

# PLANNING LEARNING SPACES

FOR ARCHITECTS  
DESIGNERS AND  
SCHOOL LEADERS

## WHY WE NEED TO MIX UP LEARNING

WITH “BAKINEER”  
ANDREW SMYTH



INSIDE: LATEST RESEARCH  
FROM PROFESSOR PETER BARRETT  
IN FULL



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# PLANNING LEARNING SPACES

We believe the learning environment has a profound effect on the educational outcomes for all pupils. If you would like to join us to improve these environments worldwide we would love to hear from you. This magazine is a not-for-profit journal and is the official magazine for A4LE (Europe). It is given free to European members and distributed to 8,000 A4LE members globally in e-format. If you would like to contribute articles to the magazine or purchase additional copies please contact us.

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# FOOD FOR THOUGHT: THE FUSION OF PEDAGOGY, SPACE AND COLLABORATIVE DESIGN

TERRY WHITE  
GUEST EDITOR



This year I was privileged to contribute to the second edition of 'Indoor and Outdoor', a new book about how the Italian city of Milan has changed its approach to school building.

My contribution for the authors, Cristiano Scevola and Mariagrazia Francesca Marcarini came from my reflection on my own learning journey and the fundamental influence that Loris Malaguzzi had on my thinking as a teacher and headteacher. He recognised that learning was a consequence of the children's own learning activities and the value of space to "create a handsome environment with its potential to inspire, social, effective and cognitive learning".

In this edition of the magazine, Alessandro Zecchin describes the impact of Malaguzzi's thinking in the new design of the Iride nursery in Reggio Emilia, Italy (Womb With A View on p22). The approach promotes learning through discovery and the remodelled building was designed to focus on stimulating the creativity, language and curiosity of nursery children. The innovative design team have worked directly with the school, teachers and the municipality to deliver their vision through the design of this contemporary environment for learning.

This collaborative approach is also at the heart of All Hail The Milan Manifesto (p28). The Municipality of Milan has recognised the importance of the link between learning and teaching effectiveness and the physical and

organisational structures within which the educational activity takes place. The manifesto is distinctive in that it has been a collaborative project across all stakeholders with the full involvement of all those who design and provide services for schools. There is recognition that the traditional school model no longer responds to the social and emotional needs of a modern society. It has drawn on the extensive research and case studies linking pedagogy and space to support this.

In A Refit Worthy Of A Master (p18), Sabine Smolders describes the importance of designing spaces that promote play and exploration in the refurbishment of the de Vogels School in the Netherlands. The norm is active learning, where students are engaged through playing a leading role in their learning with a more 'hands on', integrated and interdisciplinary approach.

A Taste For Learning: Why Growing Food At School Brings The Outside In (p12), explores the growing recognition of the connection between the design of internal and external spaces to fully engage children in practical life skills that help them to prepare for life and to both garner and conserve resources.

Making learning personal through learning how to learn is an essential 21st century life skill. Our feature Don't Stay In Your Lane (p06) focuses on Andrew Smyth's learning journey creating a special fusion between baking and engineering.

In his work through the “Baking Impossible” show, he highlights the importance of cross-disciplinary teams exploring projects that have meaning for young people.

Establishing projects that support some of the approaches in this edition through evidence-gathering and research is now more important than ever. We feature the final report of the Planning Learning Spaces Project at Trumpington Park Primary School by Professor Peter Barrett

(A Journey Into Space on p34). In leading this project with my colleague Bhavini Pandya and the teachers and learners at the school, we were pleased to see the improvement in learning outcomes and the more independent and creative approach to learning taking place.

I think I would leave the last words to Andrew Smyth “We’re all unique, so fewer silos, more fusions and that’s where the fun starts.”. I would suggest that this is where the learning begins.



## LEARNING TO LEARN AT TRUMPINGTON PARK PRIMARY SCHOOL, CAMBRIDGE

One of the world’s leading experts in the learning environment, Associate Professor Wes Imms (above, right) of the Melbourne Graduate School of Education, took the chance to visit Trumpington Park Primary school to see for himself how pupils were getting on after taking part in a ground-breaking three-year study at the school.

A learning space at the Cambridge school was transformed by the Planning Learning Spaces team and the results can be seen later in the magazine in the Professor Peter Barrett report.

Professor Imms was joined by Alastair Blyth, Assistant Head of the School of Architecture and the Cities at the University of Westminster, London to share with pupils

their collective experiences of collaborative learning.

Pupils at the Cambridge school are now leading their own learning in the spaces that they have helped to design with their staff. It is not often that pupils have the chance to share the successes and motivation that comes from their new ways of learning with those responsible for training teachers and architects for future focused schools.

In observing this dynamic learning conversation at Trumpington it was clear that all were equally engaging, sharing and contributing ideas of the importance of collaborative and learner focused activities in new spaces and places to improve learning outcomes for all.

BAKING IMPOSSIBLE HAS LED TO CHILDREN ACROSS THE WORLD TAKING TO THEIR KITCHENS TO CREATE THEIR OWN EDIBLE ENGINEERING DESIGNS.

## DON'T STAY IN YOUR LANE

Baking and engineering have never been natural bedfellows until Andrew Smyth came along. The former Great British Bake Off contestant turned Netflix star has created a whole new genre that has grabbed attention everywhere. Irena Barker pinned down the world famous 'bakineer' and discussed the importance of exploring what makes you happy in school, work and life.

"On the Tuesday I could be researching a future aircraft for Rolls Royce and on Wednesday I could be trying to crack the perfect recipe for baked Alaska, it's a fun juggle," says a smiling Andrew Smyth as he describes his typical working week.

The 31-year-old works four days a week at the sharp end of aircraft design, and keeps one day aside to promote "Bakineering", his imaginative fusion of baking and engineering that first emerged when he was a contestant on 2016's Great British Bake Off.







He has come a long way since he first made his moving cog-shaped pork pies for cooking legend, Mary Berry. Recently, the Northern Irishman has found international fame as a judge on the Netflix gameshow “Baking Impossible”, a cookery/engineering show where teams of engineers and bakers are set a series of ambitious “Bakineering” tasks.

Based on Andrew’s own ideas (he is executive producer on the show after pitching the concept to Netflix), the pairs have a set time to create pastry boats, gingerbread skyscrapers built to withstand earthquakes, edible bridges and more. It’s a thrilling and often hilarious watch where the line between genius success and miserable failure can be as thin as the fondant icing.

One of the most hair-raising episodes that showed how hard Bakineering can be featured contestants making robots out of cake, a kit from Makeblock, and driving them around a course.

“There was a lot of failure. They all made them far too heavy... the clever teams did something with a long tail or an extension,” says Andrew, recalling the fiendish challenge.

A global hit, “Baking Impossible” has led to children across the world taking to their kitchens to create their own edible engineering designs.

Andrew devised the concept of Bakineering several years ago, after he realised baking was a way to engage people in engineering who might not otherwise be interested. He then developed a series of live shows and started touring them at science festivals and other events.

He says “the way to everybody’s heart is through their mouth,” so baking provides a great way to pique people’s interest in engineering.

“Even though what I’m doing every day at Rolls Royce





isn't as frivolous as Bakeengineering, when you have that sense of solving a problem, it still feels great.

"But it's very hard to convey that to a child, whereas if you're showing that in this accessible way, that thrill of understanding something using an analogy of something they know really appeals to them."

The Baking Impossible show has also highlighted the importance of cross-disciplinary teams, says Andrew. There is increasing recognition of the benefits of blending the arts and sciences, with many schools now embracing the concept of "STEAM" – Science, Technology, Engineering, Art and Maths.

"It was always the hope when we were putting together Baking Impossible that it wouldn't be two people who stayed in their lane and just chucked in results together," says Andrew.

"The aim would be that... they become these kind of

blended experts at the end and the engineer would be making baking calls and the baker would be making some engineering calls and in the best teams that is what they did.

"Before the series I always banged the drum that we are too quick to put ourselves in silos sometimes, this idea that we're either left brain or right brain, you're either going to go down the science route or you're going to go down an arts and humanities route. But it's just not the way life's played out for me because I get joy from both of them."

The idea of "staying in your lane" is obviously quite alien to Andrew, who says he is happy to be a "jack of all trades" who enjoys





music and singing as much as he does baking and aircraft design.

But what inspired his wide range of interests?

At grammar school in Northern Ireland, he says, he wanted to be a pilot, but soon realised aircraft engineering might produce more job opportunities and prove more interesting.

He didn't study cookery or design technology at school, but he "loved physics and maths" and excelled in them. His family inspired him in the kitchen.

He says: "My family have always been big eaters, when I think back there was a lot of baking going on in the house. My brother would make a pavlova, that was his thing, dad would make the shortbread, mum would be at the mince pies and in recent years I've tried to bring the wildcard to the table."

