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PUPIL ATTAINMENT, WELLBEING, AND TEACHER PRACTICES DURING THE PANDEMIC: FINDINGS FROM AN EVIDENCE AND GAP MAP

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Pupil Attainment, Wellbeing, and Teacher Practices during the Pandemic:

Findings from an Evidence and Gap Map

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Background

The Department of Education (DE) who funded the current study, requested a review of the evidence related to the impact of the Covid-19 pandemic, and the associated interruption in schooling, on teacher and pupil outcomes (primary and post-primary). To meet this request, the research team, led by Professor Sarah Miller (Campbell UK & Ireland, QUB) undertook a two-stage approach.

Stage 1

An evidence and gap map (EGM) was created to identify and collate all published and unpublished educational research pertaining to Covid-19 and its impact on pupil and teacher outcomes. Studies included in the map are those that explore the effect of the pandemic on pupils' attainment and wellbeing and teacher practices, during remote learning and as they returned to school post-lockdown, after a significant period of school closure.

Our comprehensive and rigorous searches (originally conducted in March 2021 and updated in June 2021) identified 6,197 unique studies and reports. Each record was screened for eligibility, and 516 met the inclusion criteria and are represented in the EGM. The studies were subject to The Campbell Collaboration methodological guidelines for EGMs (White et al., 2020). Studies were screened at title and abstract, and in-text. The eligibility of studies for inclusion in the EGM were determined by the following questions:

1) Is the study focussed on Covid-19 and its implications?
2) Are participants school aged pupils/young people and/or teachers?
3) Does the research have a specific focus on education, education settings and/or education related outcomes?

The EGM is intended to be a publicly available (html) interactive map of all the research in education (globally) from both published and unpublished sources that has been conducted relevant to Covid-19. The map is accessible and searchable and can be used to:

a. Identify the areas in which there is an evidence base of primary research and thus suitable for synthesis
b. Identify areas where primary research is lacking (the gaps), which can be used to inform research priorities

The EGM can be viewed here and a short video explaining how EGMs can be viewed and used, can be found here. The methodology used to create the map is provided in Appendix 1 (including a flow diagram depicting the search and screening processes) and the published protocol can be downloaded from Figshare.com.

Stage 2

Using the information contained within the map we worked collaboratively with DE to agree a set of priority topics that could be addressed by synthesising the evidence identified within the evidence and gap map. Three areas were:

1. Pupil attainment
2. Pupil wellbeing
3. Teacher practices

Using the research collated within the EGM and based on a coding framework applied to each individual study, we identified those studies that related to each priority area. In all three cases, and due to resource restrictions, the evidence summaries include only research conducted in the UK and Ireland. However, the map itself contains related research conducted in other countries. The map also contains research related to many other relevant areas and replicating this methodology will provide an invaluable basis for future evidence summaries and syntheses.

For each priority area identified, a thematic, narrative synthesis of the relevant studies was conducted, and these are presented below. Each evidence summary draws particular

attention to research conducted with vulnerable groups (including pupils with special educational needs) and concludes with a series of key messages.

Our searches did not capture any research conducted in Northern Ireland; however, we are aware of studies published by the Centre for Research on Educational Underachievement (Stranmillis University College) that would be of particular interest to readers of this report. We have therefore included a summary of this research in a separate synthesis (see Evidence Summary 4).

The Research Team

The research team was based at Campbell UK & Ireland (Queen's University Belfast) and led by Professor Sarah Miller who developed the proposal, managed, and contributed to all aspects of the evidence and gap map, and evidence summaries. Dr Ciara Keenan developed the search strategy for the evidence and gap map, conducted the searches, developed the coding framework, and oversaw the screening and data extraction processes. Dr Erin Early conducted the narrative synthesis and led the writing of the evidence summaries. We are extremely grateful to Dr Karen McConnell, Dr Leonor Rodriguez and Christopher Coughlan who made considerable and invaluable contributions to the screening and data extraction process.

Evidence Summary 1: Pupil Attainment

The first evidence summary synthesises the findings from 19 studies[1] identified from the EGM that examined pupil attainment in the UK and Ireland during the Covid-19 pandemic. The summary presents an overview of the studies, followed by a discussion of study characteristics relating to population, study design and outcome measures. The findings of the studies relating to pupil attainment and vulnerable pupils are then provided. In this summary, the definition of vulnerable pupils varies between studies and is outlined where appropriate. There were two studies that implemented a systematic review methodology. The findings of these studies are presented separately, below.

Overview of Studies

Nineteen (19) studies are included in this summary that examines Covid-19 research on pupil attainment (Appendix 2, Summary Tables 2.1 and 2.2).

Publication type

All studies were published between 2020 (n=10) and 2021 (n=9). The studies were published as reports (n=7), peer-reviewed journal articles (n=8), working papers (n=2), a research paper (n=1), and an online news article (n=1) (Appendix 2, Table 2.1).

Geographical context

All studies included in this summary explored pupil attainment outcomes in the UK and Ireland during the Covid-19 pandemic. More specifically, nine studies examined pupil attainment in England[2], four studies were situated in Ireland[3] and five reported the UK as the geographical context[4] (Appendix 2, Table 2.1). One of the systematic reviews included in the summary had an international focus which the UK featured in (Wen et al., 2021). No study included in this summary exclusively examined pupil attainment outcomes in Northern Ireland.

Population

The population in the majority of studies were primary and post-primary pupils (n=13)[5]. One study examined primary school pupils only (Younie et al., 2020), one examined post-primary pupils (Judge, 2021) and one did not state the targeted population (Doyle, 2020). Despite the targeted population of primary and/or post-primary pupils, some studies included parents (n=8)[6] and teachers (n=4)[7] in their sample to examine attainment outcomes. The sample size of the studies ranged from eight families (Canning and Robinson, 2021) to 62,254 participants (ImpactEd, 2021).

When considering population characteristics, four studies reported the gender composition of their sample (Asbury et al., 2020[8]; Canning and Robinson, 2021; Egan et al., 2021; Flynn et al., 2021[9],), two reported ethnicity (Asbury et al., 2020; Flynn et al., 2021,), two reported school type (Canning and Robinson, 2021; Cullinane and Montacute, 2020) and one

[1] There were more than 19 studies in the EGM that included attainment outcomes, but these were conducted outside of the UK and Ireland. To keep this evidence summary within the scope of what was originally commissioned, only UK and Ireland evidence is summarised here.
[2] Andrew et al. (2020); Canning and Robinson (2021); Cattan et al. (2021); ImpactEd (2021); Julius and Sims (2020); Lucas et al. (2020); Nelson and Sharp (2020); Sharp et al. (2020); Younie et al. (2020).
[3] Doyle (2020); Egan et al. (2021); Flynn et al. (2021); Judge (2021).
[4] Asbury et al. (2020); Burkey et al. (2021); Cullinane and Montacute (2020); Penington (2020); Thorell et al. (2021).
[5] Andrew et al. (2020); Asbury et al. (2020); Burkey (2021); Cattan et al. (2021); Cullinane and Montacute (2020); Flynn et al. (2021); ImpactEd (2021); Julius and Sims (2020); Lucas et al. (2020); Nelson and Sharp (2020); Penington (2020); Sharp et al. (2020); Wen et al. (2021).
[6] Andrew et al. (2020); Asbury et al. (2020); Canning and Robinson (2021); Cattan et al. (2021); Doyle (2020); Egan et al. (2021); Flynn et al. (2021); Thorell et al. (2021).
[7] Julius and Sims (2020); Lucas et al. (2020); Nelson and Sharp (2020); Sharp et al. (2020).
[8] Asbury et al. (2020) provided characteristics of both parents and their pupils. However, only parental responses were included in the study.
[9] Flynn et al. (2021) only provided characteristics of the parent sample. No characteristics of the pupil sample were provided.

reported nationality (Flynn et al., 2021) and English as an additional language (ImpactEd, 2021[10]).

The socio-economic status of the samples was also reported by various studies (Asbury et al., 2020; Cullinane and Montacute, 2020; Doyle, 2020; Egan et al., 2021; Flynn et al., 2021; ImpactEd, 2021). In these studies, socio-economic status was measured using various indicators including: the non-possession of a medical card [Ireland] (Flynn et al., 2021), parental education (Cullinane and Montacute, 2020; Doyle, 2020; Egan et al., 2021; Flynn et al., 2021;), parental working status (Egan et al., 2021; Thorell et al., 2021); school disadvantaged status (Cullinane and Montacute, 2020; Flynn et al., 2021,), Free School Meal Eligibility (FSME) (Cullinane and Montacute, 2020) and household income (Asbury et al., 2020; Cullinane and Montacute, 2020; ImpactEd, 2021).

There were two studies that provided no sample characteristics due to the implementation of a systematic review methodology (Burkey, 2021; Wen et al., 2021). In addition, nine studies did not report sample characteristics (Andrew et al., 2020; Cattan et al., 2021; Judge 2021; Julius and Sims, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Penington, 2020; Sharp et al., 2020; Younie et al., 2020).

Methods

The studies used a range of methods to examine pupil attainment outcomes in the UK and Ireland during the Covid-19 pandemic. The most common method was conducting a survey that produced quantitative results which was implemented by eight studies (Andrew et al., 2020; Cattan et al., 2021; Cullinane and Montacute, 2020; Julius and Sims, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Thorell et al., 2021; Sharp et al., 2020). In addition, a mixed methods survey that produced quantitative and qualitative responses was implemented by three studies (Egan et al., 2021; Flynn et al., 2021; ImpactEd, 2021). The remaining studies used a systematic review methodology (Burkey, 2021; Wen et al., 2021), a quantitative cross-sectional study design (Doyle, 2020), a randomised control trial (RCT) (Younie et al., 2020), a quantitative case study (Judge, 2021), secondary data analysis (quantitative) (Penington, 2020), a qualitative ethnographic narrative design (Canning and Robinson, 2021) and a qualitative design that asked parents one question (Asbury et al., 2020).

Uniqueness of studies

For transparency when interpreting the evidence, it is important to highlight that some studies used the same data sources in their respective analyses. For example, the same survey was used in the studies authored by Andrew et al. (2020) and Cattan et al. (2021). Wave 1 of the survey data were used by Andrew et al. (2020) whilst both Wave 1 and Wave 2 data were used by Cattan et al. (2021).

In addition, the reports authored by Julius and Sims (2020), Lucas et al. (2020) and Nelson and Sharp (2020) used the first survey conducted by the National Foundation for Educational Research (NFER) to collect schools' responses to Covid-19. Sharp et al. (2020) also used data from the NFER but these data were collated from a second survey which had a different response rate and representativeness of primary and post-primary schools in England.

Outcome measures

There were various outcome measures used in the studies included in this summary. Five studies examined pupil outcomes according to their learning but did not comprehensively define such concepts (Egan et al., 2021; Julius and Sims, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Sharp et al., 2020). Others provided more detail on how they measured learning. For example, the report by ImpactEd (2021) measured learning according to a Covid-19 learning index[11], metacognition[12] and the home learning context[13]. Furthermore,

[10] ImpactEd (2021) did not state the percentage of the sample associated with the listed characteristic. Instead, it was reported that there were variations in the sample from the national average.

[11] Measured the resilience of pupils' learning based on factors affected by Covid-19.

[12] Measured pupils' ability in thinking and reflecting on their own learning.

[13] Measured contextual factors around pupils' learning.

learning was also measured according to: home schooling organisation and experiences (Thorell et al., 2021), the hours spent on online classes and doing school work (Andrew et al., 2020; Cattan et al., 2021), school work demands (Canning and Robinson, 2021), time spent with a paid private tutor (Cattan et al., 2021), weekly time spent in school (Cattan et al., 2021) and handwashing skills (Younie et al., 2020). Academic performance (Wen et al., 2021), cognitive engagement (Flynn et al., 2021), uptake of a digital assessment (Judge, 2021), concerns for a pupil's future and loss of specialist support (Asbury et al., 2020) were also outcome measures. In total, four studies did not state how pupil outcomes were measured (Burkey, 2021; Cullinane and Montacute, 2020; Doyle, 2020; Penington, 2020).

Study Findings Relating to Pupil Attainment

Falling behind in learning

Using the first NFER survey that examined schools' responses to Covid-19 (*teacher n* = 1,821), it was reported that 80% of primary and post-primary teachers in England believed the curriculum was getting less attention than usual (Nelson and Sharp, 2020). Consequently, in the second NFER survey that examined schools' responses to Covid-19 (*teacher n* = 1,782), 98% of primary and post-primary teachers in England believed their pupils were behind in curriculum learning compared to the 2019/20 school year (Sharp et al., 2020). Primary school teachers estimated pupils were around three months behind in curriculum learning compared to 2.5 months reported by post-primary teachers. When considering the pupils' work standard, Cullinane and Montacute (2020) used quantitative surveys and reported that 37% of teachers in state schools in the UK believed pupils' work was of the same standard as before the Covid-19 pandemic. A third of teachers reported work to be of a lower standard and only a small proportion reported it was of a better standard.

When considering pupil perspectives, Flynn et al. (2021) examined the cognitive engagement of 1,189 primary and post-primary pupils in Ireland using a mixed method survey[14]. Flynn et al. (2021) found that just over 94% of primary and post-primary pupils stated that home schooling had an impact on their learning. More specifically, 52% of primary pupils and 73% of post-primary pupils learned less at home during the Covid-19 pandemic than they did at school. This aligns with the results reported by Nelson and Sharp (2020), and Sharp et al. (2020) (outlined above). In addition, the findings by Flynn et al. (2021) complement the study by Cattan et al. (2021) in England. Conducting a survey with 653 parents, Cattan et al. (2021) found that pupils who returned to school and subsequently received in-person learning reflected a substantial increase in their learning time, particularly at primary school. With the school environment providing greater structure to learning, it provides an explanation for the survey findings from ImpactEd (2021) which found that 40% of Key Stage 4 pupils, 32% of Key Stage 3 and 31% of Key Stage 2 pupils had no established learning routine during the Covid-19 pandemic in England (n=62,254).

Parent perspectives on the impact of home schooling on learning were also considered by Flynn et al. (2021) through a mixed methods survey (n=2,733). Concerns were reported about academic progression, especially for pupils entering Senior Cycle, Leaving Certificate or post-primary school in the next academic year. Similarly in a mixed methods survey conducted with 506 parents of pupils aged between 1 and 10 years in Ireland, Egan et al. (2021) reported that pupils missed the routine and structure provided in early childhood education and care settings. Parents also reported that digital screens were being used at home to replace the education and care usually provided in early childhood education settings (Egan et al., 2021).

Falling behind in learning – socio-demographic differences

The first NFER survey highlighted that 42% of pupils returned the last piece of set work to their teacher (Lucas et al., 2020; Nelson and Sharp, 2020). However, there was a disparity according to socio-economic background as 30% of pupils in the most deprived schools returned work compared to 49% in the least deprived schools (Lucas et al., 2020; Nelson and Sharp, 2020).

[14] Cognitive engagement referred to a pupil's interest in schooling and learning at home.

