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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.

Sixteen 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 steering committee of representatives from each participating country establishes the annual programme of work and budget.

PEB Members

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PEB Associate Members

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PEB and OECD Activities

UK Seminar on “Creating 21st Century Learning Environments”

The United Kingdom will host an international seminar in the context of their ambitious plans to renovate the country’s secondary schools. At the three-day meeting entitled “Creating 21st Century Learning Environments”, OECD countries and PEB members will share ideas, best practice and research on providing innovative, exciting and adaptable buildings, including current UK projects.

To improve the quality and outcomes of education, the government has committed itself to renew or rebuild every secondary school within the next ten to 15 years, as presented in its publication “Building Schools for the Future”. To help meet that goal, capital funding for schools will be increased to GBP 5.1 billion in 2005/6. Raising educational standards and attainment levels of all children remains at the top of the country’s education agenda, and school buildings have a crucial role to play in this.

The seminar will focus on how to procure well-designed and inspiring buildings. School buildings need to provide a pleasant and comfortable environment for learning; they need to stimulate children’s imaginations and be open to wider use binding schools into their local communities. They also need to be of sustainable design, inclusive and responsive to development in information technology and curriculum changes.

The United Kingdom will present several examples of their own. Their presentation will draw on expertise from City Learning Centres, City Academies and Classrooms of the Future. Visits will be arranged to schools to see best practice, and there will be the opportunity to see exemplary designs currently being developed by some of the country’s top architects. There will also be presentations of developments in other OECD countries.

The seminar will take place in London on 26-28 May 2004. For more information, contact Isabelle Etienne, tel.: 33(0)1 45 24 92 72, e-mail: isabelle.etienne@oecd.org
LIZZIE GIBSON 1929-2003

Lizzie Gibson passed away last November. A few who had the honour of working with Lizzie remember her here.

It was Lizzie's insight and persistence that led the OECD to set up a project to help its countries to get value for money in building new schools for the educational expansion needed to support their economic development. This was the DEEB project, short for Development and Economy in Educational Building, and from what was judged its success emerged the interest and support from other member countries which, after protracted international negotiations, led in 1972 to the inauguration of PEB – with Lizzie in charge and the driving force behind it.

I myself was one of the driven. And how she did drive! – sometimes to extreme exasperation. Yet what began as mere collaboration became in time a kind of partnership. Her dogged persuasiveness and skill in piloting our ideas through bureaucratic labyrinths mollified my own impatience. But while she graciously acknowledged my contribution to the Programme, only Lizzie really personified it. And her charm and generosity made me half believe that its periodic renewals owed no more to its merits than to the loyalty owed by delegates for her warm and lavish conviviality.

PEB operates under the umbrella of the OECD, the Organisation for Economic Co-operation and Development. These four words seem to me to neatly define the principal aspects of Lizzie's approach to her work.

She was a consummate organiser. Whether it was arranging a meeting of the Steering Committee, organising an international seminar or simply making sure that the right people met at the right time in the right place.

She was acutely aware of the importance of economics, not just balancing the Programme's budget, but in the wider sense of ensuring that the limited funds available for education buildings were spent so as to ensure maximum educational benefit; recognising that design and planning decisions have a fundamental bearing on long-term running costs.

Co-operation was a central tenet of her approach. She worked to ensure that representatives from different countries and cultures, speaking many different languages, drawn from different disciplines – architects, teachers and administrators – could communicate and co-operate effectively to share ideas, experience and knowledge in a useful and productive way.

Finally development was the rock on which she founded the work of PEB. Not blue skies research or the promulgation of fashionable and transient design approaches, but the development of innovative and practical solutions to new and pressing problems.

With Lizzie's passing we have lost the mother of PEB and an inspirational colleague and friend.

M.H.

Lizzie Gibson was a generous, loyal, laughing friend. She always remembered reasons to make contact whether they were birthdays or Christmas or an Australian in the Wimbledon final. There would be a late-night phone call and that warm deep voice wishing us happiness or announcing that our man would certainly be beaten by the Swede or the Frenchman or whatever nationality fitted the opponent.

She was the fierce Ringmaster of PEB demanding that this be rewritten and that be completed on time and always insisting that things be done in ways she believed were proper. Lizzie fought like a tiger for PEB's survival, and all the influence PEB has had for good in the world has been closely linked to her determination that the Programme would achieve its goals.

She taught us a great deal about courage and being cheerful in the face of crushing adversity. Her spirit never weakened. We are going to miss her terribly.

J.M.

For a young and inexperienced UK delegate, representing my country at the Château de la Muette was intimidating stuff but Lizzie made me feel both welcome and valued. But that was the way she treated everyone. And she extended her generosity outside the meeting room; one post-Committee dinner ended with an Armagnac that was almost as old as I was.

A few years later I would be working with Lizzie, sharing her office and driving her BMW when she decided she needed something a little sportier. This was in the days before e-mail and even before fax, yet she managed to maintain a worldwide network of cooperation and friendship through the medium of heavily annotated compliments slips backed up where necessary by telephone.

We will remember her as an example of intellectual honesty, personal warmth, and genuine joie de vivre. She was intolerant only of bunkum and snobbery. People all over the world were touched not only by her dedication to her work, but by her steadfast belief in the power of good sense and good faith to resolve society's ills. She brought out the best in all of us, and we are much the poorer for her passing.

R.I.Y.
PROVISION FOR STUDENTS WITH SPECIAL NEEDS

In many countries, the movement towards including students with special needs in regular educational settings, and away from placing them in separate special education facilities – at least students with mild to moderate disabilities – has been an important social and education policy development in the last decade. This “mainstreaming” approach has considerable implications for the professional development and certification of teachers, the organisation of learning, and the provision of additional human and material resources. Among the resources effected are external support services, special education teachers, assistive technologies, special equipment and facilities inside and outside the classroom.

Since 1996, the OECD Centre for Educational Research and Innovation (CERI) has collected internationally comparable data on provision for students with special needs from pre-school through upper secondary education. The 2003 edition of Education Policy Analysis draws on these data and other related experiences. Three cross-national categories of special needs have been defined by participating countries:

- Students with disabilities (cross-national category A, see Figure 1);
- Students with learning or behavioural difficulties (cross-national category B, see Figure 2);
- Students receiving additional educational resources due to aspects of their social and/or languages background (cross-national category C, see Figure 3).

Figure 1 Percentage of students with disabilities in compulsory education receiving additional resources (cross-national category A), by location, 1999

1. Students in special classes are included in special schools.
2. Students in special classes are included in regular classes.
Source: OECD (2003), Education Policy Analysis.

Figure 2 Percentage of students with learning or behavioural difficulties in compulsory education receiving additional resources (cross-national category B), by location, 1999

1. Students in special classes are included in special schools.
2. Students in special classes are included in regular classes.
Source: OECD (2003), Education Policy Analysis.
For each of these categories, data are also collected on the location of these additional resources: in special schools, in special classes at regular schools, and in regular classes.

Figure 1 shows that in countries such as Canada (New Brunswick), Italy and the United States, a high proportion of students with disabilities are included in regular classes; while in Belgium (Flemish Community) and the Czech Republic these students are placed in special schools. Compared with students with disabilities, students with learning or behavioural difficulties are more likely to receive their education in regular schools (Figures 2 and 3).

While these data show a wide variation in inclusion for students with special needs, the impact of different educational settings on student outcomes in terms of access to post-compulsory education, transition to the labour market and participation in wider society requires further research. CERI is developing evaluative comparative methodologies to strengthen the information and research base in this vital policy area of transition of students with disabilities to adult life.

In its publication *Educational Facilities for Special Needs* (1994), PEB shared examples of welcoming and safe schools for all pupils, and will be looking to develop further work in the area of facilities for students with special needs in 2005-2006. Anyone interested in contributing is invited to contact the Secretariat (see page 28).

**SCHOOL SAFETY AND SECURITY CONFERENCE**

Accidents, arson, stabbings, theft, earthquakes, vandalism, shootings… The range of problems and threats facing schools from within and without is vast, and their number is increasing in many countries and communities. The range of responses to these challenges in society and education is also growing. Police officers, architects, project managers, ministry representatives, psychologists, teachers, security consultants and academics have a role to play in helping to implement the solutions. One hundred such professionals met in Paris from 12 to 14 November 2003 to discuss how the 30 countries they represented address the variety of problems and solutions concerning school safety and security. Constance Morella, United States Ambassador to the OECD, and Berglind Aageirdottir, Deputy Secretary-General of the OECD, opened the “School Safety and Security” conference. The event was organised by PEB and the United States Department of Education (USDOE).