A couple of cookery summer camps in his teenage years may also have proved instrumental, he adds, although he didn't get seriously into cookery until after he left Cambridge University.

"At university there were quite a few burnt banana breads, that was all it amounted to," he says.

Now *Baking Impossible* is finished, Andrew is touring

his live shows and also promoting STEM to young people through various outreach projects. He was recently involved in "Bedtime Stories for Very Young Engineers" a project designed to counteract young children's pre-conceived ideas of who might do certain careers.

"By the time you're actually talking to children about careers, some of the biases are already set in," says Andrew.

Thirty engineers from around the UK were taught story-telling techniques and wrote a bedtime story for two to five-year-olds, loosely themed around their engineering discipline. Funded by an Ingenius grant from Royal Academy of Engineering, Andrew's is already one of several currently on YouTube. [<https://www.youtube.com/watch?v=lad7xtunvuw>]

And it's no surprise Andrew has been a popular choice with TV producers and others looking to promote engineering to young people. A sunny, smiling manner and infectious enthusiasm – with a sprinkling of geekery – has proved the perfect recipe. For *Baking Impossible*, he was given a stylist who devised a look for him that their mood board called "Easy Cambridge Chic".



"I'm a Northern Irish boy, I don't have airs and graces," he says, "I got told that I'd be having a call with a stylist before I went out there which I found hilarious."

He then spent a full day in LA having his outfits chosen and adjusted by a seamstress. "I was totally aware of how ridiculous it was," he says, adding that the clothes nonetheless helped him feel confident under the bright studio lights. He has been allowed to keep his clothes, he says, and now has a good stock of suits to wear to family weddings.

It is uncertain whether there will be a second series, but it is not out of the question. Whatever happens with the streaming giant, Andrew will be out there, promoting Bakeengineering, STEM and also encouraging people to create their own interdisciplinary fusions with confidence.

"I want people just to run with it and use the inspiration as they like. If you want to be a mathematician who's a ballet dancer or an art teacher who climbs mountains or an engineering baker, find your own combo of what makes you happy...get creative with it.

"We're all unique so fewer silos, more fusions and that's where the fun starts to come through," he says. ■

**"BY THE TIME YOU'RE  
ACTUALLY TALKING TO  
CHILDREN ABOUT CAREERS,  
SOME OF THE BIASES ARE  
ALREADY SET IN."**



# A TASTE FOR LEARNING: WHY GROWING FOOD AT SCHOOL BRINGS THE OUTSIDE IN



Studies show that pupils who engage in learning experiences outside of the classroom demonstrate higher levels of engagement in their learning, improve all round attainment, are more active and develop important life-long learning skills. Terry White, the chair of A4LE Europe, rounds up some examples of schools successfully adopting this approach.







## THE PUPILS LEARN TO FOLLOW A RECIPE, GRATE, PEEL, WASH, CHOP, AND COOK MAKING DISHES LIKE SUMMER PUDDING, APPLE AND BERRY CRUMBLE, SOUP, PIZZA AND EVEN MINT TEA.

When designing primary schools, it is accepted best practice that there needs to be easy access to external learning environments. Even in schools with more than one storey, the design of learning platforms and roof terraces are becoming accepted features of contemporary school design.

Schools that value the importance of the external learning environment are also more likely to develop a student-centred and enquiry-led approach to learning.

These schools are enhancing the curriculum experience by taking learning outside in exciting and innovative ways, and bringing the experience of outside learning indoors, as a practical way to explore subject areas and making the curriculum more relevant.

At Damers First School in Dorset, UK, all the pupils garden as part of their curriculum. It is central to the ethos of the school that their learners connect with nature for the benefit of their health and for environmental education. The pupils work with volunteers under the leadership of Year One teacher, Edd Moore, in the school garden. They grow their own seeds in a "plastic bottle" greenhouse, learning the importance of growing vegetables and fruit through the seasons, plant seedlings out and harvest what they have grown. They use the produce to cook meals in their food technology room. The pupils learn to follow a recipe, grate, peel, wash, chop, and cook making dishes like summer pudding, apple and berry crumble, soup, pizza and even mint tea. They put into practice what they have learnt in maths to weigh out ingredients.

The concept of "ground to the table" is growing as an important approach within the school curriculum.





KATRINEDALS SCHOOL

At Charlton Manor Primary School in London, UK, the idea of “ground to table” has been developed further with a training kitchen for the primary age range. The school has a unique approach in that cookery is used creatively to deliver skills from the national curriculum. The children use induction hobs and ovens, which are specially adapted to ensure their safety. The kitchen is used for a wide range of lessons incorporating the skills in all curricular subjects. The kitchen was opened in 2013 by the world-renowned chef, Raymond Blanc. The current Teaching Chef, Joe Grollman, consults with class teachers to develop resources for topics that he can then deliver through the teaching kitchen.

Schools that recognise the importance of the relationship between pedagogy and space, understand that this applies to both external and internal learning environments. The school, its site and community become a learning campus. This approach liberates learning and enables the full range of creative activities, critical for a pupil’s development, to take place.

The design of specialist and adaptable studio spaces to help integrate these approaches into the mainstream

curriculum are important. In Katrinedals School, Copenhagen, studio spaces have been designed to promote active learning through approaches to food technology as part of a wider “skills for life” approach. The food technology studio spaces are directly adjacent to main school circulation areas to allow open, visual, shared and more collaborative eating experiences.

In the City of Copenhagen this approach is being more fully developed at New Islands Brygge School. This school has a special emphasis on growing, making and preparing meals, with lunchtime a central feature of the school day. It places emphasis on the social aspects of food production and through the connectivity of inside / outside learning lends a more informed meaning to the external environment. This is fully reflected in the design of this school which creates adjacent outdoor areas that are part of an integrated campus. It is innovative, creative and engaging and values the importance of understanding a healthy lifestyle and respect for the environment. ■





## GRUB'S UP

It's not just primary schools that can benefit from stronger relationships between "inside and outside learning". In secondary education where food technology is encouraged, a more innovative and effective design of spaces needs to be developed. Liam Serridge, International Sales Manager for S+B UK Ltd, reveals his six top hints and tips for architects.

### 1 Practicality

Make the room self-sufficient, and allow space for fridges, freezers, dishwashers, washing machines/dryers, apron hooks, drying racks etc. These are always necessary but often forgotten and can end up in a storeroom down the corridor which can be an inconvenience.

### 2 Health and Safety

In any school design, health and safety should always be at the forefront of the designer's mind. Make sure gangways are adequately sized, student bags and coats can be suitably stowed away, avoid positioning hobs at bench ends where students might be inclined to lean.

### 3 Practical AND Theory

Try to create desk writing space with knee spaces for students to sit and do their written work or whilst watching teacher demonstrations. Space is so often a premium in a school, so this is not always possible, but a classroom that facilitates both practical work whilst standing, and a place to collaborate, plan, design, evaluate and do theory work whilst sitting is a much more flexible space.

### 4 Demonstration and digital integration

We've all seen plenty of cooking shows on a Sunday morning, so why not bring this experience to the classroom. Fully functional teacher demonstration benches can be fitted with overhead cameras which stream live to a large screen so that all students can get a great view of the demonstration taking place, whilst following along with the steps at their workstation.

### 5 Student Teacher Engagement

Remember that students undertaking practical cooking work will need close supervision and guidance from the teacher or facilitator, where space allows, consider innovative shapes and island benches.

### 6 Inspire

As with all classrooms, the key principle is to inspire students to learn! Studies have proven that exciting and innovative classroom spaces have a strong positive impact on student engagement. Differentiate the design from something they may be familiar with at home, introduce shapes and colours to prompt excitement. ■

Liam Serridge  
International Sales Manager – S+B UK Ltd



Following in the footsteps of the legendary architect Herman Hertzberger takes some guts. When School-Concept from Doesburg, the Netherlands was asked to refurbish the de Vogels public school designed by Hertzberger, they were determined to do justice to his original vision - while still looking to the school's future. Sabine Smolders explains what happened.

## A REFIT WORTHY OF A MASTER

Last year it was time to refurbish the famous de Vogels public school in Oegstgeest, near Leiden in the Netherlands.

But de Vogels is not any old school building.

Its beautiful architecture was created in 1998 by Herman Hertzberger, the legendary Dutch architect.

After a fierce competition, School-Concept was appointed to create the new interior, with Puur Sang Architects supporting in the design.

More than any other architect working in the field of school design, Hertzberger has had a remarkable impact on how we now plan the learning spaces in new buildings.

Indeed, his radical ideas from the 1960s and 1970s are seen as pretty much a given by today's architects working within the realm of educational buildings.

Among his most famous designs are his Montessori School in Delft and the Apollo schools in Amsterdam.

To match his concepts, the interior at De Vogels needed to be different, special, enabling children to play and explore. That is why we asked Puur Sang architects to join School-Concept and work with us on this amazing project.