Sharp et al. (2020) also reported socio-economic differences in learning using the second NFER survey. Over half (53%) of teachers in the most deprived schools believed their pupils were at least four months behind in curriculum learning compared to 15% of teachers in the least deprived schools. In relation to this, the ImpactEd (2021) report found that pupils who were eligible for Pupil Premium were less likely to have developed a learning routine, received help from their family or understood set schoolwork. Consequently, disadvantaged pupils scored their home learning environment lower (by 6%) than their peers.

When considering teacher perspectives of pupils' work standard according to school deprivation level, Cullinane and Montacute (2020) reported that teachers in schools with the highest proportions of pupils eligible for Free School Meals (FSM) were twice as likely to report work being of a lower standard than before the Covid-19 pandemic, when compared to teachers in school with the lowest proportions of FSM eligible pupils.

In addition, Sharp et al. (2020) reported that around one fifth of teachers (21%) believed boys had fallen further behind in learning than girls, however 78% reported no gender differences.

Improvements in learning

One study conducted a RCT in England on primary school pupils' learning of handwashing skills and reported improvements (Younie et al., 2020). The authors conducted two interventions: one in the classroom (intervention n = 101, control n = 92) and one in a museum (*intervention* n = 36, *control* n = 36). In both settings, the intervention had a positive effect on handwashing behaviours. In the classroom, there were significant improvements in the intervention group between baseline and follow up behavioural scores (Est=0.48, SE=0.14, t=3.30, p=0.001) and knowledge scores (Est=2.14, SE=0.52, z=4.11, p<0.001). These improvements were not evident in the control group. In the second intervention conducted in the museum, the intervention group had significantly higher behavioural scores compared to the control group ($Est.$=-0.71, SE=0.34, t=-2.07, p=0.04).

Average time spent on learning

There were differences between studies in the reporting of the average time spent on learning. Explanations for these disparities may include differences in the sample, variation in who reported the hours spent on learning (parent or pupil) and differences in how learning was defined.

In a survey conducted amongst 5,582 parents of primary and post-primary pupils in the UK, Andrew et al. (2020) found that parents reported the average time primary and post-primary pupils spent on learning (in school and outside of school) decreased from 6.3 hours before lockdown to 4.47 hours during lockdown. More specifically, post-primary pupils reflected a larger decline (6.59 hours before lockdown to 4.46 hours during lockdown) than primary school pupils (5.99 hours to 4.49 hours). Parents also reported that outside of online classes, pupils spent a further 1.7 hours on schoolwork (inclusive of primary and post-primary pupils). However, 34% of primary and 25% of post-primary pupils spent zero hours doing online classes. In a quantitative survey of parents in seven European countries with pupils aged 5-19 years, Thorell et al. (2021) found that in the UK (n=508), parents reported their pupils spent only 4.41% of their time in contact with teachers while 48.44% of pupils' time was spent on self-study.

Cullinane and Montacute (2020) reported slightly lower averages with the average pupil in England (inclusive of primary and post-primary) spending just over three hours on learning per day. In addition, just over one third of pupils (34%) spent two hours or less on learning per day, whilst 38% of pupils spent four hours or more.

Penington (2020) reported lower averages again from the secondary data analysis that used the first wave of Understanding Society's Covid survey (n=4,559). The news article examined the average time spent on learning in the UK and found those aged 12 years and under most commonly spent 1-2 hours per day on schoolwork compared to 2-3 hours for those aged 13 years or above.

Judge (2021) presented descriptive findings of pupils' usage of a digital assessment tool (JCQuest) as a method of learning in ten schools in Ireland. Although this is not explicitly the average time spent on learning, its trends are relatable. JCQuest is a repository of curriculum aligned multiple choice question-sets to support Science and French language learning among Junior Certificate pupils. The programme supports learning by providing immediate feedback for both correct and incorrect answers. Judge (2021) reported that during the first national lockdown in Ireland usage of JCQuest increased from an average of 46 users per week pre-Covid to over 200 users per week during the first national lockdown. The usage pattern of JCQuest reflected a typical school day with higher activity in mornings and afternoons. High levels of usage continued when schools first reopened but then sharply declined. The levels of engagement rose again in the second national lockdown.

Average time spent on learning – socio-demographic differences

Cullinane and Montacute (2020) reported socio-economic differences in the time spent on learning in the UK. The authors found 44% of pupils from middle class backgrounds spent four or more hours on learning per day compared to 33% in working class families. However, Cullinane and Montacute (2020) did not state how the concepts of middle class and working class were defined. Despite Cullinane and Montacute (2020) reporting differences in the time spent learning between pupils from different socio-economic backgrounds, Doyle (2020) conducted a cross-sectional study in Ireland and found that parents, regardless of their education level, spent between 1 and 2 hours per day home schooling (*parents' n* = 458). In addition, Andrew et al. (2020) reported no significant increase in the socio-economic inequality of the time spent on learning amongst post-primary students in England. This highlights the importance of understanding how socio-economic background is defined to fully comprehend why disparities are apparent between studies.

Study Findings Relating to the Attainment Outcomes of Vulnerable Pupils

Eight studies[15] that examined pupil attainment outcomes in the UK and Ireland reported findings that explicitly related to vulnerable pupils (Asbury et al., 2020; Burkey, 2021; Canning and Robinson, 2021; Flynn et al., 2021; Julius and Sims, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Thorell et al., 2021). Eleven studies did not provide any findings relating to vulnerable pupils. The definition of vulnerable pupils varied between studies and are presented accordingly for transparency.

In the UK, Asbury et al. (2020) presented the following question to 231 parents of primary and post-primary pupils with SEND: *Please describe in your own words how the coronavirus outbreak is affecting your mental health and your pupil's mental health*. The key concerns of parents were their pupils falling further behind in school (n=27), as some felt unsure on how to meet their pupil's needs. Secondly, parents raised concerns over the loss of specialist support that their pupil received in educational settings (n=12). Similarly, Flynn et al. (2021) conducted a mixed methods survey with 2,733 parents and 1,189 pupils in Ireland. Of those parents, whose pupil had an Additional Educational Need (12.7% of the parent sample), the key concern expressed was about the academic progression of their pupil. These themes are also reiterated by Canning and Robinson (2021) who conducted a qualitative study with eight families to explore the experiences of pupils with autism/complex needs during school closures. The authors reported that parents expressed the pressure they felt in organising home schooling and maintaining their pupil's concentration and engagement to meet the demands of online lessons. Families reported that formal online schooling caused distress but everyday lockdown experiences provided alternative learning opportunities for their pupils.

The loss of support was also reflected by Thorell et al. (2021) who conducted a quantitative survey in seven European countries and found 33.6% of UK respondents who had a pupil with Special Educational Needs received no contact from the pupil's school to discuss home schooling. The remaining three studies used the first NFER survey on schools' responses to Covid-19 and referred to vulnerable pupils[16] in England in their respective reports (Julius and

[15] One study (Burkey, 2021) is a systematic review and is discussed in the next section.

[16] The same definition of a vulnerable pupil was used in all three studies: those with an Education, Health and Care Plan (EHCP), a social worker or identified as vulnerable by a local authority or education provider.

Sims, 2020; Lucas et al., 2020; Nelson and Sharp, 2020). All three studies reported that vulnerable pupils and those with SEND were less engaged in learning than their peers. This finding was more prevalent in post-primary schools when compared to primary schools.

Systematic Review Findings

There were two systematic reviews included in this summary (Burkey et al., 2021; Wen et al., 2021). Burkey (2021) explored pupils' experiences of Covid-19 in the UK. This review included both primary and post-primary age groups. In relation to the learning and attainment outcomes of pupils, Burkey (2021) found that home-schooling experiences varied according to the individual context of the pupil. A positive correlation was reported in the systematic review between the quality of the home learning environment, higher socio-economic background (according to household income) and higher parental education (third level (university) qualifications). In addition, those pupils who did not attend an educational setting during Covid-19 were at greater risk of experiencing learning loss or stagnation.

Wen et al. (2021) also conducted a systematic review but with an international focus which explored ICT supported home-based learning. The authors reported that the effectiveness of ICT supported home-based learning initiatives could be influenced by a pupil's gender, cognitive style and family environment. For example, the systematic review reported that boys were more likely to prefer and use technology for learning than girls. Relating to the latter factor (family environment), Wen et al. (2021) found that parental involvement was an important factor in determining the effectiveness of ICT supported home-based learning.

Systematic Review Findings Relating to Vulnerable Pupils

In the systematic review authored by Burkey (2021), vulnerable pupils were defined as those with SEND. This systematic review found those with SEND experienced systemic challenges in accessing the provisions they required and were entitled to as part of their EHCP. This is the result of EHCPs often being created for specialist settings meaning they are not adaptable to home learning settings. This reiterates the finding from Asbury et al. (2020) that parents were concerned about the loss of specialist support that their pupil routinely received prior to the Covid-19 pandemic.

Summary and Conclusion

To summarise, 19 studies were identified in the Evidence and Gap Map that examined pupil attainment outcomes in the UK and Ireland during the Covid-19 pandemic.

Pupil attainment outcomes were most commonly measured according to the learning progression of pupils. However, there were other instances in which outcomes were measured according to cognitive engagement, time spent completing online classes and schoolwork, and time spent in school.

The results from the studies included in this summary can be understood according to the impact of the Covid-19 pandemic on pupils learning, the average time spent on learning during home schooling and how vulnerable pupils are affected.

The **key messages** from this summary based on the 19 studies are:

1. Pupils' learning progression was hindered by the Covid-19 pandemic. This is echoed across studies that examined the perspectives of pupils, parents, and teachers.
2. There were socio-economic differences in the learning progression of pupils, whereby pupils from more deprived backgrounds were reported to be doing less well than their peers. Learning progression was measured by teacher reported indicators including pupils returning set work and pupils' standard of work.
3. The average time spent on learning by primary and post-primary pupils was negatively affected by the Covid-19 pandemic.
4. There was no consensus in the studies included in this summary on whether socio-economic background affects the time spent on learning.
5. Vulnerable pupils were exposed to heightened risk factors that negatively affected learning outcomes (for example, loss of specialist support).
6. Vulnerable pupils reflected lower engagement rates in learning than their peers.

Evidence Summary 2: Pupil Wellbeing

This summary provides an overview of the studies identified in the evidence and gap map (EGM) that examined pupil wellbeing during periods of school closures and remote teaching in the UK and Ireland during the Covid-19 pandemic. The summary presents an overview of the studies included in the synthesis, followed by a discussion of study characteristics relating to population, study design, study focus and key findings. The findings of the studies relating to the wellbeing of vulnerable pupils are then provided. In this summary, the definition of vulnerable pupils varies between studies and is outlined accordingly, below.

Overview of Studies

Twelve studies are included in this summary that examines Covid-19 research on pupil wellbeing during school closures and remote teaching (Appendix 3, Table 3.1). Studies were eligible for inclusion in the map (and thus this evidence summary) if an educational component (such as the impact of school closures or remote teaching) was presented in their examination of pupil wellbeing. Subsequently, studies that *only* focused on wellbeing with no connection to education were excluded from the map.

Publication Type

All studies were published between 2020 (n=2) and 2021 (n=10). The studies were published as peer-reviewed journal articles (n=8) and reports (n=4) (Appendix 3, Table 3.1).

Geographical Context

All studies included in this summary explored pupil wellbeing during school closures and remote teaching in the UK and Ireland. More specifically, five studies were situated in England[17], four studies examined pupil wellbeing in Ireland[18] and two examined pupil wellbeing in the UK[19] (Appendix 3, Table 3.1). One study included in the summary had an international focus, in which the UK featured (Thorell et al., 2021).

Population

There was variation in the populations included in this summary. Parents were the population in five studies (Canning and Robinson, 2021; Castro-Kemp and Mahmud, 2021; Egan et al., 2021; McMahon et al., 2021; Thorell et al., 2021), whilst children and young people also were the population of three studies (Clark et al., 2020; Impact Ed, 2021; Quinn et al., 2021). Parents and pupils were the population of one study (Flynn et al., 2021), whilst senior leaders and teachers were also the population of one study (Julius and Sims, 2020). One study included education professionals[20], a pupil and the pupil's mother (Beaton et al., 2021). There was one study that did not report the specific population as it was a systematic review (Burkey, 2021).

When considering population characteristics, five reported the age (mean or range) of the pupils (Castro-Kemp and Mahmud, 2021; Clark et al., 2020; Egan et al., 2021; McMahon et al., 2021; Thorell et al., 2021), six studies reported the gender composition of their sample (Canning and Robinson, 2021; Castro-Kemp and Mahmud, 2021; Egan et al., 2021; Flynn et al., 2021; McMahon et al., 2021; Quinn et al., 2021), four studies reported SEND status of the sample (Castro-Kemp and Mahmud, 2021; Flynn et al., 2021; McMahon et al., 2021; Thorell et al., 2021) and two reported socio-economic background (Flynn et al., 2021; ImpactEd, 2021).

Some studies also reported school characteristics. For example, four reported school type (Canning and Robinson, 2021; Castro-Kemp and Mahmud, 2021; ImpactEd, 2021; Quinn et al., 2021) and one reported the deprivation level of the schools (Flynn et al., 2021).

[17] Beaton et al. (2021); Canning and Robinson (2021); Castro-Kemp and Mahmud (2021); ImpactEd (2021), Julius and Sims (2020).
[18] Egan et al. (2021); Flynn et al. (2021); McMahon et al. (2021); Quinn et al. (2021).
[19] Burkey (2021); Clark et al. (2020).
[20] Local authority employees, headteacher of a special school and a Special Educational Needs and Disabilities (SEND) consultant.

One study provided no sample characteristics at the individual or school level due to the implementation of a systematic review methodology (Burkey, 2021).

Methods

The studies used a range of methods to examine pupil wellbeing during school closures and remote teaching in the UK and Ireland. The most common method was a mixed methods survey that produced both quantitative and qualitative data which was implemented by six studies (Castro-Kemp and Mahmud, 2021; Clark et al., 2020; Egan et al., 2021; Flynn et al., 2021; ImpactEd, 2021; Quinn et al., 2021). In addition, a survey that produced quantitative results was implemented by three studies (Julius and Sims, 2020; McMahon et al., 2021; Thorell et al., 2021), whilst interviews (Beaton et al., 2021), a systematic review methodology (Burkey, 2021) and a qualitative ethnographic narrative design (Canning and Robinson, 2021) were evident in one study, respectively.

Study Focus

The focus of the studies included in this summary varied. Five studies examined the impact of school closures and remote teaching on the general mental health and wellbeing of pupils and young people (Burkey, 2021; Clark et al., 2020; ImpactEd, 2021; McMahon et al., 2021; Quinn et al., 2021). Three studies examined the impact of school closures and remote teaching on the social and emotional wellbeing (also defined as psychosocial wellbeing) of pupils (Egan et al., 2021; Flynn et al., 2021; Thorell et al., 2021), and seven studies examined how the wellbeing of vulnerable pupils was impacted by school closures and remote teaching during the pandemic (Beaton et al., 2021; Burkey, 2021; Canning and Robinson, 2021; Castro-Kemp and Mahmud, 2021; Julius and Sims, 2020; McMahon et al., 2021; Thorell et al., 2021)[21].

