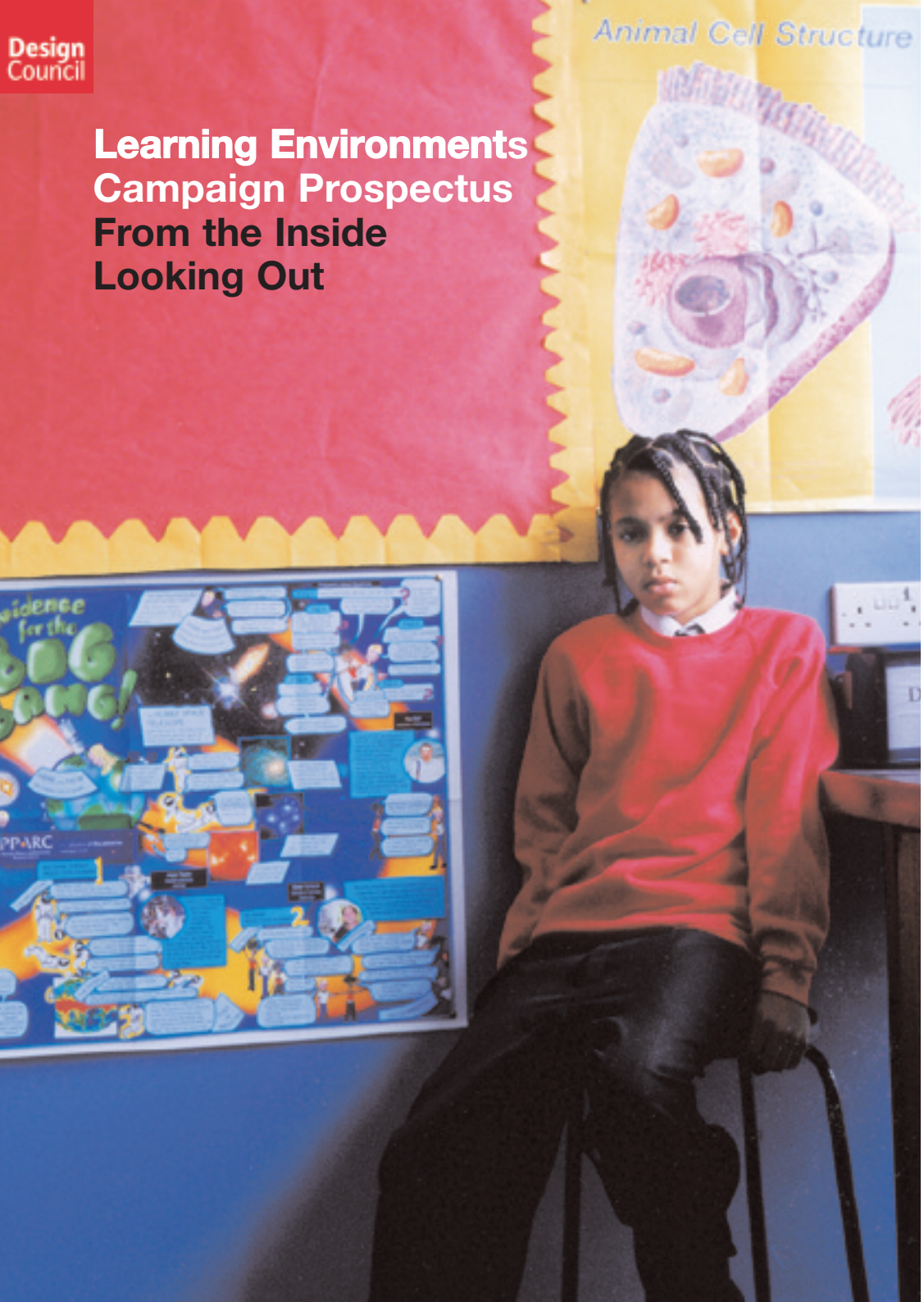
Design Council

Learning Environments Campaign Prospectus
From the Inside Looking Out



From the Inside Looking Out
Learning Environments Campaign Prospectus
February 2005

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The Learning Environments Campaign sets out the critical challenge for everyone involved in school design and construction: how can we create schools which are truly fit for learning in the 21st century?

This prospectus proposes a real alternative to the standardised 'outside-in' approach that dominated the 20th century and produced the schools we are now looking to replace. As government commits its largest post-war spend on new schools, the proposed 'inside-out' approach provides a new and validated perspective.

If you are involved in the design, planning, resourcing or management of Britain's 24,000 schools and want to see smart spending on effective learning environments, please talk to us now.

David Kester **Chief Executive, Design Council**

1905

1950

2004

Mike Gibbons

Inspiring futures

'The future is not what it used to be', as the saying goes. This has never been truer, which is why this government is committed to creating a very different education system - a personalised system that engages the curiosity and develops the talents of all our young people so that they achieve their potential. In the light of that transformation, which is already underway, we must not make the mistake of building 21st century schools based on our 20th century concept of schooling.

The Design Council's Learning Environments Campaign has a critical role to play as the government's school building programme gets underway. As a former Head Teacher of four very different schools and a regular visitor to schools around the country, I am constantly made aware of the ways in which good school design can enhance the effectiveness and experience of learners, teachers and wider community users.

Arriving at almost any school in the country you immediately recognise when design has been used effectively to create an inspiring and inviting place to learn. But there are still too many examples of schools where even finding your way in can be an emotional and physical challenge: CCTV cameras and fences, acres of bare asphalt, poor signage, receptions and waiting areas that make you feel like a miscreant. Then there are dingy corridors that become heaving arteries between lessons, cluttered classrooms, canteens offering queues and poor food, and institutional colours and smells. The government is committed to addressing these design challenges through its capital programme and the learning from the Design Council's work will help to ensure that we get it right.

What has inspired me about the Design Council's approach is that it starts from the very real needs of the people who use the school and helps them to envision where they want to get to and what they need to do to get there. This emphasis on starting with the needs of the 'end user' - the student, staff member, parent or community member - seems to me to be critical, not just for how we design new and refurbished school buildings and environments, but for how we design our education system in the 21st century. Given this, it is interesting to note that several of the schools the Design Council has been working with have begun to use design thinking in other areas of their management and practice, from how they run staff meetings to how they develop new projects.

