied. Throughout the pandemic and the return to school there are variations in the learning and teaching experiences of children and young people ([reference 8](#)). These variations were more significant for those children and young people from disadvantaged socio-economic backgrounds and consequently will widen the poverty-related attainment gap ([reference 9](#)). We focus here on specific areas that we believe merit further attention from the Inquiry to help fully understand the scale and scope of impact and lessons to be learned.

Broader Impacts and Purposes of Education and Schooling

There are clear data that there is an increased gap in attainment between least- and most-deprived young people in Scotland ([reference 10](#)) since the pandemic (e.g., Achievement of a Curriculum for Excellence Level ([reference 11](#)), also reported in the updated report on ‘The Delivery of Education and Certification: impact on children and young people’). However, while this is useful as one measure of performance outcomes, it is insufficient for understanding the more pervasive impacts on learning and progress. The Education Institute of Scotland (EIS), in response to the publication of the ACEL data, argue that whilst the data paint an outline of the impact of COVID-19 on learners' achievement of CfE levels, the figures do not capture the deep, complex and enduring impacts of the pandemic on learners' engagement in learning, or upon their

wider health and wellbeing needs ([reference 12](#)). The impact of COVID-19 continues to be felt across all dimensions of the education system and this is still not fully understood or known. To look at impacts on learning and progress we must also understand the multiple purposes of education and schooling ([reference 13](#)).

Arguably the social, emotional and mental health and wellbeing of children and young people ‘underpins any effective learning’ and academic progress ([reference 14](#)). COVID-19 and the periods of no, or limited, access to teachers and school buildings highlighted the critical role schools play in the social, emotional and physical development of children ([reference 15](#)). The Scottish Government recognised the importance of providing targeted support for the wellbeing of children and young people ([reference 16](#)). We would strongly urge for there to be greater focus on ways to support and meet the physical, emotional and academic needs of every young person, ensuring adequate and appropriate resource is identified, as the priority for the system.

Curriculum Provision and Gaps in Learning

There are numerous reports from within Scotland and internationally that have documented the ‘learning loss’ during and as a result of COVID-19 ([references 17, 18](#)), with one indicating that children and young people in Scotland faced more significant impact in terms of ‘lost learning’ than their peers in England ([reference 19](#)). The decisions to predominantly focus on consolidation of learning rather than introducing and teaching new concepts ([reference 20](#)), which was understandable in the first lockdown, mean that it will be hard to determine the true extent of this impact for all children and young people. Gaps in learning have been identified ([reference 21](#)) in core literacy and numeracy, language and

concentration ([reference 22](#)). Children and young people have returned to education with potentially significant learning loss and an observed loss of confidence in their ability to learn. Of course, the impact of this loss has not been felt equally, with some groups of children and young people significantly more disadvantaged than others ([references 23, 24](#)).

Careful consideration should also be given to school attendance as this is crucial to learning outcomes and attainment of Levels. There is concern that COVID-19 may have not only increased socio-economic achievement gaps and learning loss but that this accelerated when the schools reopened for those from disadvantaged backgrounds who had high levels of absence in comparison with their more affluent peers ([reference 25](#)). Though most pupils will recover, those children and young people who already faced disadvantage will experience greater learning loss and will need additional support to recover ([reference 26](#)). To address the impact of these learning losses on those who have been identified as most seriously affected, such as those affected by poverty, ASN, mental health issues or social challenges will need targeted support to scaffold and enhance their learning ([reference 27](#)).

Curriculum provision has also been significantly impacted during and since the pandemic ([reference 28](#)). This has included more limited focus on topics ([reference 29](#)), concepts and areas of study that could more easily be addressed in an online environment; a heavy focus on literacy and numeracy ([reference 30](#)); limited access to physical resources to support learning; curriculum narrowing in secondary school, and specific impacts on practical and creative subjects. This raises questions about the loss of other curricular areas and of what was referred to as the ‘hidden curriculum’ in the updated report on ‘The Delivery of Education and Certification: impact on children and young people’.

Overall, schools have maintained a strong focus on identifying the losses and gaps in children and young people's learning since they returned to school following the lockdown periods; examples of targeted support identified are literacy and numeracy, listening and talking skills and social skills. In early years teachers have placed a focus on supporting language, motor skills and play which did not develop in the normal patterns during the periods of lockdown ([reference 31](#)). Secondary schools have also identified loss of learning and gaps within practical subject areas. It was challenging to teach and assess practical subjects while learning at home, and it was difficult for pupils to access the necessary resources and equipment necessary for practical subjects - for example, science, art, CDT and languages. Consequently, teachers are now trying to address these gaps while finding this to be more of a challenge than for other subject areas within the secondary curriculum ([reference 32](#)). This concern is reiterated strongly in the latest survey from the Scottish Secondary Teachers' Association (SSTA) who have indicated the profession is 'on its knees' and young people are under immense pressure to perform in an exam process which they are not yet ready for ([reference 33](#)).

COVID-19 impact reports already find that pupils from disadvantaged backgrounds experienced higher levels of learning loss across all subjects and for all age groups, and that attainment scores decreased approximately twice as much in schools with a high percentage of children eligible for free school meals (FSM) compared to schools with a low percentage of FSM-eligible children ([reference 34](#)). This adds to the existing poverty-related attainment gap in Scotland and suggests that it will take an extended period for these impacts to be reversed. Consequently, the long-term impact on a whole cohort of children and young people could disadvantage their futures - particularly those who already live with socio-economic disadvantage ([reference 35](#)). In addition, the intensified policy

focus on literacy and numeracy may unintentionally create new disadvantage, and limit what children and young people might experience and achieve.

Parental Engagement

A further area that has received little attention is the impact on parental engagement and family learning, and the ways in which this will also be impacting on young people. Again, we know this impact was felt differently across social groups, with some families reporting greater access or familiarity with their child's learning and progress. However, for most this was either not the case or since return to school buildings the opportunities to engage differently with school have ceased ([reference 36](#)). For some it changed or enhanced levels of trust between families and schools and/or expectations ([reference 37](#)). It has been reported that families have had limited access to school buildings. Many schools have also employed digital technologies to manage parent/teacher discussions, usually operated as short blocks of around 10 minutes which are automatically disconnected irrespective of the dialogue taking place. Whilst these offer welcome flexibility, for example to allow working parents easier access, and they help school staff to manage time more effectively, it is questionable to what extent they are disrupting school-home relationships and limiting meaningful parental engagement. This is likely to have impacted on relationships built with school staff, understanding of children's progress and needs, and the opportunity for face to face discussion about individuals' needs - whether these are social, emotional and/or academic. It is also reported that parents expressed concern about longer-term impacts, and emotional support available to children and young people when they returned to school ([reference 38](#)).

