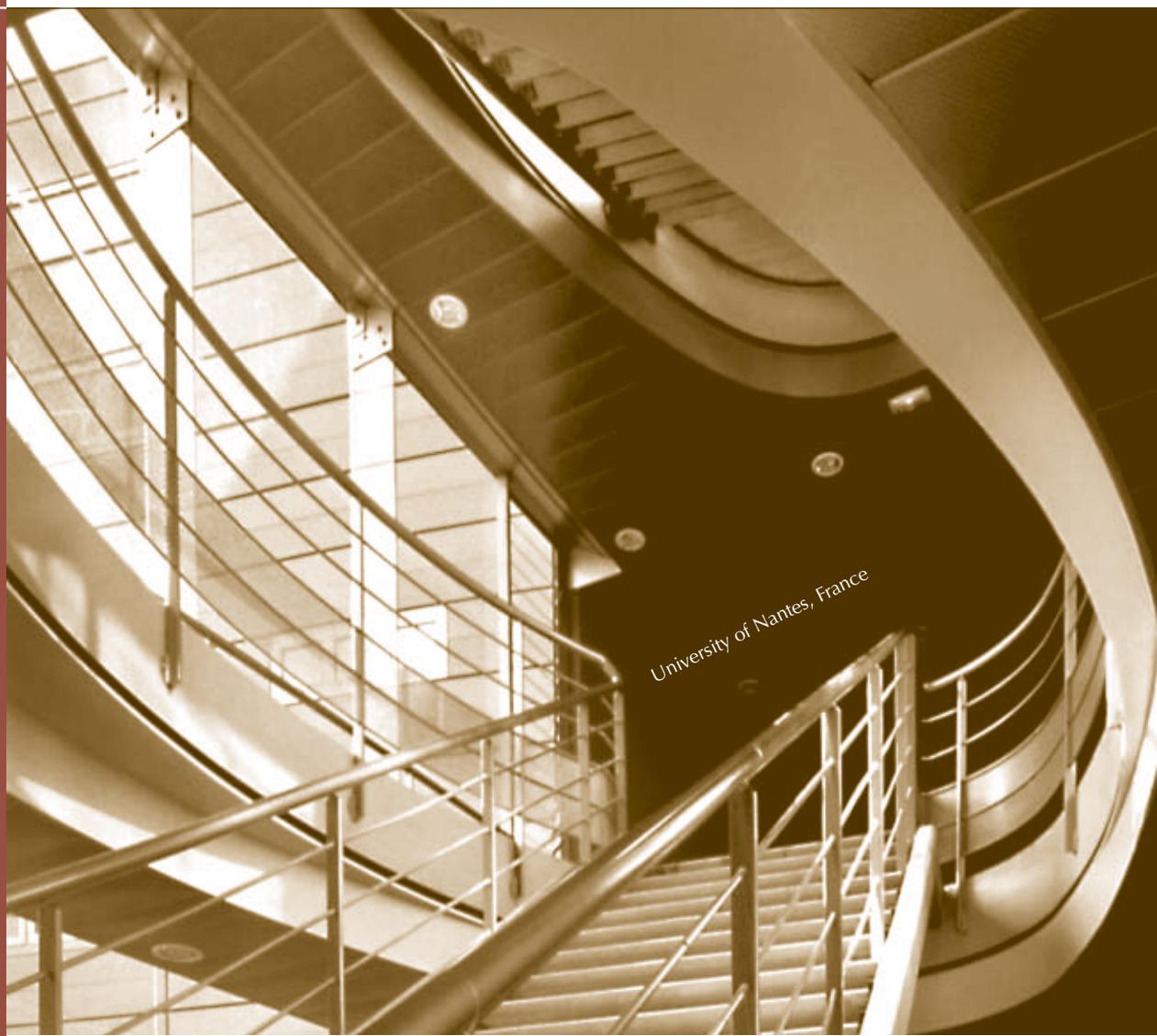


PEB *EXCHANGE*

THE JOURNAL OF THE OECD PROGRAMME ON EDUCATIONAL BUILDING

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ISSUE 38 OCTOBER 99



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.

Eighteen OECD Member countries and nine 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 2001. A steering committee of representatives from each participating country establishes the annual programme of work and budget.

PEB Members

Australia	Mexico
Austria	Netherlands
Czech Republic	New Zealand
Finland	Portugal
France	Spain
Greece	Sweden
Iceland	Switzerland
Ireland	Turkey
Korea	United Kingdom

PEB Associate Members

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A.R.G.O. (Belgium)
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Regione Emilia-Romagna (Italy)
Regione Toscana (Italy)
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EDITORIAL

EVALUATING EDUCATIONAL FACILITIES

How can we know that we are building good schools? By what criteria are judgements to be made? How can success – or failure – be measured? Is it possible to make meaningful international comparisons?

There is a growing emphasis on the evaluation of public policy and on accountability for the use of public money. Those who provide and manage educational facilities are not exempt from the requirement to demonstrate that they are making good use of the resources entrusted to them. In recent years the work of the Programme on Educational Building has increasingly been oriented towards helping Member countries with the evaluation of policy and practice, and the Steering Committee at its June 1999 meeting decided to reinforce this tendency.

Throughout its existence PEB has examined developments in educational building policy, made recommendations to Members on implementation,

and drawn attention to examples of good practice. The compendium *Schools for Today and Tomorrow* is a good example. Although the identification and dissemination of case studies can be seen in itself as a form of evaluation, it has few pretensions to intellectual rigour.

Evaluation can take many forms and can be applied at many levels, from post-occupancy evaluation of individual building projects against users' own criteria, to system-wide evaluation of major reforms. The international quantitative comparative analysis that has been undertaken has been very limited in scope. In taking it forward there are perhaps four key questions which it could seek to clarify:

- What facilities are provided?
- How efficiently are they used?
- How effective are they in educational terms?
- Could the resources committed be better deployed?