I welcome the Learning Environments Campaign and look forward to working with the Expert Panel and team to ensure its success in transforming school learning environments.

Mike Gibbons **Lead Director, Innovation Unit, DfES/Chair, Learning Environments Campaign Expert Panel**

From 'One Size Fits All' Education to Personalised Learning Education is changing

Children's experience of learning at school is increasingly different to the one their parents and grandparents had. Throughout the 19th and 20th centuries education was done *to* you: policy makers and educators determined what children needed and created 'one size fits all' systems to provide it. But the picture today is more complex. Now, it is widely recognised that education, or rather learning, must be done *by* people throughout their lives and that schools must equip and support them to do that. The push for personalisation is creating a system that fits the needs of the learner, rather than vice versa.

This shift reflects wider changes in our society and economy. In the globalised and connected 21st century, businesses compete for highly educated 'knowledge workers', although many low-wage, low-skill jobs still exist. Young people face rapid change, breathtaking diversity and bewildering choices. Many have arguably become more sophisticated and demanding as a result, challenging teachers to keep up with their use of technology and to find ways of managing their almost unlimited access to knowledge. Others have been overwhelmed or have simply become disaffected with learning.

In response, the government has maintained its focus on developing basic skills and raising standards across the board through what it calls a 'high performance, high equity' approach. But this ongoing focus on standards masks two important underlying shifts in the government's mindset and approach.

From centralised and prescriptive to bottom-up and innovation-inspired: The government is consciously promoting bottom-up innovation and collaboration between schools, partly through a 'new relationship with schools' based on trust and school self-assessment. The need for more front-line flexibility has arisen in part from the sheer complexity of the issues facing education. The tragic case of Victoria Climbié highlighted the failings of incoherent institutional services, leading to the *Every Child Matters* Green Paper and The Children's Act's emphasis on joining up services, whether related to education, health or social care. Meanwhile, schools are being cast centre-stage in a range of other policy areas, from engaging parents in supporting their children's learning to offering a range of Extended Schools services as part of the regeneration agenda.

'We now know far more about the working of the brain and the conditions that promote effective learning... No longer is the teacher the font of all wisdom but a guide, coach and mentor to opportunity for self-directed learning: the classroom is not bounded by masonry.' *Creative Waves,* National College of School Leadership, 2003

'A fundamental recasting of industry, employment, technology and society has transformed the requirement for education... The central characteristic of (the) new system will be personalisation - so that the system fits to the individual rather than the individual having to fit to the system.' Charles Clark MP, Secretary of State for Education and Skills, 2004

From 'one size fits all' education to personalised learning: The arguments for a personalised approach, which builds a learning experience around the individual's needs, have been strongly influenced by our growing understanding of how children learn, summarised on the right. Equally, personalisation has been enabled by the increasing power of Information and Communications Technology (ICT) to support learning and by changes such as the huge increase in learning mentors, classroom assistants and other para-professionals working in schools. The proposed new system for 14–19 year-olds, offering greater choice over where and how young people learn, will give personalisation character and form.

So, given all that is changing in terms of how young people are learning, how have school learning environments changed to reflect this?

Effective learning

- Is challenging and builds on natural curiosity through complex tasks that relate to real-world contexts
- Offers numerous opportunities for interactive and collaborative work
- Recognises the importance of our emotions and emotional development
- Reflects and builds on a range of different learning styles and modes of learning
- Balances the content of learning with a focus on the process of learning
- Uses assessment formatively (ie to diagnose strengths and weaknesses and indicate areas for improvement) as well as summatively (ie to grade performance)
- Values a broad range of learning outcomes, including the building of positive dispositions such as resourcefulness and resilience.

The 'One Size Fits All' Approach to School Design Learning environments are still the same

It is often said that an Edwardian doctor visiting a modern hospital would be unable to recognise it as his former place of work, but that his teaching equivalent arriving in a modern classroom could pick up his chalk and start teaching. This may be slightly less true now than it was 10 years ago, with the advent of interactive whiteboards and computers in classrooms, but the basic format of students in rows facing the teacher remains stubbornly persistent. This is at a time when young people are becoming increasingly sophisticated and demanding in terms of design quality.

The vast majority of the schools from the two great waves of school building (following the 1870 and 1944 Education Acts) reflect the 'one size fits all' approach to education in very literal ways. From the central halls in Victorian schools where the principal sat to maintain discipline, to the formulaic corridors and standardised classrooms of the 1950s and '60s, the schools are a physical manifestation of a mass production model of education. Where innovation was attempted, in the form of open-plan classrooms in the 1960s, it was done in isolation from teachers and users, leading to dissatisfaction and retrenchment.

Of course, there are examples of new schools where designers have worked with pupils and teachers to reconceptualise the learning environment. Equally, work in Scandinavia, Australasia and America is offering exciting glimpses of how design can transform learning. But, in this country at least, these examples are still the exception not the rule. As the images at the start of this prospectus show vividly, the basic format of a 50 square metre room filled with 30 desks and chairs in rows is still the norm, even in schools that have opened recently.

So what is the problem with the traditional approach to classroom and school design?

'Investing in the renewal of a "safe" school building stock without investing far more substantially in researching radically different alternatives is not justified. We cannot easily evaluate alternatives because we haven't built any, or at least not many. It is very hard to see how we might optimise learning without a considerable diversity of options.' Professor Stephen Heppell, Director, Ultralab in *21st Century Schools: Learning Environments of the Future,* CABE/RIBA, 2004

'Many of the school buildings we are occupying were built over a hundred years ago, essentially for class based teaching, and this pattern has continued. However, the curriculum, the organisation of schools and approaches to teaching and learning have changed radically. As a result many schools are completely inappropriate for today's needs.' Richard Feilden, architect/CABE Commissioner Emeritus

Internal décor Standardised institutional environment lacks character and fails to complement other aspects of design, for example by reducing glare.