Before the contract was awarded, we convinced school management that we had a different design philosophy to other suppliers. We presented our joint vision and made clear that before we can start drawing, we needed to get acquainted with the fundamentals of de Vogels.

In order to produce appropriate designs, we had to

become familiar with the school, the teachers and learn about their way of teaching now and their plans for the future.

The main question to be answered was: How can we create a healthy school that will support the individual needs of the students and teachers?

To define the requirements, we had to reimagine the spaces with the teaching team. This exploration resulted in a clear insight into the future possibilities for growing and learning in safe and caring environments.

All the questions we had were discussed in an inspiring workshop in which all teachers contributed ideas and gave us tips and ideas. The wishes of the team can be summarised in the following core characteristics:

- Entrepreneurial learning
- Working in clusters
- Creating space
- Multifunctional spaces
- Adaptive & flexible furniture
- Healthy working and learning
- Variety inside and outside the classroom
- Storing
- Imagining

In line with these features, together with Puur Sang architects, we designed the rooms and chose colours. After that we made a spot plan and sketch of all 11 classrooms. Based on the proposed sketches, a 3D visualization for the team was created.





WE HAD TO BECOME FAMILIAR WITH THE SCHOOL, THE TEACHERS AND LEARN ABOUT THEIR WAY OF TEACHING NOW THEIR PLANS FOR THE FUTURE.

For the furniture we chose One Wood from Denmark to produce the most beautiful FSC® plywood clear lack tables and cabinets with a lino desktop surface to give the building a little more warmth.

In consultation with Puur Sang, we developed a circular piece of furniture for four and five-year olds. Comprising a curved row of desks on the outside, it also creates its own cosy gathering space on the inside. Furnished with nice fluffy cushions, children can use it to read a book or just play and learn.

With this piece of custom-made furniture it becomes wonderfully visible how the space responds to and supports the core values of pedagogy. Hertzberger would call it "the power of unofficial space".

For the school desks and chairs we chose Flötotto. Their PRO chair is designed by Konstantin Grcic and gives the children the perfect sitting position while also stimulating and allowing movement.

The tables are fitted with castors so can be moved easily. On the tabletops, we chose plywood for durability and because it echoed the style of the cabinets.

The niches for the classrooms and the hallway are now also in full use, so that children can also work and learn together outside the classrooms. The learners can easily take their own table to the floor and back without heavy lifting.

At the heart of the school is the central stage. For that, we provided the Spanish Punto seat cushions in bright colours on the tiered seating. Pupils can now sit on a comfortable seat, while looking at the grandstand, with a large playroom behind it where pre-schoolers receive gymnastics, music and drama lessons.

We wanted to invite the children to use this tiered seating because it helps them find their own way to develop thinking for themselves or in a small group, a key emphasis of the school.

When the learners feel autonomous and safe, it is more likely that they will explore their individual potential and creativity.

We are very proud that we have been able to place the learner in the centre and have shown that it can be done differently. ■





It was damaged by an earthquake but reborn with a big vision. Iride nursery in Reggio Emilia, Italy merges with its environment and allows children to learn through discovery. Alessandro Zecchin, Gonzagarredi Montessori General Manager, explains how.

## WOMB WITH A VIEW

Children learn more effectively if their path towards discovery is led by curiosity and experience. The creation of the Iride nursery school in Guastalla, in the province of Reggio Emilia, was guided by this simple concept.

The building's design and construction emerged from the local municipality's need to replace the building damaged by the 2012 earthquake. Today the kindergarten welcomes 120 children (aged 0-3) and they enjoy a sensory journey surrounded by smells, colours, alternating lights and shadows.


The Iride nursery was designed by Studio MCA, Mario Cucinella Architects, and furnished by GAM, Gonzagarredi Montessori, an Italian company that designs and creates open, interconnected and creative educational environments for schools, libraries and cultural centres worldwide.

It is an example of open and innovative childcare, planned to respond not only to the educational needs of children, but also to those of teachers and educators.

This new project took its inspiration from the so-called Reggio Emilia Approach, the educational method conceived by the Italian pedagogist and teacher Loris Malaguzzi (1920-1994), which focuses on stimulating the creativity, language and curiosity of nursery children, supporting both their cognitive and emotional development.







THE ARCHITECTURE, ALSO  
NICKNAMED “THE WHALE”,  
RECALLS THE BELLY OF  
PINOCCHIO’S WHALE.



The building was designed to support this educational experience at an early age: the emphasis on discovery means children develop critical and divergent thinking; that fundamental formula that shapes their growth and future learning. The architecture, also nicknamed “The Whale”, recalls the belly of Pinocchio’s whale and also the womb of a mother, a warm and safe place where human beings take the first steps towards growth.

The presence and variety of trees in the nearby area immediately inspired the idea of a building that interacts with its surrounding environment. For example, the repetition of the numerous vertical wooden elements in the supporting structure recalls the motif of the rows of

trees and cultivated fields on the site, giving lightness to the building. It overcomes the problem typical schools have of appearing dense and monolithic.

Inside, the distribution of spaces, the choice of materials and the integration of the internal and external environments have been carefully designed to provide children with the necessary stimuli for their development. Large windows separate the learning areas, giving children the chance to experience many different environments at the same time.

The furnishings designed by Gonzagarredi Montessori provide the children with a comfortable and stimulating environment, where they can move and explore freely.



At the same time, the curving nature of the spaces helps the teaching staff, as this building respects the free potential and development of children.

This communication with the environment is not due only to the geometry of the spaces, but also to the materials used, natural and recycled and the innovative energy efficiency systems that guarantee a sustainable building.

The structure includes photovoltaic panels and has a low environmental impact – it has a Class A energy certificate. In addition to the self-generation of electricity and hot water, the structure provides systems for the recovery and reuse of rainwater, useful to operate the

irrigation system for the garden. The large windows allow natural light to enter the internal areas, in many cases limiting the use of electric light.

The underfloor heating comes thanks to a water channelling system. All elements that convey to children the importance of sustainability and respect for nature.

The Iride Guastalla nursery is an excellent example of an innovative kindergarten, where architecture becomes an educational tool. ■

*Photo Credits: Nido d'infanzia La Balena ph Moreno Maggi © Maria Cucinella Architects I*

# ALL HAIL, THE MILAN MANIFESTO

It's not the 'same-old, same-old' for education leaders in Milan. The Italian city has broken away from the traditional school building model and now it's involving schools, designers, suppliers and researchers. Research Fellow and Pedagogist Dr Mariagrazia Francesca Marcarini and architect Cristiano Scevola have been following the changes.

It all started in Milan with 'The Memorandum'.

We are all familiar with the debate around innovative school learning spaces and that the great majority of schools are still created around traditional design and use. However, research has shown that there is a link between teaching effectiveness and the physical and organisational structures within which educational activity takes place. But what to do about it?

Determined to break the mould, the Municipality of Milan signed a Memorandum of Understanding in 2020 with INDIRE (National Institute for Documentation, Innovation, Educational Research) of Ministry of Education, Assodidattica (Italian Association manufacturers and suppliers of furniture and teaching aids) and Lombardy Regional School Office X. The aim was to promote the challenge of improving learning environments for young people in the city. Their future depended on it.

## Guiding Principles

Based on a series of guiding principles, the municipality wanted to experiment with design and pedagogical innovation, providing evidence to feed into the ongoing national debate on learning space design. The Milan Manifesto, as it has become known, states that learning space innovation is vital to overcome the traditional school model that is no longer able to respond effectively to the social and educational needs of modern society.

Flexible and configurable spaces are believed to be essential to support active teaching methods in which students play a leading role. The need to design new schools and renovate existing ones is a strategic challenge, but it is also fundamental to monitor the impact of the innovation.