Rights and Voice of Children and Young People

Another key impact from COVID-19 can be seen in the reported diminishing of children and young people's involvement in decision-making about their lives and education – they were 'done to' ([reference 39](#)). This is well highlighted through Children's Rights Impact Assessments and indeed the focus in Scottish education reform to ensure young people are appropriately involved in decision-making processes ([references 40, 41](#)). It is important to understand the broader impacts of this, as young people need to feel ownership and a sense of engagement and agency in their lives, their education and their progression in learning.

Physical and Social Interaction: Social Learning

Negative impacts identified by the Scottish Government include loss of learning and loss of school experiences such as interacting with their peers ([reference 42](#)). For many children and young people, it is not just the loss of learning imposed by lockdown measures, it is the loss of the social contact associated with school and interaction with friends and teachers ([references 43, 44](#)). Some pupils were struggling with peer relationships and social skills ([reference 45](#)); parents of younger children expressed concern that their children were missing out on play, outdoor experiences and socialising with family, grandparents and friends in the normal ways they had pre-pandemic ([reference 46](#)).

Specific and Additional Support: Knowing the Needs and Progress of Every Child

Highlighted in the updated report on 'The Delivery of Education and Certification: impact on children and young people' is the specific and significant issue of delayed and missed diagnoses of need for additional support. It is worth noting here that the scale of impact will vary and there may be a high number of pupils for whom their need is 'low level', mis-identified as 'disruptive behaviour', or simply not meeting certain thresholds for referral or additional support resource. This will impact on their overall academic progression and ability to learn and achieve to their full potential.

Another potentially silent pupil cohort, for whom there is no data, is those who are achieving basic expected levels, and may pose no particular concern in terms of additional or complex needs. Little is known about whether and to what extent some pupils may be under-performing and failing to develop a full spectrum of abilities rather than thriving and flourishing.

Whilst this report has focused predominantly on children and young people in school age (5-24) it is critical that implications and impacts in early learning and childcare are also explored. There are likely to be fundamental and potentially profound impacts on the social, emotional, psychological and cognitive development of the youngest children who will be transitioning into statutory education in the next 1-2 years.

The pandemic has had significant impact on the social and emotional well-being of learners and mental health/anxiety issues will, in turn, impact on learners' progress and educational outcomes ([reference 47](#)). However, it is also evident that there is a lack of comprehensive data that seeks to understand the complex and multiple impacts of COVID-19 on education, learning and progress ([references 48, 49](#)).

Young People, Learning and Youth Work

The teenage years for the current generation of young Scots will forever be synonymous with the COVID-19 pandemic. Emergent evidence over the past 3 years points to the short- and long-term impact of the imposed restrictions and resultant challenges during this time of unprecedented change. Commentators consistently reported that children and young people have been affected disproportionately, with a focus on their education becoming a priority for government ([reference 50](#)). During the stages of adolescence, young people experience many changes as they transition from childhood towards adulthood. These changes include physical, behavioural, cognitive, and emotional-social development. According to Public Health Scotland ([reference 51](#)), the measures ‘to control the transmission of the coronavirus, such as school closures, restrictions on movement, and physical contact with family and friends, are likely to have significantly changed young people’s experience’.

As an age cohort, the negative experiences of young people have been compounded by the intersection of protected characteristics and family circumstances. These impacts have been felt to a greater extent in families from low-income households, many of whom were already struggling before the pandemic ([reference 52](#)). Particular concerns have been noted about the experiences of specific groups including disabled children and young people and those with other additional support needs, children and young people affected by domestic abuse, children and young people living in poverty or impacted by financial insecurity, young carers, young people of colour, young people with care experience, young people engaged with the justice system, and those children and young people making, or due to make, school transitions ([reference 53](#)). There is also concern surrounding delayed grieving. The

charity Winston's Wish ([reference 54](#)) estimate that 10,450 children and young people were bereaved of a parent, grandparent or caregiver due to COVID-19 in England and Wales between March 2020 and April 2021. This is in addition to the estimated 41,000 children and young people who are bereaved of a parent every year in the UK.

A core feature of the impact of COVID-19 is the resultant canon of research evidence that tracks and reports a growing crisis around young people's mental health. From 2020 onwards, the impact of COVID-19 on youth mental health became a consistent topic in local, national and international surveys ([reference 55](#)). A number of Scottish and UK-wide studies ([reference 56](#)) report the largely negative impacts of the pandemic on young people's mental health and well-being. In Scotland, results from the Lockdown Lowdown survey ([reference 57](#)) highlight that 39% of early adolescents aged 11 to 12 were experiencing moderate to extreme concern about their mental health. This appears to increase with age, as confirmed by the corresponding figures of 49% of 13 to 15-year-olds and 61% of 16 to 18-year-olds respectively. The findings of the follow-up survey ([reference 58](#)) confirm that only 42% of respondents aged between 11 and 25 years strongly agreed or agreed that they felt good about their mental health and wellbeing, with 23% disagreeing and 15% strongly disagreeing.

A recent report by Scotland's Children and Young People's Commissioner ([reference 59](#)) noted that 83% of young people with pre-existing mental illness stated the pandemic had made their condition worse; this was often attributed to school closures with concomitant loss of routine and access to the usual support. This report also refers to the "hidden harms" arising from the pandemic, and the knock-on effect on the cognitive, emotional and behavioural functioning in children and young people. This is a situation that will inevitably lead to increasing demand for mental health support and the likelihood

that the social, emotional and behavioural impacts on the younger generation will be long-lasting. A briefing from the Children's Society ([reference 60](#)) forewarns that the myth of 'adolescent resilience' may also lead some parents/carers to underestimate the level of distress their children may be experiencing. As such, the interaction between the social impacts of COVID-19 and normal psychosocial development could result in an especially negative experience for many young people and their families.

