



THE LINK BETWEEN PHYSICAL LEARNING ENVIRONMENTS AND STUDENT WELLBEING

An assessment into how
soft furnishings can support
children's wellbeing within
classroom environments.

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INTRODUCTION

- **Student wellbeing**
- **The definition of wellbeing**
- **The 5 ways to wellbeing**
- **How do schools support learners' wellbeing?**
- **Student wellbeing considerations**
- **Neurodivergent and SEND learners' wellbeing needs in school**

Introduction

Most UK schools deliver a school week of 32.5 hours or more¹, meaning pupils are probably spending at least 27 hours in a learning space (when we take account of break times). Whilst some learning will take place in a hall or outside, the majority takes place inside a classroom. Primary aged pupils will spend the majority of their time in school in one room. Secondary aged students will learn in different classrooms for different subjects but may be more likely to remain inside a classroom or indoor learning space during break times.

With so much time spent in classrooms, considering the impact of that learning space on student wellbeing becomes crucial.

A link between visual environments and mental health and wellbeing has been established for some time. The World Health Organisation (WHO)'s Charter on Environment and Health, 1989, states that,

“Good health and wellbeing require a clean and harmonious environment in which physical, psychological, social and aesthetic factors are given due importance.”

Furthermore, Stokols, 1992, found that a pleasing environment positively affects self-esteem and gives a sense of belonging. Jarman et al., 2004, state that,

“The aesthetic features of a school foster a strong sense of belonging that, in turn, can generate an enthusiasm for learning.”

This paper sets out to explore the aspects of the physical learning environment that can influence or impact student wellbeing. We will also identify ways in which learning spaces can be improved to support wellbeing, while acknowledging potential barriers to making changes to physical environments.

Research for this paper has included:

- Analysis of existing studies
- Scholarly articles and publications
- Consultation with practicing educators and education specialists

We acknowledge that the physical aspects of learning spaces also significantly influence how pupils absorb information but have narrowed this investigation to a focus on wellbeing. We are taking into account the understanding that positive wellbeing supports effective learning.

¹ https://assets.publishing.service.gov.uk/media/64a2f21fbb13dc000cb2e5e1/Minimum_School_Week_Non-Statutory_Guidance.pdf

Student wellbeing

- The definition of wellbeing
- The 5 ways to wellbeing
- How do schools support learners' wellbeing?
- Student wellbeing considerations
- Neurodivergent and SEND learners' wellbeing needs in school

What is wellbeing?

The definition of wellbeing, according to the Cambridge Dictionary is: "The state of feeling healthy and happy."² The World Health Organisation (WHO) defines wellbeing as: "A state of complete physical, mental and social wellbeing, and not merely the absence of disease and infirmity."³

The 5 ways to wellbeing

Five principles have been outlined as being core to supporting mental health and wellbeing. They are:

- To connect with others
- To be physically active
- To keep learning
- To be present and take notice
- To give to others

This set of evidence-based messages has been devised as a means of improving everyone's wellbeing and there is a vast amount of research, resources and advice around how to build these steps into our everyday lives.

How do schools support learners' wellbeing?

It is widely acknowledged that pupils' health and wellbeing directly impacts their capacity to learn and perform well in school. Wellbeing is prioritised in schools through policies, the curriculum, resources and links to external support.

In September 2020, Health Education (alongside Relationships Education in primary schools and Relationships and Sex Education in secondary schools) became compulsory. As part of the Health Education curriculum, pupils are taught about the link between physical health and mental wellbeing, external factors that impact our wellbeing, and how to protect and support their own wellbeing or seek help when necessary.

There are also clear links between Spiritual, Moral, Social and Cultural (SMSC) development and student wellbeing, as pupils develop a range of personal and social skills deemed beneficial to leading a happy, successful life.

When it comes to school inspections, the Ofsted framework requires inspectors to routinely assess and report on pupils' mental health and wellbeing. Evidence that will inform their reports will be based on the whole-school approach to health and wellbeing, the curriculum, support strategies the school employs, and feedback from staff, pupils and families.

² Dictionary.cambridge.org. WELL-BEING | meaning in the Cambridge English Dictionary. Available at: <https://dictionary.cambridge.org/dictionary/english/well-being> (2019, accessed 23 September 2019).

³ Alineacostconsulting.com. The WELL Building Standard v1 with Q2 2017 addenda, www.alineacostconsulting.com/wp-content/uploads/2017/06/20170701_WELL-Building-Standard_for-Building_alinea-brand.pdf (2017, accessed 23 September 2019).

Student wellbeing considerations

- When we think about the wellbeing of learners of any age, we consider their:
- Physical health
- Mental health
- Social wellbeing
- Emotional wellbeing
- Sense of comfort
- Sense of security
- Sense of belonging
- Access to any available support
- Capacity to learn in relation to their wellbeing

The wellbeing needs of pupils with SEND

Students with special educational needs or disabilities (SEND), including neurodivergent students, may need special consideration when thinking about how to best support their wellbeing.

Research has shown that children with SEND have higher levels of unhappiness than children without SEND on a number of issues⁴. These issues were school work, school and friends.

Over 1.5 million pupils in England have special educational needs, representing 17.3% of all pupils.

Special educational needs and disabilities can include:

- Social, emotional and/or mental health needs
- Physical and sensory needs
- Speech, language and communication needs
- Cognition and learning needs

It is estimated that 15-20% of children and young people in the UK are neurodivergent⁵.

Forms of neurodivergence include:

- Attention-deficit hyperactivity disorder (ADHD)
- Autism
- Dyscalculia, dysgraphia and dyslexia
- Tourette's syndrome

⁴ https://assets.publishing.service.gov.uk/media/5a82201fe5274a2e8ab57a08/Wellbeing_and_SEN.pdf

⁵ <https://explore-education-statistics.service.gov.uk/find-statistics/special-educational-needs-in-england>

Neurodiversity simply means individuals have a way of thinking and learning that is different from what is considered 'typical'. It does not refer to a mental health condition. However, neurodivergent pupils' wellbeing may be impacted in the learning environment – and by the learning environment – in ways that differ from the majority of learners.

