

# PEB *EXCHANGE*

THE JOURNAL OF THE OECD PROGRAMME ON EDUCATIONAL BUILDING

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OECD



## The OECD Programme on Educational Building (PEB)

The Programme on Educational Building (PEB) operates within the Organisation for Economic Co-operation and Development (OECD). PEB promotes the international exchange of ideas, information, research and experience in all aspects of educational building. The overriding concerns of the programme are to ensure that the maximum educational benefit is obtained from past and future investment in educational buildings and equipment, and that the building stock is planned and managed in the most efficient way.

Fifteen OECD member countries and 12 associate members currently participate in the Programme on Educational Building. PEB's mandate from the OECD Council to advise and report on educational facilities for students of all ages runs until the end of 2006. A Governing Board of representatives from each participating country establishes the annual programme of work and budget.

### PEB Members

Australia	New Zealand
Austria	Portugal
Greece	Slovak Republic
Hungary	Spain
Iceland	Switzerland
Ireland	Turkey
Korea	United Kingdom
Mexico	

### PEB Associate Members

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Tokyo Institute of Technology (Japan)

# PEB AND OECD ACTIVITIES

## LESSONS IN DANGER

Accidents, earthquakes, arson, vandalism, theft, violence, bullying... All members of society agree that ensuring the safety and security of children in schools is a priority, but achieving this objective is not a given. The number of problems and threats facing schools from within and without is vast, and in some countries the range of incidents is increasing. In response, the variety of approaches used to confront these challenges in society and education is growing too.

*Lessons in Danger*, the latest PEB publication, provides insight into how a variety of problems and solutions concerning school safety and security are addressed in 14 countries. The report is the outcome of an international conference organised by PEB and the United States Department of Education, which was held in Paris on 12-14 November 2003. *Lessons in Danger* explores five themes related to school safety and security: risk assessment, crisis

planning and management, infrastructural approaches, collaborative approaches, and education, training and support approaches. It describes the roles of architects, project managers, ministry officials, psychologists, teachers, security consultants, police officers, academics and many others in helping to implement solutions.

For further information on this publication, please consult the OECD School Safety and Security pages at [www.oecd.org/edu/schoolsafety](http://www.oecd.org/edu/schoolsafety).

## NEW PEB COMPENDIUM

In March 2005 PEB will call for submissions of projects to publish in its next compendium of exemplary educational facilities. The compendium will cover all levels of education and address how the design, use and management of buildings and grounds contribute to the quality of education. The institutions selected will be presented

in a publication and a subsequent exhibition with full-colour photographs, plans and descriptions.

This third PEB international compendium will focus on functionality of recently completed or renovated educational buildings and include an evaluative component; it will also feature learning environments of the future. Special attention will be given to buildings which meet policy objectives, for example in energy-saving, educational achievement or including students with special needs.

To submit facilities for inclusion in the compendium or become a partner in this project, please visit [www.oecd.org/edu/facilities](http://www.oecd.org/edu/facilities) or contact the PEB Secretariat (see page 28). A pre-selection is expected from each country, and an international jury will make the final selection with input from users (*i.e.* teachers, students and managers). Potential partners include sponsors contributing to the

cost of the publication in exchange for an advertisement, organisers of launching or other dissemination events for the publication and those hosting the exhibition.

## HIGHER EDUCATION FACILITIES CONFERENCE

PEB, together with the Association of Higher Education Facilities Officers (APPA) and the OECD Programme on Higher Education Institutional Management (IMHE), will organise an international conference on the planning, design and management of facilities for higher education institutions. The conference will take place in California, United States, from 24 to 27 April 2005. The conference will include visits to San José State University and Stanford University. For further information, contact Isabelle Etienne, tel.: 33 (0)1 45 24 92 72, e-mail: [isabelle.etienne@oecd.org](mailto:isabelle.etienne@oecd.org).

## NEWS

### NEW PUBLIC LIBRARY FOR MEXICO

In 2004, construction began on the José Vasconcelos Public Library in Mexico City under the responsibility of Mexico's Administrative Committee of the Federal Programme for School Construction (CAPFCE).

Scheduled for completion in 2006, this will be the largest modern library in Latin America. The library will have the capacity to store up to 1.5 million volumes and serve 6 520 users. The building will count 6 000 seating spaces and 520 public access computers. It will also house language laboratories, two museums, a music hall, a children's library, an auditorium, a media hall and an e-Mexico digital community centre.

The new library aims "to allow a larger number of Mexicans to unlimited and free access to information and knowledge". It will collaborate with and offer access to other libraries in Mexico and throughout the world, thereby promoting equitable lifelong development.



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## MAKING SPACE FOR YOUNG CHILDREN

In 2005, designing learning spaces for young children will be the theme of a two-day international conference in Scotland, an awards programme and a special magazine edition.

### Conference

An international conference on designing learning spaces for young children will take place on 8-9 December 2005, in Edinburgh, United Kingdom. The event will be organised by PEB, Children in Scotland, The Royal Incorporation of Architects in Scotland (RIAS), the Scottish Executive and Children in Europe. This conference will hear from academics, architects, policy-makers and practitioners from across Europe, and will:

- Promote the importance of good design in creating space for young children.
- Share best practice through a series of study visits in Scotland.
- Reflect on how the success of policy for young children is inextricably linked to the spaces we provide for them.

Visits to schools in different cities will take place on the first day. For more details, contact Sarah Burton on 00 44 131 222 2411 or e-mail [sburton@childreninscotland.org.uk](mailto:sburton@childreninscotland.org.uk).

### International awards

Children in Scotland and RIAS will offer an international award for the most successful building or space (inside or outside) providing for children aged 0-10. Entries to "Making space: architecture and design for young children" can include nurseries, children's centres, schools and school-age childcare services, combined services for

this age group or services shared with other age groups, play areas or street furnishings such as school bus shelters. Submissions are invited from architects of projects completed between December 1999 and December 2004. Award winners will receive free places at the December 2005 conference in Edinburgh, design software and exposure of their design in journals such as *PEB Exchange* and *Children in Europe*. For entry forms (entry is free) and criteria, visit [www.childreninscotland.org.uk](http://www.childreninscotland.org.uk) or [www.rias.org.uk](http://www.rias.org.uk). The deadline is 31 May 2005.

### Magazine

In March 2005, Children in Europe will publish an issue of its magazine on architecture and design for young children, with articles and images provided by European academics, policy-makers and practitioners. *Children in Europe* is a collaboration between a network of magazines from eight European countries and is produced in seven languages.

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## IRELAND'S SUSTAINABLE ENERGY AWARDS

Ireland's national energy authority, Sustainable Energy Ireland, presented the country's first Annual Sustainable Energy Awards in November 2004. The awards are intended to encourage, recognise and reward excellence in energy management in the industrial, commercial and public sectors. They focus on individuals and groups that demonstrate a commitment to include energy management as part of their overall management structure, and provide an opportunity for organisations to gain public recognition for their achievements in reducing energy use and emissions. This national initiative, sponsored by the Electricity Supply Board, is the only award scheme recognising best practice in energy performance, management and design in Ireland.

The Planning and Building Unit of the Department of Education and Science was recognised in two categories for *Gaelscoil An Eiscir Riada*, Tullamore, which featured in *PEB Exchange* no. 52. The school and its designers received a commendation in the Energy Awareness category and won the award for Excellence in Design or Specification, fending off stiff competition from other significant projects.

These awards follow on from the success of the *Gaelscoil* project at the international competition held by the Chartered Institute of Building Services Engineers in the United Kingdom in June 2004, where the project won the Environmental Initiative of the Year.



● Student workstations are crafted with corrugated metal at the High School for Recording Arts.



● Open to the community, the courtyard of Tajimi Junior High School is sometimes used as a bazaar, cafe and concert space.



## DESIGNSHARE AWARDS

DesignShare has announced the winners of its fifth international School Design Awards. Plans, photographs and narratives of the 53 selected educational designs are available on line at [www.designshare.com](http://www.designshare.com). The award-winners represent 11 countries and include facilities for preschool through tertiary education and other entities that provide learning. An international team of school planning and design experts made the selection from among 70 projects submitted; the entire awards process, from the written submissions to the experts' review, was conducted via the Web.

The U.S.-based DesignShare awards programme focuses first on learning, second on the learners and third on how the built or natural environment provides rich learning opportunities.