To better understand the issues, the conference participants considered the following six questions in a series of plenary sessions and working groups:

- How can risk be assessed in schools?
- How can schools be equipped to manage a crisis when it occurs?
- Do fences and other physical security measures really make our schools safer?
- How successfully have specific local programmes addressed problems such as bullying and violence in schools?
How do countries incorporate education and training programmes for teachers and students into the curricula?

How can the OECD assist those engaged in this area to tackle this important social issue?

A rich diversity of experiences was recounted at the meeting. However, the number of common factors was sufficient to make this sharing of ideas and practice a rewarding exercise. Visits to two French schools, organised by Gérard Pourchet and his colleagues, enriched the conference.

Outcomes

The participants overwhelmingly agreed that there is a need for further work by the OECD on all of the issues addressed at the meeting. Given the diversity of issues and approaches, a network approach should be adopted. To avoid duplication of work and to build more strategic networks, it is important for the OECD to collaborate with other international bodies such as the Council of Europe and the International Centre for the Prevention of Crime. There is also room for the development of horizontal work within the OECD, particularly on the School Violence and Bullying activity led by the Organisation’s Education and Training Policy Division.

Broad proposals for future work in this area are summarised below:

- Establish and develop networks and related meetings on various school safety and security issues.
- Investigate the feasibility of international data collection and develop methodologies.
- Collect, organise and disseminate case study data. PEB’s School Safety and Security Web pages (www.oecd.org/edu/schoolsafety) will serve as a main dissemination tool.

For further information on the conference and related activities, visit the Web site above or contact Hannah von Ahlefeld, tel.: 33 (0)1 45 24 96 70, e-mail: hannah.vonahlefeld@oecd.org

HUNGARY MODERNISES ITS SCHOOLS THROUGH PHARE

Hungary plans to repair and modernise its decaying primary school buildings with partial funding from the European Union’s PHARE Programme.

About half of Hungary’s educational buildings (i.e. kindergartens, primary schools and secondary schools) require immediate repair or modernisation, and at least 10% of them should be rebuilt or completely refurbished. Of the 13,686 buildings used for public education in Hungary in 2001, 40% were built before World War II and one third of these were built before 1900. Most of the remaining 60%, the post-war buildings, have not been modernised nor properly maintained.

Due to rising maintenance and energy costs, the physically decaying buildings have placed an increasing burden on the maintenance sector and, consequently, technological developments in education have been neglected. The investments made during the last decades were insufficient to maintain the buildings at a stable level; and between 1990 and 2000, the central budget’s expenditure on modernising education was reduced by two thirds.

Even in buildings in satisfactory condition, there are no communal areas, no facilities for new teaching methods and no elements to enhance the relationship between the school and the community. This lack of modern facilities has been seen to lower building users’ morale. While some schools may be equipped with up-to-date education-assisting technology (received through a tender by the local authority or as a donation from a parent), the buildings often cannot provide a suitable framework for it.

The years spent in a school building play a significant part in forming impressions and how one views his or her environment. In a deprived, uncertain, colourless and unpleasant environment, it is difficult to develop a healthy community life and to transmit or acquire knowledge properly. On the other hand, a well-designed, inspiring building which respects safety issues and the environment not only offers good conditions for the users, but it is also beneficial, in the long-term, to those who maintain it.

PHARE

PHARE is an European Union programme which offers non-reimbursable financial aid to Central and Eastern European countries. It supports the introduction of social
and economic reforms and assists in preparing for European integration. The government of the country receiving the financial support proposes the priority areas for assistance. The PHARE Programme began in 1989 when the European Community decided to provide EUR 300 million in economic aid to Hungary and Poland. Although the name PHARE, taken from the Poland Hungary Assistance for the Reconstruction of the Economy programme has not changed, the circle of countries benefiting from this programme has been extended.

The PHARE Programme on “Information Technology in Primary Schools”, announced by the European Commission and the Hungarian Government, was designed by the Hungarian Ministry of Education with the help of outside experts. The Programme is financed by a European Union contribution of EUR 15 million and a Hungarian contribution of EUR 11 million.

“Information Technology in Primary Schools” aims to provide public building facilities and a system of teaching tools that comply with education in the 21st century, reflecting the concepts of equal opportunity and sustainable development. At the same time, it aims to reduce the operating costs of the buildings.

The organisations that maintain Hungary’s schools – local authorities, trusts and social organisations – are participating in the development of the infrastructure and equipment to achieve these aims. The new facilities will benefit not only students and teachers in public education, but also those participating in adult education, parents and other members of the community.

Hungary’s PHARE Programme consists of four main components:

- Modernising, reconstructuring and extending educational buildings.
- Purchasing ICT equipment and tools.
- Developing an e-learning curriculum.
- Further training teachers.

Buildings will be created to suit the community in terms of design and size, to improve comfort and to reduce overall operating costs. The external environment and special recreational and multi-functional areas for school and community use will help to cope with fast-changing developments in educational needs.

The programme is expected to improve the physical environment for education and better integrate schools into society. It will provide educational spaces that are environmentally friendly, can be operated economically, are accessible to people with physical disabilities, allow for equal opportunities, and are comfortable and safe. By becoming centres of knowledge, public educational buildings will contribute to the lifelong learning process and social cohesion. They are also expected to increase the ability of communities to retain their populations.

As at November 2003, the Hungarian government had received 1 077 tenders for building improvements.

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Further information can be obtained from Eszter Lencsés, National Co-ordinator of the PEB Programme, tel.: 36 1 473 7028, fax: 36 1 269 3629, e-mail: lencses.eszter@om.hu
MULTIPURPOSE SCHOOLS IN GREECE

In November 2003, Greece’s Parliament adopted a law introducing multipurpose schools. The country’s School Buildings Organisation initiated the concept following a review of international data, public consultation and input from various government agencies.

The directive provides for schools to include, in addition to classrooms and other educational spaces, special areas to be used by local residents for athletic, cultural and social activities. These areas might include indoor sports facilities, libraries, study halls, offices for adult education programmes and professional orientation, and small theatres, bookshops and art galleries.

The possibility of including parking lots below certain multipurpose schools under construction in densely populated neighbourhoods of Athens is being studied for use by teachers, parents and local residents.

TECHNOLOGY CONFERENCE AT AN AUSTRALIAN SCHOOL

A conference on learning and information technology, NAVCON 2003, showcased the Australian Science and Mathematics School in Adelaide, South Australia, last September. The school, which proved a flexible venue, was seen to offer the latest in how information and communications technology (ICT) was integrated with pedagogy and the curriculum as well as into the building’s design.

The Navigator Conference has grown from a modest beginning a couple of years ago when four schools – two primary and two secondary – got together to collaborate and share ideas on the impact of information technology on teaching and learning. They decided on the name Navigator as they thought they should lead the way for other, less well-funded schools in establishing new directions in the use of ICT.

Speakers of international renown addressed the 700 principals, headmasters and teachers who attended the event from across Australia and New Zealand. Julia Atkin (Australia) spoke on the transformation of schools and the pedagogy that supports the development of powerful learners. Carol McGuinness (Queen’s University Belfast, United Kingdom) presented “From thinking skills to thinking classrooms”, whilst Stephen Heppell (Ultralab, United Kingdom) was concerned with striving to make learning delightful and policy informed (Ultralab researches innovation, e-learning and the engagement of students in learning). Adam Lefstein and Yoram Harpaz (Thinking Communities, Israel) focused on “Thinking communities”, where the ability to think is taught explicitly in schools.

Australian Science and Mathematics School

Although participants expressed extraordinary interest in the design of the Australian Science and Mathematics School (ASMS; see PEB Exchange, no. 46), there was only one keynote presentation on school architectural design, by the school’s former director, Ron Lake. His paper, “Innovation and excellence in education – radical school reform”, argued that “the learnings from neuroscience, the impact of rich information and communication technology environments, and breakthroughs in building design can assist in creating environments where teaching and learning is based on the principles of anytime, anyplace, and anyone to anyone in many ways and from many directions. The ASMS is an example of the latest thinking in education.”