The varied impacts of COVID-19 have had a profound effect on young people's education and academic progress, not only in the formal setting of school, but also in relation to their wider learning in the community. Youth work as an educational practice contributes to young people's learning and development through delivering support and interventions to close the poverty-related attainment gap, both in schools and in the wider community. During COVID-19, youth work widely adapted its services to the ever-changing demands of the lockdown restrictions, particularly in terms of rules around social distancing, use of public space and access to premises. Following the closure of most youth work facilities, practitioners were swift and creative in adapting the delivery of services, primarily in 5 ways: digital youth work, youth work outdoors, detached youth work, outdoor education, and organised summer programmes (for various case studies, see YouthLink Scotland ([reference 61](#))).

Reporting on the role of youth work during the pandemic, YouthLink Scotland ([reference 62](#)) concluded that 'Scotland's youth work sector was crucial in supporting children and young people's health and wellbeing during the most restrictive phases of the coronavirus pandemic'. This document draws on examples of youth work practitioners responding to the respective challenges of the lockdown restrictions through providing services remotely and supporting some of the most

vulnerable young people across Scotland's communities. These interventions 'included collaboration across the public and voluntary sectors, and partnering with schools and colleges to support learning.' The discrete role played by community-based youth work is recognised as 'a vital safety net for vulnerable young people and contributes to wider efforts to safeguard and protect children and young people. This is even more important while schools are closed' ([reference 63](#)).

Through engaging young people in their communities, youth work services provide opportunities for informal and non-formal learning. Youth work practitioners play a crucial role in improving educational options and outcomes for young people, many of whom face complex issues that result in barriers to their educational engagement and attainment. These learning opportunities sit alongside and complement the goals of the formal school curriculum. From a review of the literature, aspects of the educational role of youth work were maintained through the alternative modes of delivery, but the COVID-19 context also brought fresh challenges. The informal approach that typifies universal youth work was directly affected by the closure of in-person services. At the heart of youth work practice is a learning relationship between the young person and practitioner as a trusted adult in their life ([reference 64](#)). In normal circumstances, settings such as neighbourhood youth clubs provide an opportunity for the informal engagement of local young people. Evidence from the Cross-Party Group on Children and Young People ([reference 65](#)) argued that 'the lack of pre-pandemic youth club facilities deprives young people from having invaluable spaces for themselves between home and school'.

Youth work provides young people with access to non-formal learning through a wide network of opportunities to participate in programmes of accredited learning and award schemes ([reference 66](#)). For example, Youth Scotland Awards

([reference 67](#)) support children and young people to achieve and gain accreditation (SCQF levels 2-7) for their non-formal learning. Young people's participation in these programmes contributes to broader efforts across the youth work sector to close the poverty-related attainment gap and increase young people's skills for learning. Again, this important educational work appears to have been impacted during the COVID-19 period. Whilst youth work practitioners pivoted to online delivery and new resources were created to support young people to achieve awards and accreditation, anecdotally there was a reported reduction in the number of awards completed ([reference 68](#)). The Awards Network in Scotland have set out their vision for developing non-formal learning opportunities for young Scots in the post-Covid period ([reference 69](#)).

Several documents report positively on the transition of youth work services to an online equivalent ([reference 70](#)). It is also evident that professional development opportunities and resources were quickly in place to support the sector-wide shift to digital and hybrid working. Youth work agencies appear to have been responsive, adaptable, creative and innovative in their varied responses to the need to work online ([reference 71](#)). There is evidence confirming digital youth work increased reach, particularly across rural communities and large geographical areas. The impact of discrete online provision is also evident. The findings of a report on the digital youth work of LGBT Youth Scotland ([reference 72](#)) confirmed the impact on the lives of those young people accessing their services. Participants felt better connected with friends, peers and practitioners online. Their engagement helped reduce isolation, improved their wellbeing and provided stability during an uncertain time.

Whilst the majority of agencies and practitioners moved quickly and successfully to online provision, this presented challenges in terms of digital literacy, skills and access. The move to online platforms also changed the nature of the relationships with some young people. For example:

‘Many youth work organisations were unprepared for this shift. Some organisations described having limited digital skills and scant access to online tools. Up to that point, youth work organisations had, in the main, worked with young people face-to-face and found that they struggled to contact some young people ([reference 73](#)).’

Further barriers to digital engagement were also highlighted in the literature, including evidence of a tangible digital divide. Examples of this included issues around access to devices, connectivity, and young people’s ability to use safe, appropriate spaces within the family home, along with effective parental support for their online engagement. These issues appear to be further exacerbated by the impact of poverty ([reference 74](#)). As the COVID-19 restrictions have eased, anecdotal evidence would suggest that the youth work sector across Scotland has re-established many in-person services available pre-pandemic. However, the legacy of an intensive period of online practice has broadened the skills base of practitioners and resulted in an increased use of hybrid options. Digital youth work continues to develop as an integral feature of the sector in Scotland and will certainly be a key platform for supporting young people’s learning as we move forward ([reference 75](#)).

Section 2: Benefits and Disadvantages of Online Learning

Summary

- It is important to recognise that the remote (online) learning during the school closures was atypical due its emergency nature. Therefore, benefits and advantages reported here should not be generalised to all online learning.
- School attendance was impacted negatively but remote learning alleviated some of the losses as it enabled a degree of continuation in educational provision during lockdowns.
- Most children and young people struggled with remote/home learning and they were happy to return to school after the restrictions were lifted. Independent learning skills, essential for remote learning (or self-paced learning), were a determinant of learner engagement. Remote learning was particularly challenging for disadvantaged children and those with additional support needs.
- Teaching staff also had difficulty transitioning to remote learning. Support and professional learning resources enabled them to be more effective and creative during the second lockdown. They also struggled with teaching from home, feeling ‘always on’ or isolated, or burdened with multiple roles at home.
- Parents played a key role in supporting remote learning as the agency for supporting children’s learning shifted from teachers to parents. Effective communication between teachers, schools and parents improved the learner experience. Differences in parents’ digital skills, income status, and family circumstances may have impacted children’s experiences of remote learning, which are under-researched.

- While FE and HE institutions had more dedicated resources and familiarity with remote learning, rapid transition created challenges and disrupted the learning experience, which was adversely experienced by first-year students, students from disadvantaged backgrounds and in courses with practical and placement elements.
- Professional and academic staff in FE and HE showed tremendous effort, developed innovative approaches and upskilled their digital teaching skills to alleviate the negative impacts of remote learning. While this demonstrates capacity for teaching with technology more effectively, to maintain and improve the quality of learning staff wellbeing should not be ignored.