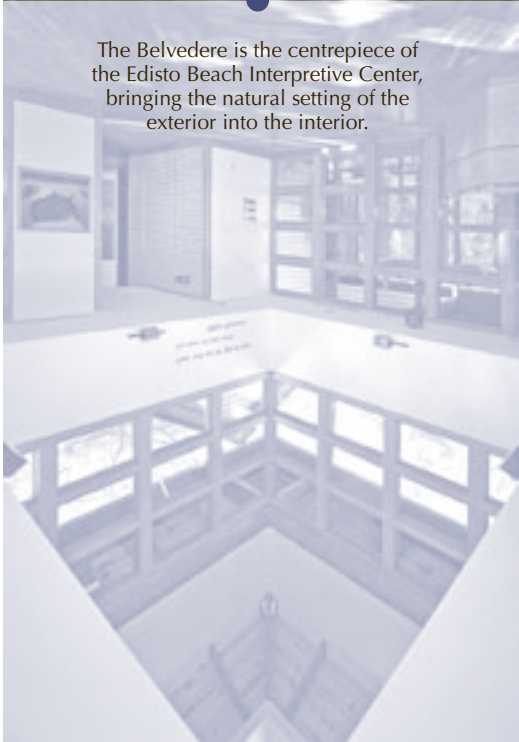
Tajimi Junior High School in Japan, one of the honour award recipients, was designed to put students in contact with nature, to allow them physical and mental freedom, and to adapt to the school's changing needs. In reference to those goals, the principal wrote, "The building is fundamentally different from other schools. The rooftops and verandas, places usually prohibited to students, are designed for student activities. There are places where staff may overlook. Yet, we intend to trust [the students] and to not tighten the restrictions." Students wrote that their school is full of "green" and that rather than seeing hallways and walls when moving from one space to another, they see flowers and trees.

● The greenery from the neighboring park is extended into the courtyard of Tajimi Junior High School.





The Belvedere is the centrepiece of the Edisto Beach Interpretive Center, bringing the natural setting of the exterior into the interior.



The reviewers recognised projects that are not traditional schools including, in the United States, a high school based on hip-hop music and a “real natural laboratory”. The High School for Recording Arts, in Minnesota, offers real-world learning to at-risk students. The school operates with a professional music production studio. Students split their time between individual learning

in academic areas, instruction in critical areas of the music industry, and the development and mastering of production and performance skills. Academics must be mastered each day before the learners may use the recording studios.

The Edisto Beach Interpretive Center, in South Carolina, is a joint project with the state’s Department of Parks, Recreation, and Tourism and Department of Natural Resources to develop a public teaching laboratory. The reviewer Susan Wolff commented, “I would hope some day we can get to the point when we no longer have to think of non-classroom spaces as the exception, and they become the norm.”

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## SCHOOL BULLYING

School bullying is widespread and damaging, but it is also preventable. Such were the conclusions of “Taking Fear out of Schools”, an international policy and research conference on school bullying and violence. The conference, involving participants from 19 countries, was co-organised by the OECD, the Norwegian Ministry of Education and Research, the Directorate for Primary and Secondary Education, and Stavanger University College. It was held in Stavanger, Norway, on 5-8 September 2004.

The conference location in Norway was not accidental. Over the last 25 years Norway has been at the heart of a growing worldwide movement aimed at researching and preventing school bullying.

Bullying is depressingly common. Typically about one in ten young adolescents say that they are repeatedly victimised. In some cases, repeated bullying has led victims to suicide, but most bullying does not have such dramatic consequences. Research shows that victims of bullying tend to have many problems, including depression, truancy, social isolation and poor health.

While anti-bullying programmes can be effective – project workers report reductions in bullying of up to half – many policy-makers and practitioners are operating with limited information. Following the conference, the Norwegian government together with the OECD will be launching an international network on school bullying and violence to share information and experience between countries.

*Further information on this conference is available at [www.oecd.org/edu](http://www.oecd.org/edu).*

## CONGRESS ON INFRASTRUCTURE IN MEXICO

The Third International Congress on the Development of Physical Infrastructure in Education was held at Puerto Vallarta, Mexico, from 20 to 22 October 2004. This Congress was organised by the Administrative Committee of the Mexican Federal Programme for School Construction (CAPFCE), with the participation of the Mexican Ministry of Education. Many ministers of education and public works of Mexican states attended, as did the Governor of the State of Nayarit and the Director of CAPFCE. Representatives of other Latin American countries, including Chile, Honduras, Peru and Venezuela, were also present, as were representatives of UNESCO and the OECD.



This third edition of the International Congress on the Development of Physical Infrastructure in Education, which is becoming an annual event, was devoted to the following four themes:

- Innovative projects in educational spaces.
- Security in educational spaces.
- New materials and new technologies.
- Social participation.

The main goal of this international meeting is to generate exchanges and synergies regarding regional, national and international experiences in the field of educational infrastructure, while seeking to promote projects and designs adapted to each local and regional situation.

A variety of presentations were made regarding projects for designing educational spaces aimed at meeting the requirements of current educational practices and technological changes. There were also wide-ranging discussions of technological innovations in construction and new materials, and of methods for evaluating the quality and safety of educational spaces, including in the event of a natural disaster. Lastly, experiences of community participation in preparing models for planning, building and maintaining educational spaces were discussed, as were guidelines for defining public policies in the field of educational infrastructure.

## SAUDI ARABIA/UNESCO EDUCATIONAL BUILDING PROJECT



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### SAUDI ARABIA

**Area:** 2.2 million km<sup>2</sup>

**Population:** 23.5 million

**Population under age 15:** 39.1%

**Youth literacy rate (ages 15-24):** 93.5%

(2002 figures)

Source: United Nations Development Programme (UNDP), Human Development Report 2003, <http://hdr.undp.org/statistics>

Saudi Arabia is undertaking a project in collaboration with UNESCO to improve the planning, design, construction and maintenance of the Kingdom's educational buildings.

In the Kingdom of Saudi Arabia, school enrolment is increasing rapidly, and every year more funds are made available for education. As a result of free education being provided to Saudi citizens, enrolment in basic education reached about four million students in the 1994/95 school year under the UNDP 5<sup>th</sup> Country Programme for Saudi Arabia: 1992-1996. While the education budget in 1970/71 represented 9.8% of the total state budget, during the UNDP-inspired Five Year Development Plan it represented 18%.

Presently Saudi Arabia counts 10 659 schools. Over half (55%) are in rented buildings that are not designed for education. It is estimated that every year some USD 68 million is paid in rent.

Within the Ministry of Education, the Deputy Ministry of Buildings and School Supplies is responsible for the planning, design, construction and maintenance of buildings for primary, intermediate and secondary education. Most of the difficulties the authorities face emanate from three problem areas:

- Lack of a clearly defined framework for translating the educational requirements into architectural building designs and programmes.
- Absence of dialogue between educators, architects and users.
- Lack of qualified staff.

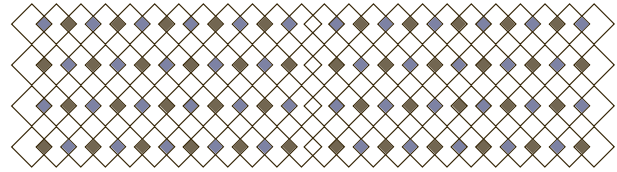
The project undertaken by the Ministry of Education and UNESCO in February 2004 has these objectives:

- To enhance the Deputy Ministry's capacity to prepare, design and implement school construction programmes.
- To develop national norms and standards for educational buildings and furniture to be applied throughout the Kingdom to make spaces conducive to learning.
- To help the Ministry of Education formulate a plan to replace rented schools with properly-designed educational buildings.
- To establish a documentation centre specialised in educational building.

The expected outputs of the project include a trained technical staff within the Deputy Ministry; a national strategy for the planning, design, construction and maintenance of educational buildings and furniture; and a number of technical documents. Manuals will be published on the following topics:

- Design guidelines and space norms.
- Physical comfort norms according to the Kingdom's ten geographical areas.
- Design, production, transportation and installation of furniture.
- Use and management of educational buildings and furniture.
- Maintenance of educational buildings and furniture.

Work is well underway. A Project Implementation Unit (PIU) of four Saudi architects and engineers has been created within the Deputy Ministry and a UNESCO architect has been named to work with them. A lead consultant has been appointed to co-ordinate the production of the manuals, in addition to three consultants for each manual. The Ministry of Education has set up education committees in three regions to start the neces-



A secondary school in Riyadh

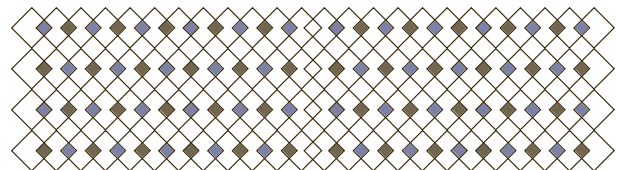


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An intermediate school in Riyadh



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sary dialogue between architects and educators. Several missions have already taken place including workshops with the Saudi/UNESCO team to discuss the preliminary drafts of each manual.