Likewise, pupils with SEND may have physical and mental wellbeing considerations that are unique to them. The physical learning environment may contribute positively or negatively to these individuals' wellbeing

Working closely with families enables educators to learn about specific wellbeing requirements a pupil may have and to consider ways in which the physical learning spaces can be set up or adapted to support an individual's needs. It is also useful to include requirements and supporting set-ups, layouts and resources on a pupil's Education, Health and Care Plan (EHCP).

PHYSICAL ELEMENTS OF LEARNING SPACES AND THEIR EFFECT ON WELLBEING

- Natural light and artificial lighting
- Acoustics in classrooms
- Music to support wellbeing
- Temperature and ventilation
- Space in the classroom
- Classroom layouts and seating
- Flexible learning spaces
- Classroom chairs and soft seating
- Colour and texture in the learning environment
- Classroom displays
- Storage of resources
- Labels, signs, timetables and wayfinding
- Taking learning outside
- Bringing nature into indoor learning spaces
- Animals in classrooms
- Designated spaces to support wellbeing

The research for this report has revealed numerous aspects of the physical learning environment that can influence wellbeing, from the colour of a classroom's walls to the type of furniture that pupils use.

This report looks at:

- Lighting
- Acoustics
- Music
- Temperature and ventilation
- Space
- Classroom layouts and seating plans
- Flexible learning spaces
- Classroom chairs and soft seating
- Colour and texture
- Classroom displays
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In each section, we have evaluated the existing evidence, highlighted the impact each element can have on student wellbeing and, where possible, made mention of best practice. We have also included input from our range of specialists who have contributed to this paper, drawing on their first-hand knowledge and expertise in education.

Natural light and classroom lighting

There is huge variation in terms of how much natural light learning spaces have. The type of artificial lighting found in schools may also vary but most schools use fluorescent tubes.

Natural light in learning spaces

The benefits of natural light to physical and mental health have been widely researched. Healthcare professionals recommend spending at least one hour a day surrounded by natural light to boost vitamin D, enhance our mood, support good eye health and support sleep quality.

Edd Moore, from First Damers School, says,

"Classes make sure the blinds are up and the lights are off to let in as much natural light as possible. This helps create a positive learning environment and improves wellbeing for children and adults."

Artificial light in learning spaces

Artificial lighting in classrooms can be detrimental to some individual's physical and mental health. Fluorescent lighting is typically used in classrooms, but research has shown that this may be counterproductive to students (and teachers). It can, in fact, induce headaches and eyestrain⁶, can irritate the nervous system, and can cause bodily stress, hyperactivity and anxiety.

Pastoral expert, Lee Game shares best practice in his secondary school,
"In our new build, the lighting is very bright and intrusive for those easily over-stimulated – especially after a 40-minute playground stint. Therefore, techniques such as keeping the lights off in the classroom has a dramatic impact in settling these students and reducing the stimuli."

Year 1 class teacher, Edd Moore, says,
"The lighting in the classroom makes a huge impact on children's behaviour and wellbeing in the classroom. After a power down day the teachers realised that with the lights turned off children were much calmer and quieter in the classroom. Teachers noticed the behaviour was better too. Class teachers now only turn the lights on when necessary: when it's so dark that children and teachers find it hard to see!"

In classrooms that educator Laura Liguori has taught in,
"Lighting was made softer with the use of stand-up lamps, reading lamps, and the reduction of fluorescent lighting in areas of the classroom such as reading corners."

Following published guidelines, school leaders and site managers can aim to install lighting that provides uniform illuminance across the learning area, at an average light level that makes it easy and comfortable to carry out learning activities. Limiting glare and colour rendering value of lamps can also be considered. Lighting can also be used to enhance the learning space so that it appears attractive and interesting⁷.

Class teachers can aim to allow for maximum natural light to enter the classroom and turn off artificial lighting when not required. They can also turn off computer screens and SMART boards, when not in use and consider the use of softer lighting in some areas of the learning space, such as reading corners.

⁶ [Emotional responses of college students to filtered fluorescent lighting in a classroom](#)
Yuen, Wood, Krentel, Oster, Cunningham & Jenkins, 2023

⁷ [Lighting systems in schools, department for children, schools and families](#), 2007

Acoustics in classrooms

Limited research has been carried out looking at the impact of acoustics on student wellbeing. A review of relevant research published in 2022 by Mealings suggests that 'poor classroom acoustic conditions can negatively affect children's mental wellbeing'.⁸ Another study of 326 primary school children found evidence to 'suggest that long reverberation times, which are associated with poor classroom acoustics as they generate higher noise levels and degrade speech intelligibility, bring pupils to a reduced perception of having fun and being happy with themselves'⁹.

High open ceilings, hard walls, hard floors and even table and desktops and hard seating all contribute to the reverberation within the learning space. Open-plan classrooms also present acoustic challenges of background noise and distractions within the classroom

Contributors to the acoustics in learning spaces come from various external and internal sources, such as nearby traffic and room-to-room sound transmission, heating systems and the movement of furniture. Educators can begin to develop effective acoustic strategies, that will support wellbeing and learning by first identifying the primary source of noise that exist in their learning spaces.

International educator Laura Liguori tells us about her experiences.

"Classrooms with reduced noise levels have excluded electronic pencil sharpeners, set up water bottle stations away from learning areas, placed lockers outside classrooms, were equipped with triple glazed windows, and carpeted larger areas to reduce echoes. In one international school, classrooms were fitted with wooden floors.