The last of these questions is the one which may be of most direct concern to policy-makers, but it cannot be answered in isolation from the others, and they are less easy than might at first appear. Even knowing what is provided is not simple.

An early attempt was made by PEB to analyse space norms in Member countries, but it quickly became clear that even mandatory norms or standards were frequently not applied – or did not apply to older buildings – and that it would be more meaningful to compare actual space provided in schools. This is a more daunting task, however, since it requires measurement and data collection on a large scale. Some countries have the information at national level, but where provision of facilities is a decentralised responsibility it can be much more difficult to obtain, and where it can be obtained it may not be available on a comparative basis.

The analysis of space utilisation is perhaps a more fruitful area. Much good technical work has been done on measurement techniques, but it has proved difficult to achieve consensus on what is a reasonable level of utilisation to achieve. Even where agreement can be reached, the task for managers is to develop systems which will encourage better utilisation. Thus space charging systems, for example, are beginning to be introduced in some higher education institutions, in order to provide an incentive for better space management.

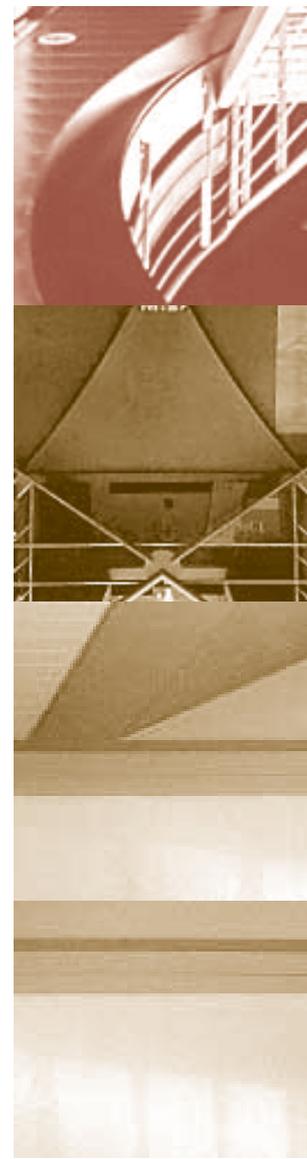
Despite the problems there are good grounds for believing that progress can be made both in monitoring the provision of facilities and in analysing the use made of them. Evaluating the impact of facilities on educational outcomes is a much more difficult area of analysis. This is because comparing educational outcomes internationally is in itself a very complicated task, and to move from there to separating out the impact of different factors, such as facilities, brings a further degree of complexity. Nevertheless the comparison of educational outcomes internationally has made tremendous strides in recent years, notably through the OECD's work on educational indicators and adult literacy, and the work of the PISA programme on the achievement of 15-year-old students which is now under way.

PEB, working with the European Investment Bank, has held one international seminar in Luxembourg which has made good progress in identifying where research needs to be done. A growing number of studies in the United States have set out to compare the performance of schools where the only apparent variable is the condition of the buildings, and they are beginning to show a consistent pattern of results.

The papers from the Luxembourg meeting are to be published shortly. Nevertheless we are still a long way from the point at which we can give reliable guidance to policy-makers who are asking such questions as:

- Should we devote more resources to providing technology, and less to the construction of classrooms?
- Is it more effective to spend money on facilities for early-childhood education, rather than university education?
- What is the optimum size for a school? And the best organisation of space within it?
- In the era of lifelong learning, should we provide facilities for learners of all ages on one site, or keep them separate?

As PEB sets out to get to grips with some of these issues, the Secretariat will welcome proposals from interested researchers and organisations who would be willing to work with us. Please contact us at the address on page 24.



PEB AND OECD ACTIVITIES

EXEMPLARY EDUCATIONAL BUILDINGS

PEB is planning a second compendium of exemplary educational facilities. The first edition entitled *Schools for Today and Tomorrow* was published in 1996. The book included plans, photographs and brief descriptions of 46 schools and other buildings chosen from almost 200 submitted by PEB Members.

The second edition will devote attention to all sectors of lifelong learning and give greater prominence to the management, use and evaluation of facilities as regards their contribution to the educational process. An international jury will select facilities for publication that best demonstrate quality in one or more of the categories addressed by PEB during its current mandate, such as schools in the information society, educational facilities and the environment, libraries and learning resource centres, the design of institutions for the early years of tertiary education, and health, safety and security.

The PEB Steering Committee has been invited to co-ordinate the identification of potential projects for inclusion; projects can also be submitted directly to the Secretariat until the end of this year. The intention will be to publish a full-colour book, and there will be opportunities for advertising or sponsorship. To obtain the appropriate documentation for nominations or sponsorship information, please contact the PEB Secretariat, or consult the PEB Web site.

PEB TO RUN SEMINAR ON FINANCING

PEB is pleased to announce a seminar on "Financing Capital and Recurrent Expenditure on Educational Facilities" organised in co-operation with the Spanish authorities, and to be held in Toledo from 22 to 25 February 2000.

The financing of expenditure on educational facilities can be organised in many ways, but the essential issues are the same in all countries. Policy-makers need to be able to identify accurately where expenditure is required, to put in place efficient systems of resource allocation and to evaluate the use made of the money invested.

Although most systems make a clear distinction between the initial capital cost of buildings and the ensuing

running costs, the two cannot be considered in isolation. There are strong links between decisions on initial expenditure and the cost of subsequent maintenance.

Hitherto the provision of educational facilities, especially for compulsory education, has been almost exclusively a public sector responsibility, but increasingly the potential of private financing sources is being investigated. Some progress has been made in combining public and private sources of finance.