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# PROJECTS

## ICT AND EDUCATIONAL PROPERTY MANAGEMENT

An international PEB seminar on “Information and Communications Technology and Educational Property Management” was held in Montreal, Canada, from 31 October to 3 November 2004. The aim of this seminar was to examine how information and communications technology (ICT) can be incorporated into educational property management by investigating three issues: how ICT can make educational spaces more functional and comfortable in a sustainable development perspective, how it can improve the security and protection of facilities and, lastly, how it can optimise their technical and administrative management. The participants had the opportunity to see the theories presented in each field illustrated concretely by visiting innovative institutions in Montreal and its suburbs. A brief summary of these visits is provided below.

Faced with a situation in which most school buildings are reaching the end of their initial life cycle and financial and human resources have been reduced, educational property managers in OECD countries now more than ever before have to optimise their operating and investment strategies. Making ICT an integral part of these strategies in response to changing “modes of knowledge and flexible delivery”<sup>1</sup> and to changing modes of educational property management is a major challenge.

In March 2003, a seminar of the OECD Programme on Educational Building (PEB) was held in Brisbane, Australia, under the theme “Bricks, Clicks and Spondulicks”. In his report on this seminar, Kenn Fisher said: “On the international scene, it is clear that there is a wish for more comparative studies on educational buildings and the role of ICT in education”. It followed logically that there was a need to focus on how information and communications technology could be incorporated into educational property management.

1. *PEB Exchange*, no. 50, October 2003, “Bricks, Clicks and Spondulicks”.



Bernard Hugonnier, Deputy Director for Education at the OECD, opening the seminar

Consequently, PEB and the Association of Institutional Property Managers (AGPI – Quebec), with the participation of the Quebec Ministry of Education and the Quebec Energy Efficiency Agency (AEE – Quebec), worked together to organise a seminar on this issue.

The Montreal seminar examined how various countries have incorporated ICT into educational property management at the national and local levels over the past ten years and reviewed the solutions that these tools can provide today. The various international experts and PEB members attending the event shared viewpoints based on experience in their own countries and institutions and discussed some of their concerns. The participants considered best practices and their impact on the educational environment, as well as the drawbacks, constraints and limitations encountered.

The discussions also offered a prospective review of how ICT might be developed to anticipate needs in the light of on-going research, current developments, trends and the emergence of new standards.



The gala dinner served by students in the food and catering programme of the Calixa-Lavallée Centre, a vocational school in Quebec



CANMET Energy Technology Centre – Varennes

A report on the seminar is currently being prepared and will be published.

### Technical visits

The *Université du Québec à Montréal* (University of Quebec at Montreal, UQAM) is a pioneer in new technologies. It was the first university in Canada to equip its libraries with computerised catalogues. It continues to take the lead, having recently installed a “converged” telecommunications network integrating voice, data and video that now links the 45 000 users of the university.

At the *École de Technologie Supérieure* (Superior School of Technology, ETS), participants saw how managers have succeeded in combining perfectly two generations of building management systems (remote management) by connecting the most advanced versions of centralised control systems to existing versions.

The *Centre de la Technologie de l'Énergie de CANMET – Varennes* (CANMET Energy Technology Centre, CTEC-Varennes) is one of the three energy research and innovation centres of Natural Resources Canada (RNCAN). This centre's mission is to enable targeted sectors of the Canadian economy to reduce their greenhouse gas emissions, promote sustainable energy use and improve their innovation capacity. Intelligent building technologies, re-commissioning practices, photovoltaics, innovative refrigeration and the Renewable Energy Decision Support Centre are some of the many activities developed by the CTEC-Varennes.

The *École du Tournant* (Le Tournant School) is exceptional in terms of its design, energy performance and environmental quality. The school's designers succeeded in reducing its energy consumption to only 20.8% of the annual consumption of a typical school built in line with the requirements of the Model National Energy Code for Buildings. In addition, it has been designed so as to generate virtually no greenhouse gas. This makes it the most energy-efficient school in Quebec, and it ranked second among the buildings that participated in the Canada-wide Commercial Building Incentive Programme.

The “concept-based” building of the *Centre de Formation des Nouvelles Technologies de Sainte-Thérèse* (New Technologies Training Centre, CFNT) supports educational activities supervised by a dynamic and innovative team. The layout recommended in its design contributes to pupils' success. This architectural and technical approach shows how information technologies can be used to promote learning in a building that combines state-of-the-art technology and openness to its surroundings with forward-looking contemporary architecture.

At the *École des Hautes Études Commerciales* (School for Advanced Commercial Studies, HEC), a cable network was designed to serve 6 000 portable computers. This cable network has 10 000 connections and the same number of electrical outlets enabling students and teachers to use the computer network in classes or virtually anywhere in the building in order to study or participate in group work. The network has been made secure using the latest technologies available in this field.

*Concordia University* has equipped over 80% of its educational areas with wireless technologies. Its wireless network has 150 access points, each with a range of over 600 meters. This institution has incorporated multimedia functions and Internet connections into a wide range of multi-purpose spaces. This enables each user to have network access without being confined to a single designated area.

The Organising Committee wishes to thank all the partners and contributors who helped to make an event of this scale a “great success in all respects”, including everyone who contributed to the success of the technical visits.

*Article contributed by the Organising Committee.*

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# BUILDING SCHOOLS FOR THE FUTURE IN THE UNITED KINGDOM

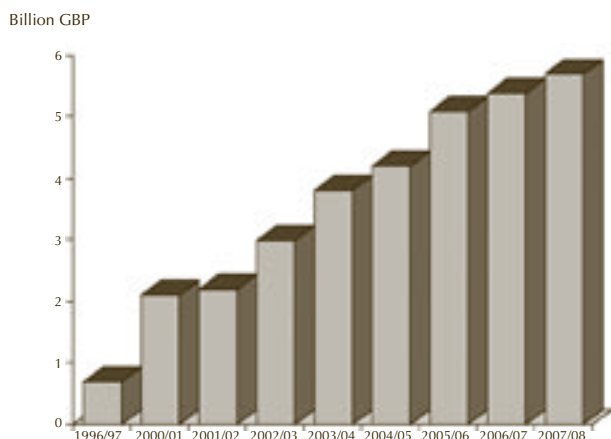
State-of-the-art school buildings can improve educational standards and have a positive effect on everyone who uses them. That is why England's Department for Education and Skills (DfES) launched an ambitious five-year strategy to improve educational facilities for all children in the country and create high quality resources for the whole community. The programme, Building Schools for the Future, is backed by a record level of investment in school infrastructure, takes into account changes needed in the educational built environment, and gives special attention to exemplar designs.

## Investment

Investment in England's school facilities in 2004/05 is GBP 5.5 billion and will rise to GBP 6.3 billion by 2007/08, including credits from private funding investment. This compares with less than GBP 700 million in 1996/97.

The increase in funding marks a leap forward in investment planning. It will enable strategic and radical changes to be made to the school estate. Around GBP 2 billion a year will be spent on the Building Schools for the Future programme between 2005 and 2008, with the aim of rebuilding or renewing all secondary schools over the next ten to 15 years. Over the same period there will also be substantial investment in primary school buildings.

## Capital expenditure is rising



## Changes needed

The Building Schools for the Future initiative offers a rare opportunity to transform the educational built environment, but mistakes made in the past must not be repeated. The last major school building programme is still being paid for. The many over-glazed, poorly-insulated and often porous buildings of the 1960s and 1970s generally have high running costs and, unless well maintained, do not provide the learning and working environments needed today. There are also many school buildings that, while functioning well, are not interesting places for children or adults to be in, nor do they contribute to raising educational achievement. While the designs of offices, research centres, galleries and museums have changed enormously in the last 20 years, most school designs have not evolved.

To deliver the best and most effective education, exploiting all the possibilities of information and communications technology (ICT), school buildings need to be designed to stimulate children's imaginations and reflect advances in technology. They need to provide high quality environments that are conducive to learning, functional and exciting. They must be able to cope with changes in a future that we cannot predict. For this reason DfES is trying new ideas.

The Department is looking at ways of designing inspirational, flexible buildings that can adapt to technological and educational changes. ICT can give schools the option of teaching children in a variety of ways, and can provide electronic links to other schools and facilities within the country and abroad. This will not happen if spaces in schools do not facilitate various patterns of individual and group working. Flexibility is key, because whatever visions of education we design our buildings around now, they will likely need to perform in a different way in a few years' time.