"Healthy noise such as meditation music when writing, and the trickle of small flowing water statues have also helped children to relax and concentrate better leading to a general sense of happiness and calm. Equally impressive are schools that allow nature to be part of the classroom by having open-air classrooms in remote settings where the climate permits, listening to nature while learning, such as the chirping of birds or the flowing of rivers."

Some acoustic solutions that can be used in learning environments include:

- Acoustic panels to reduce echo and reverberation.
- Soundproofing doors and windows to minimise external noise.
- Carpeting and other sound-absorbent flooring materials to dampen foot-traffic noise.
- Furniture, seating and storage with integrated acoustic properties or made from sound-absorbent materials.
- Soft furnishings, such as cushion, curtains and soft seating.
- In some cases, teachers may find playing calming music quietly in the background can cancel out other distracting sounds and support learners' wellbeing.

⁸ [A scoping review of the effects of classroom acoustic conditions on primary school children's mental wellbeing](#) Mealings, 2022

⁹ [Influence of Classroom Acoustics on Noise Disturbance and Well-Being for First Graders](#) Astolfi, Puglisi, Murgia, Minelli, Pellerey, Prato & Sacco, 2019

Music to support wellbeing

Many studies have been carried out regarding our emotional responses to music. Music can support wellbeing on various levels, from uplifting music igniting positivity, to piano music easing anxiety. Blood and Zatorre (2001)¹⁰ found that pleasant music activated the dorsal amygdala (which connects to the 'positive emotion' network in the brain), while reducing activity in central regions of the amygdala (which appear to be associated with unpleasant or aversive stimuli). Listening to pleasant music was also found to release dopamine in the striatum (Salimpoor et al., 2011, 2013)¹¹.

Research suggests that playing the right music in the classroom can have a positive effect on students' wellbeing:

- Playing upbeat, 'happy' songs as pupils enter the classroom can set a positive mood for the day¹²
- Soothing music can help settle big emotions.
- Playing classical background music can enhance the classroom climate¹³
- Background music can cover up audio distractions, such as ticking clocks, nearby traffic or furniture moving, which can cause anxiety in some students.

Teachers will need to consider the wellbeing needs of their class and even discuss the music in the classroom with their pupils.

Classroom temperatures and ventilation in the learning space

The term 'thermal comfort' is used to describe a person's state of mind and whether they feel too hot or too cold. As with other forms of physical discomfort, feeling too hot or too cold will negatively impact a pupil's wellbeing.

According to the National Education Union, it is generally accepted that people work best at a temperature between 16°C and 24°C. A study carried out at Cornell University concluded that the optimum temperature for studying was between 21°C and 25°C.

¹⁰ [Intensely pleasurable responses to music correlate with activity in brain regions implicated in reward and emotion](#) Blood and Zatorre, 2001

¹¹ [Anatomically distinct dopamine release during anticipation and experience of peak emotion to music](#) Salimpoor, Benovoy, Larcher, Dagher & Zatorre, 2011

¹² Using music in the classroom. Advanced Brain Technologies Lawrence, 2001

¹³ [The effects of background music in the classroom on productivity, motivation and behavior of fourth grade students](#) White, 2007

In the summer months, soaring temperatures present challenges for schools. Recommended precautions for schools to take include:

- Providing shade using window blinds, where required.
- Using electric fans or portable air-cooling equipment where necessary.
- Moving learners away from windows, where possible.
- Relaxing the dress code.
- Ensuring pupils have access to drinking water.
- Ensuring that windows can be safely opened.

Effective ventilation in learning spaces supports comfortable classroom temperature, which can help students feel more physically comfortable and better able to focus on their learning activities.

Ventilation can also support student wellbeing in relation to sensory over-stimulation, concerning scents. When working with materials that have particularly strong odours, opening windows will ventilate the classroom or learning space.

Space in the classroom

The size of the classroom and the majority of the furniture in a learning space is generally fixed, leaving class teachers with fairly limited options for classroom layouts that maximise space. When we consider how space impacts on student wellbeing, there are two core considerations: a pupil's personal space and space for movement.

Personal space and wellbeing

Our sense of personal space and what is considered comfortable differs from one individual to the next. For those who feel uncomfortable when their personal space is encroached upon, a cramped learning space may negatively impact their day-to-day wellbeing.

Class teachers can consider the individual needs and preferences of their pupils and think about the layout and seating plans accordingly. For example, a pupil who needs more space to feel comfortable might be better seated at the end of a bench, a row of desks or a group table, or near a window to give the illusion of having more space.

Movement and wellbeing

A learning environment that has space for pupils to move can also support student wellbeing. Some students benefit more from being able to move than others. Ensuring there is space to move in a learning environment isn't always easy but teachers can consider the furniture layout and the space between furniture in the classroom.

There may be opportunities to allocate one area of the learning space to allow pupils to move or learn in a different position temporarily, such as a standing desk area or an area containing soft seating. Class teachers can try to incorporate movement breaks into their lesson time, as part of their daily routine. Making use of larger spaces and outdoor spaces for learning, as well as break times, will also provide opportunities for pupils to move more freely.

Classroom layout and seating plans

Considerable research has been conducted into classroom layouts, predominantly linked to how the arrangement of a learning space influences the way in which students learn. Fewer studies have focused on classroom layouts and how arrangements impact pupil wellbeing.

As discussed by Domeier and Wiebe in their review of research on this subject, *“Sullivan (2012) proposes that furniture should be designed to make the classroom an engaging and inviting space; Goldhagen (2017) reasons that learning spaces with soft furnishings create a feeling of a domestic space, helping students to feel safe and accepted. As our learning changes, so must our furniture. Being able to move furniture on casters to configure learning spaces to specific learning tasks, creates a space where people can meet both their learning and comfort needs, as well as feel valued as a member of a learning community (Cornell, 2002).”*¹⁴

Classroom layouts to support learning

With one of the 5 ways to wellbeing having been established as ‘to keep learning’, it is clear to see how closely intertwined learning and wellbeing truly are. Supporting students’ learning through the physical learning environment is actually one way of supporting their wellbeing.

