

Adapting school design for learning, health and wellbeing during and post pandemic

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Introduction

The COVID-19 pandemic and its aftermath has been posing unprecedented challenges to the UK population. Emerging research demonstrates that the pandemic lockdowns and restrictions across the UK, and the associated breakdown of routines and social networks, have severely affected children and young people's learning and mental health, particularly in areas of already existing deprivation (Anders, J. 2021, Millar, R. 2020, Edge Foundation, 2020). Research by YoungMinds, a charity providing mental health support, has shown the impact the crisis is continuing to have on young people with a history of mental health problems. Their research surveyed 2,111 young people with mental health needs between 20 and 25 March 2020 to understand the impact of the school closures and tightening restrictions. The results revealed that 32% agreed that it had made their mental health much worse, and 51% a bit worse" (Edge Foundation, 2020).

In May 2021 the Department for Education (DfE) announced a £17.4m mental health and wellbeing investment support package¹. However, this funding package does not consider any environmental or design related issues. Through this research we focus on better understanding the role of school design in supporting learning, mental health and community connection. This is an issue currently lacking in policy, research, implementation and evaluation programmes, and therefore missing not just from funding opportunities but also from wider debates around post pandemic school responses. There is a significant knowledge gap around the range and type of school building design interventions that could be implemented to promote the learning and mental health of pupils and staff during and post-pandemic, and that can help achieve longer term environmental and educational resilience. There is, therefore, an urgent need to develop and share knowledge about

the complex challenges posed by the pandemic on school space design, and the ongoing challenges and proactive opportunities towards improving children's educational experiences.

[During the pandemic] schools became a lynch pin for everything, the first port of call for families. So there was this load and expectations and desire to help the community, and space was at an absolute premium.

Maria Mincher, Headteacher Kingsmead School

Throughout the pandemic multi-academy trusts (MATs) and other schools have wanted to address these concerns through the lens of school design; evidenced by the considerable number of enquiries to LocatED, the government-owned property company responsible for buying sites and property for schools in England. Building on the UCL Bartlett Faculty of the Built Environment's cross-disciplinary expertise in this field and working in partnership with LocatED, as well as undertaking knowledge exchange activities with the DfE Capital Design Team (CDT), schools, school design experts, and parents, this report sets out to scope the range and type of design interventions that schools can apply to better support pupils and staff both during and post-pandemic. It also considers how to enable longer-term building stock and educational support resilience, linking this to broader concerns such as sustainability and educational equity. Whilst this report centres on the impact of COVID-19 on schools and the implications for design adaptations that can support learning, mental health and well-being, we found that wider lessons can be learnt about the limitations of conventional schooling pre-pandemic and about existing space standards and

approaches. The aim is not to provide ‘solutions’ but to scope what the key issues are, and to offer some alternatives to simply ‘going back to normal’ at school for our children and young people.

This report is based on:

- A review of current cross-disciplinary and evidence-based literature, including from child health specialists, building procurers and designers, and educational experts and practitioners;
- Interviews and focus groups with key stakeholders to better illuminate issues and potential responses;
- A survey of 16 parents to get an initial picture of concerns about their children;
- Knowledge and partnering from previous projects undertaken by members of the project team.²

Details of how data was gathered and analysed is given in the Appendix.



Credit: Jos Boys

1- See <https://www.gov.uk/government/news/schools-and-colleges-to-benefit-from-boost-in-expert-mental-health-support>

2- Anna Mavrogianni (lead researcher, Jan 20 – July 2022) Advancing School Performance: Indoor environmental quality, Resilience and Educational outcomes (ASPIRE) see <https://gtr.ukri.org/projects?ref=EP%2FT000090%2F1#/tabOverview> and Jos Boys and Anna Jeffery (2021) Educating the City: Urban Schools as Social Infrastructure funded by UCL Knowledge Exchange (KEIF). See <https://www.ucl.ac.uk/bartlett/real-estate/news/2021/mar/educating-city-discussion-paper-released>

Emerging themes

During 2021 -22, as we worked with experts (including parents) across the field, several key themes began to emerge. First, it was clear that individual schools had been expanding their pupils, families and community support in myriad, positive - but also exhausting - ways during the pandemic, as the toll on learning, mental health and socialisation became clear. In our parent survey, pandemic schooling³ was seen as negatively or somewhat negatively impacting on learning for about 70% (11 out of 16) respondents' children; and on the mental health and wellbeing of about 80% (12 out of 16) of them. In particular, lack of socialising throughout the pandemic is a well cited issue for young people (Edge Foundation, 2020, p16)). Another survey shows that 39% of educational staff felt they needed wellbeing training to return to the school environment (Education Support, 2020). There are thus lessons to be learnt from the innovative new ways schools have been supporting students, parents and carers beyond the classroom, particularly in the design and spatial implications of hybrid learning, redesigning school and play settings, and of enabling increased school-community integration.

There's lots of research on the impact of COVID-19 on schools, and on how much schools are helping in terms of welfare, helping people coping with poverty, mental health issues.... these activities are different in every school, they're making different kinds of adaptations. The space they have is making a real difference to what is doable, whether it's about entrances, corridors or toilets.

Alice Bradbury UCL

There were also worries about pandemic impacts being framed predominantly through a learning deficit model in various policy statements and

reviews⁴. The 'learning loss' narrative centres the problem on 'catching up' - children making up for lost instructional time, and thus a continuing focus on quantitative achievement scores. This both assumes a 'return to normal' rather than a consideration of what we might do differently post-pandemic; and limits the range of ways in which to mitigate lost time after such a traumatic period. Many of our participants were worried about the potentially adverse affects on children themselves, as well as the problematic blurring of the complexity of schooling, learning and mental health pre-, during and post pandemic. This was a second emerging theme. As some respondents to the Children's Commissioner Big Ask survey⁵ showed, going to school and the physical school environment were already problematic for the learning experiences and mental health of some children.

"...people my age including me are terrified of other people our age, we shouldn't have to go through this...we need the boys to be educated properly and not to shout fag or queer at me in the halls, they shouldn't grab girls from my school and touch places without consent. Because half of the school dread going in because it's not a comforting environment"

Children's Commissioner, 2021,
Other, 13

3- Throughout this report, 'pandemic schooling' refers to the myriad ways in which schools adapted to the fluctuating restrictions and changing needs of their communities. This includes remote learning and hybrid learning, as well as the adaptations made within school environments to create socially distanced and safe learning environments. Many of the changes implemented by schools were temporary, while other changes have been made permanent.

4- See for example, Newton, P. E (2021) Learning during the pandemic: quantifying lost learning of equal <https://www.gov.uk/government/publications/learning-during-the-pandemic/learning-during-the-pandemic-quantifying-lost-time--2> and Rose, S., Twist, L., Lord, P., Rutt, S., Badr, K., Hope, C., and Styles, B. (2021) Impact of school closures and subsequent support strategies on attainment and socio-emotional wellbeing in Key Stage 1: Interim Paper 1 NFER and Educational Endowment Foundation https://educationendowmentfoundation.org.uk/public/files/Publications/Covid-19_Resources/Impact_of_school_closures_KS1_interim_findings_paper_-_Jan_2021.pdf For critiques, see for example British Psychological Society (2021) 'Unhelpful 'catch up' narrative about lost learning during the pandemic places unnecessary psychological pressure on children and young people' BPS News February <https://www.bps.org.uk/news-and-policy/unhelpful-narrative-lost-learning-during-pandemic>

5- Children's Commissioner, 2021, Big Ask, Big Answer, available at: <https://www.childrenscommissioner.gov.uk/the-big-answer/>

This suggests that adapting school design for learning, health and wellbeing is not merely about returning to existing norms:

The most striking thing that parents and teachers agree upon is that they want this pandemic to lead to a much broader and more rounded education, which helps children to develop a range of skills and positive values, and is grounded in real world examples and practical opportunities.