The major drivers of change in school building design can, however, be predicted. These include:

- Developments in education, such as spreading the expertise of the most able teachers more widely, changes to the curriculum, greater numbers of support staff who bring a wider variety of skills to the classroom, and the need to accommodate a range of group sizes that vary during the course of a lesson.
- The challenge of making schools inclusive, both for those with special education needs or disabilities, and, outside the school day, for the wider community.



- Changes in school organisation, such as greater administrative autonomy, more individualised learning, different school hours and a different calendar, and “all-through” schools (combining primary and secondary education).
- Structural changes, such as rural schools forming clusters or federations to overcome the problems of size and isolation, or the development of education parks where schools, colleges and other institutions share a campus.
- Growth in the provision of extended schools and increased networking between them so that facilities are not unnecessarily duplicated.
- ICT (although a question remains: will its rapid evolution decrease its impact on school building design over the next few years, while offering alternatives to traditional schooling for some?).

### Exemplar designs

To promote new ways of developing designs that are deliverable and to help create schools for the future, DfES produced the publication *Schools for the Future: Exemplar Designs, Concepts and Ideas*. The book aims to demonstrate how high standards of school building design can be achieved within England’s area standards and cost guidelines, and to help streamline development and procurement procedures.

After a rigorous selection process, 11 firms were appointed to develop the exemplars to “outline design” stage for publication. Each team was given two real sites and a brief with the following requirements:



- Inspirational designs to stimulate both pupils and the school workforce.
- Flexibility to allow short-term changes in teaching methods and the integration of ICT.
- Adaptability to suit longer-term changes in the size or number of rooms and to provide a “kit of parts” that could suit a variety of sites and types of schools.
- Inclusive designs for those with special education needs or disabilities.
- Community use outside the school day.
- Excellent environmental designs that at least meet the environment standards of the DfES Building Bulletin 87 and the acoustic standards of Building Bulletin 93.
- Safe, secure and sustainable designs.
- Suitability of designs for some off-site construction.

Each team was allocated a partner school to act as a “client”, and the design teams attended a series of seminars with experts on ICT, landscaping, sustainability, security, etc. The teams worked with each other, sharing ideas, and at key stages carried out presentations to groups of teachers.

The results are 11 highly inspirational and innovative designs of schools: five primary schools, five secondary schools and one all-through school. By publishing the designs DfES hopes to:

- Develop a shared vision of schools for the future.
- Create benchmarks for well-designed schools.
- Push forward the boundaries of innovation and inspiration.
- Support the delivery of the Building Schools for the Future programme.
- Encourage industry to develop new ways of delivering school buildings.

The exemplars were developed as a stimulus to innovative, high quality design; they can be used to help create briefs or as advanced starting points in the design process. The exemplar designs could be built if developed further, but they are not intended as single solutions

to any school. They are not blueprints for how schools should be designed. Designers may wish to develop their own schemes using the best of the exemplar concepts. The Emerging Themes section of the book aims to highlight the best ideas and to identify further work that may be required.

*Schools for the Future: Exemplar Designs, Concepts and Ideas* can be downloaded from [www.teachernet.gov.uk/docbank/index.cfm?id=6113](http://www.teachernet.gov.uk/docbank/index.cfm?id=6113).

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## **IRELAND'S PROGRAMME FOR RESEARCH IN THIRD LEVEL INSTITUTIONS**

The largest-ever evaluation of an Irish research programme has concluded that the PRTLTI is “the beginning of a major and most beneficial transformation of the research landscape of Ireland that will help to install an innovation-driven economy”. The PRTLTI, the Programme for Research in Third Level Institutions, is managed by the country’s Higher Education Authority. The comment above was made by Enric Banda of Spain who, along with experts from Finland, the United Kingdom and the United States, chaired the impact assessment of the PRTLTI in 2004.<sup>1</sup>

According to the PRTLTI impact assessment report, the Programme “breaks new ground in research funding schemes; especially in its focus on strengthening the linkages between teaching and research, its emphasis on institutional prioritisation of research investments, and its support for institutions working together to create more competitive critical mass of research effort.”

The Programme for Research in Third Level Institutions is funded under Ireland’s National Development Plan 2000-2006, with assistance from the European Regional

Development Fund and with private funding through a public/private financial framework. Within the National Development Plan, the PRTLTI was charged with the task of building world-class infrastructure across all disciplines.

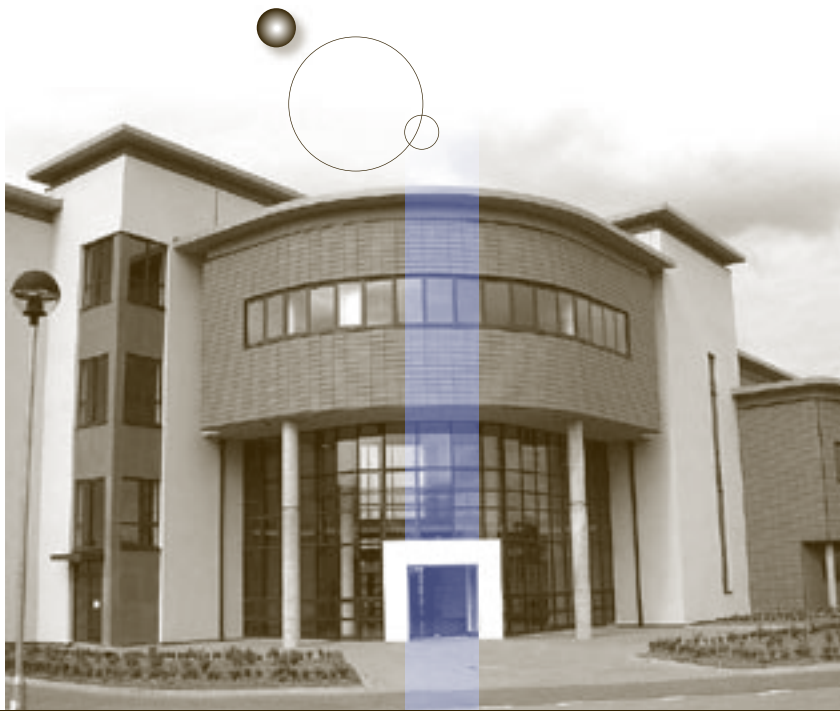
### **Objectives**

The PRTLTI approach is characterised by the following essential elements:

- Supporting institutional research strategies.
- Establishing centres of research excellence.
- Laying the foundations for advanced research in eligible institutions through “baseline” rather than incremental funding.
- Promoting and embedding inter-institutional collaborative research in order to counterbalance limitations of scale in the Irish system.
- Encouraging efficient and effective management of research in the institutions.
- Assisting the development of institutional missions and strategies for research.
- Strengthening the synergies between research and education.
- Providing multi-annual funding for both capital expenditures (buildings and equipment) and recurrent programme costs (people, materials, etc.).



1. Higher Education Authority (2004), “PRTLTI Impact Assessment – Vol. I: Report by the International Assessment Committee”, Dublin.



Biosciences Building housing the Institute of Immunology, National University of Ireland, Maynooth (NUIM)

The Programme was motivated primarily by the following considerations:

- The need for prioritisation, based on institutional strengths, in the face of constrained resources.
- The need to build collaborative inter-institutional programmes to overcome problems of scale and rapidly rising research costs.
- The need to develop a number of centres of critical mass.
- The importance of encouraging trans-disciplinary and interdisciplinary basic research.
- The importance of assisting research strategies in smaller institutions through alliances with larger institutions.
- The benefit of integrated funding packages providing support for infrastructure and recurrent costs.

**Achievements**

The PRTLII began on a pilot basis in 1998 and the first full cycle was launched 1999.

To date EUR 605 million (EUR 403 million for capital spend, plus EUR 202 million for recurrent spend) has been allocated to 23 of 35 eligible higher education institutions. An international assessment panel adjudicates on the applications.

A total of 62 research programmes, covering science and engineering, social sciences, humanities, and library services have been supported (see Table 1). In addition, the following have been provided:

- 97 000 m<sup>2</sup> of new research space, including almost 20 000 m<sup>2</sup> of library space; 5 800 new research spaces and 1 600 new library spaces for researchers.
- New capital equipment for advanced research to the value of EUR 135 million, as well as EUR 260 million for new research buildings.
- 34 senior researchers and professors, 750 principal investigators, 450 postdoctoral appointments, almost 1 000 additional postgraduate posts for research and 70 research assistant posts.
- Facilities for 1 200 postgraduate students, funded from other sources and currently based in PRTLII centres.
- 60 patent applications.
- 22 new courses demonstrating the crucial link between teaching and research.