Studies into ways in which classroom layouts support learning commonly suggest that effective layouts depend on the type of learning activity and the desired outcome.

A review of studies from the publication Schools Week¹⁵ suggested that students ask more questions and engage better with a teacher when seated in rows, facing the front (Marx, Fuhrer, Hartig, 1999¹⁶) but work better on collaborative group projects when seated in small groups (Bennett and Blundell, 2006¹⁷).

As previously stated in relation to classroom layout, furniture that can be moved to adapt to different learning tasks is the best overall solution.

Classroom layouts that support connecting with others

The way desks and chairs are arranged in a learning space can significantly support two of the 5 ways to wellbeing: connecting with others and giving to others.

Tables or desks arranged in groups has been shown to be best for promoting paired or group discussions. Group work supports building new connections, the sharing of ideas and interests and the opportunity to give advice or support to others.

Group work also enables pupils to develop social skills, such as speaking and listening, which builds confidence, positively impacts student wellbeing.

¹⁴ [Beyond the fancy table: how does classroom learning space design affect student social and emotional well-being?](#) Domeier and Wiebe 2020

¹⁵ <https://schoolsweek.co.uk/research-is-there-a-better-or-best-classroom-layout/>

¹⁶ <https://psycnet.apa.org/record/2001-17242-002>

¹⁷ <https://www.tandfonline.com/doi/abs/10.1080/0144341830030201>

Flexible learning spaces

Studies have shown that flexible learning spaces that give students choices in where to sit, can foster connection among students. For example, researchers examined eight primary and secondary schools in Australia and concluded that flexible learning spaces increased student well-being by enhancing comfort, movement, connectedness, and inclusivity.

“It was widely perceived that the teaching and learning taking place in (these) flexible spaces had a positive impact on the social and emotional wellbeing of teachers and students.” (Kariippanon et al., 2018) ¹⁸

Flexible learning spaces have been shown to support:

- Shared decision-making
- Choice and autonomy
- Healthy relationships
- Student-teacher interaction
- Creative thinking
- Inclusivity and a sense of belonging

Creating flexible learning spaces can be difficult with smaller classrooms and large class sizes. However, educators can consider making use of learning spaces outside the classroom, moving furniture to adapt to various learning activities, and creating areas in the classroom that can be used in multiple ways.

Laura Liguori explains how she is using flexible learning spaces to benefit her students. *“Flexible learning spaces allow for collaboration, communication, and social interaction. In my current PYP classroom, the student tables have wheels which gives pupils agency to design their learning spaces to best fit the learning engagement. During inquiry and research, pupils can roll their tables to another part of the room where they can work together then roll the tables back to groupings that facilitate whole class input and discussion. In addition, the tops of the tables are whiteboards on which they can make notes, jot down ideas, and collectively share information. Stand up tables, and irregular shaped tables allow for personal space to reduce anxiety caused by feeling cramped or a sense that personal space is being violated. Use of these tables reduces anxiety and low-level disruptive behaviour in children with challenges forming and maintaining positive relationships with their peers.”*

¹⁸ [Perceived interplay between flexible learning spaces and teaching, learning and student wellbeing](#) Kariippanon, Cliff, Lancaster & Okely 2018

Classroom chairs and soft seating

Pupils spend much of their school day seated on classroom chairs. Ideally, a chair should allow for the correct sitting position, promote a healthy posture and provide back support. A chair that offers a degree of healthy movement of the body is also considered necessary for physical comfort. Ensuring learners have a chair that is right for their height is also an important consideration.

Most classrooms will be equipped with standard hard plastic moulded chairs – one size and shape to cater for pupils' differing body structures, heights and weights.

Flexible classroom seating

In 2014, The Bazaar Group published findings on their research into how bean bags aid learning in primary education.¹⁹ The research project was the start of a journey in developing a range of soft seating for all education settings

The key findings included:

- Teachers were adapting their classroom environments to meet the needs of different learning activities.
- Teachers were using bean bag seating as a motivational tool to encourage pupil engagement with books or as a reward for positive behaviour.
- Ergonomic high-backed bean bags improved comfort levels and increased the time pupils spent reading or on other learning tasks.
- Teachers were seeking portable seating options to aid teaching in outdoor learning spaces.
- Flexible seating such as bean bags facilitated 'pop up' learning spaces for intervention or group learning, or as a solution to expanding class sizes.

Flexible seating is a way of encouraging innovation and creativity, reflecting the changing landscape of education as we move forward in the digital age. Passionate and experienced STEM educator, Laura Liguori, speaks about the benefits of flexible seating to support STEM learning,

"To foster collaboration and direct communication I would select a corner of the classroom where there was sufficient space to arrange large bean bags for paired work, whereby two smaller children could sit together comfortably and code viewing each other's device screens and checking their code to ensure it was meeting the learning objective – whether that be to create an animation or to code a robot to move.

"For larger children working in groups of 4 to 6, good-quality, supportive bean bag chairs would be ideal to arrange in a circle to foster communication and collaboration between children, resting comfortably and securely while holding their devices on their laps."

¹⁹ <https://static1.squarespace.com/static/5b7ec26e3c3a5327354a2897/t/65def48d1ee1d731a79e783c/1709110420012/ELS+White+Paper+-+2014+%282024+Updated%29.pdf>

The Bazaar Group, 2014

Laura acknowledges the wellbeing considerations required to support innovative teaching and learning. Students may naturally feel anxious when trying new activities and their environment can contribute – positively or negatively – to their overall experience.

“At the Canadian International School of Hong Kong, I led one of the first one-to-one robotics trials in the city. Each child in my Year 6 class was given a robot to build and to use as a learning tool across subjects. The first step I took was to assess the current learning environment.”