Edge Foundation 2020, p25.

So how can schools confront the “learning loss” issue constructively? What strategies and environmental changes can help students readjust to school life and make up potential lost ground without causing further trauma or stigmatization? There is the inevitable challenge that what works for one pupil, won’t work for another. Some pupils have greatly benefited from pandemic learning – namely remote learning, while others have not, as was clear in the survey responses we received from parents. School environments may have a positive health and wellbeing impact for one child, while not for others. And of course, socioeconomic status as well as home and local environment, played a significant role in determining the success of pandemic learning for many students (Children’s Commissioner, 2020a). Any consideration towards the design of school environments post pandemic needs to give careful attention to the scope and range of learning and socialising experiences provided. And design for hybrid learning models (that is, integrating online and face-to-face teaching and learning) will need to take into account what learning is suitable and possible to be undertaken remotely, inclusively and equitably for all students. Exploring how to improve school design thus needs to be

centrally concerned with also improving equality and inclusion. The hundrED community engagement project found that 87% of 99 survey respondents were concerned about the pandemic increasing inequality in education. (hundred 2020, p16)

A third key theme was the variety of ways school design intersects with learning, health and wellbeing; the extent to which different generations of school building are more or less easy to adapt; and the importance of taking time to think through what changes need to be adopted. As a result of the pandemic, there has been immediate work on better managing environmental conditions (ventilation, air filters, outdoor teaching) to simultaneously maintain occupant comfort and control Covid-19 transmission, and on social distancing measures and ‘pinch-points’ (in classes and playgrounds, in class changeovers and at school opening and closing times). However, these measures deal primarily with the urgent problem of virus spread. As Crawford Wright, Head of Architecture and Design at the Department for Education, said during one of our focus groups:

It’s too soon to be making significant changes to school design based on the pandemic alone. It’s too early to change design to suit COVID. We need to allow more time to understand long term impacts.

That is, we need to understand both what the urgent needs of schools post-pandemic are, in terms of design, and what the longer term improvements are, that can support learning, health and wellbeing in a more equitable, sustainable and resilient way.

To this end, in the following report we outline six propositions towards improving the design of schools for learning, health and wellbeing, that can underpin future policy and practice directions, as well as supporting wider debates. For each proposition we have also proposed key ‘takeaways’ to inform policy

decisions at governmental, institutional and local levels. Whilst school leaders have, and are, responding to current conditions with considerable commitment, knowledge and hard work, they may not be aware of the variety of impacts of different types of school environments on student experiences. In this report we also hope to open up for discussion the ways in which the design and adaptation of schools can better support children's education in the widest sense.

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Credit: Jos Boys

...People in there [sic] class/school or maybe people sitting next to them, they make some people feel unsafe or unhappy. the person I sit next to doesn't make me very happy so that affects how I learn/concentrate.”

Six propositions
towards improving the
design of schools for
learning, health and
wellbeing

1. Mental health and wellbeing as a measure of school success
2. Creating space in schools for mental health support
3. Outdoor learning environments and connections to nature
4. Generosity of space to inspire, and create new opportunities for learning
5. A new school day – rethinking the structure of school to present new opportunities for learning, health and wellbeing
6. Improving community relationships through design

Mental health and wellbeing as a measure of school success

There aren't any policy barriers [to creating better schools for health and wellbeing], because there isn't any policy around healthy schools. We in society don't have a vision for school building at the moment.

Crawford Wright DfE

In 'Educating the City: Schools as Social Infrastructure' (2021) we argued that English schools have become too focused on a narrow academic standards agenda and no longer build in the spatial flexibility that would enable a more expanded definition of learning, for example, to include community integration. Our participants in this study echoed similar worries. Helen Roberts, for example, noted that "prescriptive space standards and reductions in outdoor spaces, especially for schools in the public sector, has been a very real problem." In this report we also wanted to start from a more expanded understanding of education. So we asked the question to our participants, 'what are the characteristics of a good school, beyond academic outcomes?' From our focus groups it was clear that the school developers, teachers and parents we talked to, already understood supporting mental health and wellbeing as an important part of their role. This was exacerbated by the pandemic, where individual schools worked hard at connecting with children and their families, now working from home and often struggling with difficult learning environments as well as economic, social and personal distress. Our project participants stressed the need to learn lessons from this, by building-in mental health and wellbeing as a measure of school success. Currently the DfE school performance tables are measured only on academic achievement against specific criteria.⁶ Whilst

6- DfE (2020) School and college performance measures <https://www.gov.uk/government/collections/school-and-college-performance-measures>

accountability, benchmarking and comparison via league tables has been ameliorated due to the impact of COVID-19 on both pupils learning performance and on conventional assessment procedures this has not led to a widening of how schools are judged.⁷

Yet the spatial, sensory, material and environmental qualities of schools can all impact on the health and wellbeing of school users, and in turn, this has a flow on effect to public health – physical and mental health issues are not just an individual problem but a community-wide issue (Latane 2021, p4). This means we need to find new ways of measuring and evaluating schools to support the enabling of mental health, both in the designs themselves and in the services delivered. Government design standards and approaches could be leading the way in the industry for best practice. The WELL standards⁸ offer one template for measuring, certifying and monitoring features of the built environment that impact on health and well-being, covering air, water, nourishment, light, fitness, comfort and mind. These potentially complement and develop standards such as LEED and BREEAM - which focus on responsibly sourcing materials and promoting sustainable building practices - by centring on human factors and social sustainability.

However, producing effective performance metrics for school design impacts on learning, mental health and wellbeing is problematic: the complicated inter-relationships between learning, mental health and built space are notoriously hard to measure. A school with poor quality environments may still achieve high rates of educational achievement. It is possible, for example, to quantify the impact of good air quality and ventilation on the health, performance and

7- DfE (2021) School and college accountability approach (policy paper) <https://www.gov.uk/government/publications/school-and-college-accountability-approach-2020-to-2022>

8- Developed by the International WELL Building Institute (IWBI) in the USA: <https://standard.wellcertified.com/sites/default/files/The%20WELL%20Building%20Standard%20v1%20with%20May%202016%20addenda.pdf>

comfort of school-teachers and students (Mumovic et al, nd), but only by limiting other factors that can affect learning. As Dejan Mumovic suggested in one of our focus groups, there is some potential for evaluating effects of environmental conditions on cognitive development as a way of connecting learning capacity with our built surroundings. It is more difficult to untangle the impact of the layout of a classroom or the location of break-out rooms from the pedagogy and teaching practices at play; even though we know this has real impacts.

Architects, educational philosophers and teachers know well the force that spatial configurations exert on people—how they shape what actions are possible, practical, or even conceivable. Because space constrains certain actions and affords others, the design and layout of space teaches us about our proper roles and places in society.

Monahan (2005) quoted in Young and Cleveland (2022, p 76)

However, the difficulties of measuring effectiveness of school design is not a reason to ignore health and wellbeing. We know that well designed, nurturing school environments can promote positive behaviour and safer schools and communities (Latane 2021). The World Health Organisation (WHO) sets out that “health, well-being and educational outcomes are closely intertwined and that schools are important resources for influencing the health and well-being of students, families and the wider community” (WHO, 2021, p1). The WHO guidance defines a Health Promoting School as one which “constantly strengthens its capacity as a safe and healthy setting for living, learning and working” (ibid) with the following key global indicator:

...ensures a safe, secure, healthy, inclusive environment to foster healthy distance or virtual learning and interactive teaching and safe use of digital technologies. The school physical environment, both inside and outside the classroom, supports the development of social-emotional environments that promote learning and wellbeing (e.g. quiet spaces, buddy benches, spaces for play, mindfulness and stress management, personal space for spiritual practices, green space).