Study Findings Relating to Pupil Wellbeing During School Closures and Remote Teaching

The findings from studies exploring pupil wellbeing as it relates to schools and education in the UK and Ireland during the Covid-19 pandemic can be understood through two themes: mental health and wellbeing, and social and emotional wellbeing.

Mental Health and Wellbeing

Three studies reported that the pandemic had negative consequences for the mental health and wellbeing of pupils through school closures (Burkey, 2021; McMahon et al., 2021; Quinn et al., 2021). Burkey (2021) conducted a systematic review and found the pandemic had a significant impact on the mental health and wellbeing of pupils and young people across all age groups, with a negative impact reported among pupils as young as four years old. Burkey (2021) acknowledged that the severity of the pandemic's impact is a broad spectrum, with many pupils reporting increased anxiety, sleep problems and panic attacks. Similarly, among their sample of Leaving Certificate pupils in Ireland (n=959), Quinn et al. (2021) reported that 61% of pupils reported poor levels of overall wellbeing, whilst over 40% obtained lower than normal scores on wellbeing, perceived stress and adaptive coping measures. The majority of pupils (90%) stated that school closures, social distancing and staying at home had impacted their wellbeing. More specifically, approximately half of pupils reported that school closures had a significant impact on their wellbeing. In addition, McMahon et al. (2021) conducted a quantitative survey with 797 parents in Ireland and found that the additional burden of supporting pupils' learning during school closures in the pandemic could increase the psychological stress of parents, which in turn, affects the mental health of pupils. The study also highlighted that those pupils who completed less than two hours of schoolwork per day had greater mental health difficulties during school closures in the pandemic compared to pupils undertaking more than two hours of schoolwork per day.

On the other hand, there was evidence from three studies that school closures and remote teaching during the pandemic did not have a solely negative impact on the mental health and wellbeing of pupils (Burkey, 2021; Clark et al., 2020; ImpactEd, 2021). Providing a

[21] The total number of studies in this paragraph does not total to 13 as some studies are counted more than once. Studies are counted more than once if they examined the wellbeing of pupils and young people, and those defined as vulnerable.

balanced argument, Burkey (2021) also found evidence of improved mental health and wellbeing in some pupils during the pandemic, due to school closures allowing more time to be spent with family and removing the individual from difficult relationships at school. Similarly, in a mixed methods survey with 62,254 primary and post-primary pupils in England, the report authored by ImpactEd (2021) found that pupil wellbeing[22] was stable during the first remote teaching period. Some pupils reported that time away from school provided an opportunity to build bonds with their parents, allowed for deeper conversations about mental health, and reflections on shared challenges to be discussed among families. Accordingly, only 23% of pupils believed that dedicated time to support wellbeing would make the return to school easier. However, the report did highlight that there was a gender difference in the mental wellbeing of pupils, with girls experiencing greater anxiety about returning to school than boys. Finally, taking a practical approach to understand how the pandemic affected the mental wellbeing of pupils, Clark et al. (2020) examined pupils' writing habits. The authors found that writing creatively during lockdown helped support pupils' mental wellbeing, with 41.3% reporting that writing made them feel better and 24.8% stating that writing helped when they felt sad that they could not see friends and family.

Social and Emotional Wellbeing

Three studies highlighted the negative impact of school closures during the Covid-19 pandemic on the social and emotional wellbeing of pupils and young people (Egan et al., 2021; Flynn et al., 2021 Thorell et al., 2021). Egan et al. (2021) conducted a mixed methods survey with 506 parents of pre-primary and primary pupils in Ireland and reported negative consequences for pupils' social and emotional wellbeing, with increased behaviours such as tantrums, anxiety, boredom and under-stimulation. Parents reported that pupils missed the structure and activities provided in the education settings, had reduced interactions, and missed peer relationships. Similarly, Flynn et al. (2021) conducted a mixed methods survey with 2,733 parents and 1,189 primary and post-primary pupils in Ireland during school closures and found the majority of pupils reported missing social interaction. Parents also reflected concerns about the potential negative effects of the lack of social interaction and loneliness of their pupil caused by school closures during the pandemic. In addition, post-primary pupils were asked how remote learning impacted their learning, routine, confidence, independence and mental health. The only component that pupils reported as being positively affected was their independence. The findings from Thorell et al. (2021) also complement the above, with the authors reporting that over 50% of parents and their pupil felt isolated during the pandemic which resulted in school closures and remote teaching[23].

However, two of the above studies (Egan et al., 2021; Flynn et al., 2021) also reported some positive aspects of social and emotional development that resulted from school closures and remote teaching during the Covid-19 pandemic. Egan et al. (2021) highlighted that some parents viewed lockdown as a positive change in routine which benefited their pupil's social and emotional development due to increased opportunities to play alone, with siblings, and outdoors. In addition, Flynn et al. (2021) reported that a minority of parents reflected upon the positive impacts of remote learning such as their pupil learning new skills.

Study Findings Relating to the Wellbeing of Vulnerable Pupils During School Closures and Remote Teaching

Similarly, to above, the findings from the identified studies can be understood through three themes: mental health and wellbeing, social and emotional wellbeing, and pupil welfare.

Mental Health and Wellbeing

Castro-Kemp and Mahmud (2021) conducted a mixed methods survey with 83 parents of pupils with disabilities[24] in England. The authors found that over half (54.2%) of parents reported that school closures had a detrimental impact on their pupil's mental health, particularly those from the most deprived areas. Reasons for such feelings included pupils'

[22] In this study, wellbeing was measured through three surveys: wellbeing (contentment, overall sense of purpose and day-to-day happiness), anxiety (worries or fears) and grit (persistence and passion for long-term goals).

[23] Based on a quantitative survey and a sample of 6,720 parents (508 of which were located in the UK).

[24] This study was inclusive of pupils with SEND.

heightened stress and anxiety, lack of socialisation, and difficulties with distanced learning. However, Castro-Kemp and Mahmud (2021) reported that 45.8% of parents did not believe that school closures had a detrimental impact on their pupil's mental health as pupils were happier due to reduced stress and greater emotional stability.

In addition, McMahon et al., (2021) reported that a pupil having SEN was negatively associated with their mental health status during school closures and remote teaching. Moreover, Burkey (2021) reported that pupils with a pre-existing mental health condition faced particular challenges during school closures due to the loss of access to protective factors such as school and mental health services. It was highlighted that those who self-harmed had more frequent urges to do so.

Social and Emotional Wellbeing

Beaton et al. (2021) conducted interviews with six individuals (education professionals, a pupil and the pupil's mother) in England to examine the impact of school closures and remote teaching during the pandemic on young people with learning disabilities. The authors found that the pandemic created ecological pathways for increased agency, connectedness, and improved relationships with teachers and peers for those pupils with learning disabilities. As a result, school closures and remote teaching provided pupils with learning disabilities with greater social inclusion, therefore positively impacting their social and emotional wellbeing. In contrast, Thorell et al. (2021) found that feelings of isolation during school closures were greater amongst parents and pupils with a mental health condition[25]. Similarly, Canning and Robinson (2021) conducted a qualitative study in England with eight families who had a pupil with autism/complex needs. The authors found some pupils already lacked the ability to connect with others which was exacerbated through their anxiety about online classes, trying to hide on video and finding the transition of the home to a work/administrative centre difficult.

Pupil Welfare

Using data from the first survey conducted by the National Foundation for Educational Research (NFER) to collect schools' responses to Covid-19, Julius and Sims (2020) reported that 75% of schools were offering social or welfare support to vulnerable pupils (according to senior leader reports)[26].

When considering the differences between primary and post-primary schools, senior leaders in post-primary schools were more likely to report concerns about vulnerable pupils than those in primary schools (61% compared to 41%). However, teachers in primary and post-primary schools reported similar levels of concern. In addition, a higher proportion of post-primary senior leaders reported that their school was providing welfare support to vulnerable pupils (82% compared to 73%).

Over half (54%) of senior leaders in the most deprived schools reported significant concerns for the safety and wellbeing of vulnerable pupils, compared to 35% of senior leaders in the least deprived schools. Similarly, a higher proportion of teachers in the most deprived schools had concerns for pupils' safety and wellbeing compared to teachers in the least deprived schools (61% compared to 29%). Overall, the most deprived schools were more likely to provide welfare support to vulnerable pupils compared to the least deprived schools (85% compared to 52%).

Nearly all (99%) of the most deprived schools were supporting vulnerable pupils with food vouchers or parcels. More generally, 96% of primary and post-primary senior leaders reported that their school was providing support to vulnerable pupils through regular communication, whilst 40% reported that staff (mainly classroom teachers) were undertaking home visits to support vulnerable pupils.

[25] A mental health condition was defined as those with conditions such as: ADHD, ASD, dyslexia, and depression/anxiety.

[26] Vulnerable pupils were defined as those with an Education, Health and Care Plan (EHCP), a social worker or identified as vulnerable by a local authority or education provider.

Summary and Conclusion

To summarise, 12 studies were identified in the evidence and gap map that examined pupil wellbeing during school closures and remote teaching in the UK and Ireland. Studies most commonly focused on mental health and wellbeing, social and emotional wellbeing, and pupil welfare (vulnerable pupils only).

The **key messages** from this summary based on the 12 studies are:

1. There is evidence that school closures had a negative impact on the mental health and wellbeing of pupils and young people[27]. For example, pupils and young people scored lower than normal on wellbeing measures (Quinn et al., 2021).
2. However, there is also evidence that school closures and remote teaching had a positive impact on the mental health and wellbeing of pupils. For example, spending more time with family and being removed from difficult relationships in school (Burkey, 2021; ImpactEd, 2021).
3. The positive and negative effects of school closures and remote teaching on pupil wellbeing impact different areas of mental health. For example, independence, writing creatively and adapting new learning strategies were positively impacted, whereas loneliness, social interaction and anxiety were negatively affected. The studies are helpful to identify where support may be needed from policy intervention to address the negative impacts of the pandemic on pupil wellbeing.
4. There were also mixed findings on the impact of school closures during the Covid-19 pandemic on the social and emotional wellbeing of pupils. There was evidence that socio-emotional wellbeing was positively influenced by increased opportunities such as playing with siblings (Egan et al., 2021). However, there was also evidence of a negative impact such as the lack of social interaction and loneliness (Flynn et al., 2021).
5. These mixed findings on mental health and wellbeing, and social and emotional wellbeing were also evident among studies examining the impact of school closures and remote teaching during the pandemic on vulnerable pupils.
6. One study also examined the welfare of vulnerable pupils during school closures in the pandemic (Julius and Sims, 2020). A higher proportion of senior leaders and teachers in the most deprived schools were concerned for the welfare of vulnerable pupils than those in the least deprived schools.
7. Senior leaders in post-primary schools were also more concerned for the welfare of vulnerable pupils than those in primary schools.

[27] Although negative effects on pupils' wellbeing were more prevalent, the small number of identified studies in this summary does not allow for a view to be taken on the balance between positive and negative effects.

Evidence Summary 3: Teacher Practices

This evidence summary provides an overview of the studies identified in the evidence and gap map (EGM) that examined teacher practices in the UK and Ireland during the Covid-19 pandemic. The summary presents an overview of the studies included in the synthesis, followed by a discussion of study characteristics relating to population, study design and study focus. The findings of the studies relating to teacher practices and how these were adapted for vulnerable pupils during the Covid-19 pandemic are then provided. In this summary, the definition of vulnerable pupils varies between studies and is outlined accordingly below.

Overview of Studies

Sixteen (16) studies are included in this summary that examines Covid-19 research on teaching practices (Appendix 4, Table 4.1).

Publication Type

All studies were published between 2020 (n=10) and 2021 (n=6). The studies were published as peer-reviewed journal articles (n=12) and reports (n=4) (Appendix 4, Table 4.1).

Geographical Context

All studies included in this summary explored teacher practices in the UK and Ireland during the Covid-19 pandemic. More specifically, eight studies examined teacher practices in Ireland[28], five studies examined England[29], one explored practice in Scotland[30], and one reported teacher practices in the UK[31] (Appendix 4, Table 4.1). One systematic review included in the summary had an international focus, which the UK featured in (Wen et al., 2021). No study included in this summary exclusively examined teacher practices in Northern Ireland.

Population

There was variation in the populations of the studies included in this summary. Primary school teachers were the population of two studies (Beattie et al. 2021; O'Keeffe and McNally, 2021), whilst post-primary school teachers were the sole population of one study (Doyle et al., 2021). Three studies included primary and post-primary school teachers in their respective studies (Chadwick and McLoughlin, 2021; Howley, 2021; Kim and Ashbury, 2020). There were also three studies that included senior leaders, primary and post-primary school teachers (Lucas et al., 2020; Nelson and Sharp, 2020; Walker et al., 2020). Similarly, one study had a population of senior leaders, student teachers and post-primary school teachers (Farrell, 2021). Education professionals[32] (Dena, 2020) and Home School Community Liaison Coordinators (Ross et al., 2021) were both the populations of one study respectively, whilst student (trainee) teachers and higher education placement tutors were the population of one study (Grádaigh et al. 2021).

When considering population characteristics, five studies reported the gender composition of their sample (Beattie et al., 2021; Doyle et al., 2021; Kim and Ashbury, 2020; O'Keeffe and McNally, 2021; Ross et al., 2021), five reported teaching experience (number of years) (Beattie et al., 2021; Chadwick and McLoughlin, 2021; Doyle et al., 2021; O'Keeffe and McNally, 2021; Winter et al., 2021), one reported highest education level of the teacher population (O'Keeffe and McNally, 2021), and one reported the age of the sample (Winter et al., 2021).

[28] Chadwick and McLoughlin (2021); Doyle et al. (2021); Grádaigh et al. (2021) (also included Australia in their study); Farrell (2021); Howley (2021); Ross et al. (2021); O'Keeffe and McNally (2021); Winter et al. (2021).
[29] Dena (2020); Kim and Ashbury (2020); Lucas et al. (2020); Nelson and Sharp (2020); Walker et al. (2020).
[30] Beattie et al. (2021).
[31] Cullinane and Montacute (2020).
[32] Defined as teachers, senior leaders, support staff and chief executive officers of education trusts (Dena, 2020).

Some studies also reported school characteristics. For example, two reported the location of the schools (urban/rural) (Ross et al., 2021; Winter et al., 2021), two reported the deprivation level of the schools (Cullinane and Montacute, 2020; Ross et al., 2021;)[33], and one reported school type[34] (Cullinane and Montacute, 2020).

There was one study that provided no sample characteristics at the individual or school level due to the implementation of a systematic review methodology (Wen et al., 2021). In addition, one study did not state characteristics of the teacher sample (Cullinane and Montacute, 2020).