### A Vital Network

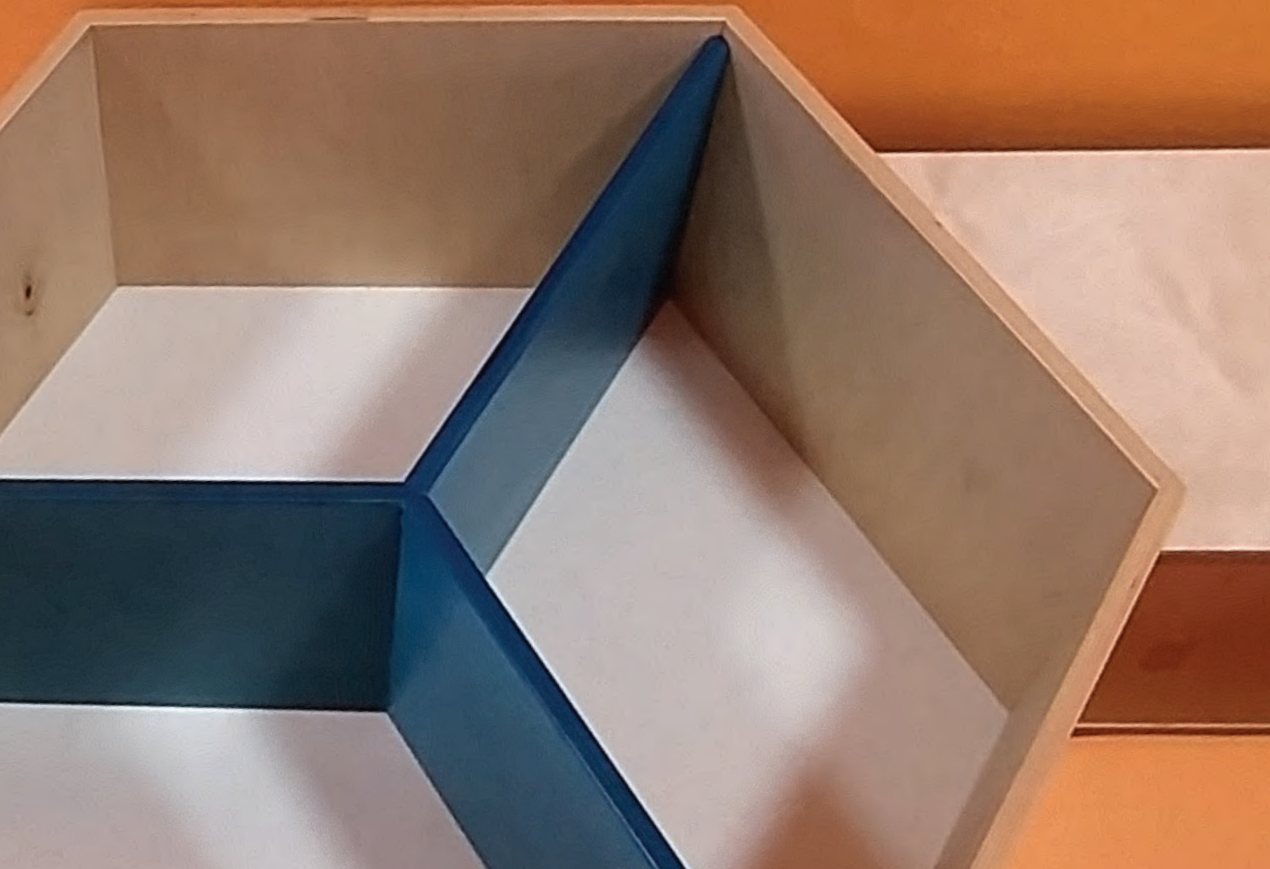
The Municipality of Milan wanted to invest in schools in order to promote social, cultural and economic growth in the future, so it provided financial support to projects proposed by primary and lower secondary schools. Milan also promoted networking between schools to allow them to experiment and share their experiences and findings. Companies, designers and academic researchers are also part of this ongoing dialogue with schools.

Investment in teacher training was also key and a two-volume expert guidebook to the “Milan Model” of learning space innovation was produced (Vol. 1: “Innovation of Learning Environments” and Vol 2: “Indoor and outdoor: Project itineraries for the innovation of learning environments”) to outline its principles and showcase what has already been achieved in the region.

### Innovative Project Examples

A second book outlines three different project types: classrooms and laboratories; libraries and other spaces; outdoor spaces. From the topics presented, the need to design schools that enable inclusion, personalisation and flexibility emerged overwhelmingly. In the Libraries and other spaces section of the book there are three particularly fascinating examples of what schools have done already.

Within these spaces, innovative educational paths allow students to learn more about themselves and others, to explore the external world and to test themselves by experimenting. They have a multi-dimensional learning experience interacting with the spaces that have been designed with flexibility in mind.





## “TEATRO AGORÀ POLICENTRICO” (MULTIPURPOSE AGORÀ THEATRE)

Salvatore Quasimodo Lower Secondary School  
Via della Giustizia of Locatelli-Quasimodo  
Comprehensive Institute

Salvatore Quasimodo Lower Secondary School proposed and implemented what was described as the “Teatro Agora Policentrico” (Multipurpose Open Theatre Space) project, led by the architect Alessandro Ramini from the Archra studio.

The school entrance now opens onto a large atrium with steps and a stage that is also intended for theatrical performances. The steps, not too far from the stage, now constitute an architectural Agora (an open, public space) that can be used for presentations and speeches. Some soft cushions have been placed above the steps to make the seating more comfortable and to decorate the space.

The educational offer of the school is characterised by its theatrical activity and pupils have two hours' a week dedicated to the subject on the timetable. This space is well-suited for presentations on topics of interest, and also exhibitions of various types, meetings and conferences.



## “ATELIER DELLE SCOPERTE” (ATELIER OF DISCOVERIES)

Rufini Primary School

Via Fratelli Ruffini of Giovanni Pascoli  
Comprehensive Institute



The “Atelier delle Scoperte” (Workshop of Discoveries) at Rufini primary school, was a very challenging project. The school is located in a historic building, constructed at the beginning of the twentieth century, which is considered as a place of historic and cultural importance for the city of Milan.

Inside the school there are a mass of historical objects once used for teaching, such as scientific instrumentation materials and plenty of taxidermy. Although this material has gradually lost its scientific usefulness, for a long time there was the need and the will to recover it, recognising its historical, cultural and technical-scientific heritage.

The project tries to recreate the feeling of being in a museum exhibition space. For this reason, the objects that have been selected from the school archive have been distributed in different areas of the building, in particular at the entrance and on the first floor.

After the project was conceived, the school worked with both Laura Pezzetti, Professor of Architectural and Urban Composition at the Polytechnic University of Milan, and the Museum of Science and Technology of Milan, which contributed to the presentation and classification of the historical objects of the school.

The project has become an opportunity for pupils to become involved in active citizenship in which everyone felt part of achieving a common goal.





## LIBRIAMOCI (WE ARE READING AND LET'S FLY)

E. Pimentel Primary School  
Via Vincenzo Russo of Giacosa  
Comprehensive Institute

Another thought-provoking project was proposed by the E. Pimnetal Primary School for their primary students, but also for lower secondary students of the Giacosa Comprehensive Institute.

The Libriamoci project was conceived to underline and encourage three different types of reading: individual, collective and interpreted. From an architectural point of view, three spaces have been rearranged and renamed: The Fire Classroom; The Water and Air Classroom; The Lawn Classroom. Through the natural elements, different communicating classrooms are united by a thematic thread. The walls are reminiscent of fire, water and lawn, giving the impression of really being inside an alternative, almost magical space. ■



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### About the authors

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PLANNING LEARNING  
**SPACES**

# A JOURNEY INTO SPACE

A SUMMARY AND EVALUATION OF A PROJECT LINKING PEDAGOGY AND SPACE WITHIN CLASSROOM DESIGN.

By Professor Peter Barrett, author of *The Clever Classrooms Report*

## INSIDE THIS SPECIAL EDITION

### HOW IT BEGAN

Find out how staff started to recognise the relationship between pedagogy and space.

### THE WORKSHOPS

Teachers looked at how to transform learning activities into design principles.

### EDUCATIONAL OUTCOMES

Reflections on the impact the project has had on the learners and their progress.





University of  
**Salford**  
MANCHESTER

February 2015

# Clever Classrooms

Summary report of the HEAD Project  
(Holistic Evidence and Design)

Professor Peter Barrett  
Dr Yufan Zhang  
Dr Jay Davies  
Dr Lucinda Barrett



## HOW IT BEGAN

This ambitious project aimed to explore the relationship between pedagogy and space at Trumpington Park Primary School (TPPS) in Cambridge. It started in 2020 and carried on throughout that year, despite the Covid-19 pandemic. The project was based on a series of workshops specifically developed to take a new pedagogical approach to design developed in conjunction with Murray Hudson and Terry White authors of *Planning Learning Spaces*. A Planning Learning Spaces in Practice Implementation Team was established to develop and implement a Design Framework through a series of workshops and co-designed activities. Following the workshops a classroom was redesigned and reconfigured in the first part of 2021 (Phase 1). The physical implementation (Phase 2) began within the new space over the remainder of the academic team.

The first meeting between the Head of Trumpington Park Primary School and the implementation team was in February 2020. The team wanted to explore the articulation between pedagogy and space looking at “real pupils, in real classrooms, in real time”. The basic idea was that the team would provide support to the teachers in a process of reflection (led by Terry White and Bhavini Pandya), culminating in the selection and provision of new furniture / layouts, interior design driven by the teachers’, now explicit, pedagogical imperatives. By this means the objective was to create practical, realistic actions that any school could be inspired by and implement in their own spaces.