The guidance continues that schools should provide accessible school-based or school-linked health services embedded in the community and that the services should be responsive and specific to the health needs of the community they serve. ‘School health services reflect the needs and priorities of the school and local community and can be adapted to public health emergencies and other emerging needs’ (WHO, 2021, p26).

Design can also act as a wider community-building opportunity, especially in the wake of the pandemic. At a Design Council round table discussion, Kieron Boyle, Chief Executive of Guy’s and St. Thomas’ Charity (GSTC) noted that ‘design is an effective tool for democratic collaboration between different groups of people, to address health inequalities’(Design Council nd, p6). By engaging school communities, and the wider locality in school design adaptations or new build proposals, the opportunity arises to generate a dialogue about the impact of the school environment on learning, health and wellbeing, as well as issues around equality and inclusion.

This need for a greater commitment to equality, right down to the detailed design of schools was emphasised by Mark Pratt, the Strategic Design Advisor for Special Education Needs at the Department for Education in our discussions. Mark argued for the acoustic design criteria for mainstream schools to meet already existing Special Educational Needs (SEN) standards to ensure the most inclusive



environment for all pupils. Acoustics are known to directly affect learning outcomes (Mealings 2022) so it is critical that all schools provide the best quality acoustic design to allow children to focus and learn. This is particularly relevant post-pandemic as schools raise concerns over students' ability to focus in the classroom. Not just noise, but also cluttered classrooms and the additional distractions of other students have been challenging environmental conditions for students to (re)adapt to.

The Department of Education already has comprehensive standards for school design and construction in England,⁹ including acoustics, lighting and ventilation; but the focus remains on achieving good practice against set cost and area allowances.

[School design is] not just about square metres, but also about the quality – does the classroom sit next to a noisy road or does it have a view? Those issues are not even implied within the Building Bulletins; these are just about economics and efficiency of build.

Helen Roberts, Education Lead, FCB Studios

Whilst these concerns are important, a major lesson from the pandemic is that such standards also need to be underpinned by principles that centre on learning quality, and the health and wellbeing of students and staff. There are many challenges here for the DfE and others involved in the design of schools. First, there will not be a one-size-fits-all solution, but rather a suite of possible and multi-modal solutions tailored to individual schools and contexts; to accommodate a variety of building types and ages, as well as teaching styles and pupil types. Second, both suitable performance metrics and evaluation criteria for defining success need not only to cover cost, educational achievement and productivity but also health and wellbeing; inclusion and equality; and sustainability and resilience. Third, the DfE, together with associated departments and partners,

needs to invest in research and development (R+D) that critically reviews existing approaches, such as WELL and the WHO's Health Promoting Schools initiative, and develops relevant standards and performance metrics for school design. Finally, it could lead the way in developing new methodologies for assessing school design in use, both in the effective post-evaluation of individual schools and also to learn lessons for future school design. This could enable objective measurements – such as daylight, noise levels, temperature / hygrothermal conditions and air quality – using a smartphone or inexpensive IEQ monitor. This could be combined with feedback from wearable technologies that monitor physical objective measurements – people's heart and respiration rates, and brain activity – to quantify and better understand environmental impacts; as well as incorporating subjective measurements from student and staff surveys, interviews and focus groups. Ideally standards- setting, design and evaluation processes should all be more collaborative (for both adaptations and new builds) by including built environment professionals, physical and mental health practitioners, civic institutions, school teachers and students, parents and community groups.

A final and important point came from Mark Pratt, Lead SEND, AP & Inclusion Design Adviser at the Department for Education. For students with special needs, reduction in socialisation have been a central problem caused by pandemic, with effects on, for example, speech development. Lessons learnt also need to be explored in relation to SEN schools; perhaps through forms of standardisation that can enable flexibility; and exploring increasing the co-locations of SEN provision and mainstream schools as a more inclusive model, with pupils from both provisions benefitting.

Key takeaways

- The pandemic and its effects on schooling has adversely affected children's mental health and well-being
- School design has a (complicated) impact on the health and wellbeing of its students and staff
- While there are many examples of good practice standards internationally for enabling health and well-being through building design, these are not yet being applied in the schools' sector in England
- Standards relating to health, well-being and equality should be increasingly integrated with building sustainability requirements
- The DfE together with related organisations, should undertake R+D into measures of success for school design that include impacts on health, wellbeing and equality.

2

Creating space
in schools for
mental health
support

Creating space in schools for mental health support

There is now considerable evidence about how children's mental health was adversely affected by the pandemic, often exacerbating already existing difficulties. In our focus groups, participants gave many examples of impacts. Martha Williams, from BEAT, discussed how the number of children with eating disorders coming to her organisation had doubled in size, as they struggled with isolation at home. Others talked about the upsurge in school refusers; and who disadvantaged by home schooling. There is thus a need for dedicated, permanent, well-designed spaces in schools to support the provision of specialist mental health support.

This need was echoed by parents. Of the group of 16 parents surveyed, approximately half said that on-site counselling services and on-site respite rooms are important (Parent survey, 2021).

What was agreed on by the schools and experts we spoke with was that mental health rooms need to be very carefully integrated and designed, with the right character to ensure that students feel comfortable, that are both accessible and provide privacy, to alleviate issues of stigma. Although the UK government has established a 2025 mission¹⁰ to have mental health support in schools across the country, a lack of consideration of the spatial implications is likely to adversely impact on funding and initiatives aimed at the provision of on-site mental health services.

For many schools during the pandemic the lack of these spaces posed significant challenges. To adapt, schools repurposed any available space they could find, including cupboards and storerooms, parts of corridors. Such spaces lacked appropriate resources, and failed to create an appropriate environment to foster a sense of belonging and safety for students in need. Acoustic privacy was frequently cited as a

particular issue, as well facing public 'exposure' when in need of counselling.

A lack of general adaptable spaces was often cited as the underlying problem. Many of our research participants commented on the progressive reduction in area in state-funded schools since the Building Schools for the Future Programme¹¹ which has impacted on the provision of the general / non-teaching accommodation in particular. This also includes the reduction in space for student (and staff) socialising, as well as informal learning spaces like libraries. Together with a lack of space, there was also a problem with inflexible configurations. We were given many examples where the existing arrangements of space (often dependent on the period during which the school was built) affected what was possible, whether because of narrow corridors, lack of storage or inflexible classroom arrangements.

There were also concerns with how particular rooms were being used, compared to their originally designated function. There were several anecdotal reports of spaces and storage being taken over for Trust administration for example, where "the kids are in the corridor and the photocopier is in the room" (Helen Roberts). Ann Bodkin, Design Intelligence DfE Capital, highlighted the common finding, particularly in secondary schools, where the schools instigated use-changes each year, mainly to non-teaching spaces, in response to short term needs. An understanding of how spaces are best suited for human use or 'serviced' space, would support schools to make better informed decisions, to respond to "the iterative feedback loop, to understand post occupancy issues". As Helen Roberts also noted "where the space already exists you can audit and improve – sometimes it can just be sorted through timetabling or a change in room label/function".

10- <https://www.gov.uk/government/news/schools-white-paper-delivers-real-action-to-level-up-education>. The white paper includes "Every school to have access to funded training for a senior mental health lead to deliver a whole school approach to health and wellbeing".