Online Learning in the Context of COVID-19

Rapid transition in the delivery mode of education was typically labelled as 'online learning' in reports and mainstream media news across the world. How universities labelled their mode of delivery showed more variation such as 'blended learning', 'hybrid learning', 'digital learning' or 'digital first', depending on the level of in-person teaching they were able to offer to students. This was corrected as 'emergency remote teaching (ERT)' by scholars ([reference 76](#)) in the field of online learning, which has been practised and researched as a field of study for several decades ([reference 77](#)). The reason for this distinction is that online learning is carefully planned and resourced. Neither teachers and schools (and local authorities) nor students and parents were prepared or adequately trained for remote teaching and learning while the world was grappling with the impact of the pandemic on everyday life. While universities were more familiar with the types of online/blended learning approaches and they had more dedicated staff and resources compared to primary and secondary schools, it was

not common practice for most of the teaching staff. As the first wave of the pandemic was calming and schools were on summer break (2020), there was some breathing room for the education sector to assess the initial response (ERT) and prepare for alternative scenarios and arrangements for the autumn term (2020). This phase was called ‘remote teaching’ by Barbour and colleagues, still considered as different from online learning ([reference 78](#)).

More locally, Education Scotland defined this instance of remote learning as “learning that is directed by practitioners and undertaken by children and young people who are not physically present with the practitioner while the learning is taking place. In the current context, digital and online approaches will be commonly used as part of the overall mix for remote learning” ([reference 79](#)). Therefore, it will be referred to as ‘**remote learning**’ for the remainder of this report. It is also important to note that remote learning, although it took place in home settings, is different from home education, where a parent/carer is the main educator with almost no direct support from schools or local councils ([reference 80](#)).

Scotland’s approach to remote learning was in alignment with the rest of the UK, mainly using online platforms supplemented by take-home materials. This assumed that teachers and learners had access to digital devices (e.g., laptop or tablets) and internet connection. This was in line with approaches that most high-income countries took for educational provision during the first year of the pandemic ([reference 81](#)).

For comparing the benefits and disadvantages of remote learning, we examine five areas: attendance; learning gains and losses, curriculum coverage and assessment; learner engagement and wellbeing; staff wellbeing; and parental engagement. It is fair to note that remote learning experiences in Scotland between the two lockdown periods were quite

different in terms of level of preparedness and availability of resources. According to the HMIE report on lessons learned from the first lockdown, local authorities and schools were better prepared and equipped to deliver remote learning in the second lockdown ([reference 82](#)). Therefore, these differences inform the analysis for the areas presented below.

Attendance

According to official schools statistics by the Scottish Government ([reference 83](#)), attendance in the 2020/21 academic year (second lockdown) was 92%, which was down from 93% in 2018/2019. It is noted that attendance was disrupted by COVID-19-related reasons at the individual- (i.e. pupils testing positive or self-isolating), school- (i.e. COVID-19-related staff absences or local outbreaks), and national-level (i.e. full-closure from winter holiday until February/March with different timelines for primary and secondary settings). As the statistics are collected biannually, the attendance data are missing for 2019/2020, which covered the period of the first lockdown.

One of the reports published on the impact of COVID-19 on education defined 'learning loss' as 'school hours lost per day' ([reference 84](#)). Students in Scotland lost 119 days, this being the maximum number of days schools were closed due to the pandemic. When learning happening at home or in classroom/hubs was factored in, it was adjusted for 64 days. One benefit of remote learning is that students were able to recuperate 55 days' lost learning. Evidence from China demonstrates that students who attended online lessons had less learning loss than those with no formal instruction after one 7-week school lockdown ([reference 85](#)).

Lockdowns due to COVID-19 separated students from teachers and from their peers physically. However, remote learning (digital devices and online approaches) allowed the students to reconnect with teachers and other students. On the other hand, relying on digital devices and connectivity made it more challenging to continue or attend school for disadvantaged children and young people or those with additional support needs ([reference 86](#)).

The pandemic made school absences worse for children, young people and staff. However, except under circumstances where pupils did not have access to devices, connectivity, support or special instruction based on their needs, this impact resulted from the pandemic, not the remote learning. On the contrary, remote learning became one of the strategies to address high levels of absence by delivering lessons through online platforms or providing resources and pre-recorded lessons online ([reference 87](#)). The challenges presented by digital access to remote learning are discussed in detail in ‘Section 3: Digital Poverty and Inequalities’.

Learner Engagement and Wellbeing

Remote learning was an emergency measure to continue educational provision during the pandemic. At its best, online and blended learning can be as effective, and even better than traditional classroom learning in terms of achieving learning objectives or academic outcomes ([reference 88](#)). However, physical schools serve social and emotional functions beyond simply achieving academic outcomes ([reference 89](#)). They are places where the health and wellbeing of children and young people are nurtured and safeguarded, in addition to being places in which to learn and explore. During the school closures, wellbeing of children and young people in Scotland

suffered, particularly among 12-14 year old girls ([reference 90](#)). This was despite the decision to prioritise the wellbeing of children in the curriculum provisions.

According to the Children's Parliament survey, most children struggled with remote/home learning during the first school closure (March-June 2020) ([references 91, 92](#)). This was not unexpected as children were not used to or prepared for this mode of education, which required them to follow instructions remotely on a digital device, attend an online class session live, or watch a pre-recorded lesson on their own. In this period, there was an increase in levels of boredom and a decline in children reporting having fun things to do in their days. These measures improved ([reference 93](#)) and they reported being happy to return to school with restrictions in August-November 2020 ([reference 94](#)).

Learner engagement with remote learning during the second school closure (January-February/March 2021) improved. This is due to several factors, including both learners and teachers understanding the mechanics of remote learning, and schools and teachers understanding what works for their local schools and individual students; responding to student and parent feedback, teachers received support and professional learning on 'remote learning' ([reference 95](#)). Half of the high-school students surveyed after the second school closure noted that learning from home was harder, while for the primary year student, the results were inconclusive, with an equal split between those considering it 'harder' and 'easier' ([reference 96](#)).

Remote learning was particularly challenging for disadvantaged children and young people. According to one survey, two thirds of 1000 disadvantaged pupils in Scotland were unable to do school work during lockdown ([reference 97](#)). This group of children and young people reported spending fewer hours on

school work at both primary and secondary levels, compared to children who owned their own computer and whose parents both worked regularly from home ([reference 98](#)).