Perhaps the most telling architectural feature at the conference was the way that this flexibly designed school for 450 students could accommodate the 700 adult participants in a variety of “pedagogical” conference settings. The learning commons were able to seat parallel paper sessions and workshops of 40-50 teachers, whilst the learning studios were more formal settings for key presentations. The adjacent Flinders University Faculty of Education lecture theatres and assorted facilities were able to accommodate additional events. Catering and informal sessions were held in the central atrium areas of the ASMS as originally designed. In fact the school was opened around the time of the conference by the South Australian Premier and the Federal Minister of Education, with some 300 people seated in the atrium and the school’s students seated around the upper level balcony.
IS YOUR BUILDING SOUND?

This was the topic of discussion addressed by the members of the Association of Institutional Property Managers (Associations des gestionnaires de parcs immobiliers institutionnels, AGPI) at its symposium held last October in Saint-Hyacinthe, a city located in greater Montreal (Canada). The organising committee had chosen as its main theme a saying that went back to the 19th century: “When the building is sound, everything else will be sound.” The discussions focused on the safety, user-friendliness, comfort and aesthetics of buildings.

At the outset, in his presentation Pierre Gastaldy, Director of Physical Resources of the Education Committee of Grandes-Seigneuries, proposed his definition of what constituted a building that was sound: “A sound building is a building that has been designed, used and maintained with respect – respect for individuals, respect for the environment, respect for local traditions and self-respect. Everything else will then follow naturally.” The discussions focused on the safety, user-friendliness, comfort and aesthetics of buildings.

The renovation work will be carried out over a six-month period and then the services will move back into the hospital. The cost of this solution is estimated at over 100 million Canadian dollars.

Next, the discussion turned to new trends. These were evoked in connection with the presentation of the project for enlarging the École Polytechnique of Montreal, which will seek to minimise any negative environmental impact in the design stage. This project has been registered with the LEED rating system (Leadership in Energy and Environmental Design) with a view to obtaining U.S. Green Building Council Certification (USGBC). Another presentation took stock of public-private business partnerships for financing major projects, which are a key aspect of the policy proposed by the new government of Quebec. The discussion showed that very few public-private partnership projects would be initiated within the education system in 2004.

A different subject was addressed next, with a report presenting the results of the MAESTRO indicators – the AGPI’s programme for the modeling, analysis and strategic assessment of organisations for facility management. MAESTRO provides indicators that enable institutional property managers to assess their organisation’s performance on the basis of the following four criteria: financial aspects, internal working processes, customer service and the ability to learn.

In addition, a number of presentations dealt with technical aspects of buildings (sanitary maintenance, preventive maintenance, energy, air quality and fire safety) by analysing the characteristics of a sound building. Possible solutions were also suggested for optimising projects to improve heating, ventilation and air-conditioning systems and for carrying out eco-renovation (a guide was provided to participants). An experiment conducted at the University of Quebec in Montreal located in the city centre explored differing approaches to preventing graffiti and the related products, techniques and costs involved.

The programme, a summary and most of the presentations of the 2003 symposium are available on the AGPI’s Internet site at the following address: www.agpi.org. You will find them in French in the archives under the heading “Activités” and then “Colloques”.

For further information, contact Pierre Fleurant, Adjoint au Directeur, Service des immeubles et de l’équipement, Université du Québec à Montréal, e-mail: fleurant.pierre@uqam.ca
**NORWAY IMPROVES ITS SCHOOL DESIGN**

Norway is improving the quality, functionality and aesthetic design of its schools through various government actions and the influence of the Nordic network *Norsk Form*.

In 1997, the Norwegian national government introduced a flexible and forward-looking curriculum into the country’s nine-year compulsory schooling which impacted on school buildings and grounds. In Norway, the responsibility for the school's pedagogic content lies at national level, while the local and county authorities are responsible for constructing and operating the buildings and grounds. The new curriculum, called Reform 97, signified a break with traditional classroom teaching and required new and different physical frameworks for co-operation across subjects and project teaching. Play and physical education, both outdoor and indoor, were given more attention.

Throughout the last century, the great majority of schools were constructed on the same module: The 60 m² classroom was positioned on either one or both sides of a corridor and equipped with a blackboard and teacher’s desk. The school yard formed an asphalt wasteland. The school buildings were used for teaching only. After school hours, at weekends and during holidays, i.e. for 187 days a year, schools stood empty.

Reform 97 emphasised that the outdoor areas of the school should function as a teaching arena and meeting place during and after school hours. Moreover, the school building and grounds should function as more

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**DESIGNSHARE AWARDS**

The U.S.-based DesignShare Awards Programme, co-sponsored by School Construction News and the C/S Group, is now in its fourth year and has become a comprehensive international database of innovative school designs. All four years’ worth of information including cost data, site plans, floor plans, photographs, educator narratives and review team commentators is available at no expense at DesignShare.com.

Global sustainability was a key theme in the 2003 DesignShare Awards, with registrations for 112 projects from 17 countries, representing an enormous range of ideas and concrete solutions. Seventy-one earned awards. Twenty-seven of the 71 awards went to countries outside of the United States, including Australia, Austria, China, Denmark, Finland, Honduras, India, Israel, Japan, Kenya, Norway, Singapore, the United Kingdom and Zimbabwe. The projects were selected by an international review team of 13 educators, planners and architects.

Perhaps the greatest strength of the DesignShare Awards Programme is not that it focuses attention on a single best approach, but that it highlights a broad range of ideas and practical solutions. A good example can be seen in the various responses to the challenge of forming smaller learning communities out of large institutions, such as the award-winning Griffiths Primary School in Singapore. Reviewer Henry Sanoff referred to Griffiths as an “excellent attempt at humanizing and deinstitutionalizing this very large elementary school.” Commenting on the same project, reviewer Prakash Nair wrote: “Urban areas take note! Here is a very creative reuse of an existing, outdated facility – of which we have several thousand in the USA.”

2004 Awards submissions will be accepted beginning February 2004. For further information see designshare.com/awards/2004

*For further information, contact this article’s author, Randall Fielding, at fielding@designshare.com*

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Griffiths Primary School in Singapore

Oak Valley Aboriginal School South Australia

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The 2003 Educational Facilities Leadership Forum, organised by the Association of Higher Education Facilities Officers (APPA), examined various challenges that design and construction project managers face in the field of tertiary education, including new information technology (IT), costs and quality.

Concerning IT in relation to facilities and their future, it was argued that the campus in its physical form is by no means threatened and that the city as the centre of knowledge will remain as it has been since the 11th century. IT however is increasing the physical scale of higher education, thus posing some challenging pedagogical questions.

With help from Norsk Form, major changes are now taking place in many municipal and county areas. The school and environment programme of Norsk Form was set up in 1998. One of its aims was to develop the school as a house of culture, with emphasis on quality, function and aesthetics. Under the programme two networks were established, one to develop the school of the future for compulsory education and one for tomorrow’s further education. Both networks work on the relationship between pedagogic aims and the physical design of the school and grounds. Here, representatives of the school, cultural and technical services meet together. The networks function as arenas for exchanging experience, developing ideas and implementing new ways of thinking.

Many newly built schools are characterised by openness and flexibility, and enable both interdisciplinary and project-orientated teaching. Schools are built without corridors or classrooms, but with auditoriums enabling 60-80 pupils to be taught at any one time. Group rooms for 12-15 pupils are also being built, which include facilities for individual teaching. The teachers’ workplace is integrated with the teaching areas, and importance is attached to designing good meeting-places between user groups. Equipment and decoration are also undergoing change. Finally, the first Norwegian school whose geographic location, planning and design were chosen in order for the building to function as a local cultural centre is under construction.

Norway’s national government has taken additional initiatives to improve its schools. In 1998, the Education and Research Department set up an annual school building prize to stimulate development of functional, aesthetically pleasing schools and grounds. In 2000, a loan scheme was established for county and municipal authorities to erect new buildings and rehabilitate existing schools.

Despite these efforts, far too many schools are still being built on the basis of old forms of teaching, and school grounds are not being accorded the priority necessary to fulfil the aims of Reform 97. The existing resources are used for school building while the outdoor environment often remains unsuitable for teaching, play and physical education. Extra effort, awareness and new thinking are still needed to ensure that all of Norway’s children learn in well-designed school buildings and grounds.