“Tables of the same size and height and hard plastic chairs were not conducive to embarking on a fully integrated approach to STEM in the classroom. Students felt restricted, uncomfortable and anxious because this was their first attempt at building and coding robots to demonstrate their conceptual understanding of mathematical concepts. Collaboration, communication, resilience, and perseverance are key to ensuring that children acquired 21st century skills.”

Educators can consider ways in which flexible seating can support learners’ wellbeing in helping them to feel comfortable and empowered to adapt to different activities, work with their peers and persevere when learning new skills.

Colour and texture in the learning environment

Through various studies, a link has been established between colour and texture and wellbeing. These are two important elements for educators to consider when designing learning spaces.

Psychologists have established common links between certain colours and emotional responses in students. For example, reds and oranges can make students feel unsettled and anxious, while blues and greens are associated with inducing a feeling of calm.

There is also research to suggest that colours in the learning environment affect children differently according to age. Brighter colours like yellow can effectively stimulate children under five. Older pupils find blue, green or warm or pale-yellow rooms less stressful and distracting.

When it comes to classroom wall colours, natural, warm, neutral colours are a safe choice, but an accent wall painted in a colour appropriate to the age of the pupils may add balance and positive stimulation.

Teacher Laura Liguori reflects on the use of earthy tones for ‘relaxation corners’.

“An international school in Bangkok used neutral colours on display backings, classroom walls, in carpets and fabrics which had a calming effect on pupils because children were less distracted by busy display boards and bright colours, and more focused on visual tools and learning aides that support learning. This led to more productive lessons and a sense of accomplishment, raising self-esteem. In the same school ‘relaxation corners’ were set up in classrooms and equipped with a sofa, cushions, and bean bags located in an area apart from classroom tables and chairs. These ‘relaxation corners’ were used for small group interventions, guided reading lessons, coding lessons and maths for children who tended to feel anxious during those lessons.”

Colours and textures found in nature have been found to have a positive impact on wellbeing. For example, wood texture has been found to “reduce ANS activity (heart rate and sweat response) without conscious perception”²⁰

As we discuss later in this paper, there are numerous benefits to student wellbeing by bringing aspects of nature into learning spaces, which includes colours and textures

Classroom displays

Classroom displays can influence the wellbeing of all students in a number of ways, positively and negatively. Studies have shown that some neurodivergent pupils may find bright, busy displays over-stimulating and distracting, which will impact their wellbeing and learning. Certainly, the impact that colour has on wellbeing is an issue that can be addressed through displays as well as through the colour of walls, furniture and soft furnishings used in learning spaces.

Class teacher and pastoral care expert, Lee Game, shares actions that have been taken in his school to improve displays so that they positively impact student wellbeing. *“Our classroom and corridor displays are no longer bright and contrasting with background and text – they are on a light brown background with shades of similar colour – remaining eye-catching but less eye-straining.”*

Teachers can try to be discerning with materials they choose to display in learning spaces and ask the following questions:

- What purpose does this display serve?
- Does it celebrate and support student learning?
- Who is represented in the images? Do they reflect the diversity of the classroom and the community?
- Are displays current and in line with what is being learned at this moment?
- Can displays be made interactive?
- Is there white space in between visual learning aids to help the eye distinguish what is important?

Effective displays in learning spaces can support wellbeing in the following ways:

- **Promote a sense of calm and belonging.**
Natural, neutral colours and organised, well-maintained displays promote a sense of calm. Specific material on display can promote a sense of belonging when it reflects the identities, backgrounds and cultures of the learners in the class.
- **Boost engagement and support learning.**
When children can access display material that supports them with their learning, they feel more relaxed and confident.
- **Promote a sense of pride and achievement.**
Displaying pupils’ outputs shows that their efforts are valued, instilling pride and a sense of achievement.

²⁰ [Impact of built environment design on emotion measured via neurophysiological correlates and subjective indicators: A systematic review](#) Bower, Tucker & Enticott, 2019

Storage of resources

A disorganised, cluttered learning space can negatively impact wellbeing. Conversely, a tidy, organised space is considered to support wellbeing. Knowing where resources are and having access to them when required can also support student wellbeing by eliminating uncertainty and enhancing independence.

Some recommendations regarding storage to consider:

- Make the most of built-in storage.
- The space on top of cupboards can be utilised.
- Remove resources not in use to a central place in the school.
- Use portable storage, like trolleys, for resources to be placed where needed during different activities.
- Store similar items together.
- Stick to neutral colours for cupboard doors, boxes and trays.
- Label resources and let pupils know where things are kept.
- Regularly tidy storage and organise resources.
- Appoint pupil monitors to help tidy resources.

Labels, signs, timetables and wayfinding

Organisation and structure can limit uncertainty and accompanying anxiety. Educators can enhance wellbeing by using useful labels and signs in their learning spaces.

This includes:

- Clearly labelling resources, using words and pictures.
- Displaying routines, timings and timetables of activities for pupils to refer to.
- Displaying visual reminders of class rules of 'dos and don'ts' as reminders for pupils.
- Using signs around school that help learners with location and directions. This is especially useful in larger schools and particularly helpful for neurodivergent learners, pupils with SEND and students who are new to a school.

Educator Edd Moore has found this to be beneficial to all his pupils, but particularly his learners with SEND,

"Widget pictures are used for classroom activities and for resources in the classroom so everyone can understand them and access what they need. This is across the school, in every classroom, from Reception to Year 4. The classroom timetable helps children with their routine, letting them know what they are learning today and what is coming next. This helps them to feel calmer and less anxious in the classroom. The children get to know the classroom timetable knowing that every afternoon on a Tuesday is science, for example. This especially supports our SEND children with their learning, with no surprises, as they get used to what is happening on each day."