Display Static and scrappy displays of student work rapidly become 'wallpaper' and foster feelings of inability among those whose work is not chosen.

Technology When technology is not embedded within design the environment will not support ongoing flexible adaptation.

Light issues Lack of control over light, for example when using an interactive whiteboard or computers, can cause glare and reduce learning.

Desks at back of class Behaviour zone where lack of access makes teacher control difficult. Children wanting to misbehave sit here.

Middle of class Attention zone where teacher focuses 90 per cent of their attention. Children not wanting to answer questions sit outside this area.

Teacher's desk Teacher zone supports didactic approach and mindset among both teachers and pupils.

Furniture Inflexible desks and chairs inhibit group work, such as role-play, and movement around the classroom. As students spend 15,000 hours of their school lives sitting down, poor-quality, inappropriate chairs can cause discomfort and back pain.

Barriers to Effective Learning The problem with today's classrooms

'The pupils hate sitting on these chairs... they're uncomfortable. After 20 minutes concentration, the only thing I'm concentrating on is how uncomfortable the chair is. How much it's sticking into my spine.' Student *Kit for Purpose,* Design Council 2002

'The basic aspects of the building we are taught in do not promote learning, but instead, enhance feelings of negativity. I hate waking up every weekday knowing that this day, one that is so valuable to me, will be spent in a giant magnolia prison. I want colours. I want beauty in my surroundings, but most of all I want to be filled with inspiration by a place that I can call my home from home.' Angela, 15 *The School I'd Like,* Routledge, 2003

It could be argued that classrooms are still being built the way they always have been because it is a tried and tested approach to supporting effective learning. Yet, as the annotations on the previous page show, there are numerous problems with the traditional classroom format.

These problems and many deeper issues were exposed by the Design Council's Kit for Purpose research[1], which went on to act as the basis for the Learning Environments Campaign.

Kit for Purpose involved multi-disciplinary teams of designers and other experts working with teachers, pupils and other users in 12 schools over 18 months to understand the design and procurement issues underlying the state of school learning environments. The research showed that low quality, standardised and institutional classroom environments and resources are not just uninspiring. They actually:

- Reduce the range of teaching and learning styles possible and affect interaction between teacher and student
- Undermine the value placed on learning
- Fail to adapt to individual needs
- Hinder creativity
- Are inefficient
- Waste time and effort
- Cost more in the long term.

Part of the problem here is that too many schools still do not recognise the importance of the environment as a key part of their overall thinking and practice. Given extra funding, head teachers instinctively invest in extra staff rather than asking whether investing in the environment might achieve equal impact. Obviously, the environment can only make a difference if it is used by creative teachers with an appropriate curriculum and resources. Yet for many teachers their environment is still a blind spot: unchanging, unchangeable and beyond their control - an obstacle that they must work around, rather than a tool to support and enhance their practice.

It is important to remember too that design issues within schools go way beyond the classroom. Design is essentially a problem solving approach applicable to almost any area of school life. So the impact of poor design can equally be seen in students queuing for long periods and misbehaving in the canteen; parents and communities who are not effectively engaged in the life of the institution; school staff who do not have opportunities to communicate with each other effectively and so on. In a whole host of ways, school leaders and learners around the country could benefit from better design and, perhaps more fundamentally, design thinking in how they approach their work.

Schools that have blazed a trail in terms of design have reaped the benefits, from Sir Norman Foster's acclaimed Bexley Business Academy in Kent, where results went up from 6 per cent 5 As-Cs at GCSE to 36 per cent in 2004 after the new building was opened, to Kingsdale School in Southwark, which saw results rise from 15 per cent to 41 per cent 5 As-Cs between 1999 and 2002. This 'design-effect' can equally be seen in other sectors: for example, FTSE 100 companies that use design effectively outperformed the rest of the stock market by 200 per cent over ten years[2].

So what is the government doing to improve school learning environments?

1 *Kit for Purpose: Design to deliver creative learning,* Design Council, 2002
2 *Impact of Design on Stock Market Performance,* Design Council, 2004

'Investment alone is not enough. The key to reform is re-designing the system around the user - the patient, the pupil, the passenger, the victim of crime.' Tony Blair, 2001

'A clear link exists between modern, well maintained schools and high levels of pupil attainment. By transforming the face of education, we will help motivate pupils with modern, well designed classrooms, state-of-the-art sports halls, laboratories and other facilities. Our investment in high-quality school buildings plays a crucial part in our ambitious programme of educational reform.' David Miliband MP, Minister for School Standards, 2003

A Once in a Lifetime Opportunity

The current school building programme

After three decades of under-investment in school buildings, the government is spending £5.2billion on new and improved school buildings in 2004-05 and is committed to maintaining high levels of investment in the future. £2.2billion of the 2004-05 investment is for the transformational Building Schools for the Future (BSF) programme, which will rebuild or revamp every secondary school in England over the next 10-15 years. On top of this, the Government spends over £1billion each year on the furniture and resources that make up schools' internal environments.

Clearly, it is critical that we get the schools we build right, so that we gain the maximum possible benefit for the future generations of learners that will use them. After all, we are unlikely to see a similar investment in school buildings for at least another 50 years.

Yet we know remarkably little about what actually makes a good learning environment or even about what learning will look like in 20, or even 10 years' time. Clearly, as the last section showed, building modern versions of our 20th century schools will not meet the needs of 21st century learners. But, as architect and CABE Commissioner Emeritus Richard Feilden argued: 'The science of designing learning environments is currently remarkably under-developed, perhaps because of the poverty of the school building programme until recently.'

The Government's response to this uncertainty has been to state that new school buildings should be flexible and adaptable so that they can be constantly updated as learning and technology change in the future.

The Department for Education and Skills (DfES) has begun to explore what new environments might look like through pilot initiatives such as Classrooms of the Future, Teaching Environments of the Future and the Exemplar Designs. The DfES has also charged Partnerships for Schools (the agency created to administer BSF) with ensuring that schools and Local Education Authorities within BSF develop a coherent vision for how they see learning in the future as a guide for the private sector partners and designers that they procure to deliver the buildings.