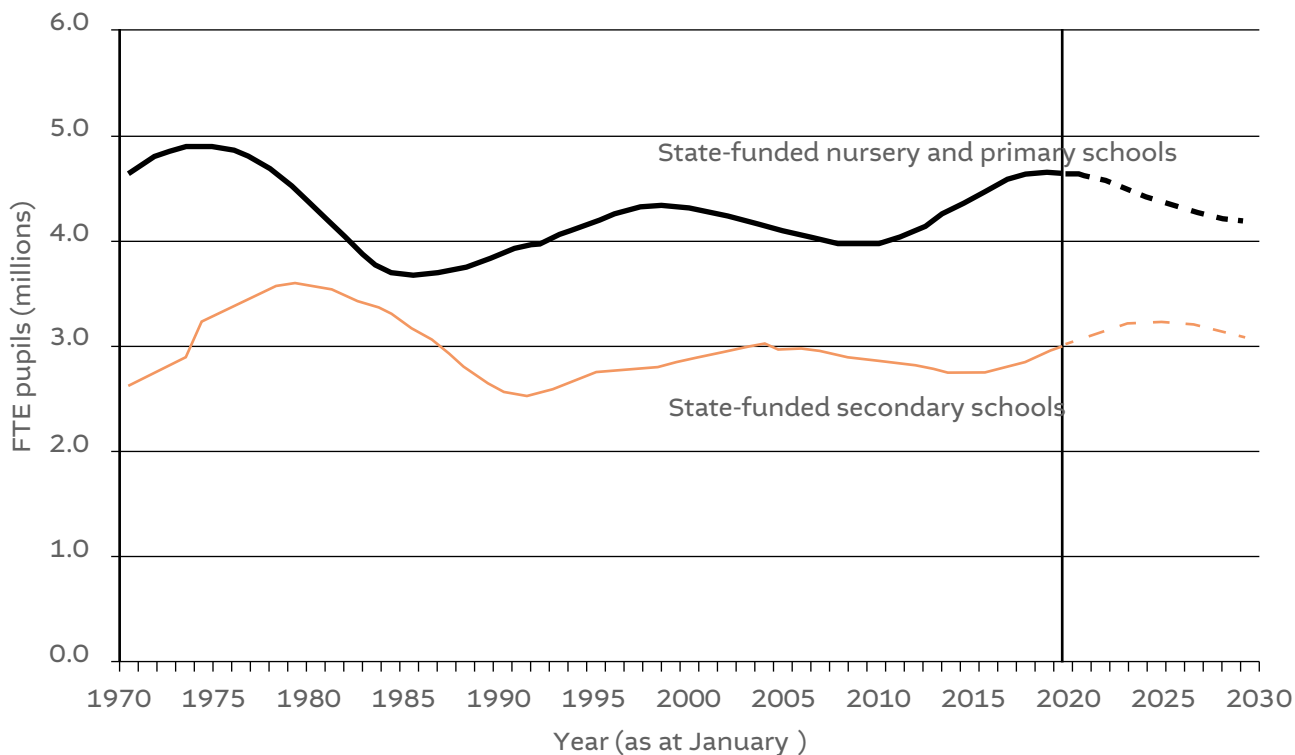
Since different school leaders will re-organise the spaces in different ways, and making changes can be controversial, some participants suggested both sharing best practice more widely, and having access to more guidance to aid understanding about what is possible. Caspar Rodgers raised the possibility of a national school space database which models available spaces across the education estate and is monitored to allow for reflexive, adaptable use of spaces when needed.

While some schools struggle to find space to support children’s mental health needs, there are other schools finding themselves with surplus space as a result of declining pupil numbers. This is both short term - as some households have been leaving cities during the pandemic - and longer term as different patterns of population growth and change work their way through. It is essential that existing schools are not closed down (or allowed a change of use by planning departments) or knocked down where there is a temporary dip in pupil numbers, as facilities lost in this way will be difficult to replace. This presents another opportunity to seek ways to support external

community services within school buildings. Allowing multi-agency use of schools is something which has been talked about for years according to Lara Newman, Chief Executive of LocatED. Schools with vacant space have the potential (at least temporarily) to provide spaces for Children and Adolescent’s Mental Health Services (CAMHS), school nurses, community health services, parents groups and other such services; all of which can help build a strong and resilient community wellbeing support network. In the Big Answer (Children’s Commissioner, 2021), students reflected on the lack of provision of local youth groups and clubs in their area, which could be accommodated on school-sites in extra space, or through space sharing initiatives. An alternative option, often employed by LocatED, is the inclusion of meanwhile uses that generates income for the school. While this can be an efficient way to utilise the space, it is important to ensure that education use is maintained to allow for future need. In addition, a degree of caution is needed to ensure that successfully operating community spaces are not simply closed down in future scenarios where school space is

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Actual and projected pupil numbers, nursery & primary and secondary schools, England



Pupil Projections for English Schools, based on data from <https://explore-education-statistics.service.gov.uk/find-statistics/national-pupil-projections>

needed again. Learning and mental health spaces also need to be complemented by community integration spaces beyond the school gates to help foster deeper relationships with the extended school and wider local communities (Latane 2021)¹²

The pandemic has also demonstrated how mental health and wellbeing support services can be provided more flexibly – in some cases remotely. In an interview for this project, Catherine Roche, CEO of Place2Be, noted that ‘the pandemic has shifted the balance of what needs to be done in person, and what can be done virtually. It’s provided the opportunity for blended mental health services’. Digital therapy rooms for example, have added the potential to offer choice of counsellor for students. Out of this, both existing and new schools should consider making provision for private digital therapy rooms within the school, in such a way that protects the privacy and sense of safety of the students.

Of course, supporting children’s mental health is not just about providing counselling services. It is also integral to the overall spaces available for learning and socialising; as well as the way these are managed, maintained and provide appropriate settings for learning. Larger (and permanent) rooms that allow for play, art, creativity, and drama are valuable, as noted by Catherine Roache. Furthermore, there is a need for additional small group rooms which can provide for a multitude of uses including flexible learning arrangements. The need for such alternative small group learning spaces is supported by the Governments ‘catch up’ initiative which aims to close the learning gap post pandemic.¹³

From our study, it was obvious that schools did their best to create spaces for their students where they could, in response to COVID-19. There were several adaptations implemented during the pandemic that demonstrate the resilience and creativity of school leaders and others. Ideas included friendship benches,



Friendship benches used by schools to foster nurturing and supportive environment.

Credit: CC Public Domain Mark 1.0

12- See also Boys and Jeffery (2021) Educating the City: urban schools as social infrastructure Free to download from <https://www.architectureinitiative.com/rethinking-the-real-estate-of-education-in-our-cities>

13- In particular, the Government notes that “Schools will be able to use the funding in ways that best support their young people to catch up – from specialist small group support in reading and maths, to after-school provision or summer schools <https://www.gov.uk/government/news/all-schools-and-colleges-to-receive-extra-funding-for-catch-up>

huts, buses in the playground, and garden spaces. Many of these spaces will be maintained beyond the pandemic / formalised for permanent use.

We added outside seating areas and a remembrance garden for children who lost family members and others to the pandemic. And we make a 'room of curiosities' to help stimulate children's creativity, because their writing and reading skills were dropping off.

Maria Mincher, Head teacher
Kingsmead School

For the room of curiosities, people from the locality donated a variety of artefacts which were placed in a room where students could go to reflect, and have interesting sources for their creative skills.

As before, the possibilities open to head teachers and others is partially dependent on existing space configurations. Some schools in converted office buildings for example, had very limited outside space. Potential improvements were also impacted by existing inequalities in educational resources and amount of available space across different schools and locations.

My cousin goes to private school they have better facilities like proper sports pitches, sports halls, swimming pools and drama studios. there are not many free after school clubs at my school such as music lessons. Lots of books and dictionaries are falling apart. The computers are rubbish. The carpet has holes in. ... We don't have a quiet place in school anymore to be calm.