And there is a growing emphasis on the appraisal of investment, the subject of a forthcoming report by PEB following last year's meeting in Luxembourg.

The modalities of resource allocation are intricately linked with the structure of government from national to institutional level. In common with other OECD countries, the host country Spain has recently granted much greater responsibility for educational provision to its constituent regions. Earlier PEB work on this issue was published as *Decentralisation and educational building management* in 1992.

The seminar will survey latest thinking in these areas and seek to identify advice for decision-makers. For further information about the seminar, please contact Isabelle Etienne at the PEB Secretariat (mail to: Isabelle.Etienne@oecd.org).

ENERGY CONSERVATION

The International Energy Agency's (IEA) Programme on Energy Conservation in Buildings and Community Systems has started a project on the retrofitting of educational buildings. Many schools and universities have high energy consumption which could be reduced with the installation of modern equipment for lighting, heating, cooling and ventilation. Studies have shown that during retrofit, energy saving measures are rarely applied because of a lack of knowledge by the decision-makers regarding the investments and the measures' potential. The new IEA project aims to develop simple tools for use during the planning and realisation phase to help the decision-maker find the most energy efficient and economical measures. The tools will also serve during the entire retrofit phase to ensure that the calculated savings will be achieved after retrofitting. As the project advances, information will be posted at <http://www.ecbcs.org/annex36.html>.

AUSTRIA

The Bundesschulzentrum Feldbach District School has received new heating and lighting systems and made substantial savings in energy costs through a performance contract with the private company Honeywell. Previously the 21 270 m² building had inconsistent heating and uneven, inadequate lighting (including lower quality, cool-coloured lighting fixtures that used large amounts of energy) and lacked the necessary cash flow for repairs. Honeywell redesigned the heating system, reducing the maximum load by 40%, from a previous consumption of 1 megawatt to 600 kilowatts. In each classroom, a single-room heat control was installed, along with temperature and occupancy sensors. The lighting system in all of Feldbach's 61 classrooms and three sports halls were retrofit with more energy-efficient fixtures and tubes to provide warm light. Energy-saving daylight sensors were installed in every classroom. The sports halls were additionally furnished with CO₂ sensors which save energy by allowing the air handling unit to switch off when proper temperature and ventilation levels are achieved. All of the improvements are backed by a 15-year service contract. The contract ensures 24-hour service with a remote service package that connects this site to a Honeywell service station in Vienna.

For further information, contact:

Thomas Mann, Honeywell
Tel.: 43 1 727 80 249, fax: 43 1 727 80 255
E-mail: Thomas.Mann@Austria.Honeywell.com

FRANCE

A Charter for Quality Construction and Renovation is being prepared for junior secondary schools in France. It will serve as a guideline for design and equipment for all types of school space, including libraries, teachers' rooms, restrooms and sports facilities. Ségolène Royal, the minister responsible for school education attached to the Minister for Education, launched the project as part of a larger effort to reduce inequalities among middle schools nation-wide. In describing the measures, published in the "Official Bulletin of National Education", she states that educational buildings that are well-designed and equipped are "a sign of respect for students and teachers, and encourage respect in return".

UNITED KINGDOM

Playing fields

The UK Government has made it harder for local authorities to dispose of school playing fields. Schools Minister Charles Clarke announced the following new criteria, published in the June 1999 circular "The Protection of School Playing Fields": proceeds from the sale of playing fields must now go back into sports provision or education, remaining fields and sports facilities must meet the needs of local schools and the community, and the views of local people must be taken into account.

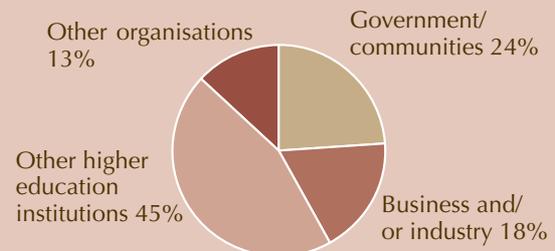
Quality architecture

A Commission of Architecture and the Built Environment is being established in the United Kingdom under the initial chairmanship of Stuart Lipton. CABE will promote the importance and benefits of high quality architecture and urban design in villages, towns and cities. It will also encourage the understanding of architecture through educational initiatives and grant programmes and promote community involvement.

UNITED STATES

The National Association of State Universities and Land-Grant Colleges recently surveyed its members on information technology funding and initiatives. Below are some of the findings published in the report "NASULGC Institutions Connecting with the Future: How do they do IT? How do they pay for IT?":

Collaboration by Type of Partner on Virtual University Projects at NASULGC Institutions: 1998-99



Note: It is assumed that these figures reflect FY 98 or FY 99 expenditures.

Source: NASULGC, Information Technology Survey, 1998-99.

- Nearly all respondents reported financing information technology through multiple sources of funds. Most universities (85%) directed a portion of their operating budget to information technology. Most also obtained money from outside sources or student fees.
- [Student] fees were typically used to finance improvements that directly benefit students, including spending for student computer labs, other computer support and Internet access. Some of these fees are linked to the number of credit hours taken by each student, while other institutions simply charge a per-semester or annual fee for technology. Among the schools that assess fees the average amount generated annually was USD 83 per student, and the fees assessed ranged widely, from USD 2 to USD 420 per year. A small number of universities require or are considering requiring incoming students to provide their own computer equipment or to otherwise ensure that they have access to a computer.

- Universities have forged partnerships to offer greater flexibility and access to their own students on-line, have reached out to K-12 schools with college preparatory and other educational programming, and have worked with businesses to provide educational opportunities and re-training for their adult workers.
- Two-thirds of NASULGC institutions report collaborating with business/industry, government/communities, other higher education institutions or other organisations on a "virtual university" or an IT-supported distance-learning project.