Methods

The studies used a range of methods to examine teacher practices in the UK and Ireland during the Covid-19 pandemic. The most common method was conducting interviews which was implemented by six studies (Beattie et al., 2021; Dena, 2020; Farrell et al., 2021; Howley et al., 2021; Kim and Ashbury, 2020; Ross et al., 2021). In addition, a survey that produced quantitative results was implemented by five studies (Chadwick and McLaughlin, 2021; Cullinane and Montacute, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Walker et al., 2020), whilst a mixed methods survey that produced both quantitative and qualitative results was conducted by three studies (Doyle et al., 2021; O'Keeffe and McNally, 2021; Winter et al., 2021). The remaining studies conducted focus groups (Grádaigh et al., 2021) and implemented a systematic review methodology (Wen et al., 2021).

Uniqueness of Studies

For transparency when interpreting the evidence, it is important to highlight that some studies used the same data sources in their respective analyses. For example, the reports authored by Lucas et al. (2020), Nelson and Sharp (2020) and Walker et al. (2020) used the first survey conducted by the National Foundation for Educational Research (NFER) to collect schools' responses to Covid-19.

Study Focus

The focus of the studies included in this summary varied. Teacher practices during the Covid-19 pandemic were examined in five studies (Cullinane and Montacute, 2020; Dena, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; Walker and Sims, 2020), teachers' experiences during the Covid-19 pandemic were explored in four studies (Beattie et al., 2021; Chadwick and McLoughlin, 2021; Howley, 2021; Kim and Ashbury, 2020), and two studies examined teachers' use of using technology for teaching (Wen et al., 2021; Winter et al., 2021). The remaining studies focused on the impact of Covid-19 on: calculating student grades (Doyle et al., 2021), establishing democratic pedagogical partnerships (Farrell, 2021), initial teacher education (Grádaigh et al., 2021), play as a pedagogical strategy (O'Keeffe and McNally, 2021), and Home School Community Liaison Coordinators' experiences of school closures (Ross et al., 2021).

Study Findings Relating Teacher Practices

Teacher Practices During the Covid-19 Pandemic

Findings from the first NFER survey in England found that senior leaders (*n=1,233*) and teachers (*n=1,821*) were working fewer hours during lockdown compared to a typical week in February 2020 (Nelson and Sharp 2020, Walker et al., 2020). Senior leaders reported an average reduction of 4.6 hours per week, whilst teachers reported an average reduction of 11.4 hours per week. The most common tasks conducted by teachers during their working day were contacting pupils/parents via email or direct messaging (52%) and creating distance learning resources (48%) (Cullinane and Montacute, 2020). Dena (2020) also highlighted the practice of contacting and maintaining home-school contact, which teachers reported to be a challenging practice of remote teaching, especially when pupils did not return set work. Based on the NFER survey, it was reported that primary and post-primary teachers were in regular contact with 60% of their pupils (Lucas et al., 2020; Nelson and Sharp, 2020). However, primary school teachers were in contact with a greater proportion of

[33] This only includes studies that explicitly stated how many schools were in different deprivation levels. It does not account for studies that only presented results according to school deprivation.
[34] Defined in this instance as state or private schools.

pupils than post-primary teachers (62% compared to 50%) (Lucas et al., 2020). In the NFER survey, teachers were asked what would make remote teaching practices more effective in the future. Teachers reported that better provisions of IT equipment and facilities for both teachers and pupils, and training in remote learning strategies and virtual learning environments would improve their practices[35] (Lucas et al., 2020).

Many of the post-primary schools in England included in the study by Dena (2020) reorganised their responsibilities, with one teacher being responsible for a whole year group instead of individual classes. This led to teachers planning learning content for pupils they may have never previously taught. With this in mind, findings from the first NFER survey found 80% of primary and post-primary school teachers in England reported that the curriculum was receiving less attention than usual (Lucas et al., 2020; Nelson and Sharp, 2020). Primary school teachers were more likely to report a difference in curriculum learning from before the pandemic than post-primary teachers (83% compared to 61%) (Lucas et al., 2020).

When considering the practices of senior leaders in primary and post-primary schools, they provided guidance to teachers on: the type of work to set for pupils (95%), the amount of work to set for pupils (90%) and what feedback (if any) should be provided to pupils (85%) (Lucas et al., 2020; Nelson and Sharp, 2020). A higher proportion of leaders in post-primary schools expected pupils to submit or confirm they attempted the work than primary school leaders (84% compared to 53%) (Lucas et al., 2020).

The overall school approach towards teaching practices during the Covid-19 pandemic was also reported. Using quantitative survey data, Cullinane and Montacute (2020) reported that over half (63%) of primary and post-primary state schoolteachers in the UK set work through an online platform. This practice was more commonly reported among post-primary teachers, with 82% setting work through an online platform. When considering teaching practices *after* the Covid-19 pandemic, many of the education professionals interviewed in England reflected upon the benefits of online platforms for tasks such as homework, however they did not believe they were an adequate replacement for in-person teaching (Dena, 2020). In addition, data from the NFER survey found that senior leaders reported schools to deliver learning (most commonly) via materials produced by external providers such as educational websites or apps (92%), or online resources such as pre-recorded video lessons (90%) (Lucas et al., 2020; Nelson and Sharp, 2020). Only 14% of senior leaders reported that their schools used live remote lessons led by the teachers, whilst 37% reported the use of online conversations led by teachers (Lucas et al., 2020). When considering these trends in primary and post-primary schools separately, post-primary school leaders were more likely than primary school leaders to report the use of live remote lessons (33% compared to 10%), online conversations (46% compared to 35%), and pre-recorded video lessons (55% compared to 42%). Primary school leaders were more likely to report the use of educational websites or apps than post-primary school leaders (92% compared to 88%) (Lucas et al., 2020; Nelson and Sharp, 2020).

Teacher Practices According to School Deprivation

Teacher practices were also considered according to the deprivation level of the school. Cullinane and Montacute (2020) reported that 48% of the most deprived schools set work with physical worksheets or workbooks, compared to 22% of schools in the most affluent areas. Although not linked to the school deprivation level, Dena (2020) also found that some teachers were continuing to create printed booklets for those pupils without internet access. In turn, a lower proportion of teachers in the most deprived schools had created distance learning resources for their pupils compared to teachers from the most affluent schools (45% and 55%, respectively) (Cullinane and Montacute, 2020).

Lucas et al. (2020) reported that teacher contact with pupils varied according to school deprivation level. Teachers in the most deprived schools reported being in regular contact with 50% of pupils, compared to teachers in the least deprived schools who reported regular contact with 67% of pupils.

[35] Based on 1,281 teachers' responses.

When considering senior leader practices, those in the most deprived schools were more likely than those in the least deprived schools to make telephone or video calls with pupils (74% compared to 60%).

The overall school approach towards teaching practices during the Covid-19 pandemic was also considered according to school deprivation level. Senior leaders in the most deprived schools were less likely than those in the least deprived schools to report teachers providing live remote lessons (7% compared to 15%), having online conversations with their pupils (30% compared to 42%), or pre-recording video lessons (3% compared to 51%). However, senior leaders in the most deprived schools were more likely than those in the least deprived schools to report using workbooks or worksheets (86% compared to 74%) (Lucas et al., 2020; Nelson and Sharp, 2020).

Teacher Experiences During the Covid-19 Pandemic

Beattie et al. (2021) conducted interviews with 10 primary school teachers in Scotland and found teachers understood the need to adapt their pedagogical practices during remote teaching but their ability to do so was somewhat dependent on local authorities. A similar theme was reported in the study by Howley (2021) which conducted interviews with primary and post-primary teachers in eight countries, including Ireland. Howley (2021) reported that teachers understood the need to be flexible with their pedagogical and learning strategies during remote teaching. However, teachers expressed concerns that supporting students was not easily replicated online (Beattie et al., 2021). Subsequently, the ability to differentiate learning tasks to suit individual learning needs, adapt teaching practices online, communicate with learners, and ensure pupil engagement, were reported as a challenge of remote teaching (Beattie et al., 2021). Despite these challenges, Kim and Ashbury (2020) reported that primary and post-primary school teachers in England sought evidence from their pupils to ensure engagement with set learning. In turn, this consolidated the teacher's practices towards online learning, or made them reconsider their pedagogical strategy[36].

Chadwick and McLoughlin (2021) conducted a survey with 182 primary and post-primary science teachers in Ireland to understand their experiences of in-person teaching after lockdown restrictions were eased. The authors found that the majority of teachers (94%) reported the physical distancing measures had a negative impact on their ability to facilitate practical science activities, whilst 78% reported a negative impact on their ability to support pupils' learning. Most teachers (95%) reported at least one metre physical distancing within their classroom and 72% of teachers cleaned the science equipment between uses. Despite this, 90% of post-primary teachers reported cancelling some science activities compared to 63% of primary school teachers. This aligns with the finding that 73% of post-primary teachers reported using learning technologies frequently in lessons, compared to 41% of primary school teachers.

Teachers' Use of Technology for Teaching

Winter et al. (2021) conducted a mixed-methods survey with 38 primary and post-primary school teachers in Ireland to understand their technological use. Over half (64%) of teachers reported a high use of technology in their teaching on a weekly basis. Teachers' use of technology was influenced by three main factors: experience of other teachers, availability of technology in the classroom, and availability of in-school training. The latter was also highlighted in the systematic review conducted by Wen et al. (2021) which reflected the need for teacher training to enhance their pedagogical practices in delivering ICT-supported home-based learning.

Specific Teaching Practices

Doyle et al. (2021) conducted a survey with 713 post-primary teachers in Ireland to explore their experiences of calculating pupils' grades during the Covid-19 pandemic. The authors reported that a wide range of evidence was used to inform teachers' decisions, with some evidence not directly related to pupils' academic performance.

[36] Based on interviews with 24 primary and post-primary school teachers.

Establishing democratic pedagogical partnerships during the Covid-19 pandemic in Ireland was studied by Farrell (2021). Through interviews with 30 teachers and school leaders, Farrell (2020) reported that many student teachers maximised the opportunity to learn new digital skills and were able to effectively utilise these in their teaching practices in their school placement. Grádaigh et al. (2021) also examined initial teacher education in Ireland and Australia and reported positive experiences from student teachers and university tutors on virtual observations of teaching practices.

Play as a pedagogical strategy was explored with 310 primary school teachers in Ireland by O'Keeffe and McNally (2021). The majority of teachers (81.6%) encouraged parents to play with their pupils during school closures. When considering the reopening of schools, 98.7% of teachers believed play would be an important pedagogical strategy in their classroom. Teachers believed play as a pedagogical tool was supportive in: pupils' social and emotional development, facilitating learning, and transitioning back to school[37].

Finally, the experiences of school closures for primary school Home School Community Liaison Coordinators in Ireland were explored by Ross et al. (2021) (*n=10*)[38]. The authors reported that HSCLs reached out to families during school closures to reassure them of the school support available. Home School Community Liaison Coordinators used a range of communication methods such as phone calls, texts, home visits, emailing and school platforms.

Study Findings Relating to Teaching Practices towards Vulnerable Pupils

Although not the primary focus of any study included in this summary, four studies did report teaching practices towards vulnerable pupils (Dena, 2020; Lucas et al., 2020; Nelson and Sharp, 2020; O'Keeffe and McNally, 2021).

O'Keeffe and McNally (2021) reported that three respondents believed play would be beneficial in supporting pupils with additional needs during the transition of schools reopening as it allowed for readjustment to staff, equipment and the school environment[39].

Dena (2020) reported on the experiences of learning support staff during remote teaching practices and found the expectations of such staff were frequently changing making remote teaching difficult. Acknowledging these difficulties, Lucas et al. (2020) highlighted that many schools were using teaching assistants to support vulnerable pupils by calling at their home for welfare checks, setting learning tasks, adapting tasks for pupils with Special Educational Needs and Disabilities (SEND), checking pupils completed their work and providing feedback[40].

In addition, Nelson and Sharp (2020) reported that 46% of post-primary school leaders stated their approach to supporting vulnerable pupils[41] attending school was to teach them the same curriculum content as pupils learning remotely. Twenty-nine percent (29%) of primary school leaders stated that the main in-school activities for vulnerable pupils were not curriculum based. When considering these practices according to the school deprivation level, 58% of leaders in the most affluent schools were teaching the same curriculum content to vulnerable pupils as pupils learning remotely, compared to 35% of leaders in the most deprived schools. Vulnerable pupils attending the most deprived schools were therefore more likely to receive pastoral support than curriculum content when compared to those attending the least disadvantaged schools.

[37] Based on 301 survey responses.
[38] Home School Community Liaison Coordinators work between schools and homes to mitigate potential risk factors of wellbeing (Ross et al., 2021).
[39] Pupils with additional needs were defined in this study as those with profound learning needs and autism spectrum disorder.
[40] Vulnerable pupils were defined as those with an Education, Health and Care Plan (EHCP), a social worker or identified as vulnerable by a local authority or education provider.
[41] As above.

Summary and Conclusion

To summarise, 16 studies were identified in the Evidence and Gap Map that examined teacher practices during the Covid-19 pandemic in the UK and Ireland. Studies most commonly focused on general teacher practices and experiences during the Covid-19 pandemic. However, there were other instances in which studies focused on specific teaching practices such as calculating pupil grades, initial teacher education, play as a pedagogical strategy and those of Home School Community Liaison Coordinators.

The results from the studies included in this summary can be understood according to the impact of the Covid-19 pandemic on teacher practices and experiences, teachers' use of technology in teaching, and how teaching practices were adapted for vulnerable pupils.

The **key messages** from this summary based on the 16 studies are:

1. The most common tasks conducted by teachers during their working day were contacting pupils/parents and creating distance learning resources for pupils.
2. Post-primary teachers were more likely than primary school teachers to set work for pupils using an online platform. The methods of online teaching also varied between schools with primary school leaders more likely to report the use of educational websites or apps than post-primary leaders.
3. Teachers understood the need to be flexible with their pedagogical practices during remote teaching.
4. There was variation in the level of teacher contact with pupils according to the school deprivation level. A smaller proportion of pupils from the most deprived schools were in regular contact with teachers. For example, teachers in the most deprived schools reported being in regular contact with 50% of pupils compared to teachers in the least deprived schools who reported regular contact with 67% of pupils. In contrast, senior leaders in the most deprived schools were more likely than those in the least deprived schools to make telephone or video calls with pupils (74% compared to 60%) (Lucas et al. 2020).
5. There was variation amongst schools in the teaching practices used with vulnerable pupils. This variation was also evident according to the deprivation level of the school. For example, one study reported that vulnerable pupils attending the most deprived schools were more likely to receive pastoral support than curriculum content when compared to those attending the least disadvantaged schools (Nelson and Sharp, 2020).
6. One study provided policy recommendations on how remote teaching practices could be more effective in the future (Lucas et al., 2020). Teachers reported that better provisions of IT equipment and facilities for both teachers and pupils, and training in remote learning strategies and virtual learning environments would improve their practices.