Table 1. Thematic areas funded	
Thematic area	Thousand EUR
Biosciences/biomedicine	295
Environment and marine	62
Chemical and physical sciences	88
Information and communications technology	59
Social science	30
Humanities	16
Libraries	55
<b>Total</b>	<b>605</b>

Continued investment in research has been identified by the recent OECD Review of Higher Education in Ireland as critical for future progress, for both economic and wider societal development. The report to the Irish government by the Enterprise Strategy Group endorsed this direction and supported the Higher Education Authority's objective that Ireland should position itself within the top three performing countries in the OECD in higher education and research. It is recognised that these are ambitious targets but with the appropriate level of public and private investment, they are attainable.

Experience in the United States and other knowledge-based economies shows that government support for the unpredictable and commercially high-risk areas of basic research and technology transfer, as well as for the education and training of researchers, is necessary in order to provide the platform for increased private investment.

PRTLl centres are attracting substantial national and international attention, and over 2 200 personnel, many

of whom are Irish people returning from abroad, are now engaged in groundbreaking research across a wide range of disciplines.

The development of a world-class research infrastructure has gathered pace under PRTLl. A significant impact of this improvement is the increasing ability of institutions to win research grants and contracts from other agencies both within and outside the country.

Allied to the much improved physical research infrastructure of many higher education institutions, these state-of-the-art resources have given a huge boost to the morale of staff and students.

### Collaboration

The investment made under PRTLl has nurtured a number of inter-institutional collaborations most notably in the Dublin Molecular Medicine Centre between the University College Dublin (UCD), Trinity College Dublin (TCD) and the Royal College of Surgeons in Ireland (RCSI), and has helped develop critical mass in a number of areas.

Table 2. PRTLl-funded new facilities

2001	2002	2003/2004	Under construction/ in progress
<ul style="list-style-type: none"> <li>• Institute for the Study of Social Change (UCD)</li> <li>• Biotechnology and Environmental Science (Institute of Technology, Carlow)</li> <li>• Institute of Biopharmaceutical Sciences (RCSI)</li> <li>• Institute for Advanced Materials Science (TCD)</li> </ul>	<ul style="list-style-type: none"> <li>• Centre for the Study of Human Settlement and Historical Change (NUIG)</li> <li>• Nanofabrication Facility (UCC)</li> <li>• BioSciences Institute (UCC)</li> <li>• Materials and Surface Science Institute (University of Limerick)</li> <li>• National Centre for Plasma Science and Technology (DCU)</li> <li>• Research Institute in Networks and Communications Engineering (DCU)</li> <li>• National Centre for Sensor Research (DCU)</li> <li>• Urban Institute Ireland (UCD)</li> <li>• Institute of Immunology (NUIM)</li> <li>• Ussher Library (TCD)</li> </ul>	<ul style="list-style-type: none"> <li>• Conway Institute of Biomolecular and Biomedical Research (UCD)</li> <li>• Dublin Molecular Medicine Centre (UCD/TCD)</li> <li>• Environmental Change Institute (NUIG)</li> <li>• National Centre for Biomedical Engineering Science (NUIG)</li> <li>• National Institute for Regional and Spatial Analysis (NUIM)</li> </ul>	<ul style="list-style-type: none"> <li>• Facility for Optical Characterisation and Spectroscopic (Dublin Institute of Technology)</li> <li>• Institute for Information Technology and Advanced Computation (TCD)</li> <li>• Environmental Research Institute (UCC)</li> <li>• Centre for Biopolymer and Biomolecular Research (Athlone Institute of Technology)</li> <li>• Institute of Neuroscience (TCD)</li> </ul>



Conway Institute, University College Dublin (UCD)

Ussher Library,  
Trinity College  
Dublin  
(TCD)



Institute for the Study of Social Change, University College Dublin (UCD)



As a result of the PRTLTI, the foundations of a world-class infrastructure have been established and Ireland is now seen internationally as a country that is climbing the research ladder at a rapid pace. The benefits are not just the tangible examples of new state-of-the-art laboratories, teaching spaces and libraries. In the opinion of the assessors, "there is clear evidence that PRTLTI has changed institutional thinking and has brought about an extraordinary transformation in the way third level institutions undertake research."

The report recommends that the government continues to support a flexible and diverse funding system for research in third level institutions in Ireland, a system that offers multiple research opportunities and much potential.

The chairman of the Higher Education Authority, Don Thornhill, said: "From the outset, the PRTLTI has been subjected to the most rigorous international benchmarking. The progress to date is a tribute to all those who have made it possible. It is imperative that we continue to build on the successes."

*Article by:*

*Gerry O'Sullivan*

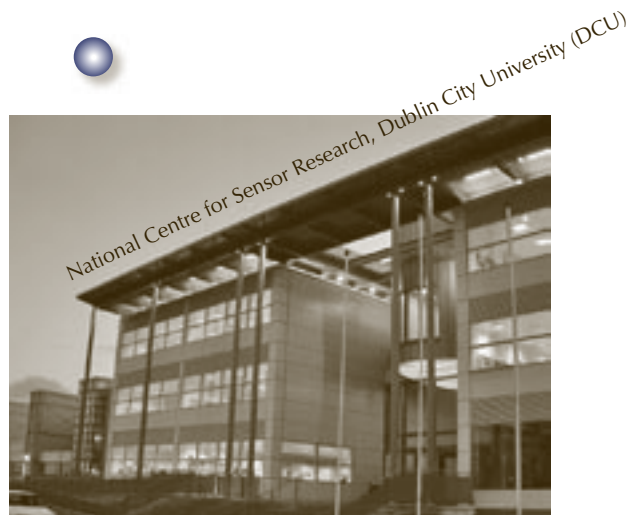
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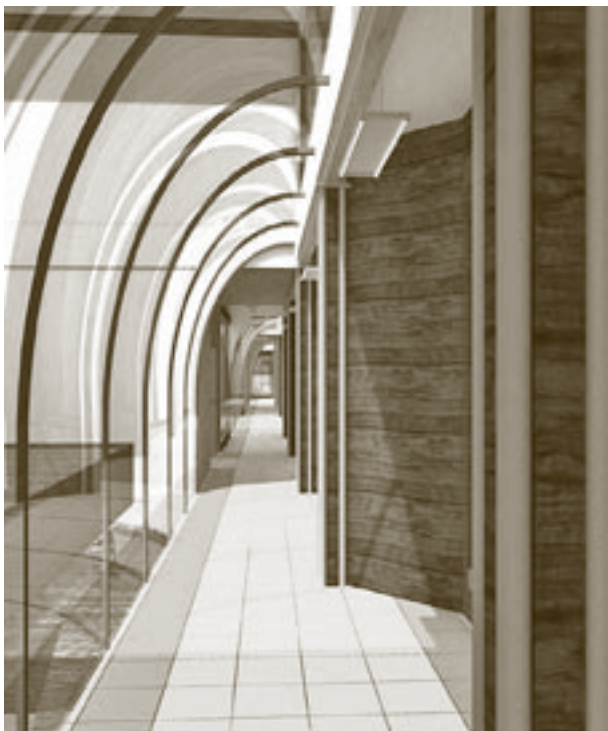


# ITALY'S INTELLIGENT EDUCATIONAL TRAINING STATION

The Intelligent Educational Training Station has been developed in Italy to meet emerging school building needs. The project, for schools from the primary to upper secondary level, proposes flexible architecture for an "intelligent school" network, and was developed by CISEM, the Centre for Educational Innovation and Experimentation of Milan.

The Intelligent Educational Training Station (IETS) bases the design of new school buildings on flexible learning modules and introduces innovative systems of energy savings, computer integrated building and bio-architecture. The IETS originated from CISEM's earlier Intelligent School Building project.

The basic component of the Intelligent Educational Training Station is the learning module. The module consists of an octagonal space measuring 47.5 m<sup>2</sup>, a 17 m<sup>2</sup> corridor and two storage areas, both of which are highly flexible and adaptable to different uses. The learning module can easily be converted into classrooms or laboratories, and two or more modules can be combined to create spaces of different sizes.



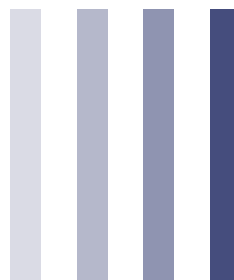
A future Intelligent Educational Training Station expected to cost EUR 9 500 000



The design allows teachers to decide how learning areas should be organised. At the beginning of each academic year, they choose the number and arrangement of classrooms, of laboratories, and of rooms for small, medium-sized and large groups.