The Children's Commissioner, 2021,
Girl, 10

Finally, there are also health and wellbeing implications, connected to the new forms of teaching and learning that have developed throughout the pandemic. This is the need for hybrid classrooms - classrooms which have the appropriate technology base to enable face to face and remote learning, independently or concurrently. Many schools described the challenges of managing an in-person class alongside ensuring inclusion for students who may be isolating. Alternatively, teachers may be teaching remotely to a school-based classroom. While it remains to be seen if hybrid learning continues, the potential and additional opportunities that technology rich classrooms provide could be worthwhile. Schools also discussed the potential to enable specialist teachers to record lessons which can then be shared across a multi-academy trust for example. For some participants in our study, that suggested a continuation in more limited forms of hybrid learning, particularly to support non-normative learners. For others, the huge losses, both in learning performance and social interaction have meant that we need to return to fully face to face education as soon as possible. For Bob Wallbridge of Hampshire County Council 'the fundamental thing [from the pandemic] is that children need to be in school. For children to be in school they need to want to be there.'



Room of Curiosities

Credit: Kingsmead School



26

Room of Curiosities

Credit: Kingsmead School

Key takeaways

- The need for appropriately designed spaces within schools that enable mental health support has been highlighted by the pandemic
- Existing space standards and configurations are impacting, often adversely, on what schools can provide
- Schools that have falling school rolls, and thus excess space, offer the potential for meanwhile uses that support children's and community mental health
- Schools have taken a central role in supporting the mental health of children and their families in response to COVID-19; creative space adaptations ought to be recorded and shared more widely, as examples of good practice
- Inequalities in access to space and resources across schools have exacerbated divisions between advantaged and disadvantaged children
- The learning and mental health implications of a longer-term shift to hybrid systems for teaching, learning and support would benefit from further investigation.

3

Outdoor
learning
environments
and investment
in connections
to nature

Outdoor learning environments and investment in connections to nature

The pandemic created anxiety around the prolonged use of indoor environments. As such, many schools looked to enhance opportunities for learning in external spaces. Parents expressed concern about the amount of time it was possible to learn outdoors as well as the quality of existing playgrounds, and expressed a strong desire to see classrooms better linked and connected directly to outdoor learning environments (Parent Survey, 2021). They commented on the often “bleak external environments”) in schools, and the negative impact this can have on education experience. One parent commented that there is “often nowhere for kids to go and sit” (Ibid).

The lack of quality external space is not lost on students themselves either, with a number of responses to the Children’s Commissioner’s Big Ask making reference to this.

“Lockdown has had an affect [sic] as it’s been hard to learn from home with only one device. Also, some schools don’t have enough outdoor space...”

Children’s, Commissioner, 2021, Girl, 11

“...The rigidity of the education system. students focus on studies as opposed to mental health, a connection with nature and freedom for creativity including. a lack of designated outdoor time in many schools, especially high schools.”

Children’s Commissioner, 2021, Girl, 15



Putney High School, Biophilic Classroom. An example of how schools are looking to introduce elements of nature into the school building itself.

Credit: Photographer, Matthew Cattell

See also original research paper by Clare Bowman, de Montfort University. https://www.researchgate.net/publication/341459387_Putney_High_School_GDST_The_Biophilic_Classroom_Study_-_May_2020_-_Final_Report

Schools also reflected on the importance of high quality outdoor spaces and the desire to improve their outdoor learning environments. Amongst our participants there were different priorities. Some schools are opposed to landscaped playgrounds as a result of maintenance and up-keep challenges – preferring majority hard-standing areas and few trees. Others had already been able to develop external spaces (including a school farm) as well as growing and wildlife areas. Outdoor spaces can also be used to accommodate alternative mental health initiatives such as school pets and animal therapy.¹⁴

Maintenance is a frequent barrier to school landscape design with perceived budgets prohibiting varied design, while capital budget cuts often result in significant trade-offs to the detriment of landscape - often the last thing to be built. Yet outdoor spaces can play a hugely significant role in the learning, physical and mental health, and overall wellbeing of school pupils. Some of our participants noted how external spaces were valuable educationally, as well as opportunities offered to bring nature into the classroom.

Kids love doing things outside. Think of a primary maths class where children measure their own shadows..

Helen Roberts, Education Lead, FCB Studios

Natural and outdoor settings are also an alternative and neutral territory where children often feel more comfortable opening up and talking. Attention restoration theory shows that ‘access to nature reduces stress and supports mental health and wellbeing...A restorative place offers fascination, such as a natural setting, where we can see or hear leaves or water moving or watch wildlife. And the place needs to be designed or situated so that it allows us to do what we want to do there, for instance, sit, think, eat, read, walk, or be alone.’ (Latane, 2021, 17).

14- Grove, C., Henderson, L., (2018), ‘Therapy dogs can help reduce student stress, anxiety and improve school attendance’, The Conversation. Available at: <https://theconversation.com/therapy-dogs-can-help-reduce-student-stress-anxiety-and-improve-school-attendance-93073#:~:text=Research%20has%20shown%20therapy%20dogs,and%20emotional%20support%20for%20students>.

There are numerous programmes and charities which run pets in school programmes, for example: <https://www.dogsforgood.org/community-dog/community-dogs-schools/>, <https://www.bluecross.org.uk/advice/pets/pets-in-schools>

Having adequate outdoor space was highlighted as being particularly challenging and problematic for urban schools, and schools in converted buildings. One school noted that the ‘pandemic exposed limitations of adapted buildings for schools’ especially in the context of being able to provide more, and improved, outdoor learning facilities. It was also noted that some urban schools are getting through the planning system with insufficient scrutiny of the detailing of the landscape areas, resulting in not only a lack of space, but poor quality space.

Many urban schools also have added concerns with air quality issues which may make learning outside problematic. In August 2021, London’s City Hall identified that there were 3.1million children going to school in areas with toxic air quality.¹⁵ This study revealed the heavy physical health impact this has on children. “Children growing up in polluted areas in London showed significantly smaller lung volume, with a loss of approximately five per cent in lung capacity - equivalent to two large eggs - compared to their peers in the rest of England”. Further studies are starting to draw links between air pollution and mood disorders “...air pollutants are known to have potent inflammatory properties and inflammation is believed to be a factor in psychotic and mood disorders.”¹⁶

While there is no immediate or simple solution to manage air quality challenges in urban areas, the heightened awareness of the benefits of outdoor learning as a result of the pandemic have led to greater consideration for green infrastructure within school outdoor areas. Great Portland Estates and Groundworks (2019) have created a helpful toolkit for schools, for example, which demonstrates the opportunities and actions schools can take to promote greater use of their outdoor spaces. Solutions such as these will help benefit all school users and improve the quality of outdoor spaces to the benefit of children’s learning, health and wellbeing, as well as the wider school sustainability and longer-term resilience.

15- City Hall, August 2021, <https://www.london.gov.uk/press-releases/mayoral/31m-kids-going-to-schools-in-areas-with-toxic-air>

16- Damian Carrington (2021) Air Pollution linked to more severe mental illness, The Guardian, August 27

<https://www.theguardian.com/environment/2021/aug/27/air-pollution-linked-to-more-severe-mental-illness-study>



Tiger Way, by Hawkins\Brown, demonstrates how urban schools can create varied, interesting and relaxing playspace despite site and space constraints.

Credit: Photographer, Jack Hobhouse

Participants in our study also gave examples of some of their creative solutions to providing more outdoor space including partnering with adjacent landholders to utilise otherwise unused spaces for teaching, learning and playing. This included partnering with farms, creating sandpit play areas, forest gardens, and mentoring areas with grass, water and seating.

Crucially, outdoor spaces need to be available whatever the weather. There needs to be a range of types of spaces which include shade from the sun, protection from the rain and the wind, as well as hard and soft landscaped areas. The presence of trees, and the view of trees from classrooms was frequently mentioned as an important factor. Schools and facilities managers are also keen to see wasteland areas of school grounds converted to useful outdoor spaces. And, where possible, students should be involved in the design process to ensure their needs, desires, and positive experiences are incorporated and valued.