Self-regulation and independent learning are important skills for life and are promoted through the Curriculum for Excellence in primary and secondary education in Scotland ([reference 99](#)). They were also one of the key determinants of (or hindrances to) learner engagement in remote learning, as learners had to spend more time on their own for learning, compared to learning with a class guided by a teacher. These skills are not fully developed in younger children and they needed more support and ‘scaffolding’ from their parents or carers, which led to furthering of inequalities. Teachers surveyed during the first school closure raised concerns about how this would create differences around independent learning between high-attaining and low-attaining children ([reference 100](#)). Even students at the college level studying at SCQF levels 4 and 5 had difficulty, as described by the teaching staff ([reference 101](#)). This had lasting effects even after the return to schools; learners found it challenging to complete learning tasks independently within a classroom setting in a number of schools ([reference 102](#)).

Online and offline safety of children is another wellbeing aspect that needs attention. Remote learning made the task of identifying and addressing learners who are vulnerable or have additional support needs in terms of safeguarding much more difficult ([reference 103](#)). In addition, the online safety of children and young people while learning remotely is very important, yet received little to no attention in the existing reports. Therefore, the impact of online risks on children’s wellbeing is unknown. While school-provided or support platforms such as video-conferencing tools (e.g. Teams) and communication platforms (e.g. SeeSaw) are deemed safe to use for children, schools / teachers did not have any control over what children did online for their independent learning or

leisure time. Being online poses risks to children and young people, especially the vulnerable ones, such as cyberbullying and other online aggressions, loss or theft of personal data, and impact on health and well-being. While there exists a framework to educate children and young people about being safe online ([reference 104](#)), teaching this was not common practice in schools across all levels before the school closures due to COVID-19. The long debate currently ongoing in the UK parliament about the ‘online safety bill’ ([reference 105](#)) demonstrates the complexity of living in a connected world. As education post-pandemic moves into a more digital arena, we urge policymakers and schools to prioritise educating children on being safe online.

Lastly, even though they were in a minority, there were cases of students who benefited from remote learning ([reference 106](#)). They preferred its more relaxed schedule, and availability of recorded lessons and online materials that they could review in their own time, even multiple times. International evidence from secondary-level education shows that students who had social anxiety issues were able to concentrate more effectively when they stayed home ([reference 107](#)).

Curriculum Coverage and Assessment

Schools generally prioritised numeracy, literacy, and health and wellbeing, particularly in primary schools ([reference 108](#)). In the first lockdown, teachers were advised not to give new content, but to consolidate or review learning which they had previously covered ([reference 109](#)). In Section 1 above, the impacts of this narrowed curriculum, mainly learning loss in terms of knowledge and skills, were discussed.

During the second lockdown, schools managed to offer more curriculum coverage through interdisciplinary learning in primary settings, aiming for more subjects in secondary

schools, and for a full timetabled curriculum for learners in the senior phase ([reference 110](#)). However, some practical subjects in high school (e.g. art, drama, design and technology) and colleges (e.g. hairdressing and construction) became difficult to deliver fully via remote learning due to a lack of materials, resources or opportunity to practice the required skills ([references 111, 112](#)). This even led in some colleges to higher rates of withdrawal than had previously been seen ([reference 113](#)).

Students and teachers also faced challenges in terms of assessment and feedback during remote learning. Challenges included providing timely feedback, and observing and making corrections to learning or performance ([reference 114](#)). The quality and quantity of the feedback remained variable. However, there were also examples of creative approaches to assessment and feedback such as recording music performance instead of live assessment, using digital portfolios for individual students, ‘mark it live’ sessions, or using a variety of audio, video, and written feedback ([reference 115](#)). While these approaches were enabled by effective use of digital technologies in these cases, headteachers acknowledge that creating high-quality feedback online is time-intensive for teachers.

Staff Capacity for Remote Learning

There is clear evidence that staff wellbeing was negatively impacted during the pandemic, as they encountered a sudden shift to remote learning amidst other pressures such as having fewer resources than existed before the pandemic. This section looks at the specific benefits and disadvantages of remote learning, while the overall impact of the pandemic on staff is addressed in the updated report on ‘The Delivery of Education and Certification: impact on children and young people’.

Remote learning was new to many teachers in Scotland. Throughout the lockdown periods, local authorities and schools provided teaching staff with training in delivering remote learning ([reference 116](#)). Through the National e-Learning Offer (NeLO), Education Scotland provided teachers with support, training materials and events to deliver remote learning ([reference 117](#)). Nevertheless, teachers had difficulty transitioning to the online environment during the first school closure. While this was in large part due to their initially lacking the digital skills to adapt their teaching practice to online settings ([reference 118](#)), teachers' view of learning as taking place predominantly in classroom settings played a role ([reference 119](#)).

Remote learning experience during the second school closures was better: schools and teachers reaped the benefit of their professional learning and their experience during the first lockdown. There was more variation of remote learning pedagogies; teachers established a better balance of live sessions, pre-recorded lessons, interactive, collaborative, and off-screen activities ([reference 120](#)). Nevertheless, this experience was inconsistent. While there were examples of teacher creativity, many teachers still reported struggling with remote teaching ([reference 121](#)).

Working from home created additional pressures and challenges for teachers. They experienced feelings of being 'always on', as they had to balance their working hours with their other responsibilities (home care, child care) and learners and parents contacted teachers at irregular hours while studying on their own time ([reference 122](#)). Teachers who lived alone felt lonely and isolated during these times. While the following was done on a voluntary basis, they often found themselves in a community support role, delivering food boxes or learning support packages to families.

It could be said some advantages of remote learning were that it lowered staff resistance to digital transformation in education, and required greater creativity with pedagogy and content. Scottish Government, local authorities, and schools provided additional time and resources to upskill teachers in using the technology. This has led to a significant increase in staff confidence in digital pedagogy ([reference 123](#)). In addition, teachers and school leaders had to rethink pedagogy, for example doing more outdoor learning or engaging in ‘flipped’ pedagogy ([reference 124](#)). It is unknown whether this will impact the future of teaching practices ([reference 125](#)). However, it is important that digital capabilities for both learners and staff ([reference 126](#)) are developed and supported, as post-pandemic education will require digital proficiency from teachers and learners alike ([reference 127](#)). As discussed in more detail in Section 3, improvement in digital skills will lead to increased digital inclusion and help alleviate digital inequalities.