The government's investment in school buildings and its pilot work on innovative design are welcome. So why do we need a design campaign?

From ‘Outside In’ to ‘Inside Out’ The need for a user-led design process

‘The Design Council’s Learning Environments Campaign is hugely valuable in helping to identify the factors that make an effective learning environment and take the research agenda on learning environments forward as we progress the capital building programme.’ Professor David Hopkins, Chief Advisor on School Standards, DfES

‘Design is a verb, not a noun - hence a school building is the result of a process. A school’s vision for its learning environment should be the trigger for that process and needs to be built from the views of all stakeholders and then championed throughout the construction process, ideally by a design champion and advisor. Architects too often jump from the vision to building form and overall aesthetic, when the immediate focus should be on how the whole building’s environment will accommodate the school’s needs and support better learning.’ Paul Fletcher, Principal, Fletcher Architects

Throughout the 20th century, school learning environments were designed from the ‘outside in’. A fundamental mind shift - from ‘outside in’ to ‘inside out’ - is needed from everyone involved in the capital programme if we are to maximise the potential for creating learning environments for the future.

In the 20th century architects and planners based in local authorities rightly assumed a ‘one size fits all’ model of education, involving uniform class sizes and a didactic pedagogy. Their answer was a ‘one size fits all’ environment, the classic school characterised by standardised, inflexible classrooms filled with rows of uncomfortable chairs and fixed-height, immovable desks. Over the years head teachers have done an admirable job of remodelling and adapting these environments to cope with the changing demands of education and the reality of learning.

Now, for the first time, we have the opportunity to design learning environments from the ‘inside out’ and so create environments fit for the 21st century. An ‘inside out’ approach makes the users of the environment - students, teachers, service providers and the wider school community - the focal point for change. These users ultimately own the process: their needs and unique collective vision of what they want to achieve in terms of learning are identified at the outset and they are involved in developing solutions that realise that vision. An ‘inside out’ approach follows a well-proven design process to translate an educational vision into an actual working environment, through research, creative thinking, prototyping and iteration.

We believe that far more needs to be done to design and develop ‘inside out’ learning environments and to explore what needs to change across the wider system to support better learning environments in the future.

There are many organisations, such as School Works, CABE, the Sorrell Foundation and others, who are actively working to pioneer new approaches and to champion quality school design. But despite this excellent work, a fundamental change of approach is still required from policy makers, architects, designers, manufacturers, schools and the procurement and construction communities.

If we are to capitalise on the potential of the schools building programme:

- We cannot build new versions of 19th and 20th century ‘outside in’ schools, as they will not meet the needs of the 21st century
- Efficient procurement will be important but will not necessarily ensure innovation or high-quality design, while users could be given only token involvement if the procurement chain and funding processes are too complex, competitive or rigid
- We cannot rely on exemplar school designs, to be chosen ‘off the shelf’, because they will not meet users’ needs or ensure effective environments for learning.

The Design Council has established the Learning Environments Campaign to take this agenda forward over the next few years.

The campaign aims to:
Work with teachers, students and other stakeholders to design and evaluate innovative and effective learning environments and the systems that will support them
Develop practical tools to inspire and support schools more widely to identify and tackle their own issues by following a user-led process
Understand the underlying systemic factors that inhibit innovation in school learning environments and work in partnership to develop practical initiatives and policy recommendations to address them
Campaign for an ‘inside out’ approach to school design throughout the system.

The Learning Environments Campaign will always seek to work in partnership with schools and other organisations to achieve change. It has a high-profile Expert Panel, chaired by Mike Gibbons, Lead Director of the Innovation Unit at the DfES, which includes the members shown on the last page of this prospectus. The campaign’s work is funded by the Design Council and the DfES as well as the other sponsors shown on page 49.

The following sections outline the thinking underpinning the Learning Environments Campaign, its work to date and some of its plans for the future.

Putting Users at the Heart of the System The Learning Environments Campaign

We have taken schools' internal learning environments as our theme because we believe it is the obvious, and most appropriate, starting point for an 'inside out' approach. Young people do not visit cinemas and shopping centres because of their great architecture but because they offer carefully constructed internal environments that meet their needs. It is within a school's internal environment that learning actually takes place. Yet many decision makers seem to think the priority is creating school buildings which represent great civic architecture. Perhaps as a result of this view, overspends on the (external) built environment are often subsidised from the (internal) furniture, fixtures and equipment budget.

Clearly, the external and internal environments of new schools need to be considered holistically. But by starting with the internal environment, we believe our work can not only develop some radically different thinking on how schools might support learning in the future, but also correct the over-emphasis on the built environment and so demonstrate the potential of an 'inside out', user-led design process for the entire capital buildings programme.

The Design Council's Kit for Purpose research identified the key stakeholders and factors that inhibit innovation in school learning environments, as shown in the diagram opposite. The Learning Environments Campaign aims to intervene at each point in the triangle, as shown by the arrows, to achieve systemic change.

The following sections set out the direction of our work to date and some of our plans for the future. This is very much work in progress and we hope you will want to join our campaign to ensure its success.