For more information, contact Annichen Hauan, Project Leader, Norsk Form, Oslo, Norway, fax: 47 22 47 74 19, e-mail: annichen.hauan@norskform.no

EDUCATIONAL FACILITIES LEADERSHIP FORUM

The 2003 Educational Facilities Leadership Forum, organised by the Association of Higher Education Facilities Officers (APPA), examined various challenges that design and construction project managers face in the field of tertiary education, including new information technology (IT), costs and quality.

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INTERNATIONAL ORGANISATIONS FOR SAFER SCHOOLS

The Council of Europe and the United Nations International Strategy for Disaster Reduction (UN/ISDR), like the OECD, strongly advocate the role of education to promote safer schools. Risk prevention and disaster reduction are two areas of work for these international bodies.

Risk prevention

The Council of Europe promotes education for risk prevention through international co-operation. The Council’s EUR-OPA Major Hazards Agreement (www.coe.int/T/E/Cultural_Co-operation/Disasters/), adopted by its Committee of Ministers in March 1987, was designed to “secure closer co-operation on prevention of, protection against and organisation of relief in major natural and technological disasters.” It is an instrument for contact, exchange and co-operation between the “States of Eastern Europe, the Southern Mediterranean and Western Europe”. One section of the agreement is dedicated specifically to risk prevention in schools and addresses two major themes: making school-age children aware of risk prevention and making schools safe.

Disaster reduction

The UN/ISDR, in collaboration with many partner organisations, is currently engaged in a ten-year review of disaster reduction activities following the first “World Conference on Natural Disaster Reduction” in Yokohama, Japan, in 1994. The UN/ISDR is planning the “Second World Conference on Disaster Reduction” in Kobe in 2005; its overall objective is to increase commitment to reduce disaster risk at all levels and in particular to integrate disaster risk reduction into development planning processes. One of the purposes of the review is to identify concrete ways to incorporate disaster risk reduction into development, poverty reduction and environmental strategies. This review is expected to provide substantive justification for renewing and elevating political commitment towards disaster risk reduction, and to increase involvement of governments and communities. The UN/ISDR will participate in the February 2004 PEB/GeoHazards international experts’ meeting on “Earthquake Safety in Schools” and present the results at the Kobe conference.

The UN/ISDR (www.unisdr.org) is the successor to the International Decade for Natural Disaster Reduction (IDNDR, 1990-1999) which was initiated to increase awareness of the importance of disaster reduction. The
experience of the decade prompted a major conceptual shift from disaster response to disaster reduction and to the promotion of a “culture of prevention” (Kofi Annan).

In the context of the recent PEB/USDOE school safety and the upcoming PEB/GeoHazards meeting on earthquake safety, international organisations such as the OECD, the Council of Europe and the UN/ISDR have a new opportunity to work together to share information on risk prevention and disaster reduction and to monitor progress.

“BUILDING OUR FUTURE” CONFERENCE

More than 300 people with an interest in school building design and construction, including those who are delivering new and refurbished schools throughout Scotland, attended the “Building Our Future” conference organised by the Scottish Executive in Edinburgh on 25 November 2003.

The conference provided an opportunity to mark the progress in the country’s school estate since the publication of the school estate strategy, Building Our Future: Scotland’s School Estate, in February 2003. This strategy was jointly developed by the Scottish Executive and COSLA, the Convention of Scottish Local Authorities. It sets out the framework for achieving improvement in the school estate over the long term.

Three ministers of the Scottish Parliament addressed the conference. Peter Peacock, Minister for Education and Young People, noted the recent significant investment in the school estate of over GBP 2 billion and the opportunity this creates for achieving excellence. The Deputy Minister for Education and Young People, Euan Robson, stated that the challenge is to achieve excellent schools – modern, well-equipped schools delivering the high quality of public services people have the right to expect. The Minister for Tourism, Culture and Sport, Frank McAveety, spoke of the importance of achieving quality design in school buildings and noted that good design is essential to achieve schools which work well for all users and will meet the needs of pupils, teachers and the wider community for years to come.

The programme was structured around three themes:

- The School: Innovation and Good Practice in Scottish Schools.
- The Project: Good Practice in Managing and Delivering Schools.
- The Future: Key Issues for the School Estate.

Examples of innovation and good practice in Scottish schools were showcased. These covered the following issues:

- How end users were consulted and services have been joined up at two new community schools in Falkirk in line with the community plan.
- An example of partnership working in Angus Council involving stakeholders which has encouraged sustainability and the use of environmentally friendly technology at Inverkeilor Primary.
- An example of how South Ayrshire is engaging with children in its next phase of building projects.

In considering Good Practice in Managing and Delivering Schools, the conference heard from speakers experienced in managing building projects from the perspective of local authorities, bidders, banks and advisors. This gave a comprehensive picture of the nature of the challenges each faces when working to achieve quality projects on time and to budget.

During the session on Key Issues for the School Estate, speakers canvassed such issues as the quality of design, sustainability and features of the 21st century school.

Key themes which emerged include the importance of consulting users, focusing on outcomes, developing creative ideas to develop the right solution, developing strong partnerships and sustainability.

The following documents were launched at the conference:

- Case Studies – a publication which captures more than 60 of the imaginative solutions which local authorities have adopted from across Scotland.
- Fire Safety in Schools – a publication which offers advice on fire safety and management, outlines the statutory position and provides checklists for undertaking fire risk assessments in schools.
- Option Appraisal – a paper on the economic tool which is helpful in assessing options used in shaping school estate management plans.

Further information on the work of the School Estate Branch of the Scottish Executive, including publications and conference details, is available on the School Estate Web site at www.scotland.gov.uk/schoolestate
AN INNOVATIVE SCHOOL REVISITED: LEITH ACADEMY AND THE PROJECTS THAT FOLLOWED

This article is the first of an occasional series looking back at educational institutions considered innovative at the time they were designed. In 1995, PEB published a case study on the United Kingdom’s Leith Academy; see the excerpt below from Redefining the Place to Learn. The following article examines the Academy’s original design, how the facilities have served over the 13 years since their construction and their influence on subsequent designs.

Completed in 1991, Scotland’s Leith Academy was the first in a series of innovative schools developed by the City of Edinburgh to incorporate design principles of “planning for change” developed by the OECD Programme on Educational Building (PEB). The principles provide for a building which would not in itself be a barrier to change in a rapidly evolving future. Since its completion, Leith Academy has been the focus of close study in order to inform and refine the design of schools to be built subsequently by the city. More than a decade on, how has the building actually performed? The answer follows, along with a description of the projects that have succeeded it.

The original design

With one of the main aims being to create a vibrant, welcoming environment for the whole community, the backbone of Leith Academy’s design is a glazed street filled throughout its length with sunlight, flowering sub-tropical plants, colourful banners and graphics, and with views into the teaching spaces and courtyards. A café is located at the centre.

Three secondary streets, also sunlit and top-glazed, at right angles to the main street, give direct access to each department. The blocks of accommodation have a clear span of 16.8 metres, giving two bays of 7.2 metres on either side and a 2.4-metre circulation/services distribution zone.

The building was designed to accommodate an exponential increase in the use of information technology. The changes this is bringing to the learning process were anticipated in a planning, servicing and furnishing strategy which allows spaces to be interchangeable, to be easily altered and to accommodate increased cabling as needs dictate.

The environmental controls include natural ventilation driven by the convection generated in the glazed street. Air is drawn from other parts of the building under the control of automatic louvres and the Building Energy Management System (BEMS).

Leith Academy was designed with both an expansion and a contraction strategy to ensure it would be a long-term asset to the city.

“New Leith Academy, Edinburgh, Scotland”
from Redefining the Place to Learn (OECD, 1995)

The design of this “school of the future” features four key elements: (1) a modular system provides flexibility for change; (2) an internal “street” facilitates community access, ease of circulation and energy efficiency; (3) provision for the increasing use of information technology is included; and (4) references to vernacular architecture humanize the scale of the building.

The designers sought to develop a school that would meet current educational requirements and also be adaptable in the future. [...] The building has been primarily designed as a place for learning for students and adults, though it also allows for concurrent use as a community and recreation centre. In responding to current trends in education and to the demands placed on a school by a variety of difference users, the designers took into consideration increasing demand for adult education, particularly to train and retain workers for an increasingly technological society.