Taking learning outside

Many studies have reported the positive impact that spending time outside has on our mental health and wellbeing.

Time spent in natural settings can help reduce mental fatigue recovery time and improve concentration levels (Entrix 2010, Keniger et al. 2013, Kjellgren and Buhrkall 2010, White et al. 2017, Wolf and Housley 2014). Barton and Pretty 2010 found that green environments improved both self-esteem and mood, and the presence of water generated greater effects. Wilson (2015) showed that children who play in greenspace for 30 minutes had increased sustained mental ability and found greenspace to be restorative.²¹

Utilising the outdoor space that pupils have access to and maintaining these areas so that they offer a natural, 'green' space can enhance learners' wellbeing through sight, sound and touch.

This has been witnessed by Year 1 teacher, Edd Moore.

"We have a corner outside as part of a wildflower meadow with a giant chair and a curved seating area for children and adults to sit. Children do lots of role play in this area amongst the wildflower meadow and insects, especially in spring and summer. It is a good place for children to practice mindfulness, lying down and just listening to the sounds around them, to recentre their thoughts and calm any anxieties. It's also a great place to take your shoes and socks off and walk in the long grass, feeling the grass in between your toes and on the soles of your feet."

Bringing nature into indoor learning spaces

The positive impact that nature has on wellbeing is being increasingly recognised and discussed. As mentioned previously in this report, mirroring the colours and textures found in nature can have a significant positive impact on mental health and wellbeing.

When young people, particularly students, have a view of green spaces during school, students exhibit significantly better performance on attention tests and stress recovery (Li and Sullivan 2016). Lee et al. 2015 found that taking micro-breaks to view nature can help with attention restoration²²

This might include:

- Taking in views through classroom windows.
- Watching nature-based video clips.
- Being immersed in nature-themed wall art and displays.
- Spending time in role-play areas linked to nature.
- Engaging in activities using natural resources (such as shells, leaves, conkers or pebbles).

²¹ <https://ellisonchair.tamu.edu/files/2019/07/An-Update-of-the-Literature-Supporting-the-Well-Being-Benefits-of-Plants-A-Review-of-the-Emotional-and-Mental-Health-Benefits-of-Plants.pdf>

Extensive research has also shown the wellbeing benefits of plants. Visible greenery, both indoors and out, reduces stress and increases the ability to concentrate (Alker et al. 2014, van Duijin et al. 2011). Introducing a few plants into learning spaces needn't be too expensive and pupils might enjoy the responsibility of caring for the plants.

Animals in classrooms

Animals have also been shown to positively impact wellbeing. Schools are increasingly using 'animal assisted interventions', such as the use of therapy dogs, to support learning and student wellbeing.

Some schools have animals featuring as a more permanent element in their learning environments. In her post²³, Danielle O'Connell shares her experience of introducing small animals to classrooms in her rural primary school.

Danielle states,

"I often find children sitting contemplatively in the atrium, simply watching and enjoying the twittering and chirping of the budgies as they eat their lunch. Children who are incredibly anxious or upset are encouraged to spend a few minutes with a guinea pig in their lap or a bird on their shoulder".

"With some of our children experiencing challenging home lives, being able to come and relax and even share their thoughts with the pets can provide some much-needed comfort and time to reflect.

"As a parent and a teacher, I have also specifically noted the beneficial effects on wellbeing our python can have on children who are on the autism spectrum. It has long been noted that deep pressure stimulation can have an immediate effect on mood and behaviour as it helps to calm the central nervous system. Our python can provide this with great success, as he slowly and calmly wraps around the children's arms."

Senior leader, Laura Liguori has also witnessed this,

"The use of natural elements such as plants, fish tanks, and small flowing water statues can also enhance social and emotional wellbeing. A school in Hong Kong allowed small animals such as guinea pigs to be housed within classrooms. This did have a positive impact on the wellbeing of children, fostering a sense of responsibility which made them happy and self-confident."

Of course, keeping animals in classrooms is a large commitment and requires thorough research and the support of the school's leadership team. Animals must be well-cared for in a suitable environment, and time should be given to ensuring staff and pupils understand the implications of having animals in the classroom or other learning spaces.

²²<https://ellisonchair.tamu.edu/files/2019/07/An-Update-of-the-Literature-Supporting-the-Well-Being-Benefits-of-Plants-A-Review-of-the-Emotional-and-Mental-Health-Benefits-of-Plants.pdf>

²³[Pets in the classroom – How animals can support pupils' emotional wellbeing](#),
Danielle O'Connell

Creating designated spaces to support student wellbeing

In many education settings, specific areas or rooms are designed with wellbeing in mind to provide a calming environment for students to access when needed. Pupils with SEND or neurodivergent learners are often encouraged to access these spaces, and the rooms themselves can be used in different ways.

The design and layout of designated spaces should cater for the needs of those who will be using them. As needs vary from one individual to the next, a degree of flexibility is an important consideration.

Lee Game, pastoral care lead, discusses a room he and his team set up in their secondary school to support learners with SEND.

"We created a designated room/area (the reflection room) that students can visit if they are overwhelmed, have experienced recent trauma or indeed are presenting with behaviour caused from past trauma, or are completely unregulated in lessons. The room is staffed by a full-time non-teaching member of staff who is trained in co-regulation techniques to assist these students to return to a calm state for learning."

"In a relatively new build school, it can be described as medical, hospital like, with its whitewashed walls from floor to ceiling. However, not this room. Careful consideration of colour was used to ensure it provided an emotionally safe, calming effect; a shade so specific, it was only available on the farrow and ball paint chart."

"The room is equipped with formal working areas, with removable desk dividers and ear defenders for students to reduce background noise and distractions. Every table is equipped with its own spider plants and other greenery to bring a natural feeling to an inside environment."