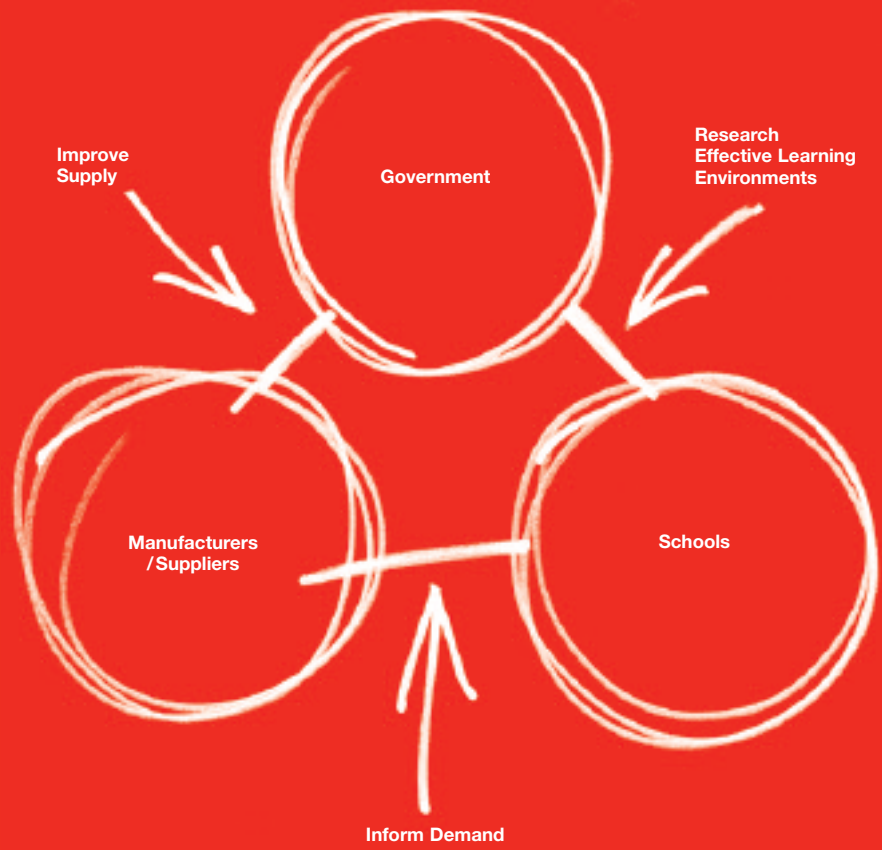
3 *Resources in English Schools*, BESA, 2004

Manufacturers/Suppliers Includes educational manufacturers and purchasing consortia that supply schools. Schools report difficulties in finding and procuring innovative and ergonomic products. Suppliers argue that schools simply do not request better designed, but initially more expensive, products and that therefore investment in research would be wasted.

Government Funds schools - around £1billion a year on internal environments. Issues non-statutory guidance (Building Bulletins) defining sizes of classrooms and other aspects of design. Sets specific policies on learning environments and wider policy framework on schools.

Schools Heads and managers in 24,000 schools spend around £1billion on internal environments between them in small sums. Relatively new area of responsibility (formerly that of Local Education Authorities) as part of a wider shift to self-management of schools. Managers report having limited time for researching reliable or inspiring information on alternative products and environments. They tend to look for 'tried and trusted' and lowest first cost solutions.

Schools spend an average of 4.5 per cent of their total budget on the internal environment. Only 16 per cent of schools believe that they have adequate resources to provide a suitable teaching and learning environment. Ninety-one per cent of primaries and 72 per cent of secondaries allocate resources to the internal environment once salaries, repairs and fixed costs have been allocated[3].



User-Led Design in Practice Research effective learning environments

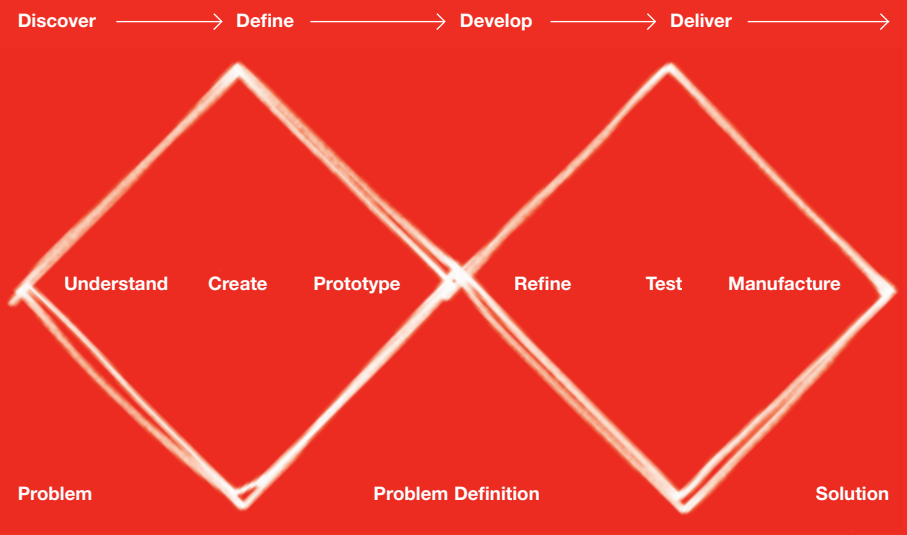
'We need to invest far more in understanding what makes an effective learning environment if we are to make the most of the capital investment in schools,' argued CABE Commissioner Emeritus Richard Feilden. At the same time, we need to understand how schools and users can be put at the heart of the procurement process in very practical ways. So a key part of our work is to follow a user-led process with schools to develop and evaluate innovative learning environments.

Funded by the Department for Education and Skills (DfES), we are working with 12 secondary schools over three years to: **Develop and disseminate effective practice** in the design and procurement of learning environments, focussing on schools' internal environments and recurrent expenditure **Develop and promote practical tools and a working methodology** which help schools articulate what they want and procure it in the best way.

The Learning Environments team comprises designers, educationalists and procurement experts as well as a core project team. Since early 2003 it has been working with a group of schools to develop and test the impact of improved learning environments and work is now beginning with a further group.

The focus is on developing and embedding long-term strategic thinking within schools, rather than solving short-term problems. The work began with the schools identifying an issue they wanted to address, such as 'improving concentration' or 'community engagement'. The Design Council team then ran an 'immersion' where students worked with the Head Teacher, a range of staff and other stakeholders as appropriate.

The immersion followed the 'discover' and 'define' sections of the 'double-diamond' design process, as shown opposite, to research and understand the issue and to generate solutions for addressing it. So at the 'understand' stage the group researched the causes of the issue, while at the 'create' stage they brainstormed ideas for addressing the issue and democratically discussed and identified the ones to take forward. At the 'prototype' stage they used available materials to develop rapid prototypes as a way of exploring and testing their ideas and making them tangible.



'The Design Council has decided to challenge the dismal reality of the nation's schools through a radical dose of "designer-think".' *The Guardian,* 20 July 2004

'In 27 years as a teacher, I've never had an opportunity to do so much blue sky thinking, with such a focus.' Teacher from campaign project school

St Margaret's school, featured in the next section, is an example of how this worked in the subsequent 'develop' and 'deliver' phases of the project.