The designers’ approach was to create a welcoming and flexible building that could be adapted to a variety of learning situations without major renovations. In addition, the strategy was designed to address problems of growth or decline. If, for example, the size of the student population declines, some areas of the building can be adapted for office or commercial use....
A decade later

Over a decade later, the school’s facilities and image remain exceptional. The systems of the building generally work very well. The teaching areas, circulation and way-finding systems are seen as “contributing to the much commented on calm behaviour of the pupils (and perhaps staff as well!)”. The street café and restaurant have been just as successful. Places at the school are in demand and the pupil roll has risen to the extent that two further teaching wings will soon be added, in accordance with the original modular expansion strategy, to allow capacity to expand from 950 to 1 100 places. The extensions respond to increased demand for music, drama, science and general teaching space. A new sports club was added in 1998, attached to the glazed street’s pre-planned expansion zone. Minor adjustments to the internal layout are now proposed and are readily planned within the modular suite of spaces and the wide-span construction. The loose-fit furnishing and services strategy has also proven successful in responding to day-to-day changes in requirements and to different teaching formats. Most science teachers have made use of the flexible service booms and relocatable laboratory benches to vary the room layout for different purposes.

There are no signs of vandalism and there is a sense of pride in the building, indicating it is well liked, a feature which is key to ensuring a building remains in good condition.

A typical detailed item of feedback relates to the importance of ensuring that the automatic louvres and computerised BEMS system are understood by the building users and maintained to ensure that environmental controls continue to operate efficiently, as designed.

Subsequent projects

All of the strategic design principles applied in Leith Academy were taken forward and refined in the design of St. Margaret’s Academy, Livingston, completed three years later, in 1994. Like Leith, the design of St. Margaret’s Academy is a synthesis of local, national and international experiences, events and trends. At its heart, rather than a street, is a large plant-filled atrium. The school has many intriguing and unusual features including large ceramic floor panels prepared as a collaborative venture between local primary school pupils working with an artist and a potter. Energy efficiency was developed in terms of the building form, solar control and the heating system. Again the value of the expansion strategy was proven early on in that it allowed a large extension to the community sports facilities and pool to be incorporated relatively late in the design and construction process. The sense of pride in the building is clearly evident here also.

The generality cheerful disposition of pupils, who show respect for the social spaces, and the thriving community education programme are testament to the success in creating a building which is welcoming and non-institutional for pupils and for adult use.

Currie High School

Subsequent projects

All of the strategic design principles applied in Leith Academy were taken forward and refined in the design of St. Margaret’s Academy, Livingston, completed three years later, in 1994. Like Leith, the design of St. Margaret’s Academy is a synthesis of local, national and international experiences, events and trends. At its heart, rather than a street, is a large plant-filled atrium. The school has many intriguing and unusual features including large ceramic floor panels prepared as a collaborative venture between local primary school pupils working with an artist and a potter. Energy efficiency was developed in terms of the building form, solar control and the heating system. Again the value of the expansion strategy was proven early on in that it allowed a large extension to the community sports facilities and pool to be incorporated relatively late in the design and construction process. The sense of pride in the building is clearly evident here also.

The “planning for change” principles and image transformation have been applied to the complete strip-out and refurbishment of large schools, such as the Currie High School in Edinburgh, designed in the 1960s for 900 pupils. Its refurbished facilities are directly comparable to those of a new school, although provided at a fraction of the cost. The high school required complete internal re-planning of the existing buildings. It received a variety of new specialist spaces to address new curriculum requirements and resource-based learning, for example seminar rooms and staff bases, the latter forming core spaces to provide an identity and social focus for each subject department.
St. Thomas of Aquin’s High School is the latest school designed by the City of Edinburgh, in a unique partnership contract novated to a contractor. Influences were again drawn from PEB’s work as well as from office business parks, innovative schools in Columbus, Indiana (USA) and buildings which provide successful social or commons spaces at their heart.

St. Thomas of Aquin’s High School is being widely quoted as setting a new benchmark of quality in educational design and in November 2003 was awarded the national “Civic Building of the Year Award”. This was recognition not only of the strategic design principles the school incorporates but also the project’s sensitive response to a historic city-centre site which demanded an exceptionally high standard of materials and finishes.

A new modular grid was developed to allow teaching spaces to increase from 52 m² for academic subjects and 65 m² for practical subjects (such as science and crafts, requiring more specialised equipment), to a new standard of 65 m² and 75 m² respectively. This facilitates even greater flexibility for IT workstations in every class and more extensive provision for disabled pupils in mainstream education, as well as contributing a further sense of comfort and spaciousness. The space for these major enhancements was achieved by refining the analysis of space usage, thus avoiding a proportionate increase in cost.

St. Thomas of Aquin’s High School was built through an innovative partnership that proved a highly successful alternative to private-public partnerships. The school was taken to full “scheme design” stage by the city’s own architects before they were novated to work directly for the contractor under a design/manage/construct partnership contract. This allowed the city architects’ established educational design expertise to be fully harnessed. The scheme design formed a prescriptive brief for the partnership contractor to develop and to apply his commercial skills to. This resulted in the project’s success: an award-winning building, constructed within a standard budget and to programme.

Whilst the strategic thinking behind all of these schools has a common root, it has been possible to develop and refine the approach, always in the context of drawing out the particular character of each school so that each is a unique and special place to inspire learning.

The brief for a large, new public-private partnership investment, including six new secondary schools and three major refurbishments in Edinburgh, is informed by designs first worked through in parallel with PEB.

From the design of Leith Academy – with its flexible, welcoming and non-institutional environment – onwards, the effectiveness and value of an international forum in which design principles can be refined to achieve quality, long-lasting educational establishments is clear.

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“Where the glacier meets the sky, the land ceases to be earthly, and the earth becomes one with the heavens.”

– World Light, Laxness

“In the day we heard that there was agreement to establish an upper secondary school in the region, every house in Snaefellsnes flew the Icelandic flag,” explained one parent in the first workshop to develop the Snaefellsnes Upper Secondary School.

The new school in this rural Icelandic region will be a “meeting place to learn” for students aged 16 to 20. The Snaefellsnes region is a predominantly fishing and farming community located approximately two hours away from the capital. The picturesque region is a destination for tourists to Iceland and has inspired generations of artists and writers such as Nobel Prize Icelandic author, Halldór Laxness.

The Snaefellsnes Upper Secondary School will be a place for students to meet with a new, challenging approach to learning. The school will minimize formal classes and schedules to reinforce active learning and individual choice. Both students and teachers will learn to develop new knowledge, a key competency in the 21st century. As well, the school will be a meeting place for learners from the community of all ages and types, in attendance during the school day as well as in the evening. Supporting these goals, the new school building is designed to create a flexible, social and stimulating environment.

**Strategic workshops**

The strategy for the school began with four workshops where the key stakeholders worked with the architects and a consultant (they took place from May to August 2003). The first three workshops included student representatives, parents, community leaders, Ministry of Education delegates, and educators and school directors from other parts of Iceland. They worked together to catalyze the goals for the school, including its approach to teaching and learning, and to outline the school’s organisation. This process led to agreement on the programme for the school building, which is the basis for the design underway by Sigurdur Bjorgulfsson and Indro Candi of VA Architects (Reykjavik). The fourth workshop involved the school’s future students.

The workshops were important to establish consensus within the community, and between the ministry and the community. While the ministry leases the school building for educational purposes and reviews the building design to assure that it meets their requirements, in this project the local community will finance and oversee the construction. Although the three fishing municipalities which make up the community are historically competitive, they are now working together to realise a shared school, demonstrating collaboration between all parties.

An important goal established by the stakeholders for the workshops was to “think-out-of-the-box” and to use creative inspiration. As a new type of school based on use of distributed learning (ICT), expert teachers and directors from other schools offered reassurance that the new ideas were possible based on their experience. The process was interactive, requiring problem solving, listening and negotiating. In this way, the workshop was similar to the type of educational experience being proposed for the new school.

Professional development professor Hafþór Guðjónsson from the University of Iceland presented a broad overview of current thinking with regard to the learning process referencing the “whole student life” and the “layers of learning.” These references helped settle the mission of the school to emphasise social exchange as an important part of the learning process, and reinforced ideas to create an open environment in which students could choose where, when and what they studied within the framework of the national curriculum.

The student workshop was a 12-hour day, starting with a presentation from the other workshops and ending with a student presentation to the key stakeholders. The students embraced the idea to offer a far more open, independent setting for learning at the upper secondary level. In teams, they enthusiastically designed their own version of the new school with some expert advice from the architects.