### **TPPS had various positive attributes as a school to study, in that:**

- it was accessible (compared with NZ where a pilot had been carried out);
- had spatial flexibility (as it was not a fully populated school yet);
- was representative (in that it was not especially well-resourced and was growing as the new housing estate around it grew);
- had a strong personal implementation team’ through a member of the team having been a teacher at the school
- had an appetite for transforming its educational practices (in terms of the Head’s attitude, the staff and

the School’s role as a designated “teaching school” for experimentation within the Trust of which it is a part).

- The study could target Year 4 as this year are not quite so pressured around SATs (Standard Assessment Tests) etc.
- In addition it was possible to keep the teacher who took them in Year 3 involved, sharing the teaching 50:50 with an NQT. In this way there were two teachers involved, both very enthusiastic about the project, but able to bring different experiences and provide different perspectives.

As background, TPPS opened as a new school in 2017 with just 30 pupils, but now has 265 pupils on its roll, 25% of whom carry a pupil premium, 50% are EAL (English as an Additional Language) and a number have Special Educational Needs (SEND). The current Year 3 is the first whole cohort to move through the school. Year 4 was taken in from Christmas in the first year and has grown piecemeal over the first couple of years, but has stabilised now.

The school is built to accommodate three-form entry and is currently a mixture of one, two and three forms per year-group, such that there is still quite a lot of unused space held for the future. The school serves the new housing estate that surrounds it. Pupils can walk to school or are dropped off by parents. There is quite a high number of those living in the area which is reflected in the school population.



“THE TEACHERS WERE CLEAR THAT A CERTAIN AMOUNT OF AMBITION AND EXPERIMENTATION WAS NEEDED.”



The Head, Mel Shute (MS) and teachers were all passionate about exploring “learning by enquiry” or project-based work. However, it was hard to escape the pressure of passing tests, despite feeling that the former approach would be more effective in the longer term. So, in a way they knew what they wanted to do, but thought the project could help them work out how to realise it in practice by gaining a better understanding of the possible options open to them via interesting / stimulating examples from elsewhere.

The Year 4 teachers were clear that a certain amount of ambition / experimentation was called for to make the most of this opportunity. The analogy of the grasshopper in a jar was mentioned (which can only jump as high as the lid until it is removed). The risk was not seen as high as the teachers are there every day and can quickly change direction as impacts are observed. The over-riding sentiment was one of excited expectation, tempered by pragmatic realism. ■

# A COVID-SHAPED SPANNER IN THE WORKS

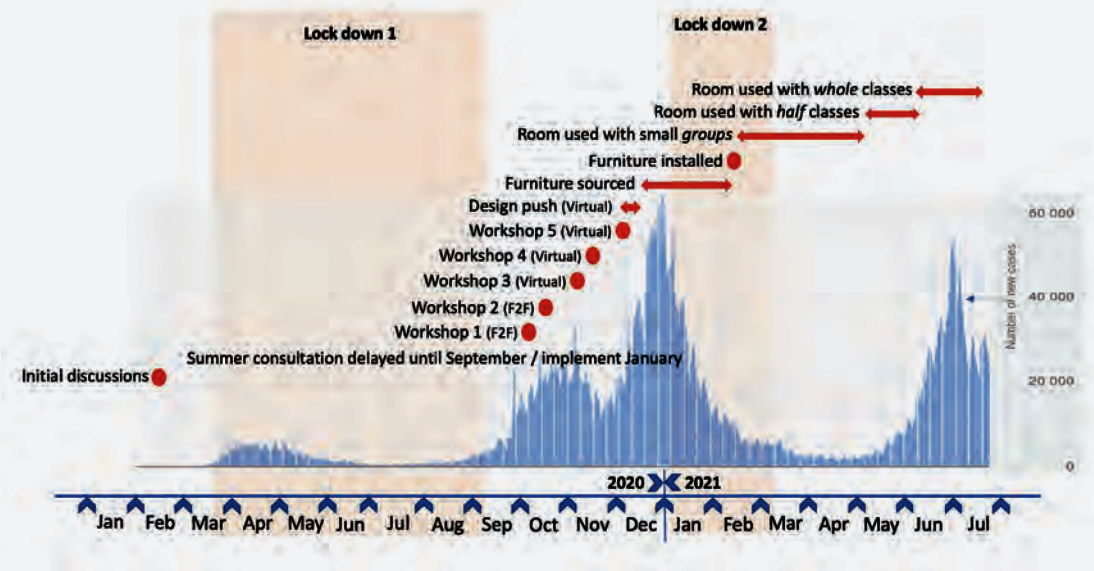
After the initial discussion the aim was to commence the workshops in the Summer Term, with changes to the classroom made ready for the start of the 2020/21 academic year. However, this had not allowed for the arrival of the Covid-19 pandemic. This slowed progress as the school was closed for quite long periods, except for educating the children of key workers.

In the face of this unprecedented disruption, the school decided to keep on with the project, but the start of the consultation process was put back to September 2020, with the fit out of the adapted classroom re-scheduled for January 2021. In the meantime the planned interactive workshops were re-thought to be (mainly) carried out remotely, building on the team’s experience of working this way with New Zealand Schools.

Figure 1 gives the overall timeline of the project against the profile of Covid 19 cases in the UK. It is a testament to the commitment of the school staff and the PLS in Practice Team that the initiative continued. The Head explicitly insisted on “looking beyond Covid-19.” ■

“IT WAS TESTAMENT TO THE STAFF AND IMPLEMENTATION TEAM THAT THE INITIATIVE CONTINUED.”

Figure 1: Timeline of the TPPS Intervention (Covid-19 weekly cases from ONS data © Statista 2021)





## THE WORKSHOPS

The first workshop took place on 7 October 2020 and was then followed by four more at regular intervals of 1-3 weeks, through to 8 December. The workshops took place in the study classroom, which was empty in this period, with Year 4 being taught in the space next door. This added immediacy to the discussions and meant that material could be left out from session to session. Each workshop involved the Head, the two Year 4 teachers and two members of the team.

The first two workshops took place face(mask)-to-face(mask), but after that, owing to Covid-restrictions, the meetings were run virtually via Zoom, with just the teachers in the classroom and the facilitators sending material ahead and leading the sessions remotely. The workshops followed the "Planning Learning Spaces in Practice Design Framework" covering the six areas of; pedagogy, curriculum experience, organisation of learning, leadership of learning, community participation and research and data". Whilst maintaining this breadth of consideration, the focus moved from: Values / Ethos and current practice, to a consideration of next practice, and then; to the design of appropriate spaces. The workshop progression is summarised in Table 1. ■

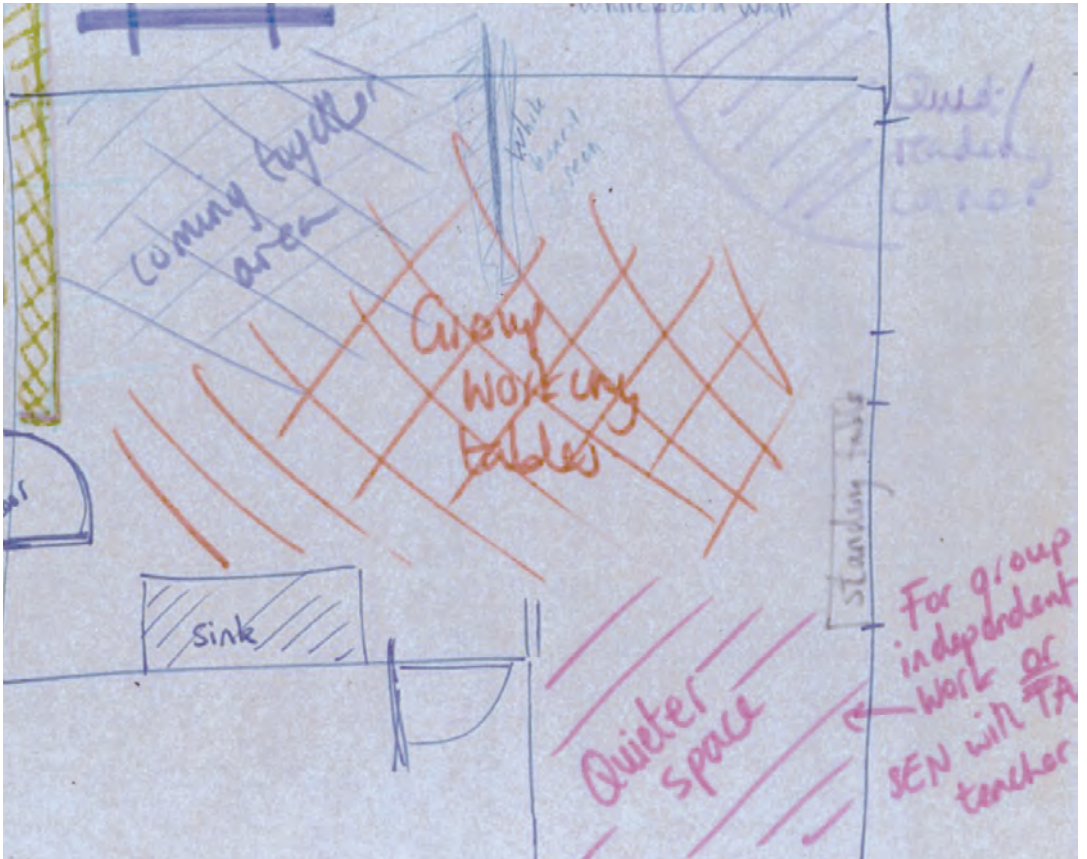
Table 1: Summary of Workshop Consultation Process