Parental Engagement

Education Scotland’s guidance to parents and carers for remote learning underlines that ‘parents and carers are not expected to be teachers and we understand that many will be juggling work and childcare. It is crucial that parents and carers are as certain as they can be about what remote learning is, what it means for their children and how they can continue to contribute positively and effectively to their children’s learning’ ([reference 128](#)). While this guidance is well-intended, it does not reflect the key role parents played during remote learning in children’s engagement, especially for younger children ([reference 129](#)). Agency for supporting children’s learning shifted from teachers to parents ([reference 130](#)).

At a time when physical contact outside households was very limited, children and young people were expected to connect online to peers, teachers, and live sessions. They were expected to follow instructions for self-paced activities. If there was any disruption to this setup, parents were the first point of contact to troubleshoot technical issues, explain the task, and keep the children focussed, if necessary. This was in addition to their own roles and responsibilities at home or work. There is limited research seeking to understand the parents' side, especially from their perspective. Existing evidence suggests that the remote learning period entailed significant challenges for families, which varied based on family circumstances and other factors ([reference 131](#)). Parents' digital skills and how they impacted learner engagement in remote learning are discussed in the next section.

Further and Higher Education

Universities followed the Scottish Government guidance during the COVID-19 period and adjusted their delivery of education between fully-online, blended/hybrid and in-person teaching depending on the nature of the course (e.g. lecture, tutorial, lab), class size and other factors. While the Higher Education Statistics Agency (HESA) provides official statistics for UK Higher Education, there are not any statistics collectively reporting on student attendance at university level or national level. These statistics are not available at each university level either as attendance requirements are determined at the course level. During the remote learning period, when many courses switched to providing pre-recorded video lectures and asynchronous interaction, attending to provided recordings and other materials was done in line with students' own pace and volition, assuming that university students were planning and managing their own learning schedule.

During the first lockdown, as many college and university students experienced remote learning for the first time, students were concerned about the school closures, exams and coursework, according to the Scottish Youth Parliament survey ([reference 132](#)). As was the case for some secondary school subjects and college courses, closures in universities during the strict lockdown period particularly disrupted the courses with practical (e.g. chemistry wet-labs) and placement (e.g. initial teacher education) elements. Some students who missed out on these required elements for their degree completion had to defer and return to university in the following year to complete their degrees ([reference 133](#)). In addition, remote learning in asynchronous mode (e.g. pre-recorded lectures) limited opportunities for students to ask questions to the lecturer or interact with peers for learning, according to the Scottish Government's report ([reference 134](#)). This was also noted in a UK-wide study ([reference 135](#)). This may have been more challenging for students from disadvantaged backgrounds or those with additional support needs. While there is no evidence directly from Scotland, research from England indicates that students from disadvantaged backgrounds engaged with digital and physical materials less during the pandemic, compared to pre-pandemic. While they watched more pre-recorded lectures than their peers with non-disadvantaged backgrounds before the pandemic, they fell behind on this measure during the pandemic ([reference 136](#)).

In terms of student wellbeing, there was a social impact of remote learning, as students did not get to socialize with peers ([reference 137](#)). This was particularly challenging for first-year students. In addition to teaching activities, induction for the first-year students had to be delivered online ([reference 138](#)), which was difficult to replicate the full 'first year' experience. Students from deprived communities or disadvantaged backgrounds suffered more from the lack of this experience as they were less familiar with university life ([reference 139](#)). For

the generality of the students, they experienced more stress and anxiety during digital provision ([reference 140](#)). Another study from England found high levels of anxiety and depression among university students ([reference 141](#)). After the restrictions were eased, most of the further and higher education students (89%) who returned to in-person teaching were the happiest with their educational arrangements, while nearly half of the students were happy if they were undertaking blended or remote learning ([reference 142](#)). Both students and teaching staff demanded more in-person teaching after lockdown restrictions were eased ([reference 143](#)).

On the positive side, rapid shift to remote learning led to a number of benefits in Higher Education. This included innovation in teaching approaches and flexibility in course delivery and assessment ([reference 144](#)). Learning technologists, professional staff dedicated to supporting academic/teaching staff with using technology for learning, teaching and assessment in universities, note that academics' attitudes towards online teaching were significantly more positive ([reference 145](#)). Furthermore, a UK-wide study suggests that students appreciated the flexible assessment and examination during the lockdown ([reference 146](#)). In addition, many student-facing support services (e.g. counselling, personal, pastoral, and academic tutoring, employability platforms) were delivered online ([reference 147](#)). These services are likely to continue, as the student response was positive ([reference 148](#)).

In summary, the quality and consistency of remote learning varied between the two school closures, and also among schools. This variation was due to several factors, including access to digital devices and connectivity, the health and wellbeing of learners, teachers and parents/carers, and the digital skills of learners and teachers ([reference 149](#)).

It is important to end with a note of caution if we are to draw any conclusions about the effectiveness of online learning in primary and secondary education settings from schools and learners' experience with remote learning during the pandemic. We opened this section with a distinction between the terminology of 'remote teaching and learning' and 'online learning': online learning assumes more preparation, more resources, and volition to choose this delivery mode. There are many examples of effective online learning, such as that of virtual schools in the USA ([reference 150](#)). While the research and evidence gathered on remote learning in the COVID-19 context argue that it is not a replacement for school-based learning, a recent review which discusses research literature prior to COVID-19 found that both online and blended learning were better than traditional classroom-based learning for achieving academic outcomes ([reference 151](#)). On the other hand, we should not forget the social and emotional functions of schools ([reference 152](#)). They support inclusion, equity, individual and collective well-being. They provide a safe place for children and young people to be curious, experimental, and social.

FE and HE institutions, with their professional and teaching staff, had gone to great lengths to provide the teaching and learning experience as best as they could, described as 'Dunkirk spirit' by Peter Scott, the Commissioner for Fair Access ([reference 153](#)). However, this came at the cost of excessive workload, stress and burnout for many staff. While there is potential that digital upskilling and innovative practices may improve teaching and learning in the post-pandemic world, we should be cautiously optimistic about sustainability and effectiveness of online learning. Online learning outside the pandemic context, can be as effective as face-to-face instruction for content learning in FE and HE ([reference 154](#)). However, university experience is more than gaining knowledge in a particular domain for many students. Face-to-face contact

with peers and support from staff for learning are important part of the university experience, more so for disadvantaged students as Peter Scott reminds us for fair access to education and opportunities at FE and HE level ([reference 155](#)). Future research is especially needed to understand the impact of online learning in Scottish HE in terms of student learning and engagement, as evidence from Scotland is very limited.