The report includes a useful glossary of IT terms.

The full document is available on-line at http://www.nasulgc.org/vir_lib.htm

or by writing to:

*Office of Public Affairs National Association of State Universities and Land-Grant Colleges
1307 New York Avenue, NW, Suite 400
Washington, D.C. 20005-4701 USA
E-mail: pubs@nasulgc.org*



AWARD- WINNING USE OF GLASS AT THE UNIVERSITY OF NANTES, FRANCE

The 1999 Benedictus Prize was awarded to the French architects Odile Decq and Benoît Cornette for the School of Economic Science and the law library of the University of Nantes. The Benedictus awards programme recompenses the authors of exemplary and innovative architectural designs using laminated glass. The programme has been approved by the International Union of Architects and is organised under the auspices of the American Institute of Architects.



School of Economics



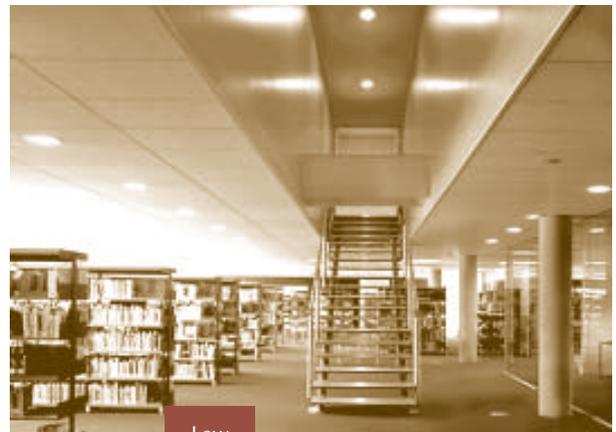
The jury was impressed by the project's "simplicity and its evident integrity, in the face of a very limited budget". Characteristic of the project is the desire to fit into the university's existing orthonormal framework. This is done by having of a row of listed trees at both the "end" of the campus framework and also its boundaries, while at the same time keeping the existing means of access and links.

The design of the law library is simple: repeated on three levels, it consists of a large reading room which is completely glass-fronted on the south side and, on the north side, is flanked by a connecting area which incorporates all the stairwells, offices and technical areas. The inside partitions of the connecting area are made of transparent or frosted glass. On the south side, the reading rooms are protected from the sun by a system of blinds with thin slats. This sun awning, reaching as far as the line of trees (which is the limit of library users' visibility), creates an entrance gallery to the library.

The School of Economics consists of two buildings facing each other which are connected by covered gangways at three levels. The main, i.e. students' entrance is opposite the entrance to the library, while another entrance is via a paved courtyard which is open to the law faculty. Each of the two wings of the School of Economics is designed for a specific purpose: teaching in the south wing, which is the broader one; research and administration in the narrower north wing. On all four levels, the hallways provide framed views of the woods and the river Erdre.

These buildings, together with the Science School which was also designed by Decq and Cornette, form a single but fragmented whole, like the components of a "bar code", with the dark bars of the buildings,

the light bars of the wooded parts and then the bars of the areas between the former and the latter. The whole "bar code" system is crossed by a diagonal volume incorporating all the means of access, all the hallways and all the buildings' main corridors and stairs. This diagonal glass volume, which is the outcome of the imperatives of the programme, links the overall architectural configuration.



Law Library



PROJECTS

THE SCHOOL 2001 PROJECT IN PENDAO, PORTUGAL

This article is an extract from a presentation made by Isabel Mendinhos to the PEB Steering Committee in June 1999. The project she describes, School 2001, concerns a school for lower secondary education, School E.B. 2,3 Professor Galopin de Carvalho in Pendao, Portugal where she teaches.

This project emerged from the convergence of several factors. A new school, based on a innovative project and eagerly awaited by the school community, is soon to be constructed. This provided the ideal moment to reflect on and plan for multimedia and computer equipment, networking and Internet connections. Moreover, at our school we have to meet the needs of a disadvantaged student population and to improve a deprived environment.

The existing school is located on the outskirts of a Lisbon neighbourhood in an area characterised by buildings erected with no planning permission, poor living conditions and rapid new urban development. Most of the population came from the country or the Portuguese ex-colonies. The school building is a “temporary construction” that has been in use for fifteen years and has constant problems with its installations and functioning. It is a small and discouraging space.

Most of the parents have little or no hope for their children’s education. There are many broken families, and many of our students spend much of their time in the streets, often in organised gangs. For them, the school serves only as a place where they can meet their friends; it is no longer a place where they experience learning. They seem indifferent to failure and unconcerned about their future. This situation leads to absenteeism and to growing disciplinary problems. Even when the family situation is not so bad, parents often have difficulty helping their children study due to lack of time or their own lack of education.

In recent years, a growing number of children arrive from primary school without basic skills in the Portuguese language, some of whom have the additional challenge of learning two languages. We have offered various types of pedagogical help and extra-curricular activities, though we are always limited by the problem of space. We have given students as much access as we can to the few existing computers – working with

computers is a completely new experience for most of our students, and it rapidly increases the interest of the less motivated. In a socially and culturally lacking environment, our old and unattractive school with its poor resources is inefficient, in spite of our best efforts.

The new school, equipped with computers and video and audio equipment, will function with a defined Educational Project that includes the use of new resources in the learning process and extra-curricular activities to stimulate and motivate the whole school community. Our students will have the access they so urgently need to new learning opportunities. This will be an enormous improvement for them and will help compensate for the socially deprived situation in which many of them live.