Since the immersions, the Design Council team has been working with the schools to develop and implement their projects. The projects fall into the categories on the graphic shown on the previous page, which illustrates that the projects do not focus solely on the Physical Environment, but also the Systems and Processes that underpin any environment (from time-tabling and professional development to the way the school is managed), the way that Communication is used (to convey information, vision and ethos to staff, students and the wider community) and the way in which Products and Services are developed (whether they be Extended School facilities or catering).

The evaluation of the interventions in each school is being led by a team at the University of Newcastle's Centre for Learning and Teaching. The key questions for the evaluation are:

- Have the changes to the environment improved learning?
- How much has the experience of developing their environment in this design-led way influenced the schools' procurement practices?
- To what extent have the schools found the design approach useful in other areas of school management and life?

The results so far are encouraging and the Learning Environments team will be working with the remaining project schools in 2005 to build on this and develop practical tools that schools more widely can use to improve their own environments.

St Margaret's Church of England School Case Study Research effective learning environments

St Margaret's, a boys' school in Liverpool, was interested in how improvements to the learning environment could raise boys' achievement, given that boys generally under-perform against girls throughout the education system.

During the immersion, students worked with staff following the design process described on the previous pages. At the 'understand' phase they identified why boys generally achieve lower than girls, drawing on research showing that they have shorter attention spans, are less motivated by traditional learning and are more kinaesthetic, 'hands-on' learners. Then, at the 'create' stage, the group found ways of addressing these issues, for example by varying activities more often, through more active tasks and by giving more opportunities for students to demostrate their work.

Finally, having worked out ways to achieve these things, the group agreed they wanted to create a 360° Flexible Classroom and began building rapid cardboard prototypes of the furniture and other elements.

Following the immersion, the Design Council team worked with the staff and students to develop a brief for the project in order to commission a design team. Initial concepts from eight design teams were reviewed and three were funded to develop a vision for a flexible learning space. The three teams spent time in the school being briefed by the students and teachers, observing lessons, and understanding how the school ran. Each team then presented its concepts to a panel comprising students and teachers as well as members of the Design Council team. After some deliberation the panel selected the most challenging and innovative of the designs, largely on the basis of the students' aspirational and perceptive responses. Forpeople, the successful agency, is a relatively new consultancy formed by a group of designers whose previous experience includes aeronautical and automotive design.

Forpeople's concept, shown overleaf, surprised the school by responding to the original brief in a truly insightful and imaginative way. The designs not only create the potential for considerably more flexibility and movement within the classroom, but also address issues such as how school desks act as barriers to learning and collaboration and how light in the classroom can be controlled more effectively.

forpeople's concept for the 360º Flexible Classroom.

'A beast'; 'boss'; 'suave'; 'like something off *Terminator*'; 'wicked'. Pupils at St Margaret's describing the 360º Flexible Classroom

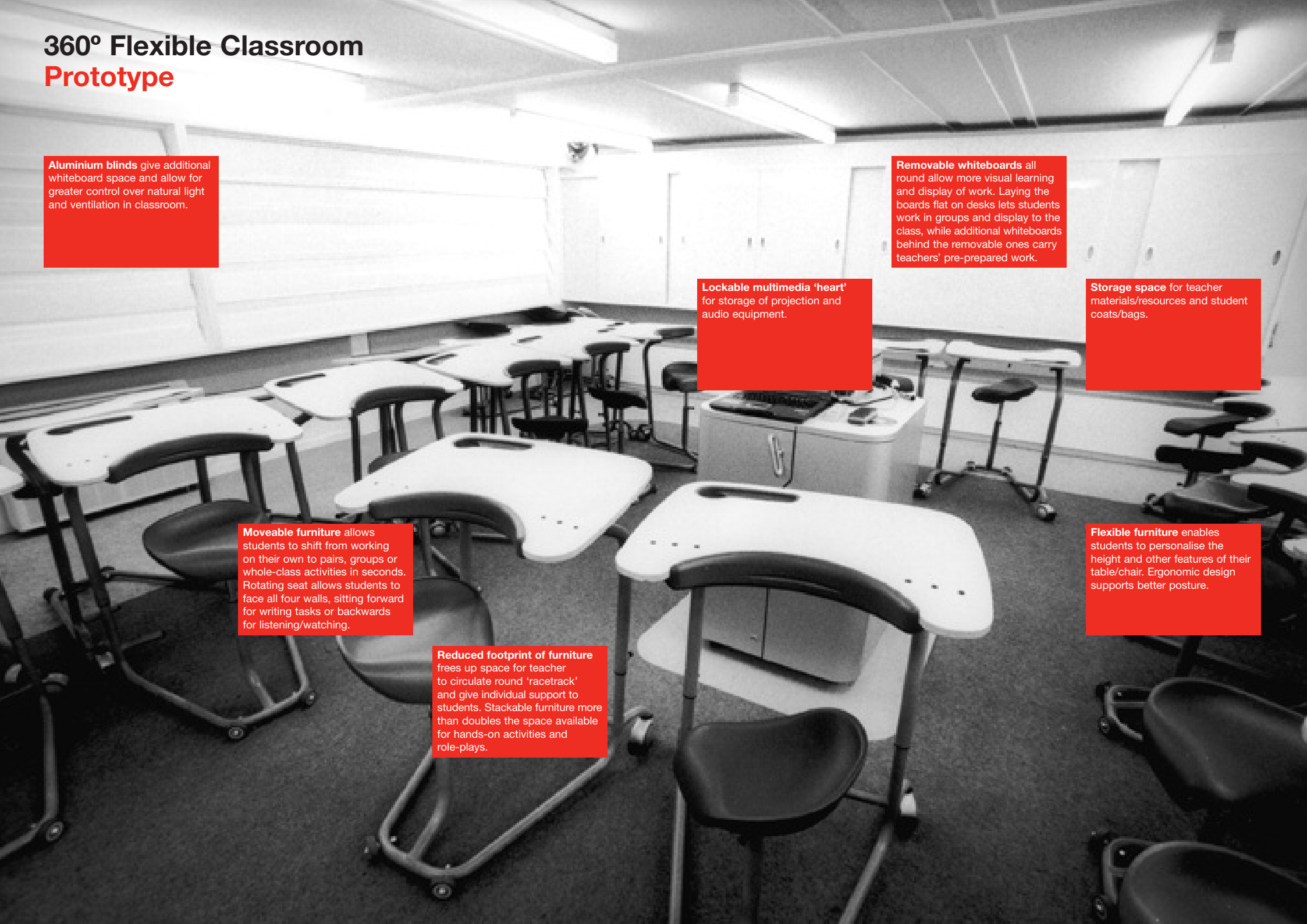
The concept centres on the 'heart', a secure and mobile multimedia projection module at the centre of the room. The combined table/chair reduces the footprint of a traditional desk and chair, leaving space for the teacher to circulate around the 'racetrack' and so access each student individually. The flexibility of the table/chair means it can also be moved by the students to support individual, paired and group work, while the whiteboards around the walls can be removed (to reveal additional display space) and placed onto the tables to facilitate group work. The aluminium window blinds move individually to control light and air flow and can also be used as whiteboards to provide additional display and projection space, meaning that in the final plenary session of a lesson the teacher can refer to a vivid learning 'trail' that has been built up around the four walls. Finally, the 'utility belt' around the walls allows vital shared storage space.