Evidence Summary 4: Research in Northern Ireland

The three evidence summaries above, on pupil attainment, pupil wellbeing, and teacher practices highlight a lack of Covid-19 education research in Northern Ireland on the experiences of children, young people, and teachers. However, during 2020 and 2021, there were two reports published by the Centre for Research in Educational Underachievement (CREU) at Stranmillis University College which examined home-schooling experiences in Northern Ireland (Purdy et al., 2021; Walsh et al., 2020). The reports were not identified through the systematic literature search and are therefore summarised separately. This section outlines the methodology used in the two reports and the key findings that emerged according to the themes of the three summaries (pupil attainment, pupil wellbeing and teacher practices). Key messages and recommendations emerging from the reports are then presented.

Method

The reports describe two separate online mixed-method surveys[42] with parents who had a pupil(s) at pre-primary, primary and post-primary settings in Northern Ireland. The surveys aimed to understand home-schooling experiences during two lockdown periods in 2020 and 2021. It is important to highlight that the reports draw upon parental experiences and attitudes of home-schooling. The presented results are therefore not directly provided from pupils or teachers on their experiences/practices.

The first survey explored home-schooling in the first six weeks of the first lockdown in 2020 (Walsh et al., 2020), whilst the second follow-on survey was conducted in 2021 during a subsequent lockdown to investigate similarities and differences in experiences (Purdy et al., 2021). There were 2,035 responses in the first survey (95% of respondents were mothers and 3% were fathers) and 2,002 responses in the second survey (96% of respondents were female and 4% were male parents/carers)[43]. In the first survey (2020), respondents were asked to report their employment status and household's highest education qualification. Parental employment status[44] and household's highest education qualification were also reported in the second survey (2021), in addition to household income. In 2021, the majority of parents/carers who responded to the survey were working from home (49% compared to 43% in 2020). A small proportion of respondents were on furlough (4% compared to 11% in 2020) or were not working (16% compared to 14% in 2020). The majority of respondents in both surveys reported having an undergraduate degree or above (approximately 70%). Around 10% reported having a higher national certificate/diploma or Level 4/5 vocational equivalent; approximately 9% reported having A-Levels or Level 3 vocational equivalent; around 7% reported O-Levels/GCSEs or Level 2 vocational equivalent, and approximately 1% reported no qualifications (Purdy et al., 2021; Walsh et al., 2020). In relation to income, the second survey reported that 30% of participating households earned between £50,000 and £80,000; 29% earned between £30,000 and £50,000; 18% earned between £15,000 and £30,000; 16% earned more than £80,000, and 7% earned less than £15,000. Purdy et al. (2021) acknowledged that the sample of the second survey contained a higher proportion of high-earning households than the general population of Northern Ireland. This therefore suggests that the survey sample overrepresents the experiences of those from less deprived backgrounds which may impact upon the reported attitudes towards home-schooling. The attitudes of those from different socio-economic backgrounds may subsequently be underrepresented.

[42] Produced both quantitative and qualitative results.
[43] There were differences in how the gender composition of the samples were reported between the reports. For example, the first report provided the proportion of mothers and fathers whilst the second report provided information on female and male parents/carers.
[44] Along with a partner's employment status (which was not reported in the first survey in 2020).

Key Findings

Pupil Attainment

Drawing upon results from the first survey, Walsh et al. (2020) reported that three-quarters (75.3%) of parents established a home-schooling routine with their children. In 2020, 76.3% of parents stated that home-schooling activities were completed five days a week (Walsh et al., 2020), compared to 80% in 2021 (Purdy et al., 2021). The most common amount of time children spent on home-schooling activities during 2020 was up to three hours (32.3%), followed by up to 2 hours (28.9%) (Walsh et al., 2020). Purdy et al. reported a reduction of 7% and 9% respectively in 2021 but a 15% increase in the proportion of children spending more than four hours on home-learning (9.3% in 2020). The authors concluded that children were spending more hours and days on home-learning in 2021, compared to 2020. In addition, those who reported spending more days per week on home-learning were also more likely to report spending more hours per day on such activities (Purdy et al., 2021). For example, 59% of those who spent seven days per week on home-learning also spent more than four hours per day on such activities compared to those who spent one day per week with 89% spending up to one hour (Purdy et al., 2021).

The majority of respondents (88.7%) in the first survey used learning resources provided by the school to support their children's home-learning (Walsh et al., 2021). The reports also highlighted other resources used to support home-learning, these included (but were not limited to) websites and online materials (63.5% in 2020 and 40% in 2021), books (55.6% in 2020 and 48% in 2021), and computer apps (53.6% in 2020 and 31% in 2021) (Purdy et al., 2021; Walsh et al., 2020).

The reports also indicate that parents with lower education qualifications were less confident in supporting their children's learning and highly educated parents were more actively supporting their children's learning (Purdy et al., 2021; Walsh et al., 2020). Digital poverty, through limited access to devices, printers and broadband, also presented challenges to many respondents (Walsh et al., 2020).

Pupil Wellbeing

In the first survey, Walsh et al. (2020) reported that 65.1% of respondents received pastoral support from schools. More specifically, pastoral support was provided through regular emails from principals/teachers (44.7% in 2020 and 41.5% in 2021), and guidance on physical wellbeing (41.3% in 2020 and 44% in 2021), emotional wellbeing (40.2% in 2020)[45] and e-safety (32.4% in 2020)[46]. Purdy et al. (2021) found that when schools placed importance on nurture, safety and wellbeing[47], it had a highly significant and positive impact on children's motivation, social skills, and mental and physical health and wellbeing.

Around half of parents in 2020 reported that the emotional wellbeing of their child was the same as before school closures (49.1%), 19.9% reported the emotional wellbeing of their child was better or much better and 30.9% of parents reported the emotional wellbeing of their child was worse or much worse (Walsh et al., 2020). This was also considered in the second survey with respondents reporting that school closures had a negative impact on their child's mental health and wellbeing (51%), and physical health and wellbeing (47%) (Purdy et al., 2021)[48]. These outcomes were worse for those from low-income households, but no gender differences were reported. More specifically in the following school years, more than half of respondents reported their child's mental health was worse: Primary Years 5-7 (54%), Post-Primary Years 8-10 (52%), 11-12 (51%) and 13-14 (54%). These trends were less severe in Primary Years 1-4 (49%) and preschool (33%) (Purdy et al., 2021).

[45] The same terminology is not used by Purdy et al. (2021). However, in the second survey 48% of schools provided guidance on supporting mental health and wellbeing, and 19% provided emotional wellbeing lessons for pupils.

[46] As above. In 2021 14% of schools provided online opportunities for pupils to safely connect with their peers.

[47] Parent-reported.

[48] The direction of the findings reported by Purdy et al. (2021) and Walsh et al. (2020) support the findings outlined in Summary 2.

In 2020, parents commonly reported that their children were more relaxed as a result of learning from home (Walsh et al., 2020). Despite this, in 2021, 76% preferred learning at school (13% increase from 2020). In addition, the impact of school closures on children's motivation was slightly greater in 2020, with 60% of parents reporting lower motivation of their children, compared to 57% in 2021. Children with improved motivation, and mental health and wellbeing experienced higher levels of live online teaching (Purdy et al., 2021).

Teacher Practices

In the first survey (2020), parents reported that learning resources from schools were most commonly provided via online learning platforms (68.7%). Some respondents also collected learning resources before school closures (46%), on the school's website (26.9%), and through school emails (17.5%). However, these trends changed in the second survey in 2021 with the most common methods to receive learning resources from schools being home/school communication apps (45%), Google classroom (40%), and paper copies from the school (38%). School websites and emails accounted for 13% and 11% in 2021 (Purdy et al., 2021).

The majority of respondents in the first survey stated that the school provided guidance on the materials they provided (69.3%), whilst a greater proportion also provided instructions on how to help children access online resources (80.3%) (Walsh et al., 2021). Despite this, over three-quarters of respondents in 2020 stated that schools did not provide live online teaching (76.4%); however, this reduced to just over 50% in 2021 (Purdy et al., 2021; Walsh et al., 2020)[49]. Purdy et al. (2021) found that live online teaching was significantly more common in older post-primary years, especially in voluntary grammar schools and Irish medium schools.

Summary of Reports and Key Messages

Pupil Attainment

- In 2020, 76.3% of the parents surveyed stated that home-schooling activities were completed 5 days a week (Walsh et al., 2020), compared to 80% in 2021 (Purdy et al., 2021).
- Children were spending more hours and days on home-learning in 2021, compared to 2020 (Purdy et al. 2021).
- The impact of school closures on children's motivation was slightly greater in 2020, with 60% of surveyed parents reporting lower motivation of their children, compared to 57% in 2021 (Purdy et al., 2021).
- Parents with lower education qualifications were less confident in supporting their children's learning and highly educated parents were more active in supporting their child's learning (Purdy et al., 2021; Walsh et al., 2020)[50].

Pupil Wellbeing

- Pastoral support was provided through regular emails from principals/teachers (44.7% in 2020 and 41.5% in 2021), guidance on physical wellbeing (41.3% in 2020 and 44% in 2021), emotional wellbeing lessons for children (19% in 2021) and online opportunities for children to safely connect with their peers (14% in 2021).
- In 2020, 30.9% of parents reported that the emotional wellbeing of their child was worse or much worse since school closures compared to 19.9% of parents who reported the emotional wellbeing of their child was better or much better (Walsh et al., 2020).
- In 2021, approximately half of the parents surveyed reported that school closures had a negative impact on their child's mental health and wellbeing (51%), and physical health and wellbeing (47%) (Purdy et al., 2021).
- These outcomes were worse for those from low-income households, but no gender differences were reported.

[49] Purdy et al. (2021) also reported that 28% of respondents stated that their children's school sometimes engaged in live online teaching (12% increase from 2020), and 22% indicated that their children's school regularly engaged in live online teaching (14% increase from 2020).

[50] This relates to the finding outlined by Burkey (2021) in Summary 1 that the quality of the home learning environment, higher socio-economic background (income) and higher parental education were positively correlated.

Teacher Practices

- In 2020, learning resources from schools were most commonly provided via online learning platforms (68.7%). In 2021, the most common method for receiving learning resources from schools was home/school communication apps (45%).
- In 2020, 76.4% of respondents stated that the school did not provide any live online teaching for pupils, compared to just over 50% in 2021 (Purdy et al., 2021; Walsh et al., 2020).
- As year of schooling increased, so too did the amount of live online teaching provided. Live online teaching was significantly more common in older post-primary years.

Recommendations

Five recommendations emerged from the first survey which asked respondents 'What ONE thing could your school or the government do to make home-schooling work better for all of your children?' (Walsh et al., 2020). The recommendations in *italics* were also shared in the 2021 report (Purdy et al., 2021).

1. *More online/live interaction with teachers/peers.*
2. *More guidance from schools.*
3. More effective teaching/resources *through more play, time-off screen and outdoor activities.*
4. Measures to address practical challenges of home-schooling.
5. Planning/consideration of future implications when schools re-open fully.

An additional recommendation of reopening schools as soon as possible due to mental health and wellbeing concerns of children was also forwarded by Purdy et al. (2021).

End.

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Appendix 1: Evidence and Gap Map Methodology

Introduction

The purpose of the evidence and gap map (EGM) that underpins the three evidence summaries reported above was to create a repository of the educational research that was conducted since the start of the pandemic in January 2020. Studies included in the map are those that explore the effect of the pandemic, and subsequent remediation strategies, on pre-primary, primary, post-primary and special education school pupils' academic and wellbeing outcomes, as well as teacher practices and outcomes. The map was created using robust search, retrieval, and methodological approaches to minimise potential sources of research bias. It is intended to be made publicly available and provides a visual presentation of the educational research described above. An EGM enables gaps in evidence to be identified as well as highlight areas in which there is sufficient research for evidence synthesis. The benefits are considerable: (1) Funders can quickly assess the areas where there is already a saturation of evidence, see where there are gaps in knowledge, and direct much-needed resources towards those areas; (2) Practitioners and policymakers can access the map to see where evidence exists to inform policy and practice; (3) Researchers can minimise research waste which occurs due to duplication of effort; and (4) Members of the public can quickly access information which is of relevance to them. An interactive version of the EGM can be accessed here:

Objectives

Identify and map all existing primary studies and systematic reviews (published and unpublished) on education during the Covid-19 pandemic, creating a live, searchable and publicly available evidence and gap map (EGM).

Methodology

EGMs are a tool to prioritise research needs and to support evidence-informed practice and policy decisions. The Campbell Collaboration methodological guidelines for EGMs were adhered to (White et al., 2020) and the project was conducted according to six stages:

1) Scoping and development of the EGM framework;
2) Systematic and comprehensive searches;
3) Screening for eligibility (i.e., title, then abstract, then full text);
4) Data extraction;
5) High level quality appraisal of systematic reviews;
6) And analysis (according to the predefined inclusion/exclusion criteria).

The first step of this EGM was to develop the framework which best represents the research on education related to Covid-19. The framework forms the basis for the systematic search, the screening and data extraction, and visual presentation of the included evidence.

Framework Development and Scope of the EGM

We followed the standard EGM framework as a matrix, with rows containing the *type* of school and pupil that the research pertains to i.e., pre-school, primary, post-primary, special school or multiple categories of school, and columns containing information regarding *outcomes* i.e., teacher outcomes (physical, wellbeing, practices, attitudes) and pupil outcomes (attainment, physical, wellbeing, attitudes/behaviour). Guidelines and policy documents were also mapped.

Additional information was also coded, by which the map can be filtered, including learning type (e.g. face to face, blended, online/virtual classroom), country of study, study design, mean age of pupils and whether the study reports an intervention or not.

Eligibility Criteria

The inclusion and exclusion criteria were decided in consultation with all authors. Initial eligibility screening was necessarily inclusive as our intention was to provide an overview of the body of evidence. Therefore, the team reviewed studies using the following eligibility questions:

1) Is the study focussed on Covid-19 and its implications?
2) Are participants school aged pupils/young people and/or teachers?
3) Does the research have a specific focus on education, education setting and/or education related outcomes?

These eligibility criteria were applied to each individual study (screening and data extraction procedures are described in more detail below).

Dimensions
The EGM framework for an evidence and gap map informs the inclusion and exclusion criteria. We chose the *type* of school (and pupil) that the research pertains to i.e., pre-school, primary, post-primary, special school or multiple categories of school, and *outcomes* i.e., teacher outcomes (physical, wellbeing, teacher practices, attitudes) and pupil outcomes (attainment, physical, wellbeing, attitudes and/or behaviour) as our key dimensions.

Types of study designs
We wished to identify all relevant primary studies and systematic reviews (published and unpublished). To capture this literature, we included experimental and non-experimental studies reported in scientific journal articles, preprints, book/book chapters, reports, and unpublished reports of education research conducted since the beginning of the Covid-19 pandemic (January 2020) related to pupil and teacher outcomes. We also included guidelines and policy documents that were captured by the searches as a separate category (column) in the map. These guidelines and policies included those issued by national governments and education authorities. We excluded guidelines and policies written for the 'school level'.

Study designs that were eligible for inclusion in the map were: Quantitative methods such as meta-analysis, systematic review, randomised controlled trial, case-control study, cohort study, cross sectional study, case reports and series. Qualitative methods such as systematic review, phenomenology, grounded theory, ethnography, historical, case study and mixed methods research. As Covid-19 is still a novel disease and the implications on educational outcomes are not yet confirmed, it is important to be inclusive with study designs to get a fuller picture of the global body of evidence. We excluded editorials, commentaries, and opinion pieces.