Section 3: Digital Poverty and Inequality

Summary

- Digital poverty goes beyond lack of access to digital devices and internet: it includes digital skills for learners, teachers and parents, and having a safe place to learn during remote learning.
- Equal access to remote learning was disrupted by not having access to devices or internet despite government and local funding, particularly during the first school closures and for disadvantaged children and young people.
- Varying digital skills among learners, teachers, and parents contributed to inequalities in terms of benefitting from remote learning.
- Digital exclusion had the most negative impact on children with additional support needs and disabilities, since using digital systems created additional barriers for learners and parents, and they did not receive specialised instruction based on their individual needs.
- Digital poverty was an issue for FE and HE students as well during the pandemic, stemming from lack of access to IT devices, reliable internet, and safe study space. The institutions worked really hard to close the 'digital divide', using their own resources and funding from SFC. Nevertheless, they couldn't fully bridge the gap and it may widen again without sustained funds to support it.

The terms 'digital divide', 'digital exclusion', and 'digital inequality' are often used interchangeably and without clear definitions ([reference 156](#)). While there is no agreed definition of digital inclusion, a report by the Carnegie UK Trust and Unicef UK ([reference 157](#)) suggests that there are five required key components: 'a device [with licensed software], a [strong]

connection, skills and support, a safe online environment, sustainability of access.’ In that report, it is argued that these components are necessary but not sufficient to establish an adequate definition. It can be achieved only through involving all the stakeholders, including children and young people themselves, school staff, parents and support organisations, among others. Similarly, in a systematic review, Coleman summarises the digital divide during remote learning into four levels: 1) digital access, 2) digital skills and usage, 3) outcomes, and 4) other factors - which include teacher digital access and skills, parent digital skills and engagement, and a suitable home learning environment ([reference 158](#)).

Just from the access point of view (digital devices and connectivity), digital exclusion is strongly correlated with poverty, while some groups experience digital exclusion more than others ([reference 159](#)). However, when the other components are added to the equation, the gap between advantaged and disadvantaged children widens dramatically, exacerbating the pre-existing inequalities. At the beginning of the pandemic, 9% of the households with children across the UK did not have access to a laptop, desktop PC or tablet ([reference 160](#)). Similarly, the Scottish Household Survey (2018) shows a 12 percent gap in home internet access between the least deprived and most deprived households, while overall showing a gradual increase in internet access over the years ([reference 161](#)). With the first school closures and rapid transition to remote learning in March 2020, governments in the UK allocated funds to provide digital devices and internet to students in need. On 21st May 2020, the Scottish First Minister announced a £9M fund to purchase digital devices (tablet, laptop) and data for 25,000 digitally excluded children ([reference 162](#)). It is argued that this funding was not enough to reach all the children who needed it, based on an estimation of 250,000 children in Scotland being eligible for free school meals. For the academic year 2020-2021, the Scottish

Government reported having provided devices to more than 72,000 learners via a £25M fund, which doesn't include devices or data supplied by the local authorities through their own funding ([reference 163](#)). There were also news reports that digital device funds were not spent as intended, some councils opting out of the laptop scheme and taking the cash ([reference 164](#)).

In relation to the impact of digital exclusion on access to remote learning, one in 10 parents surveyed in April-June 2020 noted that their children were struggling with remote learning due to the lack of a digital device at home, which was significantly higher in single-parent households (21%), according to an ONS survey ([reference 165](#)). Additional funds from the local and national government (e.g. PEF) improved provision of devices and data during the second school closures ([reference 166](#)). However, data from learners, parents and school leaders in Scotland indicate that delivery of digital devices and internet access left some learners, especially those in more deprived areas, behind in remote learning. This has likely widened the attainment gap ([reference 167](#)). As also noted in the Equity Audit report ([reference 168](#)), socio-economically disadvantaged children and young people were most negatively affected by the variation in availability of technology. In addition, internet access was a problem for remote/rural communities, which impacted children's access to remote learning and engagement.

As noted in Coleman's review ([reference 169](#)), digital skills and support were another key factor that contributed to the digital divide. Nevertheless, research on learners' digital skills and how this impacted their learning is limited. Contrary to the assumption that children and young people are 'digital natives' and they have the skills to use the technology to its potential, international research shows that children may even overestimate their own digital skills ([reference 170](#)). Being

comfortable with technology and using it for leisure and entertainment does not imply that children know how to use it effectively for learning. In addition, children from disadvantaged groups may have less well-developed digital skills due to less exposure to technologies both at home and at school ([reference 171](#)). At the school level, a review of remote learning reported that effective online learning support was significantly different between advantaged schools (75%) and disadvantaged schools (45%) before the second school closures ([reference 172](#)). According to the 'Lockdown Lowdown 2' survey conducted by the Scottish Youth Parliament, students noted a lack of support regarding the impact of COVID-19 on their education during the first school closures ([reference 173](#)).

As for the fourth factor, teacher digital skills and confidence for using technologies for learning showed variation and impacted the quality of remote learning experience for the learners ([reference 174](#)). As they were not trained for digital or remote teaching, they struggled with transitioning to remote learning, particularly during the first school closure ([reference 175](#)). Research from England notes that teachers from affluent schools were more likely to have digital skills than those in deprived schools ([reference 176](#)). Remote learning also made it particularly challenging to attend to the individual needs of children and young people with additional support needs ([reference 177](#)). As discussed earlier, parental support was also a key factor for learner engagement during remote learning. In this regard, parents' digital skills (or lack thereof) created inequalities. Therefore, several reports and articles call for supporting not only children and teachers but also families to acquire digital skills to improve equal access to education ([references 178, 179](#)). Lastly, the fifth factor is a suitable home learning environment, which was not equally available to all children and young people ([reference 180](#)). This was dependent on family income, and parents' education and

occupation, as well as on having other school-going siblings who may be sharing the digital devices. Research shows that across the UK, children who had their own computers and whose parents worked regularly from home were able to spend longer hours on school work for both primary and secondary level compared to their peers without these advantages ([reference 181](#)).