Having approved the concepts, the school worked with the Design Council to raise additional funds from the DfES Innovation Unit and Liverpool LEA to fund a prototype classroom. A key element of the costs lay in researching and developing 40 prototype table/chairs and so a manufacturer, Stage Systems, was approached and agreed to develop the designs and prototypes in return for the right to manufacture the product, provisionally called the QPod, following the testing stage.

The prototype of the classroom was installed in a mobile classroom at the school in the summer of 2004 and is shown on the next pages. The prototype is being tested and evaluated by a team of teachers at the school during the course of the year, supported by the Design Council and Newcastle University teams. Improvements have already been made and it is envisaged that a further prototype will be made in 2005, building on the testing to date.

The 360º Flexible Classroom is a prototype developed by St Margaret's to meet its needs. We are not suggesting that it is the one or only 'answer' to the future of school learning environments. We hope that the prototype will not only lead to new products, such as the QPod, becoming available to schools more widely, but that it will also provoke a debate and offer a proven methodology for schools to adopt as they develop their own future learning environments and practice.

360º Flexible Classroom
Prototype



Aluminium blinds give additional whiteboard space and allow for greater control over natural light and ventilation in classroom.

Removable whiteboards all round allow more visual learning and display of work. Laying the boards flat on desks lets students work in groups and display to the class, while additional whiteboards behind the removable ones carry teachers' pre-prepared work.

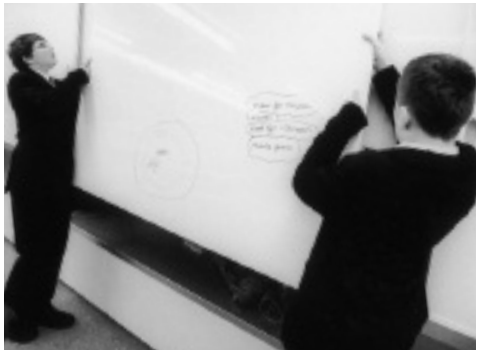
Lockable multimedia 'heart' for storage of projection and audio equipment.

Storage space for teacher materials/resources and student coats/bags.

Moveable furniture allows students to shift from working on their own to pairs, groups or whole-class activities in seconds. Rotating seat allows students to face all four walls, sitting forward for writing tasks or backwards for listening/watching.

Reduced footprint of furniture frees up space for teacher to circulate round 'racetrack' and give individual support to students. Stackable furniture more than doubles the space available for hands-on activities and role-plays.

Flexible furniture enables students to personalise the height and other features of their table/chair. Ergonomic design supports better posture.



Inspiring New Thinking and designmyschool.com Inform demand

The Design Council's research has shown that one of the key challenges for schools in procuring better learning environments is lack of information on, or time to research, alternative solutions. Many teachers acknowledge that, as a result, the environment remains a 'blind spot' for them - something that they accept as a given and work around, unaware of how it could be different or how they could make a difference.

The Learning Environments Campaign is addressing this problem and thereby informing demand in two ways through:

- **An inspirational magazine** to give schools better information and ideas on how they could improve their environment
- **designmyschool.com** a diagnostic questionnaire and advice website to give teachers and pupils a structured approach to identifying the key weaknesses in their environment and making improvements.

An inspirational magazine Research carried out for the Learning Environments Campaign into how schools make procurement decisions has shown that they rely heavily on established supplier catalogues and the purchasing consortia that often bulk purchase on behalf of schools. Relatively few school budget holders can afford the time or expense of visiting a trade show, researching how other schools have addressed issues or finding different suppliers. While many schools might wish for a better environment, few recognise that they can make a significant start by using their existing budgets to procure more effectively. The result is inevitably a risk-averse culture where schools replace things that are broken with versions of what they have used in the past and know will work, generally at the lowest possible first cost.

To raise awareness of, and demand for, more innovative and effective design the Design Council is exploring ideas such as a new magazine - part *Which?* guide, part *Elle Decoration* - aimed at school managers and teachers and providing practical, high-quality and impartial information on effective furniture, resources, layouts, support systems and teaching approaches for learning. The dummies shown opposite indicate how the magazine could look and feel.

Dummy cover and spread for an inspirational magazine developed by Redwood, Esterson Associates and Media10.

Prototype version of designmyschool.com developed by Ultralab.

We have also developed a partnership with Teachers TV, the DfES-funded cable channel for teachers being launched in 2005, to highlight teacher recommendations for effective and innovative products in a series on school design in 2005.

designmyschool.com Many teachers and schools know they could do more to improve their environment but they don't know where to start. Designmyschool.com is a new online service being developed by Ultralab on behalf of the Design Council.