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School concept and design

The concept for the school is to create a highly flexible environment for a variety of types of learners and diverse learning activities. The building, designed for 170 students, is small in size (approximately 1,600 m²), yet large in scope and possibility. There are no traditional classrooms, as the educational programme emphasises individual and group learning, with distributed learning opportunities, which can take place anywhere in the building. All students will have their own laptop computers which will be their mobile “desk”. The building offers four zones for learning with a diversity of types of spaces where students can work together or individually.

In the centre of the school is the Open Learning Zone. This zone provides work places for 80 students. Five discussion rooms are provided, several small group work and counselling rooms.

In the Information Zone the students and teachers can find special help for research purposes, training in research skills, access to print media and an alternative quieter work environment for students. This zone may also be used in the evening and throughout the day for lifelong learning activities.

The Contemplative Arts Zone is a student-centred learning area focusing on the use of multimedia, digital recording and other conceptual work. The Student Union offices and a retreat area for students to rest and read are included in this zone.

The Teacher-as-Learner Zone emphasises the changing role of the teacher as a coach. This zone is intended to be an area where teachers learn from each other in an open way and collaborate while preparing their courses.

In addition to the learning zones, the school includes a café, a modest multipurpose room for dining (seating 85) and social activities, as well as a small sports hall; the school also has access to other community facilities. Students and others from the community can work in the café in a relaxed and social atmosphere. Regional facilities for competitive sports and research facilities for certain science classes are among those to compliment the school’s infrastructure. This use of resources throughout the region helped to keep the allocated square meters within the proposed budget.

Making use of distributed learning and the high-speed network supported by the Ministry of Education, Science and Culture, the school will manage a broad range of curriculum offerings through exchange with other upper secondary schools across Iceland. Over the last ten years, the ministry has put in place the necessary technical infrastructure to support distributed learning with high-speed networks across the country. These networks support electronic communication and video conferencing; linking all the upper secondary schools, the lifelong learning centres, and the universities and research institutions in Iceland. Access to international electronic databases and libraries has been negotiated on a national basis, enabling anyone with an Icelandic electronic address to access these information sources for free.

Everyone from the strategic workshops agreed that a contemporary design for the school building was important. The architects responded to this request with sweeping roof lines and large organic-forms in plan. The school building is intended to be a small village, with an interior street or “square” in keeping with the goals for the school to promote social interaction. The school is scheduled to open in fall 2004.
In addition to input from the key stakeholders, the project team studied a number of references and examples. More than 20 upper secondary schools, universities and lifelong learning centres participated in interviews and shared “lessons-learned” with Project Manager Hrunn Petursdotir. The upper secondary school in Selfoss, designed by Maggi Jónsson, a school built in the 1980's as a prototype, was a useful model of a successful design with emphasis on the social environment. Another important precedent for this project was an innovative primary school, Ingunnarskoli, designed by Bruce Jilk with VA Architects in 2001 for the City of Reykjavik (see PEB Exchange, no. 47).

On the eastern coast of Iceland, Framhaldsskoli, an upper secondary school constructed as an educational building and community centre, was a unique model for the project. The principle of this school, Eyzolfur Gudmundsson, agreed to join the workshops and share his experience. References also included schools from other Nordic countries and elsewhere, such as the Australian Science and Mathematics School recently opened in Adelaide (see PEB Exchange, no. 46).

**Economic drivers**

The Snaefellsnes community was concerned that the absence of an upper secondary school was significantly diminishing their ability to cope with their future. Without an upper secondary school, parents have had no choice but to send their youth to another region or to a city to continue their education. The effect has been economic and qualitative. “We miss our young people,” the parents explained, “we can’t have proper sports teams, and we miss the energy of this generation.”

The existence of an upper secondary school is important to maintain economic and social well-being in the rural Icelandic communities. Increasingly, Icelanders are leaving the rural and small towns and re-locating to the capital (approximately 75% of the population now resides in the Reykjavik region). Social, employment and educational opportunities are leading reasons for this migration.

The success of the Snaefellsnes Upper Secondary School to sustain the rural community will be important for Iceland and may impact other school programmes in the country. Economic and environmental conditions and new possibilities with the use of information technology are changing the value set and opportunities for the Snaefellsnes region. Skills required for employment demand retraining and continuous learning. The region hopes to compete for new industries to locate within the region, in addition to seeing existing ones succeed.

In these ways, the new school will be critical to the effort to continue to maintain the rural community and to improve its quality of life.

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More information on this project can also be found in English at http://www.menntagatt.is/default.aspx?pageid=160

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**A NEW LIBRARY FOR GALWAY-MAYO INSTITUTE OF TECHNOLOGY**

The newly-built library at Ireland’s Galway-Mayo Institute of Technology (GMIT) is innovative in design, responds to environmental conditions and identifies the campus with its location. The library is part of the Learning Resource Centre recently constructed to meet the institute’s objective for a new landmark frontage. The campus, overlooking Galway Bay, dates back to the 1970s and reflected the standard regional technical college building throughout Ireland at that time: pre-cast concrete cladding panels combined with ribbon windows, which lack a sense of
identity. For the new construction, the designers chose to use local materials such as painted render, native limestone and patinated copper, the latter for its vibrant colour and malleable qualities.

The Learning Resource Centre is divided into two rectangular volumes: a library/IT block and a lecture block consisting of lecture theatres, auditoria and the Administration Department. The library area is constructed on two levels stacked above the IT Department, with its 200-plus workstations; a central staircase connects the three floors. The library is designed for 670 student spaces with 17 project rooms and ancillary librarian spaces.

Form and function are intertwined in three sculptures adjacent to the library. The free-form compositions reflect the shape of trapezoidal sails and take cognisance of Galway’s location on the shores of the Atlantic Ocean and its maritime past. The copper-clad forms shield the library areas from solar gain and act as acoustic baffles and light reflectors. They also serve as large air dispensers and make up part of the library’s natural ventilation strategy. Stainless steel strip windows, inserted at the sail junctions, provide framed views of Galway Bay.

The library interior reflects the organic external forms. Racked columns push “islands” of floor plane towards the sails. The floor plane fractures, and trapezoidal voids are formed. Light filters through these voids to the lower library floor where the majority of the book stacks are located. The concept is developed further at roof level with glazed elements peeling off the roof plane as if suspended in air.

At the east end of the library the floor is cut back and reveals the volumetric qualities of the space. A glazed wall encloses this space, spanning between the final copper sail and the rectilinear building form. The structural glass wall has a horizontal emphasis utilising steel trusses, which seem to restrain the sails from breaking free from the main building mass. At this point light filters into this area from 360 degrees at various levels of intensity, modelling the interior and the changing ambiance which reflect the orientation of the sun.

Just prior to its opening in November 2003, the Learning Resource Centre won the Opus Building of the Year award. The project is 10,264 m² in size and was built at a cost of EUR 20 million.

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THE LYCÉE FRANÇAIS IN NEW YORK, A SHOWCASE FOR THE FRENCH-SPEAKING COMMUNITY

In New York they say that the architecture of the new Lycée français (serving French students from kindergarten through upper secondary education) was inspired by the rationalism of Descartes. What is beyond doubt, however, is that the design and materials chosen by the American firm of architects, Polshek Partnership Architects, which designed the building, provide a thoroughly modern setting for its distinctive educational project.

Despite its superb location between 5th Avenue and Park Avenue, the first Lycée français was divided between three campuses located in six former mansions which did not lend themselves to renovation. It was therefore decided to sell the property in order to build a new facility on a nearby site in the same neighbourhood, between 75th and 76th Streets, that would meet the needs of future users and be better adapted to the Lycée’s specific organisational and educational concept.

The first problem that had to be solved was the relationship between the building and the city, for it was essential to ensure children’s safety in a densely populated urban setting. The solution found was to have school buses enter on one side of the building and go out on the other, after letting the children off in a safe inner courtyard that is used as a playground after the entrance gates are closed.

The metal structure and glass outer walls on the northern side allow users to see the city and let in natural light, while the southern side, more protected from sunlight, has concrete panels with a stone-like pattern that recalls the original mansions of the first Lycée.