Forest School

Credit: CC BY-SA 4.0

Finally, integrating nature and open space into school environments and local surroundings meets wider objectives. First, as Bob Wallbridge, Strategic Manager at Hampshire County Council stressed, schools are important in creating a sense of belonging for both occupants and the wider community, with good landscaping a vital part in helping to achieve this, by 'bedding-in' the school building to its context, and creating a welcoming and attractive school estate. In addition, this kind of greening also enables the embedding of sustainability criteria into longer term school design; and its teaching into school curricula, for example, through educational for sustainable development (ESD) initiatives (Unesco nd).



Tiger Way, by Hawkins\Brown, demonstrates how urban schools can create varied, interesting and relaxing playspace despite site and space constraints.

Credit: Photographer, Jack Hobhouse

Key takeaways

- The pandemic has demonstrated how important outdoor space and nature are for children's learning, health and well-being
- Urban schools, as well as some building types converted for education, are adversely impacted both by lack of external space and by air pollution
- Capital and maintenance budgets for schools need to enable the ongoing provision of high quality outdoor space
- Learning should include activities in outside space and in nature, and be underpinned by Education for Sustainable Development (ESD) initiatives
- Children benefit from opportunities to use outdoor space for quiet and escape
- Partnering with other organisations can open up access to outdoor space and nature
- Integrating outdoor space and nature into school design also supports other objectives for community well-being and sustainability

4

Generosity
of space to
inspire, connect
and enhance
opportunities
for learning

Generosity of space to inspire, connect and enhance opportunities for learning

There was a general consensus amongst our study group participants that new school designs have been overly restricted by reducing budgets and rigid space standard requirements, resulting in a lack of any flexibility or generosity of space. They emphasised that this was not just more space ‘for the sake of it’ but enough well-thought through space to support adaptation, community use, and flexible management. Our participants also noted that generosity of space needs to include staff as well as pupils. Schools commented about a lack of appropriately designed, sized and located staff spaces where teachers can relax, exchange knowledge, and build strong team relationships with one another. The pressures of the pandemic, in particular implementing hybrid teaching models at short notice, have limited the time staff have for non-teaching activities which is putting pressure on their mental health. ‘50% of education staff felt their mental health and wellbeing declined (specifically school teachers)’ (Education Support, 2020, p18).

Key concerns included implementing one-way systems in circulation spaces (including entrances), which have been a significant challenge during the pandemic; and classrooms layouts and relationships which often limit flexibility of use. Meryl Townley of dRMM has said ‘there needs to be an adjustment to the current guidelines to provide a little more flexibility in the ESFA rules, to squeeze in a bit more space for informal learning and circulation and to get the best value from the funds available, to meet the aspirations of each school’ (Buxton, 2020). The pandemic also highlighted the limitations of the traditional classroom – that is, its lack of multi-mode function and ability to teach both face to face and hybrid learning styles.

As well as space, the pandemic raised issues about environmental conditions, including air quality, ventilation/windows and acoustics. In fact, half of

surveyed parents for this study said that ventilation is the most important indoor environmental feature (Parent Survey, 2021). This is not just about pandemic requirements for better air circulation and increased social distancing but also about longer-term lessons concerning the very real impacts of air quality, light, sound and material environment on student and staff capacities and wellbeing. Such investments in built space now also have implications for resilient design into the future. Whilst health measures such as air filters, increased handwashing stations, and social distancing rules may seem temporary, thinking critically and creatively about these initiatives may enable schools to find new and better ways to implement healthy environments, improved circulation patterns, air pollution initiatives, energy efficiencies and sustainability-related adaptations.

Schools told us that as a result of the pandemic, many students have a reduced stamina for lengthy tasks on the return to study post lock-down.¹⁷ For some students this just exacerbated their previous less than satisfactory experiences of education. There’s a sense that schools need to have a greater variety of spaces - beyond classrooms, halls and dining spaces - that can inspire and motivate students, and create variation to the school day that aids with concentration and combats fatigue.

The education system makes you less creative and it's not really that good. Our education system is very outdated, and we need more interactive things to do rather than sitting in silence listening to the teacher for a hour."

Children's Commissioner, 2021, Boy

The pandemic has highlighted the importance of spaces for 'clearing the mind' (anonymous parent, Parent Survey, 2021). In addition, social spaces were mentioned numerous times, both for students and staff. Too often, the spaces provided for these activities are either of insufficient size or character. The pandemic has shown us that beyond academic attainment, the socialisation that schools provide is crucial to young people. Providing places for students to relax and socialise before, after and between classes is vitally important to their personal and group development.

As already noted, many schools implemented innovative solutions within their buildings to help enhance their students' learning, mental health and wellbeing. Philip Marsh of dRMM commented in the RIBA Journal that 'perhaps there's an opportunity to create a post-COVID-19 school typology...with a range of spaces including both heavily serviced and acoustically controlled boxes and more simplistic, low-tech rooms' (Buxton, 2020). This is in-sync with staff views that mixed mode learning and 'change of scene' spaces are needed. Paul Forrest, Buildings and Capital Assistant Manager of the Southwark Anglican also noted that there was a need for low arousal, calm classrooms. He suggested that too many classrooms have too much stimuli and cluttered walls, when students need calming and orderly classrooms to concentrate effectively. Variety, then, needs to include both stimulating and quieter environments. This suggests a complexity of requirements that meet the needs of both settling down/being comfortable in school environments and being re-energised for learning.

Soft spaces aka a 'chill zone' allow for exploratory and more relaxed learning. Without a formal library, these spaces offered our children space to explore and investigate books or exhibits on their own terms.

(Parent Survey, 2021)

This means that flexibility of space is not a luxury for schools. It is crucial to be able to adapt to the inevitable changes in curriculum and evolving pedagogy to bring out the best in students and staff; to respond to unforeseen circumstances both now and in the future; and to broaden our understanding of what schools need to offer beyond limited frameworks of academic performance and achievement. With our participants we found different points of view about the value of larger spaces that could be adapted, and a palette of different kinds of smaller spaces. Many schools preferred larger flexible spaces where these could be adapted to effective smaller rooms as needed. But there are often problems associated with this such as poor acoustic separation / thermal comfort etc. Smaller rooms - and the variety of spaces mentioned above, are often seen by schools as more useful, particularly in light of the pandemic and smaller group learning, and in allowing them to respond flexibly to academic and non-academic needs. Designing and locating these spaces carefully is vital.¹⁸ Small rooms with no natural daylight and ventilation are poor spaces for learning. Many spaces need a degree of privacy, while also remaining an active part of the school environment. In addition, schools need to ensure that these spaces are carefully protected for student use. The key to flexibility, according to our participants, might be to 'make them all bigger'.



Tiger way, by Hawkins\Brown, provides generosity of space around circulation areas with breakout spaces for socialising, non-traditional learning

Credit: Photographer, Jack Hobhouse

¹⁸ For further research on provision and location of smaller spaces in schools see Dyer, E., 2021, Precious Spaces, <https://architectureandeducation.org/2021/01/25/precious-spaces-in-schools-how-can-we-make-them-work-for-everyone/>

Key takeaways

- Current DfE space standards limit the extent to which schools can support their staff and students' teaching and learning; and health and well being
- School spaces need to also enable socialisation and relaxation because these underpin more formal educational goals
- Environmental conditions also impact learning, health and wellbeing, and need to be better monitored and improved post-pandemic
- The pandemic offers longer-term lessons for the kind of physical and hybrid spaces that schools should be providing
- Further research is required to better understand how to enable cost-effective flexibility and resilience in school design

5

A new 'school day'
– rethinking the
structure of school
to present new
opportunities for
learning, health
and wellbeing

A new 'school day' – rethinking the structure of school to present new opportunities for learning, health and wellbeing

Schools, teachers and students very quickly had to adapt to a new school day structure during the pandemic to provide remote and hybrid learning. And then when schools reopened, they again had to adapt to new operational methods to maintain social distancing. As is inevitable, some of these shifts in daily patterns were highly successful, while others have presented challenges. Some parents told us that remote learning offered their children an opportunity to structure the day in a way which better suited their learning style, and family patterns. A parent commented that freedom in learning structures, particularly conventional timetabling, would be a change that would benefit learning, health and wellbeing for many children (Parent survey, 2021). Children too, have expressed a sense of anxiety and pressure around the inflexibility of the school day and year patterns:

... As I have said I don't find it good for mental or physical health waking up very early and going to bed late as I have to do homework as well as eat, spend time with family and do sports and this affects my mental health.