We defined both quantitative and qualitative systematic reviews as research which "seeks to collate evidence that fits pre-specified eligibility criteria in order to answer a specific research question. They aim to minimize bias by using explicit, systematic methods documented in advance with a protocol." (Higgins et al., 2019). We defined meta-analysis as the statistical combination of results from two or more studies located through a systematic review.

Population
We included all pupils and teachers in pre-, primary and post-primary education settings, including special schools.

Context
We included in the map all studies that reported research in an educational context whether that learning context is face to face, virtual/online or a blended approach.

Search methods and sources
To ensure that the literature contained in the map is relevant and useful to key stakeholders, it is important that the literature retrieval methods follow high quality standards. Thus, the systematic search for literature was conducted and reported by an information retrieval specialist (Author: CK) following Campbell Collaboration guidelines (White et al., 2020). Various literature sources were searched, including electronic databases, web searches, conference proceedings, government reports and other repositories of literature.

Electronic databases
Based on the Queens's University Belfast database subscriptions, we searched key education databases for published literature. We also searched for grey literature across

multiple sources. Grey literature is that which is not published, not peer reviewed, and not easily accessible. Sources of grey literature are varied and include government reports, privately and publicly funded research, conference proceedings, working papers, dissertations, and posters. Table 1.1 reports the databases that were searched, the dates they were searched and the results of each search. The precise search strings used for each database are available from the research team, on request.

Table 1.1: Search strategy and results

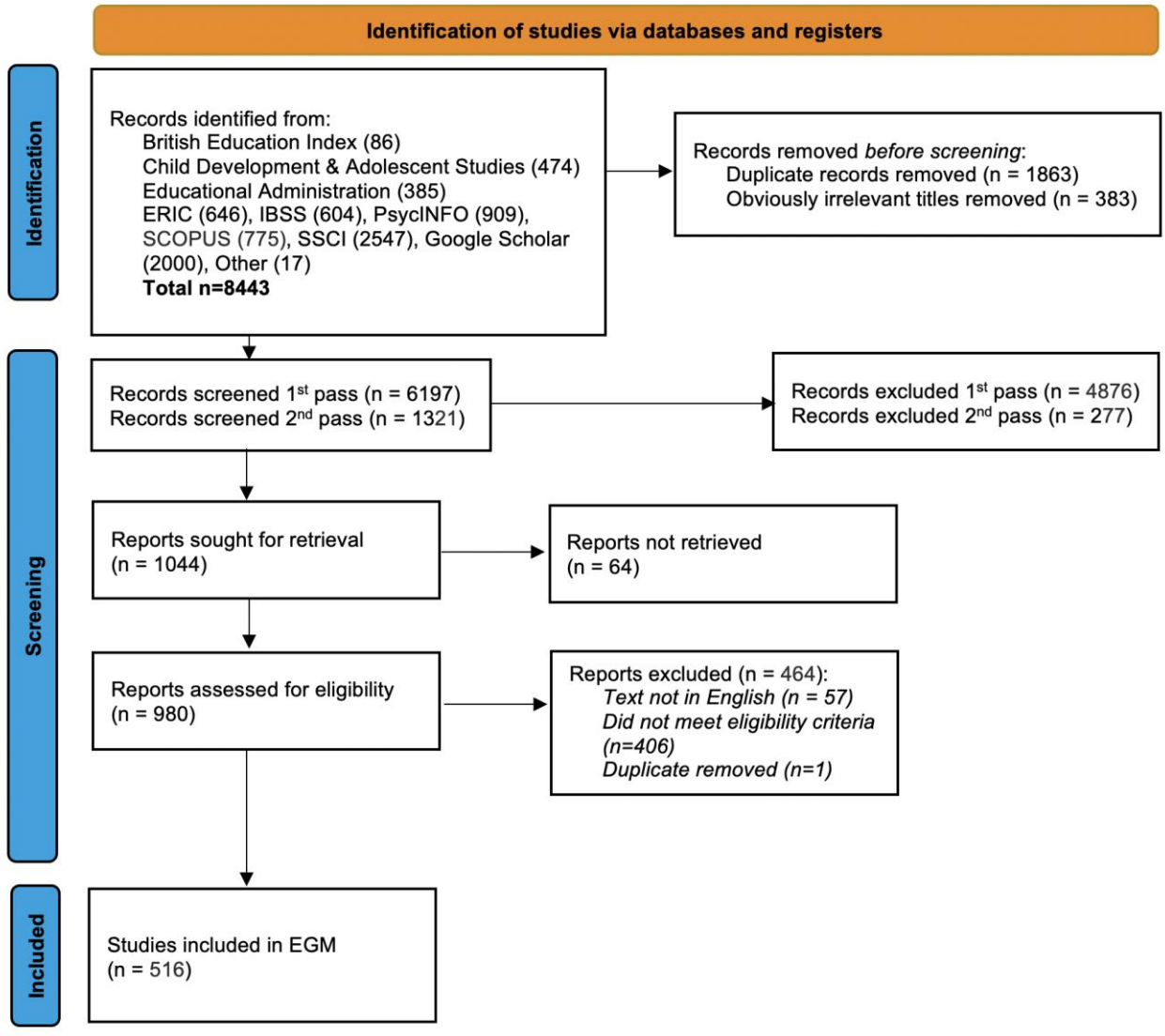
Database (platform)	Search 1 (04/03/21)	Search 2 (23/06/21)	TOTAL
British Education Index (EBSCOhost)	Time accessed: 15:49 GMT Number of hits: 75	Time accessed: 10:37 Number of hits: 11	86
Pupil Development & Adolescent Studies (EBSCOhost)	Time accessed: 15:56 Number of hits: 355	Time accessed: 10:50 Number of hits: 119	474
Educational Administration Abstracts (EBSCOhost)	Time accessed: 16:04 Number of hits: 308	Time accessed: 11:01 Number of hits: 77	385
ERIC (EBSCOhost)	Time accessed: 14:57 Number of hits: 578	Time accessed: 11:07 Number of hits: 68	646
International Bibliography of the Social Sciences (IBSS) (ProQuest)	Time accessed: 18:12 Number of hits: 495	Time accessed: 11:17 Number of hits: 109	604
PsycINFO (1806 - present) (Ovid)	Time accessed: 14:07 Number of hits: 577	Time accessed: 11:21 Number of hits: 332	909
Scopus	Time accessed: 17:09 Number of hits: 349	Time accessed: 11:54 Number of hits: 426	775
Social Science Citation Index (Web of Science Core Collection)	Time accessed: 17:41 Number of hits: 1372	Time accessed: 12:08 Number of hits: 1175	2547
Google Scholar	Time accessed: 14:18 Number of hits: 1000 (limit set by GS)	Time accessed: 12:16 Number of hits: 1000 (limit set by GS)	2000
Total Records	5109	3317	8426

Duplicates Removed	533	1207	1740
Obviously irrelevant titles removed	University: 123 Medical: 158 Adult: 40 Hospital: 30 mother or father: 13 Employment: 10		374
Studies added to EPPI-Reviewer	4202	2110	6312

Screening and selection of studies

When all searches were conducted, results were imported to Endnote 20 where duplications of identical studies gathered from multiple sources were removed to avoid duplication of effort.

Figure 1: Flow diagram depicting search and screening processes



Data extraction, coding and management

A data extraction tool was developed by the authors and piloted across 10% of included studies to ensure consistency and a high interrater reliability. Data extracted were according to the framework described above in the section titled: *Framework Development and Scope of the EGM*. Screening and data extraction were undertaken in EPPI Reviewer software (Thomas et al, 2010). All studies were screened initially by a single author; however all included studies were screened in duplicate independently.

Analysis and presentation

An interactive map using EPPI-mapper software was created and summarises all of the existing and emerging evidence in one place, for the first time. The results are presented visually, clearly identifying where evidence exists, the nature of that evidence, and where there are gaps in the evidence base. The columns of the map represent pupil and teacher outcomes, and the rows represent the type, or stage, of schooling. Filters allow users of the map to identify the country in which the study was conducted, the study design (including whether an intervention was studied), the learning context, and pupil mean age.

Appendix 2: Summary Tables for Pupil Attainment Evidence Summary

Summary Table 2.1: Studies included in the evidence summary on attainment outcomes

Author(s)	Year	Title	School Type	Study Location	Publication Type
Andrew, A., Cattan, S., Dias, M.C., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A. and Sevilla, A.	2020	Inequalities in Children's Experiences of Home Learning during the COVID-19 Lockdown in England	Primary and post-primary	England	IFS Working Paper
Asbury, K., Fox, L., Deniz, E., Code, A. and Toseeb, U.	2020	How is covid-19 affecting the mental health of pupils with special educational needs and disabilities and their families?	Primary and post-primary	UK	Journal article
Burkey, S.	2021	I want to do well: a literature review of existing research on pupils and young people's experiences of COVID-19	Primary and post-primary	UK	Achievement for All Report
Canning, N. and Robinson, B.	2021	Blurring boundaries: the invasion of home as a safe space for families and children with SEND during COVID-19 lockdown in England	Primary and post-primary	England	Journal article
Cattan, S., Farquharson, C., Krutikova, S., Phimister, A., Salisbury, A. and Sevilla, A.	2021	Inequalities in responses to school closures over the course of the first COVID-19 lockdown	Primary and post-primary	England	IFS Working Paper
Cullinane C. and Montacute R.	2020	COVID-19 and Social Mobility Impact Brief #1: School Shutdown. Research Brief	Primary & post-primary	UK	Sutton Trust Report
Doyle, O.	2020	COVID-19: exacerbating educational inequalities	Not stated	Ireland	Research paper on publicpolicy.ie
Egan, S.M., Pope, J., Moloney, M., Hoyne, C. and Beatty, C.	2021	Missing early education and care during the pandemic: The socio-emotional impact of the Covid-19 crisis on young pupils	Pre-primary and Primary	Ireland	Journal article
Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M. and Mac Ruairc, G.	2021	'Schooling at Home' in Ireland during COVID-19': Parents' and Students' Perspectives on Overall Impact, Continuity of Interest, and Impact on Learning	Primary and post-primary	Ireland	Journal article
ImpactEd	2021	Pupil learning and wellbeing during the COVID-19 pandemic	Primary and post-primary	England	ImpactEd Report
Judge, M.	2021	Covid 19, school closures and the uptake of a digital assessment for learning pilot project during Ireland's national lockdown	Post-primary	Ireland	Journal article

Julius, J. and Sims, D.	2020	Schools' Responses to COVID-19: Support for Vulnerable Pupils and the Pupils of Keyworkers	Primary & post-primary	England	NFER Report
Lucas, M., Nelson, J. and Sims, D.	2020	Schools' Responses to COVID-19: Pupil Engagement in Remote Learning	Primary and post-primary	England	NFER Report
Nelson, J. and Sharp, C.	2020	Schools' Responses to COVID-19: Key Findings from the Wave 1 Survey	Primary and post-primary	England	NFER Report
Penington, E.	2020	The numbers behind home-schooling during lockdown	Primary and post-primary	UK	News article on Children's Commissioner website
Sharp, C., Nelson, J., Lucas, M., Julius, J., McCrone, T. and Sims, D.	2020	Schools' Responses to COVID-19: The Challenges Facing Schools and Pupils in September 2020	Primary and post-primary	England	NFER Report
Thorell, L.B., Skoglund, C., Giménez de la Peña, A., Baeyens, D., Fuermaier, A.B.M., Groom, M.J., Mammarella, I.C., van der Oord, S., van der Hoofdakker, B.J., Luman, M., Marques de Miranda, D., Siu, A.F.Y., Steinmayr, R., Idrees, I., Soares, L.S., Sörlin, M., Luque, J.L., Moscardina, U.M., Roch, M., Crisci, G. and Christiansen, H.	2021	Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between pupils with and without mental health conditions	Primary and post-primary	Seven countries, including UK	Journal article
Wen, Y., Gwendoline, C.L.Q. and Lau, S.Y.	2021	ICT-Supported Home-Based Learning in K-12: a Systematic Review of Research and Implementation	Primary and post-primary	International	Journal article
Younie, S., Mitchell, C., Bisson, M.J., Crosby, S., Kukona, A. and Laird, K.	2020	Improving young pupils' handwashing behaviour and understanding of germs: The impact of A Germ's Journey educational resources in schools and public spaces	Primary	England	Journal article

Summary Table 2.2: Characteristics of included studies in the evidence summary on attainment outcomes

Author(s) & Year	Participants	Participants' Characteristics	Methods	Outcome Measure	Results relating to attainment	Results relating to vulnerable pupils
Andrew, A., Cattan, S., Dias, M.C., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A. and Sevilla, A. (2020)	5,582 parents	**Parent sample** At least one pupil aged 4 - 15 either entering Reception, 1, 4, 5, 8, 9 or 10 in England.	Survey - quantitative	Learning	Average time in which learning took place (at school and outside school) decreased from 6.3 hours before lockdown to 4.47 hours during lockdown (inclusive of both primary and post-primary pupils).	None stated.
Asbury, K., Fox, L., Deniz, E., Code, A. and Toseeb, U. (2020)	Parents of pupils with SEND (n=241)	**Parent sample** a) 92% were mothers b) 95% were from England c) 63% had a pre-tax household income of less than £40,000. **Pupils of parent sample** a) mean age=9 years, range: 5–18 b) 71% were boys c) 88% were White British, 6% Mixed, 3% Asian, 2% White non-British & 1% Other d) 44% were in mainstream schools e) 70% had an EHCP.	Qualitative	Concern for pupil's future & loss of specialist support.	All findings relate to vulnerable pupils. Parental concern of their pupils falling behind in school because they did not know how to meet their needs (n=27). Concerns were also raised over the loss of specialist support (n=12).	See previous.
Burkey, S. (2021)	N/A	N/A	Systematic Review	Not stated	Socio-economic status and parental achievement influenced home learning. Many who did not attend school during the pandemic were likely to have experienced learning loss.	Pupils and young people with SEND faced challenges in accessing provisions.
Canning, N. and Robinson, B. (2021)	8 families (10 pupils)	Pupils aged 5-13 years with autism/complex needs. Gender: 9 male, 1 female child.	Qualitative	School work demands	Parental pressures in organising home schooling maintaining their pupil's concentration and maintaining their pupil's	See previous.

					engagement to meet the demands of online lessons. Online schooling caused distress; everyday lockdown experiences provided alternative learning opportunities for their pupils.	
Cattan, S., Farquharson, C., Krutikova, S., Phimister, A., Salisbury, A. and Sevilla, A. (2021)	653 parents	**Parent sample** Pupils in year groups: Reception, 1, 4, 5, 8, 9 or 10 in the 2019–20 school year in England.	Survey – quantitative	Weekly hours spent on: a) online classes b) school work c) paid private tutor d) other educational activities, and e) weekly time in school.	Learning time decreased among pupils who were not offered the chance to return to school. Pupils who returned to in-person learning saw their learning time increase, at least at primary school.	None stated.
Cullinane C. and Montacute R. (2020)	Not stated	a) Socio-economic background (FSME, parental education, household income) b) School type (state or private school) c) School deprivation (measured by FSME)	Surveys – quantitative	Definition not stated	37% of teachers in state schools believed pupils' work was the same standard as normal. A third of teachers said the work was of a lower standard. The typical pupil was spending just over three hours per day on learning.	None stated.
Doyle, O. (2020)	1,200 (458 were parents)	a) High parental education: having a postgraduate degree or a third level degree (48%). b) Low parental education: having less than a third level degree (52%).	Cross-sectional - quantitative	Not stated	Regardless of education level, parents typically spent 1- 2 hours per day home schooling. Around 20% spent less than 30 minutes on home schooling.	None stated.
Egan, S.M., Pope, J., Moloney, M., Hoyne, C. and Beatty, C. (2021)	506 parents	**Parent sample** a) Pupils aged 1-10 years. b) 84% had third level/university education c) 61.1% were working full time, 22.1% were working part time, 14.7% were on leave or looking after family.	Survey – mixed methods	Learning but no further definition is provided.	Pupils missed the routine and structure provided in early childhood education and care settings. Digital screens were being used at home to replace the education and care usually provided in early childhood education settings.	None stated.

Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M. and Mac Ruairc, G. (2021)	2,733 parents and 1,189 pupils (896 primary & 293 post-primary)	**Parent sample**: a) White-Irish = 87.4% b) Female = 91% c) High socio-economic status [indicated by non-possession of a medical card] = 87% d) Third-level qualification = 79% e) Pupil attended school of non-disadvantaged status = 76.5% f) Pupil with an Additional Educational Need = 12.7%	Survey – mixed methods	Cognitive engagement (interest in schooling at home and learning)	73% of post-primary and 52% of primary respondents reported they learned less at home than at school. Parental concerns were evident about academic progression.	Pupils with an Additional Educational Need - parents expressed concerns about academic progression.
ImpactEd (2021)	62,254 pupils	Variations in sample from national averages: a) higher proportion of FSME b) lower number of EAL pupils c) majority of respondents were from post-primary schools d) there was a skew towards KS3.	Survey - mixed methods	a) Covid-19 learning index b) Metacognition c) Home learning context.	Disadvantaged pupils gave their home learning environment a score that was over 6% lower than their peers. 40% of Key Stage 4 pupils said they didn't have a learning routine (32% for KS3 and 31% for KS2).	None stated.
Judge, M. (2021)	10 schools (number of participants not provided).	None provided	Quantitative - case study	Uptake of digital assessment	*JCQuest* is a repository of curriculum aligned multiple choice question-sets to support Science and French language learning among Junior Certificate pupils. Usage of *JCQuest* increased during national lockdowns in Ireland. *JCQuest* usage reflected a typical school day with higher activity in mornings and afternoons.	None provided.
Julius, J. and Sims, D. (2020)	1,233 senior leaders & 1,821 teachers	None provided	Survey - quantitative	Learning but no further definition is provided	All findings relate to vulnerable pupils. Lower engagement in learning amongst vulnerable pupils than their peers, particularly in post-primary schools.	See previous.

Lucas, M., Nelson, J. and Sims, D. (2020)	1,233 senior leaders & 1,821 teachers	None provided	Survey - quantitative	Learning but no further definition is provided	42% of pupils returned their last piece of set work. 90% of teachers believed their pupils were doing less work than usual. Teachers in the most deprived schools reported 30% of pupils returned work compared to 49% in the least deprived schools.	Teachers reported that 62% of vulnerable pupils and 58% of pupils with SEND were less engaged than their peers.
Nelson, J. and Sharp, C. (2020)	1,233 senior leaders & 1,821 teachers	none provided	Survey – quantitative	Learning but no further definition is provided	42% of pupils had returned their last piece of set work. 90% of teachers believed their pupils were doing less work than usual. 80% of teachers reported that the curriculum was getting less attention than usual.	Teachers reported that 62% of vulnerable pupils and 58% of pupils with SEND were less engaged than their peers.
Penington, E. (2020)	4,559 pupils	None	Quantitative – Wave 1 of Understanding Society's Covid survey	Definition not provided	The most common amount of time spent on schoolwork was 1-2 hours per day for those 12 years and under, and 2-3 hours for those 13+ years.	None stated.
Sharp, C., Nelson, J., Lucas, M., Julius, J., McCrone, T. and Sims, D. (2020)	1,176 senior leaders & 1,782 teachers	None provided	Survey – quantitative	Learning but no further definition is provided	98% of teachers reported their pupils were behind where they would normally expect them to be in their curriculum learning.	None stated.
Thorell, L.B., Skoglund, C., Giménez de la Peña, A., Baeyens, D., Fuermaier, A.B.M., Groom, M.J., Mammarella, I.C., van der Oord, S., van der	6,720 parents (508 in the UK included in analysis relating to home-schooling	Overall, 2,002 parents had a pupil with a mental health condition. Pupils were aged between 5 and 19 years.	Survey - quantitative	Home schooling organisation and experiences	Parents reported their pupils spent only 4.41% of their time in contact with teachers while 48.44% of pupils' time was spent on self-study.	33.6% of UK respondents with a pupil who had Special Educational Needs received no contact from the pupl's school

Hoofdakker, B.J., Luman, M., Marques de Miranda, D., Siu, A.F.Y., Steinmayr, R., Idrees, I., Soares, L.S., Sörlin, M., Luque, J.L., Moscardina, U.M., Roch, M., Crisci, G. and Christiansen, H. (2021)	experiences)					to discuss homeschooling.
Wen, Y., Gwendoline, C.L.Q. and Lau, S.Y. (2021)	N/A	N/A	Systematic Review	Academic performance	Effectiveness of ICT supported home-based learning initiatives can be influenced by gender, cognitive style and parental involvement.	None stated.
Younie, S., Mitchell, C., Bisson, M.J., Crosby, S., Kukona, A. and Laird, K. (2020)	4–5-year-olds.	Study 1: Intervention in the classroom (4 schools). a) intervention group, n=101 b) control group, n=92 Study 2: Intervention in public spaces (song activity only). Recruited from a museum. a) intervention group, n=36 b) control group, n=36	RCT	Handwashing Intervention delivered via 'A Germ's Journey' educational resources	**Study 1**: Significant improvements between baseline and follow up in the intervention group for behavioural scores (*Est*=0.48, *SE*=0.14, *t*=3.30, *p*=0.001) and knowledge scores (*Est*=2.14, *SE*=0.52, *z*=4.11, *p*<0.001). **Study 2:** The intervention group had significantly higher behavioural scores compared to the control group (*Est*.=-0.71, *SE*=0.34, *t*=-2.07, *p*=0.04).	None stated.

Appendix 3: Summary Tables for Pupil Wellbeing Summary

Summary Table 3.1: Studies included in the evidence summary on pupil wellbeing

Author(s)	Year	Title	School Type	Study Location	Publication Type
Beaton, M.C., Codina, G.N. & Wharton, J.C.	2021	Decommissioning normal: COVID-19 as a disruptor of school norms for young people with learning disabilities	Not stated	England	Journal article
Burkey, S.	2021	I want to do well: a literature review of existing research on pupils and young people's experiences of COVID-19	Primary and post-primary	UK	Achievement for All Report
Canning, N. and Robinson, B.	2021	Blurring boundaries: the invasion of home as a safe space for families and children with SEND during COVID-19 lockdown in England	Primary and post-primary	England	Journal article
Castro-Kemp, S. & Mahmud, A.	2021	School closures and returning to school: Views of parents of pupils with disabilities in England during the Covid-19 pandemic.	Primary and post-primary	England	Journal article
Clark, C., Picton, I. & Lant, F.	2020	"More time on my hands": Pupils and young people's writing during the COVID-19 lockdown in 2020	Primary and post-primary	UK	National Literacy Trust Report
Egan, S.M., Pope, J., Moloney, M., Hoyne, C. & Beatty, C.	2021	Missing early education and care during the pandemic: The socio-emotional impact of the Covid-19 crisis on young pupils	Pre-primary and Primary	Ireland	Journal article
Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M. & Mac Ruairc, G.	2021	'Schooling at Home' in Ireland during COVID-19': Parents' and Students' Perspectives on Overall Impact, Continuity of Interest, and Impact on Learning	Primary and post-primary	Ireland	Journal article
ImpactEd	2021	Pupil learning and wellbeing during the COVID-19 pandemic	Primary and post-primary	England	ImpactEd Report
Julius, J. and Sims, D.	2020	Schools' Responses to COVID-19: Support for Vulnerable Pupils and the Pupils of Keyworkers	Primary and post-primary	England	NFER Report
McMahon, J., Gallagher, E.A., Walsh, E.H. & O'Connor, C.	2021	Experiences of remote education during COVID-19 and its relationship to the mental health of primary school pupils	Primary	Ireland	Journal article
Quinn, P., McGilloway, S. & Burke, J.	2021	COVID-19 and the class of 2020: a national study of the mental health and wellbeing of Leaving Certificate students in Ireland	Post-primary	Ireland	Journal article

Thorell, L.B., Skoglund, C., Giménez de la Peña, A., Baeyens, D., Fuermaier, A.B.M., Groom, M.J., Mammarella, I.C., van der Oord, S., van der Hoofdakker, B.J., Luman, M., Marques de Miranda, D., Siu, A.F.Y., Steinmayr, R., Idrees, I., Soares, L.S., Sörlin, M., Luque, J.L., Moscardina, U.M., Roch, M., Crisci, G. and Christiansen, H.	2021	Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between pupils with and without mental health conditions	Primary and post-primary	Seven countries, including UK	Journal article

Summary Table 3.2: Characteristics of included studies in the evidence summary on pupil wellbeing

Author(s) & Year	Title	Participants	Participants' Characteristics	Methods	Study Focus	Results relating to pupil wellbeing	Practices relating to vulnerable pupils
Beaton, M.C., Codina, G.N. & Wharton, J.C. (2021)	Decommissioning normal: COVID-19 as a disruptor of school norms for young people with learning disabilities	6 individuals	2 Local Authority employees, 1 headteacher of a special school, 1 SEND consultant, 1 young person with a learning disability (Down syndrome) and her mother.	Interviews	Experiences of young people with learning disabilities during the pandemic.	Remote learning has provided pupils with learning disabilities enhanced opportunities for social inclusion, through increased power/agency and new modes of connectedness. This has led to enhanced relationships with key stakeholders and timeliness of reviews.	All findings relate to vulnerable young people. Vulnerable young people are defined in this study as those with learning disabilities.
Burkey, S. (2021)	I want to do well: a literature review of existing research on pupils and young people's experiences of COVID-19	N/A	N/A	Systematic Review	Experiences of pupils and young people during the pandemic	The pandemic has had a significant negative impact on the mental health and wellbeing of pupils and young people. However, some reported an improvement in their mental health.	Pupils and young people with pre-existent mental health needs have faced particular challenges due to a loss of access to protective factors such as schools or mental health services.
Canning, N. and Robinson, B. (2021)	Blurring boundaries: the invasion of home as a safe space for families and children with SEND during COVID-19 lockdown in England	8 families (10 pupils)	Pupils aged 5-13 years with autism/complex needs. Gender: 9 male, 1 female pupils.	Qualitative	Parental perspectives on the impact of school closures on pupils with autism/complex needs	Before school closures, some pupils already lacked the ability to connect with others. The school closures exacerbated their anxiety which was reflected in their behaviour towards online classes. For example, trying to hide on video. Some also found the transition of the home to a work/administrative centre difficult.	All findings relate to vulnerable pupils.
Castro-Kemp, S. &	School closures and returning to school: Views of parents of	83 parents	Mean age of pupils: 10.5 years (SD = 3.87 years).	Survey – mixed methods	Parental perspectives on the impact of	54.2% of parents believed the 2020 national lockdown had a detrimental effect on their pupil's mental health.	All findings relate to vulnerable pupils.

Mahmud, A. (2021)	pupils with disabilities in England during the Covid-19 pandemic.		Gender of pupils: female = 29, male = 54. 35 pupils had autism. 40 pupils were attending mainstream schools, 32 were attending a specialised education setting and 11 attended a specialised unit in a mainstream school.		school closures on pupils with SEND.	However, 45.8% of parents reported that this was not the case. Parents living in the most deprived postcodes were significantly more likely to say that their pupils' mental health was affected by school closures.	Vulnerable pupils are defined as those with SEND.
Clark, C., Picton, I. & Lant, F. (2020)	"More time on my hands": Pupils and young people's writing during the COVID-19 lockdown in 2020	58,346 pupils in 315 schools.	Age range: 9 to 18 years.	Survey – mixed methods	Pupils and young people's writing practices during lockdown.	Writing creatively during lockdown helped support pupils' mental wellbeing. 41.3% of pupils said writing makes them feel better. 24.8% of pupils said writing helps when they feel sad that they can't see friends and family.	None stated.
Egan, S.M., Pope, J., Moloney, M., Hoyne, C. & Beatty, C. (2021)	Missing early education and care during the pandemic: The socio-emotional impact of the Covid-19 crisis on young pupils	506 parents	Mean age of pupils: 6.41 years (SD = 2.44 years). Gender of pupils: 49.6% = female, 49.8% = male, 0.6% = unspecified.	Survey – mixed methods	The socio-emotional impact of lockdown on pupils.	The impact of educational settings closing on pupils' social and emotional well-being were tantrums, anxiety, clinginess, boredom, and under-stimulation. However, some reported positive effects on their pupil's socio-emotional development.	None stated.
Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M. & Mac Ruairc, G. (2021)	'Schooling at Home' in Ireland during COVID-19': Parents' and Students' Perspectives on Overall Impact, Continuity of Interest, and Impact on Learning	2,733 parents and 1,189 pupils (896 primary & 293 post-primary)	Parent sample: a) White-Irish = 87.4% b) Female = 91% c) High socio-economic status [indicated by non-possession of a medical card] = 87% d) Third-level qualification = 79% e) Pupil attended	Survey – mixed methods	The psychosocial impact of school closures on pupils and young people.	Social interaction was a factor highlighted by the vast majority of both primary and second-level respondents as something they greatly missed, most notably with their friends, but also with their teachers. The only aspect that second-level pupils reported to be positively	None stated.