Without doubt, digital exclusion had the most negative impact on children with additional support needs and disabilities. Children with additional support needs and their parents had to tackle additional challenges beyond having access to digital devices and a stable internet connection. Some parents had difficulty navigating the online tools or platforms set up by the schools ([reference 182](#)), which even varied between subjects in secondary level in some cases. Some reported converting the online resources into physical resources. Some parents also felt that the coursework assigned to their children was not appropriate to their individual needs ([reference 183](#)). While students with ASN received specialised instruction outlined in their Individual Education Plan prior to school closures, many teachers had to use their time on creating activities and resources suited for remote learning rather than providing differentiated instructions ([reference 184](#)). This led to disengagement from remote learning. The broader impact of COVID-19 on the education of children and young people is further explored in the updating report on The Delivery of Education and Certification: Impact of COVID-19 on Children and Young People.

Further and Higher Education

In Further and Higher Education, digital poverty stemmed from three areas of deficits: 1) digital devices and software, 2) reliable internet and data, and 3) secure study space ([reference 185](#)). Institutions received funding from Scottish Funding Council (SFC) ([reference 186](#)) and used their own resources to address digital poverty in relation to their students. Specifically, SFC allocated £4.75M of additional capital funding to support digital provision in AY 2020-2021 and £5.0M for digital learning in colleges to support investment in IT infrastructure and services as part of the increased provision of digital learning in AY 2021-2022. Institutions repurposed existing laptops and bought new ones to loan to the students in need. However, procuring new devices created a bottleneck in the first months of the pandemic when there was a global surge in demand for IT devices ([reference 187](#)). While access to IT devices was more manageable at universities than at colleges, it was not equitable for all students, impacting those from more disadvantaged and economically challenged backgrounds negatively. At the Higher Education level, some courses and assignments also require specialised software, for which universities typically hold institutional licenses accessible through campus computers. This created additional challenges for students needing to use these software applications.

For reliable internet and data, institutions provided either mobile dongles ([reference 188](#)) or bursaries (as offered by e.g. University of Strathclyde) to help students turn their phones into mobile hot-spots ([reference 189](#)). However, as noted in another Scottish Government report, digital connectivity has been inconsistent across Scotland, which created a disadvantage for students in rural Scotland ([reference 190](#)).

The third area of deficit, secure study space, is something that institutions had the least control over when strict lockdown restrictions were in place. School buildings and libraries were closed. Many UK- and Scottish-domiciled students who were staying at university housing chose to go back to their homes. For those who were away from university facilities, the institutions could not ensure that students had a safe place to study while the mode of delivery pivoted to remote learning. While the research is lacking on the impact of digital poverty on access and outcomes in Scottish universities during the COVID-19 lockdowns, the evidence collected from multiple countries outside the UK indicates that students' digital access and their living arrangements during the pandemic impacted their ability to learn ([reference 191](#)). Those who had no study space or too much noise noted greater disruption to their learning than students who had better living arrangements.

Overall, institutions worked really hard to address the 'digital divide', but their efforts could not fully compensate for the digital inequalities that existed ([reference 192](#)). As digital poverty persists beyond the COVID-19 pandemic, the Scottish Government provided £4.5M to help alleviate digital poverty across colleges and universities for FY 2022-2023. However, Peter Scott, the Commissioner for Fair Access, warns in his final report that while it is important to maintain extra funding to tackle digital poverty, this may be difficult to do as the priorities for the UK or Scottish Government may change ([reference 193](#)). Especially in the current cost-of-living crisis, digital poverty, as it is linked to fuel poverty ([reference 194](#)), may lead to a further expansion of the 'digital divide'.

Conclusion

The impact of the COVID-19 pandemic, particularly as it involved restrictions to educational provision, has been significant for children and young people in Scotland. This new research builds on the findings of our report to the Inquiry in 2022, and extends the review of research for particular areas updated in the report updating the latter (2023). These areas are:

- a) the impact on children and young people in relation to learning and academic progress in general,
- b) the known benefits and disadvantages of online learning, and
- c) digital poverty and inequality and effects of this on access and outcomes.

This study demonstrates clear gaps in children and young people's learning due to school closures. These differences are greater for young people living with socio-economic disadvantage, and for those with additional support needs. However, to understand the true long-term impacts on learning and progress, we need to look beyond achievement data and consider engagement in learning, and health and wellbeing. The research is currently limited in regard to these dimensions. This study also highlights that parental engagement during the lockdown period was very important for children and young people's engagement with remote learning and their health and wellbeing, and it was experienced differently across social groups. This area has received little attention in the literature to date, needing further investigation.

The research reviewed in this study shows that Scotland's youth work sector was swift to adapt to pandemic conditions and increased its online service provision. By doing that, it provided crucial support for children and young people's health and wellbeing through informal and non-formal educational opportunities.

This review highlights that both learners and teachers struggled with the rapid transition to remote learning, as the initial transition was neither planned nor well-resourced. Although quality and consistency improved during the second period of school closures, remote learning showed significant variation across schools, depending on the teachers' own digital competencies and on parental support. Similarly, rapid change of delivery mode disrupted teaching and learning at FE and HE institutions. The research on the learning loss or the experience of FE and HE students in Scottish institutions is very limited, making it difficult to ascertain the true impact of COVID-19. Nevertheless, it should also be acknowledged the published evidence strongly suggests that there was a colossal effort and goodwill from stakeholders at all levels (local authorities, school leaders, teachers, lecturers, professional staff, support services, and parents) to mitigate the negative effects of school closures on children and young people's education. It is hoped that some of the practices and resilience built during the pandemic will help in closing the attainment gap and addressing inequalities in the post-pandemic world.

The evidence reviewed in this study looks at digital poverty narrowly through the lens of access to digital devices, and internet connection. The study highlights that digital skills for learners, teachers and parents, and a safe place to learn, were both needed for effective engagement with remote learning. Similarly, digital poverty in FE and HE was caused by lack of access to IT devices, reliable internet and safe study space. Digital poverty has worsened pre-existing inequalities and had the most negative impact on children and young people with additional support needs and disabilities or those from disadvantaged backgrounds. These areas warrant further investigation to better understand the medium- and long-term effects of digital poverty on education and certification at all levels.

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Notes on References

All URLs were accessible at the time this report was submitted. Please note that non-academic literature (also known as 'grey literature') cited in this report such as government or NGO reports may become inaccessible online due to changes in URL or removal of these documents by the publisher. A small number of references do not have active links any more due to issues on the publisher side. These reports are only available in PDF format, originally accessible via web links. These can be provided by the research team to the Inquiry upon request. Most academic literature, e.g. journal articles, cited in this report has a DOI (digital object identifier) and so always remains accessible. Nevertheless, some of these publications may lie behind a paywall and require either individual payments or institutional subscriptions to access.

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