The IETS can offer solutions to a number of problems that schools encounter with their building programme. Specifically the project can:

- Provide rooms on a temporary basis during a building renovation.
- Offer rapid construction of large or small intelligent school buildings.
- Introduce a new design and teacher input into school architecture.
- Reduce capital investment and current maintenance expenditure.





A primary school for 800 pupils equipped with an auditorium, a canteen, a small gym and an indoor stadium



The construction cost of the Intelligent Educational Training Station is approximately EUR 1 000 per square metre.

All components of the IETS project are state-of-the-art, and special attention is given to the role of school buildings in local disaster management policy.

The IETS project has recently been tested in the planning of building programmes in several Italian towns.

The term “station” was chosen for this project to emphasise the primary role that educational architecture must play: enable the school to act as a centre within its local community and to serve as a point of exchange for the larger, permanent educational network.

*For further information, consult the Web site:*

*[www.n2d.it/isb](http://www.n2d.it/isb)*

*or contact*

*Giorgio Ponti, CISEM, at*

*[giorgio.ponti@fastwebnet.it](mailto:giorgio.ponti@fastwebnet.it)*

## JOINEDUPDESIGN-FORSCHOOLS IN THE UNITED KINGDOM

“The problem was, there was too much concrete, it was dull, boring and uninviting. I was amazed when I saw all this. Now, when I see kids playing here and having fun, I think, I did something to make this happen. I feel proud.”

*14-year-old client team member, Islington Green School*

### Outdoor social space project

Joinedupdesignforschools explores how good design can improve the quality of life in schools by listening to the voices of the clients: pupils. The programme is an initiative in the United Kingdom that joins client teams

of pupils with the country’s leading design practices to provide solutions for practical improvements in schools, to highlight the benefits of a close partnership between the design industry and schools, and to develop pupils’ life skills.

The scheme has proved an immensely valuable research exercise, identifying common issues that pupils have with their schools. These range from the need for dedicated social space and inspiring learning areas to civilised dining spaces, safe, vandal-proof toilets, and modern, comfortable school uniforms.

The programme was created by The Sorrell Foundation. John Sorrell, a co-founder, presented joinedupdesignforschools at the PEB conference “Creating 21<sup>st</sup> Century Learning Environments” in London in 2004. “Children are the consumers of education. They know what’s good and bad about the design of their schools. So we need to listen to them and listen hard. Then, we stand a chance

of designing better schools for the future”, says John Sorrell.

A pilot with seven schools took place in 2000/01, and in 2002 the Department for Education and Skills provided funding support to extend the initiative to 100 schools over a three-year programme. To date, nearly 700 pupils from over 60 schools have been directly involved, along with 172 teachers and 53 design practices.

### The process

The process for *joinedupdesignforschools* has been continuously refined as the programme has developed. First there is planning and preparation, which includes selecting schools, meeting headteachers and developing the database of designers. The headteachers select the client teams, 10-15 pupils per team, and the relationship with the teams begins with an explanation of the project in workshops and brainstorming sessions. The client teams are then introduced to a four-stage process, which runs between September and June:

1. Challenge: The client team of pupils identify a problem they would like a designer to solve.
2. Brief: The brief is then created by the pupils and is presented to the designer appointed to work for them.
3. Conversation: Over the following three months, the client team has a series of meetings with the designer, visits inspirational buildings and spaces, researches the challenge, and discusses the designer’s initial ideas.

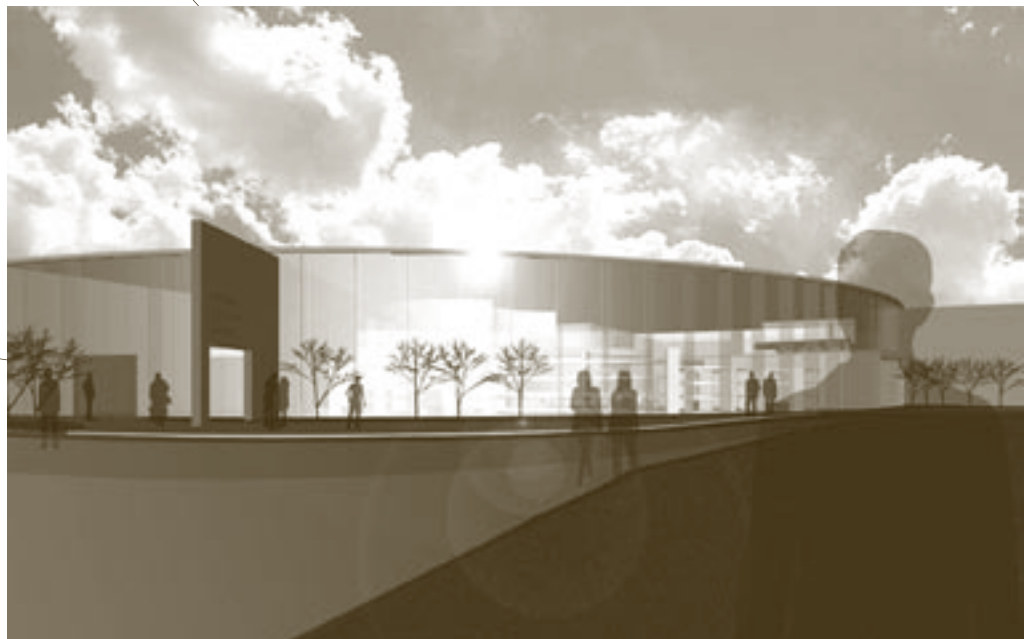
4. Concept: Once the pupils accept a final idea, the team and designer present the concept to the staff, pupils, governors and parents.

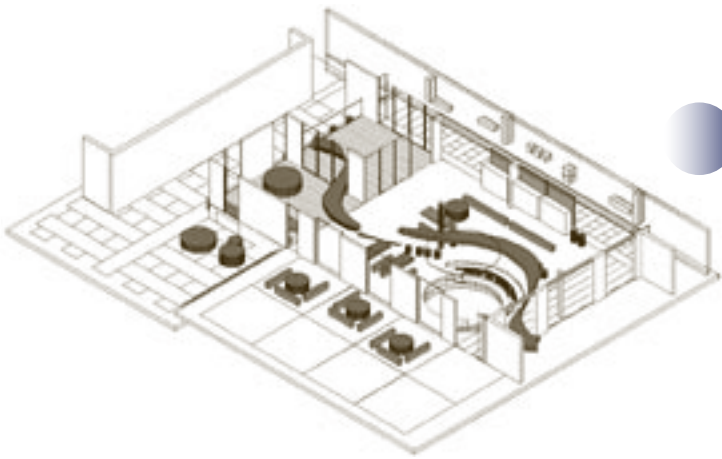
After the presentation of the final concept, discussions take place to explore the potential for implementation. Most of the *joinedupdesignforschools* projects are small to medium-size interventions, but all require funding if they are to be realised. The ten projects already completed have been funded by a combination of schools using part of their capital budgets, funds being raised in the local community and the generosity of the designers concerned. The Department for Education and Skills is providing partial support for a further range of representative projects on a matched funding basis.

### Some of the first projects

**Leasowes Community College in Dudley** felt lost in the midst of a community centre which included an adult learning centre, a sports hall, a theatre and a library. The client team went to The Science Museum in London to study interactivity. The result of their work with Din Associates is a glass-fronted façade, inviting people inside and helping them find the various facilities. Head teacher John Howells thinks these ideas are realistic: “In fact, they are the ideas we have to do. People want education to function against best practice in the market, and yet they give us buildings that are sub-standard. With these designs you’d *want* to come to school, you’d *want* to carry on learning after 16. You’d want to carry on learning as an adult.”

Leasowes Community College in Dudley





**Whitefield Fishponds Community School** (see drawing above) near Bristol had nowhere for pupils to shelter outside and nowhere to sit inside during break. The pupils presented their brief for a sheltered playground at the heart of the school. Architect Ferhan Azman found their ideas impressive: "They directed me in things to watch out for in my design work, like vandalism and litter." The school's art and design teacher and deputy head added, "The actual designs, in terms of artistic and practical use, are so far in advance of your general school structures you almost feel that if only the children were more involved in designing schools you would end up with much more attractive schools."