The new school will have a multimedia resource centre with access to Internet and to a school-wide network. There will also be an audio and video projection area. The centre will play a central role in the acquisition of information skills by supporting curricular activities, transversal projects and independent learning. It will contribute decisively to changing the learning and teaching process into one based on the search and investigation of information that our school does not currently possess. The school will have to change, adopting new methods of learning and teaching better adapted to today’s information society.

The teacher will have a new role of guiding and facilitating access to information and creating new, constantly changing ways of learning. Information technology and communications (ITC) are now essential resources in schools. Their use can produce deep changes in the learning process, and everyone should have access. The school must make these resources and information available to students and teachers.

One of the main tasks of ITC in education is organising the information that exists in schools. The centre will play a fundamental role in processing information, organising access to it, producing and publishing information and transforming the school as a whole into a resource centre.

Our new school will have a network providing access, in the form of “information points” in every classroom, to existing resources and to data in different formats, including video. A powerful server will allow resource sharing and simultaneous access to Internet. We will also have a computer room equipped with a computer for each student in the class. In the laboratories and other specialised classrooms, there will be enough computers for group work. The administrative services and work related to class management will be computerised.

The School 2001 model gives particular importance to the Education Project intended as both a factor of innovation – introducing and bringing about educational changes – and a structuring element of school planning and action. The whole educational community should participate in defining the Education Project. There will also be an Activity Plan for each year which will set out ways of achieving the principles established in the Project.

Development of the new Education Project will soon begin. It will try to resolve the problems mentioned above which are particular to our school, while aiming at a more human, creative and intelligent environment and leading to the students' full development.

The multimedia resource centre will contribute greatly to the planning and development of a new and more flexible curriculum. Based on the national curricula, it will make class and school-based projects possible, using many sources of information and developing new skills and attitudes in students and teachers. Plans may include activities such as inter-class debates, presentations to the class or school and exchanges with schools of other regions or countries.

The centre will accommodate numerous extra-curricular activities (a school radio, video production, a school newspaper, a science club, an intercultural workgroup, an environment club and a photography club) as well as various types of pedagogical help for students with difficulties related to integration, motivation or mastering the Portuguese language. It will promote family involvement through a parents' association, sessions on the school/family relationship and sessions for students and parents about professional or educational alternatives.

The centre's management team will include five teachers, each with a different responsibility: co-ordination, documentation, video, network, dynamics. There will also be four auxiliary personnel, one of whom will be a computer and network technician. This team, as well as teachers, auxiliary staff and administrative personnel, will receive training according to their specific needs. A training programme is being developed in co-operation with teacher training centres in the area. In the future, the school may itself serve as a training centre for teachers from other schools that will carry out similar projects.



AUSTRIA'S TRAINING FIRMS

Austria proudly claims to be the first country to make training firm work compulsory in secondary commercial schools and secondary colleges for business administration. In its other secondary schools offering vocational training and colleges, training firms may be chosen as an additional programme.

These practice firms reduce entrepreneurial risks by providing hands-on training for business students. Their roots can be traced back to the 17th century when the *Musterkontor*, or model office, was set up in commercial colleges in the days of the Austro-Hungarian monarchy.

The number of training firms in Austrian schools has increased from 50 in 1992/93 to 780 in 1997/98, in addition to those in institutions for adult education. Furnishing and equipping a training firm with the latest office technology costs one million Austrian schillings per school, approximately 73 000 euros.

Students become employees of their training firm. According to their line of business, they will market products and services, do accounting tasks or take personnel management decisions, and they have to cope with all the administrative and commercial craftsmanship one needs in a true business. A training

firm has to respect common business usage and the respective legal framework. Unlike in real life, the goods and services offered and the money implied in transactions do not really exist. What does happen is the exchange of information and papers that are relevant for the business transactions.

But if students simulate business, their teachers also have to change roles. The pedagogues turn into management consultants or business managers. According to the Austrian Centre for Training firms, teachers like their new roles: 90% of all practice firm teachers say they would like to continue as trainers in the training firm.

Some 80% of Austrian training firms have a private partner in the simulated market economy. Renowned real-life enterprises assist students in their training firm work in various ways: they sponsor office supplies and office technology, provide free catalogues or samples, or invite students to experience a day at the office.

Practice firms cover the five continents. For Austrian students it has become daily routine to reply to e-mails from Brazil, to fax an inquiry to Canberra, to reply to mail from Senegal and to pay for goods from Russia. This exchange of goods and services goes hand in hand with the exchange of teaching and training know-how. A multitude of approaches and ideas is channelled for further exploitation and testing in this across-the-border training network.

There is strong co-operation between practice firms, both on the level of business contacts and within the pedagogical superstructure. The European Union has shown great interest in supporting practice firm projects, first and foremost through the Leonardo da Vinci programme; but also through the TACIS-PCP strand for projects with partners in Central and Eastern Europe, the Workworld 2000 joint project of the EU with the United States and the Socrates programme for practice firm student exchanges.

Being present on the international market of training firms means constantly sustaining business relations with other practice companies. The climax of each year is participating in the training firm fairs held in different European cities. Students manage the logistics, choose their means of publicity, decorate their stands – it is no different than taking part in a professional fair.

A training firm provides a total learning environment. It allows for true-to-business practice and professional and didactic reappraisal. This simulation of the real economy encourages the trainees'

creativity, entrepreneurial qualities, responsibility, teamwork and language skills – key qualifications that are also relevant for lifelong learning.

The first advice that many a newcomer to the working world has heard is: "Forget everything you learned at school." This is not so with former training firm students. These well-trained people, with their experience in teamwork and their problem-solving skills, make a smooth transition from their simulated economy to the real business world.

PHILIPP, Hans (1995), "Furnishing and Equipping a Centre for Applied Economics", Austrian Centre for Training firms, Vienna.