The internal organisation of the Lycée reflects the desire – strongly supported by parents – to ensure that teachers and support staff are in close contact with some 1 000 pupils (capacity 1 250). Since classes are grouped by grade (early primary classes, 5th and 6th grades, etc.), each of the five floors of the northern and southern buildings has its own teachers’ room and administrative department. Although the physics, chemistry and science laboratories have been grouped together, each floor also has its own rooms for the teaching of art.
The common areas (cafeteria, entrance hall, library, gym) are at ground floor and basement levels. This means that the central courtyard begins at the third level, creating a spacious open area in the midst of a building with a total floor area of 16,000 m². Every square meter has been put to good use, and a running track has even been installed on the roof of the building. An auditorium, which will be open to the public and will be used for various performances and events, should enable both the Lycée and the local French community to participate actively in the life of the city.

The Lycée received private funding for this project, but raised the full amount of the large budget required by selling its property (USD 60 million) and issuing tax-exempt bonds (USD 95 million). Even though the tuition fees had to be increased, they are still 30% lower than the fees charged by private schools in New York. Some 120 pupils receive full or partial scholarships. Some other characteristic features of the Lycée are its bilingual education, which follows the curriculum of French lycées, and its diverse student body with over 50 nationalities – an openness to the world that Descartes would no doubt have appreciated. France’s President, Jacques Chirac, came in person to inaugurate the Lycée in September 2003, proving that this distinctive institution is indeed a showcase for France and the French-speaking community in New York.

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A BUILDING DEVELOPMENT PLAN AT LAVAL UNIVERSITY, QUEBEC

Laval University is launching a series of major development projects aimed at meeting the needs of an institution that currently offers over 350 academic programmes to more than 36,000 students. It also ranks among the top ten Canadian universities in terms of research. Between now and the spring of 2005, nearly 130 million Canadian dollars will be invested in campus infrastructure, bringing total investment in this field since 1990 to some CAD 300 million. The administrators responsible for this construction say that the these building projects will literally transform the landscape of their university and will have many positive side effects that will have a major impact not only on the university community, but also on the Quebec region and society as a whole, since they will make it possible to house multi-disciplinary research teams under a single roof.

This article will focus on three of the most important construction projects that are already under way or about to start: the Wood Processing Centre, the Optics, Photonics and Laser Centre, and Ferdinand-Vandry Hall. A brief history of the Laval University campus is provided at the end of this article.

The Wood Processing Centre

Work on the Wood Processing Centre (Centre de transformation du bois ouvré, CTBO) began on 18 September 2003 and will continue until early 2005.

With its state-of-the-art technological facilities, the CTBO will become both a research centre that is unique in Canada and a Pan-Canadian education and training centre. What is more, this centre, which the representatives of Laval University describe as being the only one of its kind in the world, will be built entirely of wood.
The Optics, Photonics and Laser Centre

This coming spring, work will also begin on the new Optics, Photonics and Laser Centre (Centre d'optique, photonique et laser, COPL). It will be the largest education and research centre in the field of optics-photonics in Canada. The construction of the new building will provide the COPL's researchers with cutting-edge research facilities in this field. Many laboratories will have dust-controlled clean-rooms for the micro-manufacturing of photonics components. A substantial share of the costs of this building will go to the construction of a laboratory for manufacturing and characterising optical fibres. Two 12-meter draw towers for manufacturing optical fibres will also be built.

This grouping of researchers in the field of optics-photonics will reinforce synergies with industry through closer contacts with industry researchers, which will promote collaborative projects using the new physical infrastructure and the new equipment it contains. It will enable Laval University and the Quebec region to become the main centre for cutting-edge research and the education of highly-skilled staff in the field of optics-photonics in Canada.

Lastly, the third but not the least ambitious project comprises the renovation of Ferdinand-Vandry Hall, also known as the Medicine Building, which will be brought up to standards, refitted and enlarged.

This is the last of Laval University's older buildings to be renovated. More will be invested in this project alone than in the two preceding projects together, as a total amount of some CAD 65 million will be required. The building will be expanded by some 20 000 m² to cater for the faculties of medicine, pharmacy and nursing sciences. This will also make it possible to accommodate the health science units currently housed in other campus buildings. The consolidating of all health sciences within a single centre — medicine, nursing sciences, pharmacy, physical and occupational therapy, social and preventive medicine and other specialties — will be a first in North America in this field.

Lastly, it should be pointed out that this project is a key component of a Pan-Canadian consortium comprising Laval University, the University of British Columbia, the University of New Brunswick and Forintek (Eastern Laboratory and Western Laboratories).
History of the campus

The first French-speaking university in North America, Laval University is located in the heart of Quebec’s capital, a UNESCO world heritage city. At the time of its foundation in 1852 by Bishop François de Laval, the university was located in the district recognised today as a UNESCO site. These buildings, known as the Seminary of Quebec, occupy part of the Cap Diamant promontory near the Château Frontenac, a luxury hotel with a worldwide reputation. In 1878, Laval University opened a “branch” in Montreal which in 1920 became the University of Montreal.

In the early 1950s, due to the expansion of the city of Quebec, Laval University moved out of “Old Quebec” into the suburbs. This move to Sainte-Foy promoted the spectacular development of this city at that time. Later, wishing to follow the trend of the population moving back to the city centre, in 1988 Laval University transferred its architecture school to one of the buildings of the Old Seminary, returning to its roots through the highly symbolic choice of this school.

Laval University undertook a major building campaign between 1962 and 1970, when seven large buildings were constructed, including one of the high-rise buildings housing the Faculty of Education Sciences.

Since 1990, there has been a second wave of construction at Laval University, with new buildings being constructed and others undergoing major renovation and enlargement.

To see the extent of the work under way or soon to begin on the campus, consult the Internet site: www.ulaval.ca/chantiers/

For further information, contact:
Gilles Daoust, Directeur du service des immeubles
Université Laval, Quebec, Canada
Tel.: 1 418 656 2131, p2870
E-mail: gilles.daoust@si.ulaval.ca

<table>
<thead>
<tr>
<th>Description</th>
<th>Building</th>
<th>Amount (CAD million)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Since 1990</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community, Cultural and Administrative Services</td>
<td>Alphonse-Desjardins/Maurice-Pollack</td>
<td>34.60</td>
</tr>
<tr>
<td>Greenhouse Production Complex</td>
<td>Envirotron</td>
<td>1.40</td>
</tr>
<tr>
<td>Horticultural Research Centre</td>
<td>Envirotron</td>
<td>7.60</td>
</tr>
<tr>
<td>Industrial and Economic Relations</td>
<td>J.-A.-De Sève</td>
<td>15.60</td>
</tr>
<tr>
<td>Continuing Education Centre</td>
<td>La Laurentienne</td>
<td></td>
</tr>
<tr>
<td>Nutraceuticals and Functional Food Institute</td>
<td>INAF</td>
<td>19.00</td>
</tr>
<tr>
<td>Visual Arts School</td>
<td>La Fabrique</td>
<td>8.90</td>
</tr>
<tr>
<td>Ball-Bearing Workshop</td>
<td>La Fabrique</td>
<td>0.60</td>
</tr>
<tr>
<td>Administration Sciences (enlargement, refitting and renovation)</td>
<td>Palasis-Prince</td>
<td>26.30</td>
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<tr>
<td>Science and Engineering Faculty (enlargement, refitting and renovation)</td>
<td>Adrien-Pouliot</td>
<td>33.40</td>
</tr>
<tr>
<td>Molecular Biology Research Laboratories</td>
<td>Charles-Eugène-Marchand</td>
<td>19.20</td>
</tr>
<tr>
<td>Addition of a Magnetic Resonance Laboratory</td>
<td>Charles-Eugène-Marchand</td>
<td>1.20</td>
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<tr>
<td>Addition of an Aquatic Sciences Research Laboratory</td>
<td>Charles-Eugène-Marchand</td>
<td>2.25</td>
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<tr>
<td><strong>Subtotal:</strong></td>
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<td>170.05</td>
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<tr>
<td><strong>In progress</strong></td>
<td></td>
<td></td>
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<tr>
<td>Water cooling plant (new building)</td>
<td>Centrale d’eau refroidie</td>
<td>7.80</td>
</tr>
<tr>
<td>Wood Processing Centre (new building)</td>
<td>CTBO</td>
<td>25.00</td>
</tr>
<tr>
<td>Optics, Photonics and Laser Centre (new building for 2005)</td>
<td>COPL</td>
<td>32.00</td>
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<tr>
<td>Health Sciences (upgrading and enlargement of the faculties of Medicine, Pharmacy and Nursing Sciences)</td>
<td>Pavillon Ferdinand-Vandry</td>
<td>65.00</td>
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<tr>
<td><strong>Subtotal:</strong></td>
<td></td>
<td>129.80</td>
</tr>
<tr>
<td><strong>GRAND TOTAL:</strong></td>
<td></td>
<td>299.85</td>
</tr>
</tbody>
</table>
Evaluating, planning and designing facilities for artistic and cultural education in schools from the primary to the higher education level

A genuine interface between school managers, users and contractors, this work presents an approach to organising and designing dedicated facilities for artistic and cultural education through a process of dynamic planning based on monitoring the architectural project and evaluating ongoing developments.