Whitefield Fishponds  
Community School – client team



St. George's Catholic School – dining room



St. George's Catholic School



**St. George's Catholic School** is a busy inner-city school in London. The client team felt that meal time was a problem because of the queuing outside and the congestion inside. With the designer Ben Kelly, they visited a range of restaurants to explore alternatives. His solution proposes using bespoke fold-up tables and chairs, and covering the queuing space. A 14-year-old client found the experience positive: "The designers are really up-front people. They took our ideas and improved them in many different ways. I thought this project was great."

The client team at **Deptford Park Primary School**, South East London, wanted better, brighter toilets, and they explored the problem with the Richard Rogers Partnership. The solution – a Caribbean-themed concept that is safe, hygienic, colourful and easy to clean – is exactly what the children wanted: "You look at the dolphins and you just feel relaxed. Like you're on holiday!" explained a ten-year-old client.

### Life skills for pupils

Joinedupdesignforschools inspires pupils by putting them in the driving seat, giving them control and responsibility as clients. Through this experience, they discover creative and life skills such as problem-solving, teamwork, communication, negotiation and citizenship, all of which engender self-belief and confidence.

David Miliband, School Standards Minister, commented on the benefits that this project is bringing to young people: "Working with professional designers on real commissions can inspire children to take a much greater interest in the value of good design. The joinedupdesignforschools projects are enabling young people to be more creative and to see their visions become reality. Many of the projects focus on improving the environments in which they study, or their school image, meaning the benefits extend beyond those taking part. Learning from this programme will help many more schools to develop distinct identities."

The results of this five-year project will be revealed at an exhibition at London's Victoria and Albert Museum from 21 February to 18 March 2005. The exhibition will be accompanied by children's workshops and a lecture programme with architects and designers, pupils, government ministers, business and commercial spokespeople, and leading educationalists. *Joinedupdesignforschools*, a fully illustrated, 192-page book to accompany the exhibition, will be published by Merrell in February at GBP 29.95.

For further information, contact:

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Web site: [www.joinedupdesignforschools.com](http://www.joinedupdesignforschools.com)

## THE NETHERLANDS' FIREBIRD SCHOOL: CLUSTERS FOR A FLEXIBLE LEARNING ENVIRONMENT

Innovative teaching methods and organisational change make new demands on our future learning environments. The Brink and the Laak Clusters are two related examples of a new type of building for a community in the Netherlands. The Firebird School (*Vuurvogel*), a primary school for students from ages 4 to 12, is currently housed in the Brink Cluster and will move to the Laak when it opens in 2006. The Firebird School's needs and the resulting flexible building design are described here along with useful characteristics for creating flexibility in the learning environment.

Flexibility is the key concern for designing these new cluster buildings, taking into account concerns for future changes including:

- Community growth.
- Changes in school enrolment.
- Expanding use of information technology.
- Team teaching and new approaches to learning.
- Community learning and changing facilities needs for social use.

The Firebird along with another school, the City of Amersfoort and the architects *Frencken Scholl Architecten* have developed an innovative building to accommodate

The Brink Cluster in Vathorst

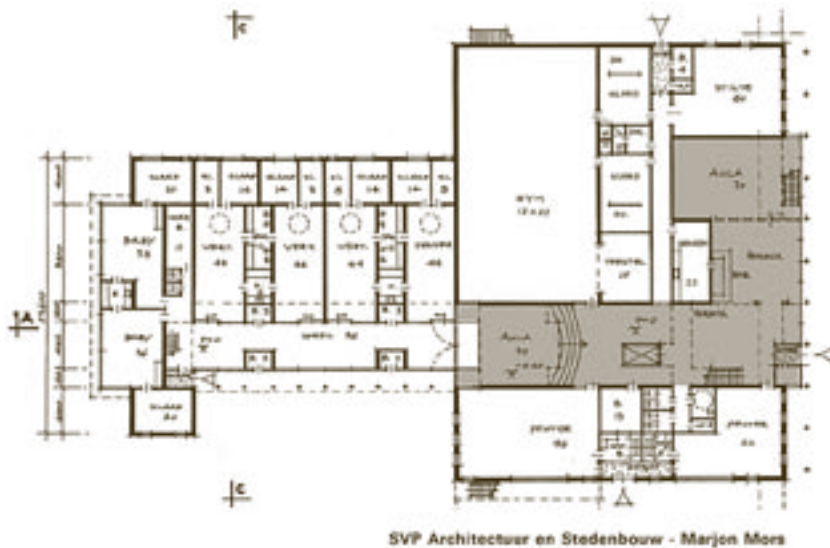


multiple uses and many types of learners. The decisions taken for Firebird's future school were based on the lessons learned at their existing, temporary location, the Brink Cluster. Based on the experiences of the Brink (opened in February 2004), the design of this type of community building continues to evolve.

The Brink is considered a "cluster building" rather than a school building. The cluster houses five primary schools, a child-care centre, a pre-school and a community centre with a café. The overall concept was to combine the schools and community centre under one roof to share large group spaces and an active café which serves as a welcoming point for visitors. The Brink Cluster (designed by SVP Architects, Amersfoort, and Atelier PRO, The Hague) is located in Amersfoort's recent development of Vathorst, a greenfield where nearly everyone is a new resident.

The Brink Cluster accommodates community use as seen here on opening day in February 2004.





Plan of the community area and child-care centre of the Brink Cluster (courtesy of SVP Architects)

Student models depict the new community in Amersfoort.



By 2006, the Firebird and another school (also temporarily housed in the Brink) will move to a new building specifically designed for their programme in Amersfoort's de Laak neighbourhood within the same community. At that time, the three schools remaining in the Brink Cluster will take over the vacated space, in anticipation of increased enrolment as the new community grows. Similar to the Brink, the Laak Cluster building will include a child-care centre, an after-school programme and a kindergarten as well as the two primary schools.

### Flexibility

The curriculum for the Firebird School is based on team-teaching and an individual approach to learning. Like the philosophy of many contemporary schools, the overall development of the child is central to the curriculum. Children are challenged, stimulated and guided to become independent learners. This also means the students work in groups to solve problems and search for solutions.

According to the director, Lettie Kuijvenhoven, their team-teaching approach "makes more learning professionals responsible for more students." The teachers work with educational assistants and helpers, as well as with other teachers. This approach has the added advantage of offering opportunities for professional growth within the school.

The curriculum is organised thematically and could not be adequately accomplished in traditional classrooms. New study themes are introduced every four to six weeks, with the entire school working on the same theme. All of the classes are involved, and at the end of a theme they present their work to their parents. The new school is designed to support these presentations by making use of flexible open spaces. Included in the school are special areas for large group and small group presentations. A presentation to the entire school and larger community would make use of the aula (an open space which can serve as an auditorium) and special rooms for dance, drama, and artwork. In the children's kitchen, some children may choose to cook food which relates to their study and offer samples as part of the event's refreshments.

Being under one roof will allow the Firebird and its sister school to work together on special projects and teachers to team-teach across school-lines. The school building is divided between the two schools on all floors. In the centre of the building are a shared atrium and aula and other collective spaces including the media centre, the children's kitchen, dance, drama and art areas, and the personnel room. In addition to the two primary schools, other educational organisations share the building including a child-care centre, an after-school centre and a kindergarten.

Students studying in a workspace in the Brink's wide corridor



Like Herman Hertzberger's Montessori schools, the Brink uses a broad stairway for circulation and for seating during small presentations.



### Information technology

At its present location, the Firebird School has distributed two or three computers in each classroom and is currently introducing 20 portable computers with a limited range wireless network. A wireless network throughout the new school will allow for Internet to be used everywhere in the building. The media centre, located in the central open area between the two schools, will allow students to receive instruction as well as conduct independent study on the Internet. As well, the media centre is intended to be used for after-school use and adult learning in the evening.

Another successful idea originating from the experience of the Brink Cluster, the classrooms will be coupled and will be smaller than traditional classrooms. The Firebird School has had success with locating computers in the enlarged corridors in their current building; likewise the new building design will include small work spaces along the corridor to provide informal learning areas as an extension to the classrooms. Each classroom couple (sometimes three classrooms together) has an additional learning space which is shared. Large sliding doors (two meters wide) extend the classroom to open up to the circulation corridor and to make a visual connection with these small work areas. Teachers coordinate their use of these smaller spaces. As one teacher said, "In this way, we integrate the special help within the environment of the class, rather than have an office where students are separated from the class because they need more help."

Similarly, large spaces such as the personnel rooms can be subdivided with movable walls to create smaller work areas.

The Firebird's new building in de Laak will also include features to allow for decline in the school's enrolment. Parts of the school building have been designed to enable the building to be easily converted into townhouses within the school complex.