"Students also have access to a blue wobble cushion, which allows those with ADHD to release built up energy and to disperse the desire to rock on their chair. In turn, this enables them to focus on the task in hand."

"The other side of the room is less formal, an array of comfy armchairs and sofas with a box full of fidget toys to allow those who are overwhelmed to remove themselves from their reality temporarily, giving them time to subliminally process any concerns."

Many aspects Lee describes here as benefitting the learners with SEND who access this 'reflection room' can benefit all students and support their wellbeing: calming colours, flexible working areas, limiting noise and visual distractions, plants, and comfortable seating.

Lee has seen these benefits spread throughout his school,

"The techniques used inside the reflection room are now spilling out into classrooms around the school – and will continue to do so until we are in position where students, as well as staff, understand that everybody learns differently, there are no advantages or drawbacks – just differences that we support and celebrate."

Some schools make use of sensory rooms, which offer a therapeutic space for students with SEND. Special furniture and equipment in these rooms can help learners develop and engage their senses. In turn, this can support their emotional wellbeing and build their confidence and abilities.

To create a soothing and engaging environment, common components of a sensory room include:

- Therapy balls
- Fibre optic sprays or UV lighting
- Bean bag chairs
- Rocking chairs
- Projectors displaying various colours and patterns
- Music players and headphones
- Weighted blankets
- Tactile cushions or pillows

Schools considering setting up a sensory room can find advice from various charities and organisations, such as the guide created by Cardiff University's School of Psychology²⁴.

Useful considerations for the planning stage include:

- **Who will use the room?** Consider learners' ages, abilities, physical needs and wellbeing needs.
- **How will the room be used?** Will the room be available throughout the school day? Will slots be timetabled? How many pupils will use the room at once?
- **How will the room be adaptable?** Will you aim to cater for different needs? Can you use flexible items in the space so that students don't become bored?

²⁴[Sensory room guide – supporting the learning and wellbeing of autistic children](#), Cardiff University, School of Psychology

MAKING CHANGES TO LEARNING SPACES

- Potential barriers to improving learning spaces to support wellbeing
- Key recommendations

Making changes to learning spaces requires careful thought and planning. Teachers will also need time to make more significant changes.

Changes to the learning environment may initially appear to negatively impact some students' wellbeing, as change can ignite feelings of confusion or anxiety in some people. Consider the wellbeing needs of your learners and support them with changes by involving them in discussions and decisions and preparing them for change. Allow for a 'settling in' period, as pupils adjust to changes to their learning space. Encourage them to share their emotions and reinforce the benefits to their wellbeing that these changes will soon have.

Potential barriers to enhancing wellbeing through learning spaces

There will always be barriers to making changes to learning spaces. The size and location of the space, and the existing furniture and resources, are likely to be the main considerations when looking to improve a learning space to enhance student wellbeing

Funding and limited budgets will be a primary factor for any setting looking to make changes to the physical environment. However, as educators will see when considering the list below, there are many areas where changes can be made that do not require large budgets.

Identifying the barriers to enhancing wellbeing through physical learning environments may be a useful first step. Once these barriers specific to a learning space have been identified, decisions can be made about addressing each one. School leaders and teachers might consider categorising the barriers, identifying those that are easier to overcome. These can then be made a priority and action points can be developed accordingly.

A useful method for each setting is to use the following headings and note down any perceived barriers in a particular learning space:

- Letting in natural light
- Improving the acoustics
- Regulating the temperature
- Ventilation
- Ensuring pupils have adequate personal space
- Creating space for movement
- Adapting the layout to facilitate different activities
- Making use of flexible seating
- Using neutral colours
- Bringing in colours and textures found in nature
- Enhancing wellbeing through displays
- Effective storage of resources
- Using labels and signs
- Taking learning outside
- Bringing elements of nature inside
- Pupils' responses to changes

Key recommendations

Through analysis of all the research and findings, we have pulled together some key recommendations for educators and school leaders regarding ways to enhance wellbeing through the physical learning environment.

While greater changes to learning spaces require funding, interestingly, our findings indicate that many effective improvements can be made that require little or no funding. This is noteworthy at a time when school budgets are particularly stretched and money allocated to support student wellbeing is perhaps being used for staff training, to employ support staff and counsellors, and to access services and resources.

Strike the wellbeing balance

To support wellbeing through the learning environment, we can use the wellbeing scales model (Dodge et al. 2012). They state that “stable wellbeing is when individuals have the psychological, social and physical resources they need to meet a particular psychological, social or physical challenge. When individuals have more challenges than resources, the (scales) dip, along with their wellbeing and vice versa”.

Educators can strive to identify risk factors to student wellbeing in the learning environment and put protective factors in place in order to tip the scales in favour of positive wellbeing influences. Using the list set out in ‘Potential barriers to enhancing wellbeing through learning spaces’ can act as a starting point.

For example, pupils not having enough access to natural light may be identified as a risk factor in a specific learning space. Discussions can then focus on actions that can be taken as protective factors, ensuring more light can enter the learning space or that pupils are given more opportunities for learning in outdoor environments.

These risk factors and protective factors can be considered through your setting’s policies and the curriculum, as well as the physical set-up, layout, organisation and appearance of physical learning spaces.

The school improvement plan and wellbeing policies

It is important to work with your colleagues to establish what pupil wellbeing means to you and the learners in your setting. If improving student wellbeing is on a school’s improvement plan, the physical learning environment should be one of the key areas of focus and specific action points can be outlined.

Whole school wellbeing policies should acknowledge the influence on wellbeing that the physical learning environment has and include any practices the school consistently employs to enhance wellbeing through learning spaces.

Provide staff training on wellbeing and the physical learning environment

Set aside time to discuss ways in which your staff can adapt the physical learning environment to enhance the wellbeing of pupils in your setting. Share best practice across the staff, extending beyond classrooms and into shared learning spaces, such as halls, libraries and support rooms.