Workshop	Focus / activity	Outcome
1	After an initial briefing, the teachers engaged in an exercise where extracts taken from the TPPS Aim / Ethos were manipulated on hexagonal cards to cluster around the key PLS key themes. The connections and any gaps revealed were discussed and it was immediately felt that evidence about “community” engagement was under-represented.	It was agreed that this workshop had got everyone thinking and that the teachers would “fiddle” with the hexagon patterns and <b>reassess the vision</b> statement, maybe emphasising the “child-centred” dimension.
2	After some scene setting and exemplars, the teachers were asked to take their hexagons from the previous session and use these as a stimuli as to where the school had existing “challenges” and “strengths”, together with possible “next practices”. The focus was still very much on an explicit discussion of pedagogical issues and learning practices. The final output was summarized in tables against the key PLSIP key themes.	This session successfully provided a <b>pivot from current to “next” (or future) practice</b> . The Headteacher commented that the exercise was “making dialogue around something meaningful”, rather than something abstract.
3*	This was a very frenetic workshop. The teachers were each asked to pick one “next practice statement” from the last workshop and then say what it would look like in practical / behavioral terms around the key PLS key themes. Having really imagined their way into the practicalities of their desired next practices, they were then asked to select from forty-three numbered images of possible elements of a classroom, things they would like to see in <b>their</b> classroom, adjacent spaces or in the school as a whole. After discussion and probing on reasons and connections to pedagogy a final consensus list of images was identified.	This session moved matters strongly into the <b>physical set up</b> of the planned new classroom, but all still closely connected to teaching practice and the school’s ethos. At this stage the elements are still atomized, but the teachers were clearly energized and looking forward to beginning to develop the new classroom design.
4+	The exercise was now to look back and identify priority “next practices” from the meeting before last, and to consider them against eleven images of highlighted classroom elements from the last workshop. The linkages between the practices and elements were discussed in turn, stressing anticipated practical behaviours. The discussion then dug deeper by focusing on the variety of demands that might be faced in delivering different subjects, such as Maths, English and Science. Group sizes were discussed. Usually it is 4-6, but three seems perfect.	This workshop had <b>tested out</b> the linkage between putative desirable classroom elements and their impact on “next practices” across a range of subjects. The outcome was a list of the <b>main types of FF&amp;E chosen</b> , plus further options that would be considered as enhancements.
5	The focus in this workshop turned immediately to a rough classroom layout design sent by teachers that morning (see Figure 2). They introduced their ideas, which led to questioning back and forth between the teachers and facilitators over a wide range of issues. After this rapid development from a rough sketch to quite detailed initial ideas about furniture, the focus pulled out to take a perspective driven by teaching practice. The teachers were asked to describe typical lessons, which surfaced various aspects driven by the dynamics of the use of the space.	Based on the <b>shared understanding</b> that had crystallized from these discussions, the facilitators suggested an acceleration of the process. They would work out a proposed plan over the next few days and send it to the school for their reaction with an aim of installing the new furniture on 4 January 2021.

\* It had been intended to include a wider range of staff from this point, but Covid-19 restrictions precluded this. After Workshop 3 it was agreed to leave material up in the room for other teachers and the pupils to see, and maybe comment on. + It was stressed by the facilitators in Workshop 4 that it was “not a problem if what was wanted was not there, as we can create whatever you need”. This palpably raised expectations, but also kept the discussions un-constrained at this stage.



Figure 2: Teachers' initial rough layout design



## EXPANDED EXPECTATIONS

Reflecting on the consultation phase the Headteacher concluded that “the process is strong”, it helps link back to aims and values, and had created strong engagement. The Year 4 teachers remarked how they were now reflecting much more actively on how the School values were reflected in their teaching practice. They were already “looking for and finding ways to change behaviour in their existing classroom setting”. The process had expanded their expectations as to what may be possible. They were excited to get going, but it was also a bit scary as they felt they “have to succeed” so they can showcase the child-led, exploratory approach they believe in, to the rest of the school and Trust.



## DESIGNING AND FITTING OUT THE SPACE

After Workshop 5, a first design sketch was sent by the team to the teachers the next day. This encapsulated the main issues discussed regarding the arrangement of zones and the broad types of furniture that could be used. At this stage the furniture choices were being expressed in general terms, but the way they added up to the whole classroom provision was becoming apparent. The Year 4 teachers kept with this rapid process and fed back their comments the next day.

The facilitators then worked together to take this feedback into account and to think about specific furniture to make it a reality. In doing this they were able to look back at the outputs of Workshop 4 where individual putative items of furniture were linked to the PLS Implementation Team. There was also some communication with the school on measurements and sizing and ideas.

By mid-December (the end of the Autumn Term and just a week after Workshop 5) a range of furniture choices had been made. At about this stage, despite an impressive rate of design development, it was decided that it was not feasible to source and instal the new furniture over the Christmas break and the target for this was pushed back to mid-January.

Next a full equipment list was developed that was then used as a basis for working to source the items with various manufacturers. Over the course of January the Covid-19 situation worsened dramatically in the UK, but despite this the equipment was successfully sourced and on 15 February 2021 was delivered to the school. The facilitators spent the next day experimenting with and arranging the furniture.

This marked the end of a major phase of the project. Built solidly on extensive discussion of the pedagogical aspirations of the teachers, a redesign of the classroom had been developed and agreed, and now it had been realised as a practical reality. Initial images of the new classroom are given in Figure 3.



Figure 3: Initial images of the newly equipped classroom



“...REALLY LIKE THE DESIGN AND THINK IT WILL WORK WELL FOR OUR AIMS OF INCREASING COLLABORATION AND ENQUIRY... PARTICULARLY LIKE THE ICT BENCH AND STALLS, THE LARGER GROUP TABLE AND THE WAY AREAS ARE SECTIONED OFF AT THE BACK OF THE ROOM ...ALSO LIKE THE FLEXIBILITY OF THE SPACE IN THE MIDDLE OF THE ROOM AND CAN SEE HOW THIS CAN CHANGE FOR DIFFERENT LESSONS AND ACTIVITIES.”

The Year 4 teachers' reaction to the newly fitted out space was positive. The impression was that it seemed “big and open and fresh”. However, in some ways the changes were “less dramatic” when compared with some of the more radical images shown in the consultation process. That said the teachers agreed they had got what they asked for and, actually, went on to list a lot of new aspects that they were:

- excited to explore, such as: the variety in seating options, including standing tables, soft areas and the moveable triangular tables; the re-purposing of the recess as a separate study zone; the two whiteboards on the long wall; plus the “discovery” of Wi-Fi in the room so the laptop station can be moved and still control the whiteboard.
- not so sure about, such as: the writeable / wipeable tables, the capacity of the storage lockers outside of the classroom and lack of display location for topic books. ■

## MOVING IN

With the new classroom fitted out, Year 4 were still actually in their existing classroom next door, working under quite severe lockdown limitations. Because of this it was not possible to move the whole class into the new space as the higher level of unconstrained interaction would be too much. So, the decision was taken to make the most of this time by using the new space with small groups to support transition into the new space. This carried on for two and a half months.

The approach consolidated into a deliberate process where the teachers rotated the groups involved with a view to all of the children having a good level of familiarisation with the new classroom. Further, as the use of groups was planned, diverse mini-experiments were designed with “expected outcomes” compared with actual experience. As examples:

- Designing in children choosing appropriate different settings for different stages of classroom exercise – success, mixing group working and individual efforts
- Actively encouraging children to use whiteboards to do working out – success, but also found it meant pupils helped each other and teacher could circulate freely and intervene as needed.
- However, found some problems with competition for high table – teachers working on a solution.
- Children with SEND working in “cubby” at the same time as rest of class – success as any associated “noise” contained.
- Leaving children to select where to sit to access level of support needed-success but also found some children in grey area (on the boundary between working independently and needing support) found less binary and so, felt encouraged to try alone.

Then for about another month, up to the end of the first week of June, the new space was used with half-classes as things moved towards full occupation, which then continued for the remaining weeks until the end of the 2020/21 academic year.