This 12-page paper explains how to design a centre for applied economics, the classroom space for Austrian training firm use. It lists steps for the planning process, describes the furniture and equipment required and provides three examples of layouts.

For further information, contact:
Austrian Centre for Training firms
A-1010 Vienna, Esslinggasse 5/9
Tel.: 43 1 5322978, fax: 43 1 5322978-18
E-mail: info@act.at
Web site: <http://www.act.at>



SCHOOL LIBRARIES IN THE INFORMATION SOCIETY

PEB and the Ministry of Education of Portugal brought together 67 library and resource centre professionals, policy makers, educators and information technology specialists from 21 countries around the theme "Designing Schools for the Information Society: Libraries and Resource Centres". The seminar, held in Portugal in June 1999, addressed how the growing use of information technology and the move toward schools as community learning centres are affecting the demand for and use of space in educational institutions, with particular reference to changes which promote lifelong learning and the creation of the information society. PEB will publish a report by John Mayfield on the conclusions of the seminar. Below are excerpts from some of the presentations.

Australia

The presentation by Tim Sandercock, manager of Education Services and Community Development at Delfin, focused on two projects in Australia associated with large urban developments. The theme of his presentation "The Library – An Endangered Species or the New Heart of a Community" demonstrated how he is working with education service providers in planning new models and partnerships.

The society changes challenging the old education models are important to restate as they are the reasons why we are looking at new models of delivery:

Education in the 20th Century

- Focused on children.
- Information sourced from books.
- Predominantly funded by government.
- Preparatory stage before work.
- Only available in special places (schools).
- Took place at special times.
- Only available from special people (teachers).
- Conventional technology (chalk).
- Assessment and accreditation local.
- Providers independent and competitive.
- Work place practices embedded.

Education Tomorrow

- Focuses on all ages, everyone in the community is a learner.
- Information digital technology – computers/Internet accessible to all, "Information Age".
- New funding **partnerships** between providers and those organisations requiring education services.
- **Lifelong** process – seamless, ongoing.
- Increasingly become available in the home and the workplace as well as special places – "anywhere".
- Education on demand **anytime**.
- Less teacher centred, learner controlled.
- New technologies – rapid change occurring in information and communication technology.
- Assessment and accreditation **national/international**.
- Providers collaborating and co-operating and sharing.
- Work place practices diversifying.

Over the years in Australia we have seen the evolution of the school/community library – a bringing together of both school and community services – usually housed in the school and strongly driven by the sound economics of it. We believe that these new school library models will become "The Heart of the New Community".

Caroline Springs

Caroline Springs is located 22 kilometres west of Melbourne, Australia's second largest city of three million people. The site is 800 hectares in area and will eventually accommodate 25 000 people in 8 000 dwellings. The scale of the project and the holistic planning approach provide opportunities for the project to accept innovative approaches to the delivery of service and facilities. Three major activity centres are proposed. The first village planned incorporates the Brookside Centre.

The Brookside Centre will provide a range of community facilities and education services. The community facilities are located around the town square. The multimedia centre (library) is the major focus. It will provide the multimedia information technology (IT) services for the community: information data, processing, Internet and interactive communication.

Mawson Lakes

Mawson Lakes is located 12 kilometres north of Adelaide, a city of approximately one million people. The site will integrate 3 000 new dwellings with an

existing campus of a university and an existing technology park. At the heart of Mawson Lakes education facilities will be the Mawson Centre, a learning and information centre focused on educational, information and community services.

The Mawson Centre will be a resource information centre providing knowledge, ideas and opportunities. It will symbolise the learning focus of the new community. The Centre will provide a variety of services and facilities (educational, information, community and commercial) and include information shop-fronts for universities, TAFE and other educational providers, a research information centre linked to the University of South Australia and Technology Park, private training providers, a community library/resource centre, conference and cultural facilities, computer hardware and software retailing, IT support services as well as a bookshop and a news agency.

The Mawson Centre will also incorporate a general education information, advisory and brokerage service for all people living, working and learning at Mawson Lakes. This will provide information on the range of educational services available at Mawson Lakes and outside, including those that can be accessed directly from Mawson Lakes by on-line technology.

Austria

“The Learning, Information and Communication Centre in Austrian Secondary Schools” is the title of the presentation by Manfred Hinum and Johanna Hladej of the Federal Ministry of Education and Cultural Affairs.

The LIC-type library (learning, information and communication centre) must be strategically located so as to:

- be easily accessible for both internal and external users, including people with disabilities;
- foster the integration of services and technologies into curriculum-based teaching;
- facilitate supervision;
- facilitate the delivery and distribution of resources at school.

The school library as a means of providing information, knowledge and technologies, and as a learning and reading centre, must include the following function zones to create the appropriate basis for independent research and learning:

- an information terminal with the relevant catalogues (which also contain media available outside the LIC) for search purposes in conjunction with a PC for queries;



AHS Collegium Mehrerau, Austria



A learning information and communication centre in Austria



- a library utilisation zone for lending, assistance and access to the library;
- individual workstations complete with monitors and audio equipment (in addition to those available in the training room, conference room and/or multimedia corners) for teachers, students and external users;
- a space for stocktaking where the procurement, handling, servicing and maintenance activities for all the media take place;
- a space offering all the available electronic media (may be also for hire);
- reading places (zones) that should also be suited for group work.