Secondary teacher and pastoral care specialist explains,

“Across the school, staff have been trained with small but effective techniques to help with regulating students after period of rest/ unstructured. Staff training (and the introduction of our reflection room) has allowed us to normalise neurodiversity, removing the stigma that students requiring extra support or adapting the environment for them is a negative thing. The improved wellbeing results on both students and staff following this new approach of being curious not furious – and accepting that escalating sanctions is not going to have any impact has been overwhelmingly positive.”

Know your pupils and their needs

International teacher Laura Liguori explains,

“To effectively design a learning environment that promotes wellbeing, teachers must know the learning needs of pupils, including EAL learners, SEND pupils, and Gifted and Talented pupils, as well as those with disabilities such as visual or auditory impairment.”

Tailoring the learning spaces in your setting to support the wellbeing needs of your learners requires thorough knowledge of your students and their specific requirements. What works well in one setting might be less effective in another setting. This variation can occur between schools but even across classes within the same school.

Involve pupils and seek their views

Even the most experienced educator may not fully appreciate their students' wellbeing needs or the extent to which aspects of the physical learning environment impacts their students

To gain a true sense of pupils' wellbeing and how they perceive the impacts of their physical surroundings, educators should seek feedback from pupils. This could be done through informal discussions or via questionnaires. Schools might also make use of their school council or student body representatives, enlisting their help to gain the views of their peers

Not only will hearing from students provide a greater understanding of their perceptions of how learning spaces impact their wellbeing, but it shows their opinions are valued.

As educator Laura Liguori explains,

“There are unlimited ways to foster well-being in modern classrooms. Various design models continue to evolve however allowing student agency, and asking pupils to drive the design of their own learning environments leads to happier children, a sense of wellbeing and positive attitudes towards learning and interacting with their peers.”

Plan ahead and prepare learning spaces

It is particularly valuable to plan ahead and prepare the physical learning environment, ready for the start of the school year. Of course, learning spaces change throughout the school year, and there are many ongoing practices that can support pupil wellbeing, but some basics are worth considering during the longer school holiday periods.

Redecorating classrooms

- If learning spaces are being redecorated, use this opportunity to consider how to enhance wellbeing.
- Paint walls in calming, neutral shades that have a warmer tone. Greens and blues have also been shown to be calming colours.
- Wall art that depicts the natural world may also enhance wellbeing in the learning space, such as wallpaper or large prints depicting plants or underwater scenes.
- Expose windows and install versatile blinds that can let in maximum amounts of natural light.

Purchasing new classroom furniture, seating, storage or soft furnishings

- When the budget allows, replacing furniture and seating for learning spaces is the perfect chance to invest in pieces that will enhance pupil wellbeing.
- Think carefully about the size of the learning space and how it will mostly be used.
- Flexible, portable furniture and seating will be ideal for a learning space that is versatile and comfortable.
- Consider the quality and durability of new items purchased so that your money is well-spent on products that will stand the test of time.

Simple, effective top tips

Adapting the physical learning environment to enhance student wellbeing requires long-term planning and investment. However, there are many recommendations of simple yet effective improvements that can be made, which require little or no funding.

For those wishing to implement immediate changes to their classrooms and learning spaces to positively influence wellbeing, we recommend the following:

- Switch displays to more neutral or calming colours.
- Investigate the type of lightbulbs used in the lighting in your learning spaces.
- Let as much natural light into learning spaces as possible.
- Bring plants and other natural resources into learning spaces.
- Consider how an animal in the classroom might support pupil wellbeing.
- Mirror colours and textures found in nature in learning spaces. This might be through displays or soft furnishings.
- Add useful labels and signs to learning environments to help pupils access resources, know what their school day looks like, understand expectations and navigate their way around their learning environment.
- Invest in some flexible, comfortable seating options in certain areas of the classroom.
- Build in micro-breaks where learners can view nature in some way.
- Ask pupils about their physical learning space to gain their views on what they like and dislike.
- Create a room that facilitates reflection that pupils can visit to calm down, recentre or refocus.
- Develop just one small area of your classroom initially as a welcoming, calming space that pupils can access regularly

CONCLUSION

- **Conclusion**
- **Acknowledgements**

Conclusion

Student wellbeing is one of the most discussed topics in education, particularly since the pandemic. Schools are prioritising wellbeing, with the understanding that physical, mental and emotional health impacts learning.

While there are studies and reports available on the topic of how the physical learning environment impacts student wellbeing, further research would benefit educators and school leaders. Sharing best practice and evidence of approaches that have had a measurable positive impact on learners' wellbeing will allow for more education settings to identify ways in which they can improve their learning spaces to enhance pupil wellbeing.

In the current economic climate, school budgets are tight and school leaders may be looking for the most cost-effective options to support wellbeing. The physical learning environment may be an excellent place to start, supported by high-quality staff training and working with families to tailor support to individuals as far as possible.

Our research has highlighted the many aspects of physical learning spaces to consider and some ways in which improvements can be implemented to benefit all learners. Those improvements can range from simple, inexpensive adjustments to larger projects that require greater funding, meaning all schools have the potential to make improvements.

We believe that further considerations might be given to how best to share best practice and get information and advice to schools on this important topic.

Acknowledgements

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Laura Liguori is a senior leader and teacher with over 15 years of experience in UK and international education. Her areas of specialism include: curriculum design, literacy development in bilingual learners, STEM including coding and robotics, enhancing teaching and learning through the use of technology in the classroom, pastoral care, safeguarding and PSHE.

Edd Moore is an experienced primary school teacher and a lead educator and trainer in environmental education and sustainability in schools. He is a national award-winning Eco Coordinator, Coronation Champion, Forest School teacher (Level 3), Young Enterprise expert and gardening enthusiast. Edd is passionate about supporting pupils' wellbeing through links with the natural environment.