A small media area in a shared zone of the Brink School

Technology for learning includes the use of digital video cameras. The five existing schools at the Brink created a joint video project for their students to document their new community. The video became an important activity with the students contributing to the development of the community's civic identity. In the first year of operation, video projects were shared with the larger community. These videos will also be distributed to primary schools internationally such as through the Firebird's current Internet exchange with Glasgow, Scotland.

## Conclusion

By participating in the design of the Brink Cluster and learning from the experience of its use, the Firebird School was able to articulate its needs for the Laak Cluster to design a flexible community building. Building development and design as a learning process has reinforced the success of this building type, as witnessed in the Brink Cluster.

### *Characteristics of flexibility*

Four characteristics are useful when considering creating flexibility in the learning environment: change factors, opportunities for interaction, use of time, and set-up and control.<sup>1</sup>

To create **flexibility** within the learning environment, the first step is to consider the change factors involved. How rapidly will change take place in the school? Will people, equipment and use change on a regular basis? If so, the environment should be as flexible as possible to embrace this change. If not, then the need for flexibility is more modest, as people will adapt the environment over time to the conditions that work best for them. The same applies to activities within the classroom: are students moving from one activity to another, or are they working on the same activity?

Outlining the potential **opportunities for interaction** between users and user groups is one way to define an organisation's needs for flexibility. Interaction can be between teachers, students, learning assistants, parents and other guests to the school. Interaction can be individual, in small groups, in teams or between whole classes. Supported by networked technology, the teacher takes on the role of coach or "learning leader". A large part of the activities for the teacher may be to prepare and co-ordinate activities rather than to stand in front of the class presenting a lecture.



An open learning space shared between two classrooms at the Brink Cluster

Many educational communities are employing new approaches to **use of time** with longer working periods for students and more preparation time for teachers. Spending more time on one activity may require an environment with conditions that are of a higher standard and more stable. A highly utilised building must have some form of scheduling process, including someone who oversees the schedule and time for teachers to plan for their use of spaces.

Finally, **set-up and control** are key obstacles to making flexibility work. The best flexible solution is one where the user can make use of an opportunity with little or no set-up time and with little or no discussion with others. The set-up time to effect a flexible solution should not take as long as the activity itself. As well, having to ask permission to make use of space (other than to establish a regular schedule) diminishes the potential flexibility of a solution.

1. This work is based in part on the author's research at Delft Institute of Technology (1996-98) which is reported in *Tool Box Strategies* (Report TU Delft, 1998).

*Taken from a report prepared by Susan Stuebing for European Schoolnet entitled "Making Space for Change: Creating Flexibility in the Technology-Enhanced Learning Environment" in 2004. All photos were taken by the author.*

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#### Web sites:

The Firebird School (Nuurvogel):  
[www.keiwijs.nl](http://www.keiwijs.nl), [www.pcbodevuurvogel.nl](http://www.pcbodevuurvogel.nl)

Atelier Pro, The Hague: [www.atelierpro.nl](http://www.atelierpro.nl)

Frencken Scholl Architecten, Maastricht:  
[www.frenckenscholl.nl](http://www.frenckenscholl.nl)

SVP Architectuur en Stedenbouw, Amersfoort:  
[www.svp-svp.nl](http://www.svp-svp.nl)

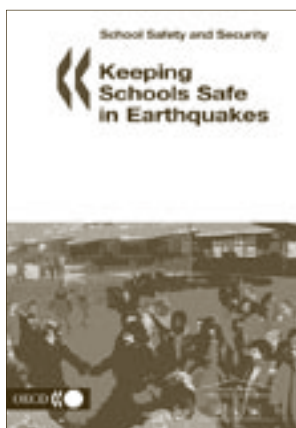


# PUBLICATIONS

## OECD PUBLICATIONS

### ***Keeping Schools Safe in Earthquakes***

Why do schools collapse during moderate earthquakes? This publication sets out the problem and makes recommendations for improving earthquake safety in schools. *Keeping Schools Safe in Earthquakes* is the product of an experts' meeting organised by the OECD Programme on Educational Building and U.S.-based non-profit organisation GeoHazards International. At that meeting, experts agreed that schoolchildren in many countries face unacceptable risks of injury and loss of life due to the faulty design and construction of school buildings which collapse in earthquakes. Tragedies occur because available technology is not applied and existing laws and regulations are not sufficiently enforced.



OECD code 952004021P1, ISBN 92-64-01669-4  
August 2004, 244 pages  
EUR 40, USD 50, GBP 28, JPY 5 100, MXN 510

### ***Internationalisation and Trade in Higher Education: Opportunities and Challenges***

This book brings together up-to-date statistics, case studies and policy reports on the major trends and developments in cross-border post-secondary education in North America, Europe, and the Asia Pacific region. Topics covered include policy initiatives to promote cross-border post-secondary education; rationales for delivering or receiving cross-border education services; size and growth of cross-border post-secondary education in terms of student mobility, programme mobility, and institutional mobility (international branch campuses); assessment of the possible impact of the General Agreement on Trade in Services (WTO); and challenges facing cross-border post-secondary education such as

quality assurance and recognition of qualifications, cost and financing, equity of access, trade agreements, capacity building in receiving countries, mobility of personnel, and cultural diversity.

OECD code 962004061P1, ISBN 92-64-01504-3  
September 2004, 320 pages  
EUR 50, USD 63, GBP 35, JPY 6 400, MXN 640

### ***Learning for Tomorrow's World: First Results from PISA 2003***

Are students well prepared to meet the challenges of the future? Are they able to analyse, reason and communicate their ideas effectively? Do they have the capacity to continue learning throughout life? These are questions that parents, students, the public and those who run education systems continually ask.



The OECD Programme for International Student Assessment (PISA) provides some of the answers to these questions. *Learning for Tomorrow's World* presents initial results from the PISA 2003 assessment of 15-year-olds' performance. The report goes well beyond an examination of the relative standing of countries in mathematics, science and reading. It also looks at a wider range of educational outcomes that include students' motivation to learn, their beliefs about themselves and their learning strategies. It examines how performance varies between the genders and between socio-economic groups. And it provides insights into some of the factors that influence the development of knowledge and skills at home and at school, how these factors interact and the implications for policy development. Most importantly, the report sheds light on countries that succeed in achieving high performance standards while, at the same time, providing an equitable distribution of learning opportunities.

December 2004, 478 pages  
OECD code 962004121P1, ISBN 92-64-00724-5  
EUR 60, USD 75, GBP 42, JPY 7 700, MXN 770

### **University Research Management: Meeting the Institutional Challenge**

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January 2005, 260 pages

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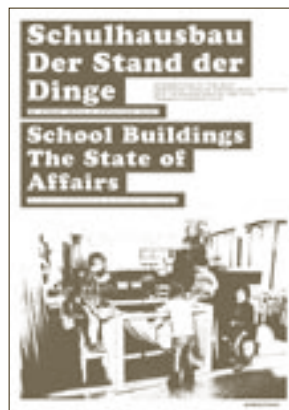
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October 2003, 70 pages, USD 15

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ISBN 37-64-37092-0

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## 2005

### April

20-22 – “Curriculum and Campus: Architects and Educators Working Together” will be the theme of a conference organised by the Australian Chapter of the Council of Educational Facility Planners International. It will take place in Hobart, Tasmania (Australia). Contact: Tim Gourlay, e-mail: [timothy.gourlay@education.tas.gov.au](mailto:timothy.gourlay@education.tas.gov.au); or visit <http://australia.cefpi.org/conferences.html>.

24-27 – An international PEB conference on the planning, design and management of facilities for higher education institutions will be held in California, United States. See page 3.

### July

3-7 – The International Union of Architects will hold its 22nd World Congress around the theme of architecture of cities, in Istanbul, Turkey. The fourth day of the congress will address “new forms of architectural profession and education”. Contact: UIA, France, tel.: 33 (0)1 45 24 36 88; Organising Committee, Turkey, tel.: 90 212 252 94 24; or visit [www.uia2005istanbul.org](http://www.uia2005istanbul.org).

### December

8-9 – PEB will co-host an international conference on designing spaces for early-childhood education. The event will take place in Edinburgh, United Kingdom. See page 4.

## 2006

### April

24-25 – “Learning Environment in the 21<sup>st</sup> Century”, an international two-day conference on school architecture, will be organised by the Finnish National Board of Education. There will be visits to new schools in Helsinki. Contact: Reino Tapaninen, Chief Architect, National Board of Education, tel.: 358 9 77477121, e-mail: [reino.tapaninen@oph.fi](mailto:reino.tapaninen@oph.fi).

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