The teachers’ initial observations of the children were that they were very excited to be in the new space and

**“THE TEACHERS LOVED THE  
MOVEABLE PEDESTAL, AND  
THE TRIANGULAR TABLES  
WERE WORKING REALLY WELL.”**

that changes in behaviour would have to be made bit by bit, but that the threat of *not* being able to come to the room seemed enough to drive better behaviour. The teachers’ sensed that the pupils seem to know they are meant to work differently as the space feels more practical and there is more freedom to move around. This phased introduction was driven by circumstances and the parallel availability of the old and new classrooms, but was actually found to be very beneficial to the adaptation of both teachers and pupils to the opportunities of the new room.

Interestingly, the shift to full occupation did prove a challenge, despite and to some extent because of all the preparatory use. This was because suddenly there were no free spaces. Everyone had a place, as insisted upon by the teachers in the design phase, but it took some time to adapt to the notion of children moving around more freely when it depended on others moving too. However, after a couple of weeks this seemed to settle down into a fairly free flow pattern of use, albeit with the teachers more actively encouraging mixing to avoid the children simply gravitating towards fixed friendship groups.

Once the spaces had been in full occupation for some weeks the teachers were able to objectively reflect and:

- found the new layout more spacious than before with the “cubby” providing a really valuable space



for children with SEND and those moving ahead. They loved the teachers' moveable pedestal, and the triangular tables were working really well – especially the writeable surface (despite their initial worries), which actively supported experimentation, group sharing and immediate teacher interaction when needed.

- They did miss the possibility of “carpet time” owing to limited space and the high table was in great demand and could become a bit of a “messaging around” table. Some obscured sight lines and the control of behaviour could be slightly problematic at times, but adaptations were being made to address this.
- In terms of learning activities, it was lovely to see children helping and learning from each other. The class activities were explicitly much more rooted in the children's ideas – “taking a risk in a way, but better thinking, even if the work doesn't look as polished”. ■



“AT A MORE GENERAL LEVEL, THEY FELT THEY COULD FEEL “MORE FREE” IN THE NEW SPACE.”

The pupils' perspective was very positive about the changes – “more exciting and colourful”, although they had nuanced views about pretty much every element. They did like the variety and choice – soft / hard, high / low, together / apart. The implication is that they completely understood that each aspect is suited to different activities.

So, they liked the choice of where and who to sit with and found the cubby a “peaceful” place to write stories or work alone when they had finished the set task. At a more general level, they felt they could feel “more free” in the new space where even if they “put lots of ideas in the room it still doesn't feel small”.

They really liked the comfort of the new chairs and, especially the new triangular desks which they could just move back out of a group if they needed some space and of course could be used to make notes “so don't forget things”. The classroom storage outside of the classroom was very popular as they were big enough for jumpers etc and meant they “can't lose anything”. ■

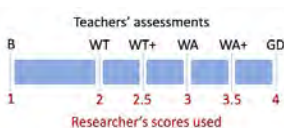
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# MAKING AN IMPACT

The workshops has successfully led, through a reflective consultation phase, to the re-design and fitting out of the Year 4 classroom. This was explicitly to support a shift in teaching practice to bring it more strongly into line with the School's declared ethos. In addition to the interviews to gain multiple stakeholders' views, reported at points above, repeated independent observations and analyses of the pupils' progress were made. The initiative had much wider aspirations than academic progress alone, but looking at this first provides an interesting perspective.

The pupils in this school are assessed as to their level of working in reading, writing and maths at least three

times a year (start, middle and end). For these they are judged against the national norms expected for the



academic year they are in. So, if the pupil is working at that norm they are designated WA. To allow some simple calculations we created a scale scored this 3. Similarly for Below (B ~1), Working Towards (WT ~2), Working Towards Plus (WT+ ~2.5), WA (~3), Working At Plus (WA+ ~3.5) and Greater Depth (GD ~4).

In broad terms, for a profile for the year it can be anticipated that, on average, children in a class will be WA by the end of the year, but are likely to start well below this as they are confronted with the higher requirement for the new year as it starts.

For the year being studied here things have been complicated by lockdowns and restrictions even when pupils were able to be in the school. So, to try to get some impression of the impacts of lockdowns, as opposed to changes to the pedagogy and classroom, comparison, data for the lower school year (Yr 3) was also obtained. Taking this and the focal Year 4 data, and by averaging the scores for each class and across the three subjects together, crude overall measures of the academic progress of the classes can be constructed. These are given in Figure 4 for the 20/21 year, plus the year before as an extra dimension of comparison.

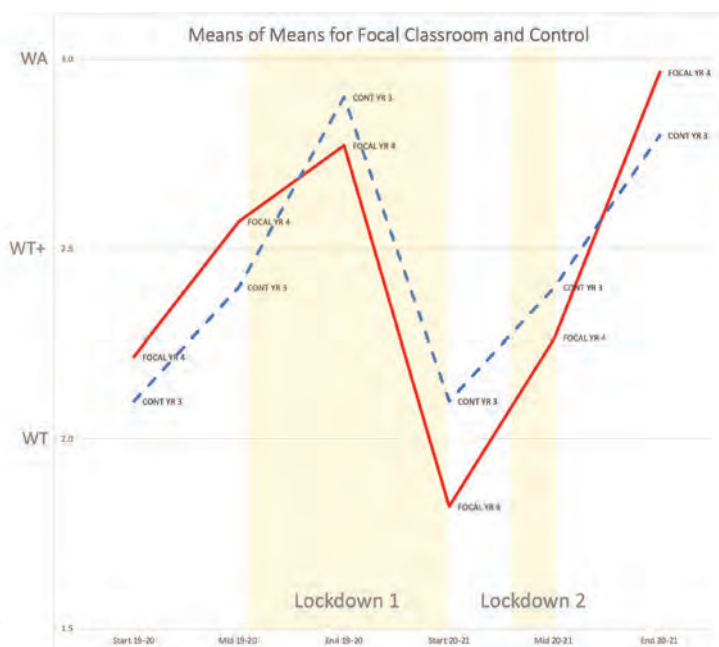


Figure 4: Mean of classes and means of subjects for this and last year.

It can be seen that the control class (blue dashed) followed a consistent profile for both years. The focal class (Yr 4) dipped a bit lower at the end of last year (2019/20), seemingly more impacted by the first lockdown. This could be owing to more Year 3 children coming in to school during lockdown than Year 4 and also slightly higher numbers of EAL (English as an Additional Language) and Pupil Premium children in the Year 4 cohort.

At the end of the first lockdown and the start of 2020/21 Year 4 had declined relatively still further. However, as this academic year played out, they made good progress, strengthening markedly in the latter half, so that by the end of the year they were (on average) well clear of the previous year's end point. It is impossible to be categorical as to whether this indicates the positive impact of the new classroom layout / pedagogy, but, in the context of the complementary observations and interviews carried out, it does seem likely that they had a positive impact.

## DIFFERENT REACTIONS TO THE SPACE

For all that, there were a number of individual cases that seemed to jump out and these were highlighted to the teachers and their views sought.

### “PROGRESS STRENGTHENED MARKEDLY IN THE LATTER PART OF THE YEAR.”

In order to dig further into the impacts on individual children in the focal class, the class average was deducted from the individual pupils' performances, averaged across the three subjects. This “net” progress removed the expected general rise across the class as a whole. This data was then examined for each of the pupils who had made significantly more or less progress. In doing this the nature of the scale, that caps the highest level of performance (GD) had to be considered as, owing to this, these pupils appear to go backwards compared with the rising class average. Equally some of the pupils with SEND may progress, but will still be rated at the bottom of this scale (B), so will also seem to be progressing less. ■



■ For the small group of children who have progressed very strongly it would seem that, in the new classroom dynamic, they have had increased opportunities to work with the “GD” children and benefited a lot from the quality of the discussions and support they provide. There has also been a noticeable increase in their willingness to engage in discussion and to follow right through in tests, which had been a problem.



- For another group that has done well, but not quite so markedly, the explanation seems to be that they are generally sociable personalities and now, instead of being easily distracted and disruptive, the increased discussion, group work and collaboration have helped them.
- One of the SEN children is still at the “B” level, but the teacher has noted a big increase in their involvement in the whole class and in accessing more Year 4 learning than ever before.
- Progress for a few children has, in the teachers’ view been “perhaps a little disappointing” and in these cases it seems to reflect their strong inclination to work alone and reticence in discussion, and in one case a tendency to now work more closely with a child at the B level.

Overall, the picture is of lots of individual children responding to the new classroom and pedagogy in a variety of ways as would be expected. In almost all cases the increased flexibility and associated choice presented has been a positive opportunity that has resulted in a stronger overall class performance. As the teachers observed in some cases the transition to the new approach is taking longer, but they can see “green shoots”.