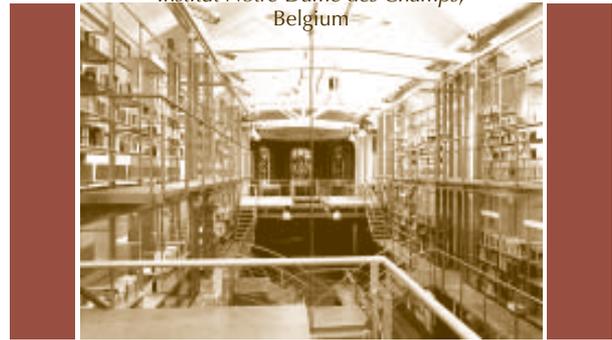
The teaching and training centre function of a LIC can be satisfied only by an appropriately equipped, well-working and networked school library with the additional provision of workstations or separate areas for:

- teaching and/or learning in groups;
- a computer and/or training room(s);
- a media workshop, possibly located in a separate room, suited for video and audio recordings, multimedia and Internet applications, video conferences, or for use as a video studio; if possible it should be located near the event zone;
- business training according to the type of school (e.g. vocational), for example a simulated centre for business administration or a “paper company” complete with office simulation (see article on training firms, p. 9);
- communication and events offering multiple options for both spontaneous and scheduled meetings, with the library and the media library forming an essential prerequisite and cornerstone for many of these activities. Here teachers and students may exchange views without any achievement pressures, motivate each other and discuss the subjects learned. In addition, the library ought to be more than a tool for work but rather a cultural and event centre providing the necessary free space for leisure and external activities.

There should be easy access to a canteen, restrooms and a cloakroom accommodating students and visitors. Part of the surface area designed for this purpose under current school room and design standards should to be moved to this area and included in planning and design.

The Federal Ministry of Education and Cultural Affairs has published a brochure on how to equip school libraries called “*Die LIZ-Schulbibliotheken*” (The LIC School Library).¹

Institut Notre-Dame des Champs,
Belgium



Belgium

Jean-Marie Moonen, Deputy Director of the Service général de garantie des infrastructures scolaires subventionnées (the department of subsidised school infrastructure in Belgium’s French Community) presented the new multimedia centre at the Institut Notre-Dame des Champs in Brussels.

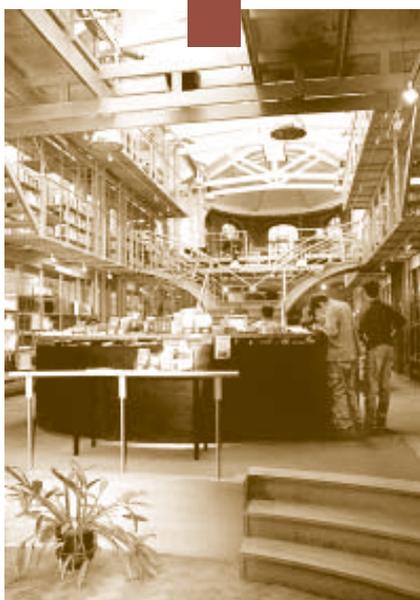
As is so often the case when there is a significant advance in the area of school infrastructure, it was the unflinching determination and questioning of a headmistress that gave rise to the change. As early as 1984, she was wondering how best to harness the documentary resources of the school, which in her opinion were all too often consigned to oblivion in the school’s cupboards.

A “conspicuous” place had to be found, both central and, above all, big enough to meet all the requirements of the project. One idea was to dig underneath the school’s car park, but the “cellar” status allocated to what were the lungs of the school was very soon dropped. It was the chapel, for so long a place of worship, that was to be chosen to serve a different purpose: opening up to the universal nature of knowledge.

A number of ideas were formed and a consensus soon emerged. It was based, first, on budgetary considerations, and then on timing and “technical/teaching” constraints. The time taken to complete the technical studies also served to establish how the centre was to be used. The credo arrived at was the following: “Students must be able to work quite independently in the multimedia centre. Students organise their work in line with their own needs, and teachers will adapt to these needs”.

Six rooms give immediately onto the multimedia centre, enabling teachers to prepare tasks and define research methods before going to the centre. To facilitate this form of management, the whole school had to be

1. Contact: Manfred Hinum, BMUK, Minoritenplatz 5, A-1014 Vienna, fax: 43 1 531 20 44 82, e-mail: manfred.hinum@bmuk.gv.at.



equipped with an internal telephone system such that, at any given time, it was possible to reserve a room and/or know where individual users were.

Teachers can, moreover, call the centre from their “ordinary” classrooms, and whatever they ask for is provided at very short notice. As a result, the “ordinary” classrooms become satellites of the centre and enrich the schools educational goals.

After a year in operation, two weaknesses are apparent:

- A problem of poor acoustics, which stem from the premises’ origins as a chapel, needs resolving.
- Constant attention needs to be paid to the coding of new entries and articles (sites, books, reviews, etc.).

France

“Documentation and Information Resource Centres and New Technology in France”, the presentation by Guy Pouzard, President of the Committee on Information and Communications Technologies (CITEC) at the Ministry for Education, Research and Technology covered the following topics:

- *the role of documentation in the French education system;*
- *the creation of documentation and information resource centres in France;*
- *recent developments;*
- *the future.*

In the 18th century libraries began to appear in Jesuit colleges, and then in public *lycées* (upper secondary schools) in the 19th century.

The functioning of the libraries to be set up in every primary school was organised by the Order of 1 June 1862 for the duration of the Third Republic. These libraries were intended not just for pupils, but also for families and, being used mainly for lending purposes, they became the “state school popular libraries” in 1880, numbering some 43 000 by 1902. They are evidence of a strong political will to provide the population with the key elements of culture.

From the time when school libraries and then state school popular libraries were first created, the general thrust of the French education system’s “simultaneous teaching” put in place by the Guizot Act of 1930 ranked documentation as being of secondary importance. Priority was given to the transmission of knowledge, lessons and the words of the teacher – at the expense of the pupil’s development and use of documentary

resources. Initiative was not promoted, any more than responsibility or creativity. With very few exceptions, it was not until after World War II that original thinkers put forward the principles on which “new education” was based. Central libraries “were to be a place where there could be a permanent dialogue between adults and students on an equal footing, a place where advice might be given on useful reading, school work and reading for pleasure”.