Children's Commissioner, 2021, Girl, 13

Being too pressured to come into school if they feel unwell or tired or depressed...people making you feel unsafe or too unsafe to come into school but sometimes they can make it worse. I think having 14 weeks of school or however many weeks of school in a row without a break apart from the weekends is too much and children can still learn and get good grades like 8 or 9s even if they take a couple days rest because of something either going on at home or at school or if you're just feeling too depressed and tired to get out of bed and do something that makes you more depressed and sad.

– Children's Commissioner, 2021, Girl, 12

The adaptations some schools made for managing 'pinch points' to mitigate the risk of spreading COVID-19 has resulted in permanent restructuring to the school day, as well as conventional movement patterns. A clear way in which schools adapted was to stagger the start and finish times by 10/15 minutes to reduce foot traffic through small and often congested entrances. These were often combined with 'one-way' systems for movement around the school between classes. Where possible, many schools are keeping such systems as it reduces student anxiety and potential 'trouble spots'. Where possible, schools have made use of multiple entrances to split year groups and bubbles. Schools with the space to do this ultimately had greater flexibility at managing pupil arrivals and departures. However, alongside this change schools had to alter their policies on allowing parents within the school gates. This has created a clear disconnect between families and teachers and the school, as parents and carers have been excluded, which many have reflected on as being

a negative outcome. Schools often also staggered lunch times to allow for greater social distancing, and improve pupil flow through dining halls. Some parents reflected that this was a good solution which enabled their children to feel less anxious during the busy lunch period (Parent survey, 2021).

[With staggered lunch provision] mealtimes are not a rush, students can take time which can be therapeutic. Or they can eat lunch in less crowded settings, such as in the classroom.

Martha Williams BEAT

Others have experimented with timetabling split classes, to reduce class sizes.

Ultimately, then, there seems to be a unique opportunity out of the pandemic to reconsider the structure of the school day in a way which better suits students (and their families). This also allows for more flexible use of the school premises, with the potential to mitigate problems with limits on existing spaces. In one of our Focus Groups, Ann Bodkin, Design Intelligence DfE Capital, suggested that the challenges schools are facing could be resolved by looking at the utilisation of spaces and adjacencies alongside timetabling of the school day. It was suggested this approach was more relevant for secondary schools, compared to SEND or primary schools, where the option for flexible and independent learning styles is greater.¹⁹

On the return to school, many pupils found it challenging to be stuck in a classroom for most of the day - in contrast to the flexibility and perhaps variety that they had while learning remotely. This needs to be set in tension with the obvious social isolation and loss of motivation created by having to work alone, and only connect to others through a screen. This has had differential effects on children. 'The innately motivated

learners are relatively unaffected in their learning as they need minimum supervision and guidance, while the vulnerable group consisting of students who are weak in learning face difficulties' (Sumitra and Roshan, 2021). But it is likely that some changes to the organisational structure of the school day will be inevitable post pandemic, making allowances both for flexibility for schools, as well as pupils. 'With time, there's going to be a lot more purposeful planning for what [a school day] experience should look and feel like (Chen et al, 2021).

Interestingly, there was little discussion in our research focus groups and surveys around hybrid working and learning. Many schools are operating in this way at present, but this is usually considered a temporary solution to manage pandemic conditions. Some participants were worried that children studying at home were becoming adept at learning technologies; and that extending this even when children were back in the classroom could adversely affect the importance of schools in developing social interaction. Others felt that the integration of physical and virtual spaces has been accelerated across schools, enabling moves towards more hybrid learning more easily, which could support more flexible forms of study beyond the conventional school day.

What was mentioned however, was that many of the new systems for communications with families and carers are likely to continue. This was largely a provision of remote / digital tools to support continued communication, for example, remote parents' evenings. Again, there is an inherent challenge here for parents and carers who may feel this creates a disconnect with teaching staff, and therefore needs to be considered further as an ongoing strategy. Schools did feel that integrated technology solutions in the classroom would be an ongoing requirement allowing students to participate even when they can't be physically present in the classroom, as well as presenting new ways of learning and working for students

19- The Office for National Statistics found that remote learning (i.e. outside of the structured classroom environment), resulted in fewer material being covered than in face to face learning. This difference was most notable for primary age students. Their findings show that "younger pupils, who are just starting to learn to read, write and use digital media, clearly have much less independent learning potential than pupils a few years older". Report available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/articles/remoteschoolingthroughthecoronaviruscovid19pandemicengland/april2020tojune2021#key-stages-1-and-2>

Key takeaways

- Timetabling shifts in the school day, term and year, made as a response to the pandemic, have longer term potential for increasing children's health and wellbeing
- Schools found that one-way circulation systems and staggered entry and exit times, introduced because of COVID-19, offer benefits in reducing anxiety and 'trouble spots' created by overcrowding at pinch points in the school day
- Our study suggests that staggered lunch breaks, without reducing dining hall sizes, is a positive means of provide calmer break space for students and of minimising lunch time anxiety and rush
- Our study suggests that there is value in providing more alternative locations for lunch breaks such as outdoor seating areas or repurposed classrooms
- Further research is required to explore the value of 'flexi-time' and hybrid forms of learning that permit alternative study methods, more suitable to diverse students.
- Further research is need to monitor post-pandemic impacts on parents and carers as previous forms of communication (face-to-face at the school gates and through meetings) are potentially being replaced by more online connections.

6

Improving
community
relationships
through design

Improving community relationships through design

COVID-19 has, on the one hand, strengthened relationships with local communities, while on the other it has also created barriers. Some schools took on a wider community role during pandemic including as COVID-19 testing centres, book drop off, and providing food parcels.

[Schools have been] delivering lots of materials, laptops, food, paper materials... all of this used as a vehicle to check on wellbeing and to support for mental health and wellbeing; either as a visitor service or because students came to us.

Greg Williams, Senior Head Teacher
Core Education

But, as always, this ongoing situation has been a particular challenge for those students and families already at risk or struggling, or who may have been hit harder by the effects of the pandemic. A welcoming place in which to meet parents and families is often cited as a challenge. Even where spaces do exist, they're often unwelcoming and do not promote collaborative relationship building. "We cannot expect young people or adults to thrive in neighbourhoods overshadowed by schools that look and feel like detention centres". (Latane, 2021, p4)). Dislike of school can be generational. For our study participants "A well-designed school needs to be at the heart of the community". It was generally agreed that for schools to be welcoming to the community, they need to be distinctive, have an attractive character, and feel generous. Community facilities need to be located at the front of the school - or in such a way as to integrate with the community. Entrance points are critical, and the setting of the school needs to be carefully considered.

Linking schools to their locality and its community services can offer parents and children a stronger sense of belonging, where community facilities are co-located, and seen as part of a supportive school environment. This is promoted by Public Health England, in their toolkit for schools, Measuring and monitoring children and young people's mental wellbeing. Yet, all too often multi-agency services fail, and/or schools do not have the capacity or funds to initiate and manage these relationships; with different public services continue to be often siloed and fragmented, so that a joined-up approach is hard to achieve. As we demonstrated in *Educating the City: Schools as Social Infrastructure* (Boys and Jeffery 2021), new schools would benefit from being supported in building in community space opportunities, and connecting with the local community at the earliest planning stages to understand how community support space could be provided and used.