One dimension behind the above discussion is the ability of the pupils to concentrate and be engaged in the work they are doing. There was some question as to whether the less structured classroom environment would lead to reduced concentration. To get some feel for this the Leuven “involvement” scale was used to assess this class (Yr 4) last year and after the changes this year, together with some “control” observations of other year groups, this year and last. In terms of this measure, it can be said that there is very little variation in the levels of involvement observed either for the focal class or the control groups. It can be said that, when the whole class is being briefed from the front, if it goes on too long, the attention of those at the periphery often begins to wane. ■



**“IN ALMOST ALL CASES THE INCREASED FLEXIBILITY AND ASSOCIATED CHOICE PRESENTED HAS BEEN A POSITIVE OPPORTUNITY THAT HAS RESULTED IN A STRONGER OVERALL CLASS PERFORMANCE.”**



## WATCHING PUPILS USE THE SPACE

The last element of assessing the impact of the process was two extended sessions of passive observation of the focal classroom in action and of a comparison year (Yr 1) elsewhere in the school. It was immediately clear in the focal classroom that there was very active group work taking place and that this drew in initially distracted children.

Concentration was high throughout. The groups flexed quite a bit, although there was a tendency for groups to split on gender lines. Some children were clearly more inclined to “roam” and did so. Equally the teachers seldom stood at the front, and even when they were addressing the whole class did it from different places in the classroom. The write-on tables were used actively and collaboratively by all, including the teachers (and other pupils) in giving support. The “cubby” was used for one group as their base and the bean bags were explicitly used as, and seen as, a reward for what the teacher adjudged to be individuals who had done particularly well.

The Year 1 class observed was obviously not a direct comparison, but raised some interesting issues by way of contrast. The classroom felt quite dark and was quite cramped, which made moving around difficult. For all that there was quite a bit of movement of children driven by, either those who had quickly finished the class task set and wanted “extension” work, or, conversely, those who were struggling and wanted assistance. Either of these categories of child initially put up their hand, but then as the teacher started to deal with these exceptions, others got impatient and started to trail round after the teacher.

This pattern of behaviour was not at all apparent in the Year 4 class and the teachers were asked if there was a reason for this. Their response was surprising, as this most radical shift in behaviour had clearly become normalised already.

They stated that, yes, this chasing, dependent behaviour used to be absolutely normal in their classroom last year. When asked what had made the difference, it resulted in a combination of changes, all quite small in themselves:

- The children were helping each other much more than before.
- Help was being provided in a more free-flowing way sometimes via the writeable tables, and at other times those needing help knew to gravitate to a large round table where the teacher would provide support.
- Those who had finished the set task had been trained to go and get extension work and would often do it in the “cubby”. ■

**“THE WRITE-ON TABLES WERE USED ACTIVELY AND COLLABORATIVELY BY ALL, INCLUDING THE TEACHERS.”**





## A PROFOUND DIFFERENCE

This combination of practical and attitudinal changes seems to have made a profound difference, so the teachers were asked if this was reflected in any differences to how they planned their lessons. Only small adjustments have been made, but they, broadly, devolve more responsibility to the children and suggest more collaborative options for how the task can be addressed, for example:

“THE PUPILS WILL HOPEFULLY BECOME EVER MORE INDEPENDENT AND CREATIVE IN THEIR APPROACH TO LEARNING.”

- Consistently encouraging them to write notes on the tables and discuss things with their peers ahead of any more general discussion.
- At the same time they allow pupils the choice to follow the traditional approach if they want to. So, for example, with a reading / discussion task, they can do it themselves and choose who to discuss it with, maybe recording their thoughts on a writeable table, or they could choose to sit with the teacher and listen to the book being read and discuss it in this group.
- On extension work, individual copies are not often provided now, but are instead pinned up in the “cubby” or a whiteboard and anyone who is ready goes there and is encouraged to work together with others at the same stage. ■

# A SUCCESS STORY TO BUILD ON



Using the framework developed using a specific pedagogical approach has without much a doubt led to a transformation in the appearance of the Year 4 classroom, but much more importantly it is underpinned by a re-evaluation of the pedagogy and teaching practice to more directly align with the declared ethos of the school. These changes are well thought through and thoroughly owned by the teachers involved. There is well triangulated evidence that the impacts of the initiative are very positive from the perspective of the pupils and of the staff. This has all been achieved against the very demanding backdrop of the Covid-19 pandemic, which makes it all the more impressive.

For all that, this is a start. There is no doubt that through their evident professionalism the Year 4 teachers will continue to evolve and improve their practices. The pupils will hopefully become ever more independent and creative in their approach to learning. It can be hoped that they will do well academically, but that they will also acquire important soft skills in the process. For a very few pupils, for whom the less structured approach is a problem owing to their personalities, it may be that they will change over time, or it could be that adaptations in how the classroom works will be invented. This is an area to be watched with interest.

The major opportunity that now faces the school, and Trust more broadly, is how they can build on the investment in this one class and learn from the experience to the benefit of the whole school. So far this has been hampered by the Covid-19 restrictions and the associated pressures. It does not mean to simply replicate the process multiple times, but rather to reflect on the lessons learnt and to work out how they can be adapted to suit different age groups and other teachers in a way that is within the capacity of the school in terms of human resource and finances.

Lastly, another dimension that could reward more attention, now there is some prospect of a version of normality returning, is to fully address the basics of the

learning environment in terms of its healthiness, level of stimulation and individualisation for each child. The last of these has been swept up in the PLS changes to some extent, and the air quality has been very much in focus owing to Covid, but the level of stimulation and other aspects such as glare and over-heating could be assessed and addressed.

Overall, this is a success story that can be the basis for positive future developments. Please see more on the workshops and the pedagogical approach at [www.planninglearningspaces.com](http://www.planninglearningspaces.com).

**Professor Peter Barrett** 02 September 2021.

*Peter is an emeritus professor of property and construction management. His work on the impact of the value of the built environment within society led him to study the connection between the physical design of schools and pupils' academic progress. This focus led him to becoming an Honorary Research Fellow in the Department of Education at Oxford University. As well as holding many strategy/policy roles nationally and internationally, he is past President of the UN-established International Council for Research and Innovation in Building and Construction. He now works as an independent researcher in the school design arena, for clients in the UK and abroad. ■*

# on reflection

## AND WE CALL IT: LEARNING

In considering the evolution of our learning spaces, the history of cell phones is instructive. From the 1870s onwards, phone functionality was fairly constant: a way to dial a number, the mouthpiece and earpiece, a connexion. As phones evolved to become personal portable devices that basic “this is how a phone should be” design held.

Small changes occurred. The rotary phone dial became push button keys. As phones started to handle text a keyboard was seen as essential. As late as 2014 Blackberry (remember Blackberry?) were still promoting their handset with integral full keyboards as the “smarter way to type”.

But Steve Jobs had already stood on stage in (December 2007) and said: “Every once in a while, a revolutionary product comes along that changes everything,” saying with clear delight that Apple was introducing “...three things: a widescreen iPod with touch controls; a revolutionary mobile phone; and a breakthrough Internet communications device [...] These are not three separate devices, this is one device, and we are calling it iPhone.”

Without labouring this analogy any further, that is pretty much where we are in Learning Spaces. There are very many who would say “This is how we have always done it”. Reverting, for example during the pandemic, to desks in rows. But the straws in the wind hinting of an approaching “iPhone moment” for education include:

- Working from home opened a door to childcare that doesn't require many children to leave home to learn, safely supervised
- We saw during the pandemic how many (but not all) children, learning at home, pursued depth over breadth and found great confidence in doing so
- In a world of portfolio careers every adult now needs to retain the opportunity to learn and relearn throughout their lives
- Any successful enterprise today will define itself as a “learning organisation”
- Some learning needs collaboration, ingenuity, deep knowledge, long term application, mixed ages, adventure, surprise and many other attributes that sit less well in traditional learning spaces.
- Global collaboration 24/7 is a core skill for many citizens, workers and entrepreneurs.

And thus we can imagine a future Steve Jobs standing up on stage to describe how corporate learning, universities, community learning and home learning have all been reinvented and now overlap: schools in corporate buildings, school children attending nomadic campuses, half the country graduating. “Not separate services, this is one service, and we are calling it Learning”.

Well, maybe. So, fun to reflect who in education will be the Blackberries, the Nokias or who will be the Apple?

*Professor Stephen Heppell is CEO of Heppell.net and holds the Felipe Segovia Chair of Learning Innovation at Universidad Camilo José Cela, Madrid.*





## The Future of Learning Space Design.

A4LE Europe has established an Action Research Team through its members to be one of a number of International teams working with the University of Melbourne and its partners on a scoping study, "Innovative Learning Environments and Student Experience".

Details can be found at [www.a4le.eu](http://www.a4le.eu)

Standard membership is **£95.00** per year, and includes:

- *Planning Learning Spaces Magazine*, three times a year.
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Please contact Terry White for more information on membership and how schools can be part of A4LE as associate members through partnership working.  
Email: [terry.white@a4le.eu](mailto:terry.white@a4le.eu).



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