The changes taking place in educational practices and artistic and cultural education programmes prompted the French Ministry for Youth, National Education and Research to carry out a study of the facilities set aside for these programmes in educational establishments. The evaluation of these facilities and of educational practices, based on observations in a dozen schools, took the following factors into account: the schools’ environment, the real day-to-day practices of individuals, existing facilities, each school’s institutional culture, individual and collective working methods and relations of interdependence.

As the authors make clear, evaluation, when conducted through the life of the project, can be a means of ensuring the collective “ownership” of a renovation or construction project and contribute greatly to its success. The authors propose a method of planning and architectural design that relies on an ongoing analysis of the actual and/or anticipated uses of the facilities on the basis of the evaluation results.

Whether the project involves renovation or new construction, its success and the quality of the facilities created will depend on the ability of all stakeholders to participate in change and co-operate closely with each other.

This work also provides a guide that gives a precise and concrete description of the situations routinely encountered and suggests ideas for planning and managing space in order to meet the needs of those teaching and studying artistic subjects – the applied arts, plastic arts, cinema, dance, art history, music and dramatic arts. The guide systematically reviews the facilities used for the following eight types of activities: performing arts and communication in general; plastic arts; music; dramatic arts and analysis of theatrical works; dance and choreography; learning and practice of audio-visual media and their production; and lastly education in art history.

The text, illustrations and architectural plans are put together and presented in such a way as to contribute to a co-operative process of preparing a renovation or construction project. A thematic index at the end of the work includes themes such as “form and management”, “exchanges between artists and children” and “attitudes and user-friendliness” and allows readers to access the information contained in this book in a different way.

Facilities for Artistic and Cultural Education is meant to provide food for thought and discussion between users, planning teams, school managers and contractors by encouraging them to focus more closely on defining needs at each stage of their co-operative efforts to plan and build facilities for artistic and cultural education.

This work is available on the site http://www.education.gouv.fr/stateval/default.htm
To order a copy, contact DEP – Bureau de l’édition
58 boulevard du Lycée, 92170 Vanves, France
Tel.: 33 (0)1 55 55 72 04, fax: 33 (0)1 55 55 72 29

Book review by Nathalie Timores
Ministère de la jeunesse, de l’éducation nationale et de la recherche, Paris, France
Tel.: 33 (0)1 55 55 68 85
E-mail: nathalie.timores@education.gouv.fr
**OECD PUBLICATIONS**

**Learners for Life: Student Approaches to Learning: Results from PISA 2000**

Learners for Life, the second thematic report from the Programme for International Student Assessment (PISA) 2000 survey results, analyses characteristics of learners in 26 countries. The results confirm strong links between student approaches to learning and measurable student outcomes. Strong links were found between students’ tendency to control their own learning, by consciously monitoring progress towards personal goals, and their motivation and self-beliefs. This suggests that effective learning cannot simply be taught as a skill, but also depends heavily on developing positive attitudes. The report points to ways in which education systems can focus efforts to help different groups of students become more effective learners.

September 2003, 136 pages  
OECD Code 962003101P1, ISBN 9264103902  
EUR 21, USD 24, GBP 14, JPY 2 700, MXN 240  
For further information, see http://www.pisa.oecd.org

**Student Engagement at School: A Sense of Belonging and Participation: Results from PISA 2000**

What policies and practices are most effective in fostering students’ sense of belonging and participation in school? This PISA thematic report examines a number of aspects of student engagement at school in 42 countries. The results indicate that the prevalence of disaffected students varies considerably both within and among schools in most countries, and that this variation is not attributable solely to students’ family backgrounds. The analyses also identify some of the school factors related to student engagement and provide evidence that achieving strong student engagement at school does not have to be at the expense of academic performance.

October 2003, 84 pages  
OECD Code 962003131P1, ISBN 9264104550  
EUR 21, USD 24, GBP 15, JPY 2 900, MXN 250  
For further information, see http://www.pisa.oecd.org

**The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills**

PISA 2003 is the second cycle of a data strategy defined by participating countries in 1997. Similar to PISA 2000, the PISA 2003 assessment covers the domains of reading, mathematical and scientific literacy, with the major focus shifting from reading to mathematical literacy; the ability of students to solve problems in real-life settings is also assessed. This publication presents the conceptual framework underlying the PISA 2003 assessments. Within each domain, the framework defines the content that students need to acquire, the processes that need to be performed and the contexts in which knowledge and skills are applied. Finally, it illustrates the domains and their aspects with sample tasks.

July 2003, 204 pages  
OECD Code 962003051P1, ISBN 9264101721  
EUR 24, USD 28, GBP 16, JPY 3 100, MXN 280  
For further information, see http://www.pisa.oecd.org

**Education Policy Analysis – 2003 Edition**

Improving the quality of education is a key policy objective in OECD countries. Major education reforms are underway around the world in response to demands to make lifelong learning opportunities available to all. Education Policy Analysis provides an opportunity to reflect on, and learn from, this rich international experience.

The 2003 edition contains state-of-the-art reviews of policy issues and international developments related to students with disabilities, difficulties and disadvantages (see article page 4); career guidance; higher education; and investments in adult lifelong learning. It also includes, for the first time, a summary of major education policy changes across a wide range of fields in OECD countries.

November 2003, 116 pages  
OECD Code 962003121P1, ISBN 9264104550  
EUR 21, USD 24, GBP 15, JPY 2 900, MXN 250

**OTHER PUBLICATIONS**

**The Heritage of European Universities**

This book sets out to explore the diverse heritage, both physical and intellectual, of European universities and how it has been passed on between countries at different time periods. The publication aims to raise awareness of the key role universities play in Europe’s cultural heritage as well as to encourage them to co-operate to define a common approach to their problems and weaknesses in this area.

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April

16-21 – The OECD Programme on Institutional Management in Higher Education (IMHE), in collaboration with the European University Association, will hold a “Strategic Management Seminar for Institutional Leaders” at the University College Cork, in Ireland. Contact: Jacqueline Smith, OECD/IMHE, tel.: 33 (0)1 45 24 93 23, e-mail: jacqueline.smith@oecd.org

May

12-13 – The OECD Forum 2004 “Health of Nations” will cover issues such as the world economy, sustainable development, health policy challenges, and international trade and investment; education and development will be addressed under this last topic. The Forum brings together leaders from business, government, labour and civil society. Contact: John West, Forum Director, tel.: 33 (0)1 45 24 80 25, e-mail: john.west@oecd.org

26-28 – “Creating 21st Century Learning Environments” is the theme of an international PEB seminar, hosted by the United Kingdom, to take place in London. See page 2.

August

29 August - 1 September – LETA 2004 will address the topic “Sustainable Learning for a Sustainable Future”. The conference will be an opportunity for educators, architects and leaders to discuss how best to develop sustainable learning and how to respond in terms of pedagogy, leadership, teacher development, information technology and the built environment. Presentations by international and local speakers, workshops and site visits will be used to assess opportunities and to evaluate old and new models. This year’s Learning Environment Technology Australia conference will take place in Adelaide. Contact: Keith Maynard, 20 Osborn Avenue, Beulah Park, South Australia 5067, e-mail: maynardk@bigpond.net.au

September

13-15 – The 17th IMHE General Conference will address choices and responsibilities of higher education in the knowledge society. It will take place at the OECD headquarters in Paris. Contact: Valérie Lafon, OECD/IMHE, tel.: 33 (0)1 45 24 75 84, e-mail: valerie.lafon@oecd.org

October

A PEB conference on the role of new technology in space management for tertiary education will be organised in Quebec. Contact: Isabelle Etienne, tel.: 33 (0)1 45 24 92 72, e-mail: isabelle.etienne@oecd.org

The views expressed in PEB Exchange are the contributors’ own and do not necessarily represent those of the OECD Secretariat.