The site will offer teachers and pupils an interactive approach to identifying the key issues within their environment by completing a diagnostic questionnaire and receiving feedback. It will then offer practical examples, research summaries and next steps advice on how to make improvements, drawing on 24 specially commissioned case studies and an international literature review as well as the experience of the campaign project schools and links to other relevant sites and organisations. Designmyschool.com is due for launch in Spring 2005.

'It would (be) great to have a central resource with inspiring examples.'
Teacher, *Kit for Purpose,* Design Council, 2002

'Involving staff, students and community users in developing their hopes and aspirations for our new school was fantastic. I wish I could do it all again knowing what I now know - understanding where the real power rests when decisions have to be made, who really is the client and wanting, and deserving, openness and honesty from all "partners". Every school leader should have support to help them get it "as right as possible" first time.'
Jill Stuart, Head Teacher, Summerhill School, Dudley

Innovation, Policy and Partnerships
Improve supply

Innovation in supplying resources to schools will be critical in moving towards 21st century learning environments. This requires educational manufacturers and supply organisations, such as school purchasing consortia, to be fully involved in a user-led process of research and development. The Design Council is developing partnerships and a programme of work focussed on supporting this development now and in the future.

Identifying the causes of low levels of innovation in the supply of learning resources in the UK market is far from easy. Many manufacturers argue that schools are not prepared to pay for higher-quality and better designed items.

What seems clear is that manufacturers overseas are investing more in research and development and are moving ahead in this field. For example, the renowned VS Furniture company in Germany develops and tests all of its new furniture in partnership with schools and a pedagogic institute. Manufacturers in Denmark frequently work with individual schools to develop bespoke furniture and seek to ensure that their furniture reflects the list of attributes listed opposite.

Meanwhile, in England, the DfES is in the process of approving the European CEN standards for educational furniture, yet many UK manufacturers still do not comply with the existing British Standard 5873 for school furniture.

The Learning Environments Campaign is working to catalyse innovation in the supply of learning products through three linked approaches:

– In 2002 the Furniture for the Future initiative funded three teams of designers and manufacturers to work together to develop innovative furniture for learning. The results included the Orbital Work-station, developed by the Azumis and Keen Group and pictured overleaf.
– The Learning Environments team is currently working with manufacturers to develop innovative solutions. For example, Stage Systems is developing the QPod prototype table/chair (pictured overleaf) for use and testing within the 360º Flexible Classroom and for subsequent manufacture.
– A high-level seminar in early 2005 will examine the causes of low innovation among UK educational manufacturers and suppliers and propose policy recommendations for the Learning Environments team to take forward.

The Learning Environments team is also currently developing partnerships with manufacturers, technology companies, schools and other partners to create a major new initiative in 2005 aimed at developing 'live' exemplar learning environments.

Attributes of Danish furniture design
– Flexible
– Mobile
– Modular
– Affordable
– Usable
– Space saving
– Durable
– Ergonomic - without compromising learning effectiveness

Adapted from *Four Walls that Hold the Future*, Danish Design Centre, 2004

'The work of the Learning Environments Campaign so far demonstrates that it has great potential to drive forward innovation in the supply of learning resources and environments.' Dominic Savage, Director General, British Educational Suppliers Association (BESA)

'Wouldn't it be great if Richard Branson started a school supplies company?' Science teacher, Kit for Purpose research

QPod prototype developed by Stage Systems for the 360º Flexible Classroom

Orbital Workstation developed by Keen Group through Furniture for the Future

Campaigning for Change
Next steps

We are developing a range of activities to build on and amplify the Learning Environments Campaign's work. They can be broadly grouped under three headings:

Engaging champions Our high-profile Expert Panel meets four times a year to guide the campaign's work and help ensure its impact. Its members are shown opposite.

We are also building a network of head teachers and practitioners who will champion our work on the ground, starting with the campaign's project schools. This will be built on through our planned communications and events.

Changing practice We are developing partnerships with a number of national bodies, including the DfES, the National College of School Leadership, and Teachers TV to develop the Campaign's work and ensure its impact on the wider system.

We are also developing a series of publications and tools, starting with designmyschool.com, to inspire and support schools to improve their own learning environments.

Changing policy Much of the campaign's success will depend on its ability to change the policy and funding framework for school learning environments. We have commissioned a review of policy relating to learning environments and we are running a series of policy workshops involving senior officials from the DfES and other agencies as well as a range of practitioners to interrogate the policy framework and make practical recommendations for change. We will be publishing a manifesto setting out five key demands for government to improve learning environments.

Beyond the campaign? We believe that there will be an ongoing need for an organisation or network to bring together research and thinking on school learning environments and make it accessible for all those involved in designing schools for the future. We are exploring the concept of an International Centre for the Learning Environment, which would fulfil at least three functions:

- An observatory: scanning the world to collate research and practice on learning environments
- A research centre: funding and/or carrying out cutting-edge research on learning environments for the future
- A best practice and support service: disseminating accessible research and findings and providing active support to those involved in designing and building schools for the future.

We hope that you will want to join our campaign. Please do contact us using the details on the opposite page.

About the team
The Learning Environments Campaign is one of four campaigns overseen by Richard Eisermann, Director of Design and Innovation at the Design Council. The other campaigns cover Technology, Manufacturing and Design Skills.

The Learning Environments team consists of the following core members:
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Carmel Hayes Design Manager
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Joe Heapy/Oliver King Engine
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David Summerfield/Richard Stevens/ Michael Tropper forpeople

Expert Panel members
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Ray Barker British Educational Suppliers Association
Mary Bousted Director General, Association of Teachers and Lecturers
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The Design Council enhances prosperity and well-being in the UK by demonstrating and promoting the vital role of design within a modern economy.

We do this in a practical, hands-on way by running Design Campaigns in key areas of business and the public sector. These campaigns bring designers and managers together with consumers to improve the performance of organisations and deliver enhanced services. Our current campaigns are in the areas of Learning Environments, Manufacturing, Design Skills and Technology. Each has its own prospectus defining the relevant issues, setting out the case for change and inviting the participation of key partners.

For more information on the Design Council and our activities, please visit our website at www.designcouncil.org.uk

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