As was evidenced through the Big Answer (Children's Commissioner, 2021), young people feel that they are excluded from their local communities - with no places for them to hang out, and few opportunities to gain work experience and learning opportunities outside of school.

"We need more opportunities and places to hang out (outside of school) and do that should hopefully keep us out of trouble"

Children's Commissioner, 2021, Girl, 14

"...I think there should be more clubs in my local area and more interesting play areas with easy access"

Children's Commissioner, Boy, 14

“I don’t think there is many [sic] things for children to enjoy like there is only [sic] playgrounds and that is not enough. like children that are younger should get access to things to help them in the past and even older. in the playground/parks there is [sic] slides and swings and things to climb so they should add more stuff to make things better.”

Children’s Commissioner, 2021, Girl, 13

One community focused design solution has been play streets, which provide quality urban space for children and young people (and indeed the whole community), to have autonomy, equal access and a sense of ownership within the public realm. Linking play streets with schools and community shops and workplaces could provide an opportunity to network young people to their local area and create new opportunities.

Finally, there is a current opportunity arising from falling school rolls in some areas to think creatively about how the schools can better connect with and

serve their local communities. Pupil place planning shows that there will be declining numbers of children, and thus considerable excess space in a number of schools across England in the coming years.²⁰

As already noted, mental health support services for students are both wanted and needed and this surplus space in schools could be the perfect fit. In addition, other after school clubs and activities, and adult education programmes or informal community-training opportunities such as Repair Cafes and Fab Labs could make use of such spaces. We also know that participation in design processes helps to forge relationships.²¹ There is an opportunity here for schools to engage their students and staff in collaborative processes for post-COVID-19 design. Sarah Dolling of Laureate Academy for example, is running a garden project to promote mental health and wellbeing. Part of the space will be allocated for a ‘grand designs’ style competition for their students. This type of initiative allows students to feel heard, and for them to consider how their school environment impacts on their learning, health and wellbeing.

44



Informal Play streets

Credit: CC BY-NC 4.0

20- <https://www.gov.uk/government/collections/statistics-pupil-projections>

21- Design Council, (2020), Using design to reduce health inequalities. Available at: <https://www.designcouncil.org.uk/sites/default/files/asset/document/Health%20and%20Wellbeing%20Roundtable%20Summary.pdf>

Key takeaways

- Most schools have performed a community support role during the pandemic, but may not be able to sustain such activities
- Children, parents and carers have a variety of relationships with schools, which need to be positively developed, post pandemic
- Evidence shows that schools that are integrated into their locality show improved learning outcomes, and health and wellbeing.
- Children, young people and others would benefit from schools offering spaces both for socialising after school and for alternative forms of education and skills-learning
- Participatory projects for students together with local community partners can help forge improved relationships as well as enabling appropriate learning, and school adaptations

Appendix: Data & Methodology

This research was conducted using a number of methods including literature review, survey, virtual interviews and virtual focus groups. These took place between September 2021 and January 2022. A survey was used to collect data from parents of school aged children in the UK. A total of 16 responses were received. Three focus groups were held; the first focus group included invited representatives from schools and multi-academy trusts across England. The second focus group included invited experts across design, child psychology, educationalists, mental health experts and researchers. The final focus group included invited representatives from Local Authorities and the Department for Education.

The parent survey included the following questions:

- What age is your child?
- What type of school do they attend? (e.g. free school, local authority school, private school etc.)
- Do you consider your child, or anyone in your household or immediate support circle to be more vulnerable to COVID-19?
- How do you think the experience of schooling during the pandemic has impacted on your child's mental health and overall wellbeing?
- How do you think the experience of schooling during the pandemic has impacted on your child's education needs?
- Please tell us about any benefits of challenges of home schooling for your child's wellbeing.
- Now that your child is back at school, please tell us about any ongoing challenges for them.
- Please tell us about any design changes that your school has made as a result of the pandemic which you think have supported your child's learning health and wellbeing.
- Please tell us about any design changes that your school has made as a result of the pandemic which you think have been challenging for your child's learning, health and wellbeing.
- What, if any, of these changes would you like to be permanent changes to the school design or function?
- Thinking about your child's school as it is now, do you think the environment supports learning, health and wellbeing?

- Selecting from a list, tell us which element of indoor environments is most important to you, for the school environment after the pandemic.
- Selecting from a list, tell us which of the school spaces is important to the school environment after the pandemic.
- Selecting from a list, tell us which of the social and play spaces is important for the school environment after the pandemic.
- Selecting from a list, tell us which environmental sustainability features are important for the school environment after the pandemic.
- Selecting from a list tell us which health aspect is important to you for the school environment after the pandemic.
- Thinking about the design of the school, please tell us about any other changes which you think would benefit your child's learning, health and wellbeing.
- Is your school considering/have they introduced hybrid learning or blended learning models?
- Thinking specifically about safety, tell us which aspects of the design of your child's school impact most on the sense of safety.
- Thinking about your child's journey to school, does the commute to school promote health and wellbeing?
- Selecting from a list, tell us which facilities are available to support healthy modes of travel to school.
- Are there any facilities which are not currently available, but which you feel would improve the potential for healthy modes of travel to school.

Focus Group 1: Schools and MATs

We are asked participants to focus on the issues of learning, health and wellbeing during the pandemic, and their perspectives on the design of schools moving forward to tackle these issues.

Session 1: The Pandemic Response, discussion themes:

- Spatial changes made to support learning during the pandemic
- Organisational changes of the school needed to support learning, health and wellbeing during the pandemic
- New teaching / learning practices instigated to support health and wellbeing of students and staff
- Biggest challenges / barriers within the school environment during pandemic
- How have daily routines of school changed? Has this been positive or negative?
- How are different patterns of working and learning being accommodated in the return to schools? Is this sustainable?

Other issues:

- Issues with ventilation (mechanical / natural) or other indoor air quality and comfort factors?
- Were there any building issues that impact on ability to feel safe / healthy within the school environment?
- Any sanitation issues i.e. availability of handwashing facilities
- Organisation issues i.e. pupils stay in one room while staff move
- Availability of outdoor space for breaks
- Challenges with entrances and exits to the school grounds

Breakout Room, Post Pandemic Response, discussion themes:

- How can mental health support be better integrated within schools? What spaces, services, or community connections are needed to ensure schools can be a central resource for supporting children and young people's mental health?
- How can the design of schools create more nurturing environments that support mental health?
- How will blended learning be incorporated? How will this impact on the spaces needed at school?
- Are there other changes to the way / type of teaching that will be made moving forward?

- How will the organisation of the school day adapt and how might this affect the school facilities?
- What will be the key priorities for face-to-face schooling?

Other issues:

- Sustainability measures
- Outdoor teaching
- Future proofing for pandemics
- Adapting behaviours (for health and wellbeing / future pandemics)
- Staff wellbeing spaces / services

Focus Group 2: Various experts

We asked the participants to focus on two questions during this focus group:

- Tell us about your experience of schools, children's mental health, access and inequalities during the pandemic. Thinking in particular about the barriers to learning, health and wellbeing presented during the pandemic.
- Looking to the future of school design and adaptations for health and wellbeing, what would a framework for a 'Well' school might look like?

Focus Group 3: Local Authorities & Department for Education

We asked the participants to focus on two questions during this focus group:

- From your perspective, what are the main concerns and challenges resulting from the pandemic, and what design opportunities are / could be considered?
- What are the challenges and policy barriers to achieving these design changes?

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