			school of non-disadvantaged status = 76.5% f) Pupil with an Additional Educational Need = 12.7%			affected by schooling at home was their independence.	
ImpactEd (2021)	Pupil learning and wellbeing during the COVID-19 pandemic	62,254 pupils	Variations in sample from national averages: a) higher proportion of FSME b) lower number of EAL pupils c) majority of respondents were from post-primary schools d) there was a skew towards KS3.	Survey - mixed methods	Pupils and young people's wellbeing during the pandemic.	During the first period of remote teaching, pupil wellbeing was stable. Only 23% of pupils thought dedicated time to support wellbeing would make their return to school easier. Girls experienced greater anxiety about returning to school and more anxiety while in school.	None stated.
Julius, J. and Sims, D. (2020)	Schools' Responses to COVID-19: Support for Vulnerable Pupils and the Pupils of Keyworkers	1,233 senior leaders & 1,821 teachers	None provided.	Survey - quantitative	The welfare of pupils and young people during the pandemic.	Three-quarters of senior leaders report that their schools are offering social or welfare support to vulnerable pupils. Many schools are supporting their pupils by providing food vouchers and parcels (95%), home visits (39%), and providing non-education related information (83%) to assist families.	95% of senior leaders reported providing food vouchers/parcels to vulnerable pupils. 96% of senior leaders are providing support to vulnerable pupils with regular communication. Vulnerable pupils were defined as those with an Education, Health and Care Plan (EHCP), a social worker or identified as vulnerable by a

							local authority or education provider.
McMahon, J., Gallagher, E.A., Walsh, E.H. & O'Connor, C. (2021)	Experiences of remote education during COVID-19 and its relationship to the mental health of primary school pupils	797 parents	Mean age of pupils: 9 years. Gender of pupils: 54% = male. 15.6% of pupils had a SEN.	Survey - quantitative	Mental health of primary school pupils during remote teaching.	The study provides evidence that the additional burden of supporting pupils' learning during school closures might increase the level of psychological distress in already parents, thereby affecting the mental health of pupils.	A pupil having a SEN was negatively associated with pupil mental health status.
Quinn, P., McGilloway, S. & Burke, J. (2021)	COVID-19 and the class of 2020: a national study of the mental health and wellbeing of Leaving Certificate students in Ireland	959 pupils	Female = 74% Caucasian = 95% 67% attended a fee-paying post-primary school.	Survey – mixed methods	Impact of Covid-19 on the wellbeing of pupils.	61% of pupils reported low levels of overall wellbeing. Over 40% of pupils obtained lower-than-normal scores on all other measures, including positive aspects of wellbeing, perceived stress and adaptive coping.	None stated.
Thorell, L.B., Skoglund, C., Giménez de la Peña, A., Baeyens, D., Fuermaier, A.B.M., Groom, M.J., Mammarella, I.C., van der Oord, S., van der Hoofdakker, B.J., Luman, M., Marques de Miranda, D., Siu, A.F.Y., Steinmayr, R., Idrees, I., Soares, L.S., Sörlin, M., Luque, J.L.,	Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between pupils with and without mental health conditions	6,720 parents (508 in the UK)	Overall, 2,002 parents had a pupil with a mental health condition. Pupils aged between 5 and 19 years.	Survey - quantitative	The impact of homeschooling on pupils.	Over 50% of parents reported that they and their pupil felt more isolated during school closures.	Reports of isolation were greater among those parents with a pupil who had a mental health condition. A mental health condition was defined as those with conditions such as: ADHD, ASD, dyslexia and depression/anxiety.

Moscardina, U.M., Roch, M., Crisci, G. and Christiansen, H. (2021)							

Appendix 4: Summary Tables for Teacher Practices Summary

Summary Table 4.1: Studies included in the evidence summary on teacher practices

Author(s)	Year	Title	School Type	Study Location	Publication Type
Beattie, M., Wilson, C. and Hendry, G.	2021	Learning from lockdown: Examining Scottish primary school teachers' experiences of emergency remote teaching	Primary	Scotland	Journal article
Chadwick, R. and McLoughlin, E.	2021	Impact of the COVID-19 crisis on learning, teaching and facilitation of practical activities in science upon reopening of Irish schools	Primary and post-primary	Ireland	Journal article
Cullinane C. and Montacute R.	2020	Research Brief: April 2020: COVID-19 and Social Mobility Impact Brief# 1: School Shutdown	Primary and post-primary	UK	Sutton Trust Report
Dena, E.	2020	The Resilience of Maintained Education in England in the Face of a Worldwide Pandemic	Post-primary	England	Journal article
Doyle, A., Lysaght, Z. and O'Leary, M.	2021	High stakes assessment policy implementation in the time of COVID-19: the case of calculated grades in Ireland	Post-primary	Ireland	Journal article
Farrell, R.	2021	Covid-19 as a catalyst for sustainable change: the rise of democratic pedagogical partnership in initial teacher education in Ireland	Post-primary	Ireland	Journal article
Grádaigh, S.O. Connolly, C. Mac Mahon, B., Agnew, A. and Poole, W.	2021	An investigation of emergency virtual observation (EVO) in initial teacher education, in Australia and Ireland during the COVID-19 pandemic	Trainee teachers (not stated if primary or post-primary)	Ireland (and Australia)	Journal article
Howley, D.	2021	Experiences of teaching and learning in K-12 physical education during COVID-19: an international comparative case study	Primary and post-primary	Ireland (in addition to seven other countries)	Journal article
Kim, L.E. and Ashbury, K.	2020	'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown	Primary and post-primary	England	Journal article
Lucas, M., Nelson, J. and Sims, D.	2020	Schools' Responses to COVID-19: Pupil Engagement in Remote Learning	Primary and post-primary	England	NFER Report
Nelson, J. and Sharp, C.	2020	Schools' Responses to COVID-19: Key Findings from the Wave 1 Survey	Primary and post-primary	England	NFER Report
O'Keeffe, C. and McNally, S.	2021	'Uncharted territory': teachers' perspectives on play in early pupilhood classrooms in Ireland during the pandemic	Primary	Ireland	Journal article

Ross, C., Kennedy, M. and Devitt, A.	2021	Home School Community Liaison Coordinators (HSCL) perspectives on supporting family wellbeing and learning during the Covid-19 school closures: critical needs and lessons learned	Primary	Ireland	Journal article
Walker, M., Sharp, C. and Sims, D.	2020	Schools' Responses to COVID-19: Job Satisfaction and Workload of Teachers and Senior Leaders	Primary and post-primary	England	NFER Report
Wen, Y., Gwendoline, C.L.Q. and Lau, S.Y.	2021	ICT-Supported Home-Based Learning in K-12: a Systematic Review of Research and Implementation	Primary and post-primary	International	Journal article
Winter, E., Costello, A., O'Brien, M. and Hickey, G.	2021	Teachers' use of technology and the impact of Covid-19	Primary and post-primary	Ireland	Journal article

Summary Table 4.2: Characteristics of included studies in the evidence summary on teacher practices

Author(s) & Year	Title	Participants	Participants' Characteristics	Methods	Study Focus	Results relating to teacher practices	Practices relating to vulnerable pupils
Beattie, M., Wilson, C. and Hendry, G. (2021)	Learning from lockdown: Examining Scottish primary school teachers' experiences of emergency remote teaching	10 primary school teachers	• Females: 10 • Years of teaching experience ranged from 1-5 years • Age of pupils taught: 5-11 years.	Interviews	Experiences of remote teaching during Covid-19 pandemic.	Findings identified three main themes: meeting learners' needs, influencing engagement, and the impact of remote teaching on teachers. Teachers perceived differentiating learning tasks to suit individual learning needs and adapting teaching practices as challenging aspects of remote teaching.	None stated.
Chadwick, R. and McLoughlin, E. (2021)	Impact of the COVID-19 crisis on learning, teaching and facilitation of practical activities in science upon reopening of Irish schools	182 primary & post-primary science teachers	• Primary school teachers: 46 • Post-primary teachers:136 • Less than 5 years teaching experience: 36 • More than 5 years teaching experience: 146	Survey - quantitative	Experiences of teaching during Covid-19 pandemic (in-person teaching).	98% wore a mask to teach. 94% stated that the measures in place had a negative impact on their capacity to facilitate practical activities in science. 78% reported a negative impact on their capacity to support student learning.	None stated.
Cullinane C. and Montacute R. (2020)	Research Brief: April 2020: COVID-19 and Social Mobility Impact Brief# 1: School Shutdown	Not stated	• School type (state or private school) • School deprivation (measured by FSME)	Surveys – quantitative	Teacher practices during Covid-19 pandemic.	Most teachers set work through an online platform. The most common daily activities of teachers were contacting students/parents (52%) and creating distance learning resources for their students (48%).	None stated.
Dena, E. (2020)	The Resilience of Maintained Education in England in the Face of a Worldwide Pandemic	24 education professionals.	Education professionals consisted of teachers, senior leaders, support staff	Interviews	Teacher practices during the Covid-19 pandemic.	There was variation in teacher practices during school closures. Teaching from home presented challenges such as the lack of	Learning support staff are finding remote teaching difficult as they are used to working

			and chief executive officers of education trusts.			feedback or opportunities for responsive teaching. Many teachers expressed their desire to return to school.	closely with individual students and the expectations of their role changes frequently.
Doyle, A., Lysaght, Z. and O'Leary, M. (2021)	High stakes assessment policy implementation in the time of COVID-19: the case of calculated grades in Ireland	713 teachers	• Females to male ratio: 2:1. • Over 10 years teaching experience: 70% • Experienced Leaving Cert. teachers: approximately 33%	Survey – mixed methods	Calculating student grades.	Wide range of evidence was used to inform teacher judgements even if it was not directly related to student performance.	None stated.
Farrell, R. (2021)	Covid-19 as a catalyst for sustainable change: the rise of democratic pedagogical partnership in initial teacher education in Ireland	30 teachers and school leaders	School leaders: 10 Student teachers: 10 Co-operating teachers: 10	Interviews	Impact of Covid-19 on democratic pedagogical partnerships.	Many student teachers maximised the opportunity to learn new digital skills and were able to transfer these skills to their school placement. Student teachers who were adept at using digital technology became more visible in the school placement.	None stated.
Grádaigh, S.O. Connolly, C. Mac Mahon. B., Agnew, A. and Poole, W. (2021)	An investigation of emergency virtual observation (EVO) in initial teacher education, in Australia and Ireland during the COVID-19 pandemic	49 student teachers and higher education institution placement tutors	• 14 higher education placement tutors in Ireland • 8 student teachers in Ireland.	Focus groups	The impact of Covid-19 on initial teacher education - school placement observations.	Virtual observations were an effective tool in the assessment and support of student teachers. Virtual observations provide the potential for increased feedback of student teachers.	None stated.

Howley, D. (2021)	Experiences of teaching and learning in K-12 physical education during COVID-19: an international comparative case study	10 teachers	1 post-primary teacher was located in Ireland	Interviews	Teacher experiences during Covid-19 pandemic.	Teachers were more flexible with their teaching and learning, and recognised teaching and learning practices which were no longer feasible or appropriate.	None stated
Kim, L.E. and Ashbury, K. (2020)	'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown	24 primary & post-primary school teachers	• Primary school teachers: 11 • Post-primary school teachers: 13 • Male: 6, Female: 18	Interviews	Experiences of teaching during Covid-19 pandemic	Six themes identified: uncertainty, finding a way, worry for the vulnerable, importance of relationships, teacher identity and reflections. Teachers looked for evidence that their pupils were engaging with the set learning which influenced their online learning activities/approach.	None stated.
Lucas, M., Nelson, J. and Sims, D. (2020)	Schools' Responses to COVID-19: Pupil Engagement in Remote Learning	1,233 senior leaders & 1,821 teachers	None provided	Survey - quantitative	Teacher practices during Covid-19 pandemic.	Teachers are in regular contact with on average 60% of their pupils. 80% of teachers report that some or all areas of the curriculum are receiving less attention than usual. Senior leaders report that their schools are most commonly delivering learning by using materials produced by external providers.	Many schools are using Teaching Assistants to support vulnerable and disadvantaged pupils by calling them at home for welfare checks and adapting tasks for pupils with SEND.
Nelson, J. and Sharp, C. (2020)	Schools' Responses to COVID-19: Key Findings from the Wave 1 Survey	1,233 senior leaders & 1,821 teachers	none provided	Survey – quantitative	Teacher practices during Covid-19 pandemic.	Senior leaders and teachers worked fewer hours during lockdown than they had been in in February 2020. However, 24% of senior leaders and 14% of teachers did not report their workload as manageable during lockdown.	46% of post-primary leaders reported that their main approach to supporting vulnerable pupils was to teach them the same curriculum content that was

						Teachers are in regular contact with on average 60% of their pupils. 80% of teachers report that some or all areas of the curriculum are receiving less attention than usual. Schools are most likely to be delivering learning by using materials produced by external providers.	being sent to pupils who were learning remotely. 29% of primary leaders reported that their schools' main in-school activities for vulnerable pupils and the pupils of keyworkers were not curriculum based.
O'Keeffe, C. & McNally, S. (2021)	'Uncharted territory': teachers' perspectives on play in early pupilhood classrooms in Ireland during the pandemic	310 primary school teachers	• Female: 96.8% • Master's degree: 52.6% • Teaching experience of 15+ years: 40.3%	Survey – mixed methods	Play as a pedagogical strategy.	81.6% of teachers had encouraged parents to play with pupils during school closures. 86.7% agreed that play will have a significant role in supporting pupils' return to school. 42% of teachers expressed concerns about using play as a pedagogical tool upon return to school given COVID regulations.	Three respondents highlighted the role of play in supporting the transition of pupils with additional needs upon school reopening.
Ross, C., Kennedy, M. and Devitt, A. (2021)	Home School Community Liaison Coordinators (HSCL) perspectives on supporting family wellbeing and learning during the Covid-19 school closures: critical needs and lessons learned	10 HSCL	• Male: 2, Female: 8. • 10 DEIS primary schools: 8 band 1 (higher disadvantage) and 2 band 2 (lower disadvantage). • Urban and rural school locations.	Interviews	Home School Community Liaison Coordinators' experiences of school closures.	HSCLs reached families using a range of methods such as phone calls, texts, calling to the door, emailing and using school platforms. A whole school approach was central to successful support mechanisms during school closures.	None stated.
Walker, M., Sharp, C.	Schools' Responses to COVID-19: Job Satisfaction and	1,233 senior leaders &	None provided	Survey – quantitative	Teacher practices during	Senior leaders and teachers worked fewer hours during lockdown than they did in February 2020. However,	None stated.

and Sims, D. (2020)	Workload of Teachers and Senior Leaders	1,821 teachers			Covid-19 pandemic.	24% of senior leaders and 14% of teachers did not report their workload as manageable during lockdown. 64% of teachers agreed that they have control over determining learning content. 53% agreed they had control in selecting teaching and learning methods.	
Wen, Y., Gwendoline, C.L.Q. and Lau, S.Y. (2021)	ICT-Supported Home-Based Learning in K-12: a Systematic Review of Research and Implementation	N/A	N/A	Systematic Review	Teachers' abilities to deliver ICT-supported learning.	There is a need to provide training to enhance teachers' e-pedagogy to deliver ICT-supported home-based learning.	None stated.
Winter, E., Costello, A., O'Brien, M. and Hickey, G. (2021)	Teachers' use of technology and the impact of Covid-19	38 primary & post-primary teachers	87.5% worked in urban locations. 28% were aged 20-29 years old. 34% had 20+ years of teaching experience	Survey – mixed methods	Teachers' use and skills in technology for teaching.	64% reported high levels of technological use in their teaching. Covid-19 increased the use of technology in teaching practices. Some continued to reflect a lack of confidence in using technology in their teaching.	None stated.

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