The 1989 Guideline Act pointed out that documentation and information resource centres (CDIs) were designed to contribute to the renewal process and were part and parcel of the Act’s three main objectives, namely to expand the right to education, increase equality of opportunity and put pupils at the heart of the education system. The CDI is also a place where one learns responsibility; it contributes to the teaching of success and is a central part of the school. One of the aims of the Act was to ensure that every school has a CDI.

Italy

Paolo Benesperi, Councillor for Education, Vocational Training and Labour of the Tuscany Region, presented an exposé on the region’s network of documentation and educational resource centres, an experimental project to support lifelong learning. He gave examples of three centres.

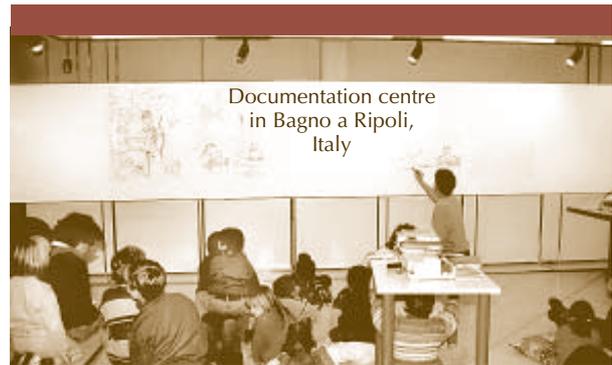
The region’s 15 resource centres are public structures created to encourage innovation, to support teaching-related research and school projects and to encourage community exchanges. Their scope of action varies – serving one community, several communities or a province – but they have a common goal: that the community co-operate in order to offer training opportunities to the entire population on a lifelong basis.

The main activities pursued are the following:

- consultation of teaching materials and related documentation;
- archiving of teaching-related research, including multimedia;
- experimental projects related to teaching the sciences;



Catia Franci resource centre in Florence, Italy



- training courses for teachers and others involved in education;
- community programmes with European partners;
- educational activities;
- multimedia teaching programmes.

The centres have been working in collaboration with the Tuscany Region for a number of years to network all of their archives, for a better dissemination of teaching materials throughout the area.

All of the centres are open to the community for courses outside of school hours and offer free access to their facilities and materials (archives, collections, computers and Internet).

The centres are located in schools, municipal libraries and other public buildings. Currently only a few play the role, in a small way, of computer resource centres for their area.



Computer laboratory at Il Satellite in Livorno, Italy

United Kingdom

Clive A. J. Marsden presented a case study on the Alford Information Technology Centre in Scotland. He is the Centre's IT Manager. PEB published a report on the Centre ten years ago as part of its "Long-term Perspectives" series as Alford represented a new approach to the provision of IT in schools. The report explored through this experimental building the technical, managerial and building issues involved in the application of IT to rural secondary schools and to the communities in which they are situated.

Alford is a rural village 24 miles west of Aberdeen in the north-east of Scotland. The Alford School is a community school with a rambling campus that includes a pre-school nursery, the primary school, the secondary school, known as Alford Academy, and Community Education that deals with adult education.

In 1986 the Alford IT Centre and Library were opened. The purpose built areas were to provide a community resource and a merged school and public library. Thirteen years later (1999) and to mark the 25 years of the Academy, an area adjacent to the library and IT Centre base was converted into a community/school resource area for information and communications technology (ICT) – known as the Jubilee Suite. The emphasis of the Jubilee Suite is the provision of ICT resources for community use and training using ICT.

Initially various issues required resolving and the pressure on space by the Academy saw a move away from the open access model that was originally envisaged. The IT Centre remains an integral part of the Academy, the technical staff having responsibilities throughout the building. The manager of the Centre has direct input into the management of the school and responsibility for ICT related equipment. The expertise of all the staff (as well as the resources) within the IT Centre are naturally transferable and has resulted in added value for the Academy. The funding of the Centre has been provided by the Education Department of the local Authority in terms of salaries, although it is not given a budget for materials and equipment, which is self funding mainly through providing a local printing and graphic design service. The funding has proved crucial to the functioning of the Centre and its continuing success and sense of ownership by the community.

The provision of the Jubilee Suite, funded from a range of sources, has provided the community with greater access to ICT resources and training, but has also created new pressures within the Academy. The range of resources available continues to expand and there is now a greater emphasis on a whole campus approach to the provision of ICT.

Jubilee Suite at
the Alford Information
Technology Centre in Scotland



Installations and Organisation of Space, School Libraries

This booklet was published in 1998 by the Ministry of Education of Portugal to help schools transform their existing libraries into multimedia resource centres. It offers recommendations for the types and amounts of space, furniture and equipment needed for the different levels of education and identifies functional and technical methods for adapting space. Two-thirds of the publication is composed of layouts detailing the areas which comprise a multimedia resource centre (zones intended for reading, consultation of materials in various formats, graphic production, etc.) and different placements for the centre within the school.

The booklet exists in English, French and Portuguese.

For information on obtaining copies, contact:
Maria Helena Bandeira Bràs
Educational Resource Management Department
(DEGRE), Ministry of Education
Av. 24 de Julho, 142, Lisbon Codex, Portugal
Fax: 351 1 397 3082
E-mail: mhbras@degre.min-edu.pt

AN UPDATE ON ASSET MANAGEMENT PLANS IN THE UNITED KINGDOM

This description of a major project currently underway in the United Kingdom to improve school buildings follows an article published in the February 1999 issue of PEB Exchange.

Introduction

Government, because of its commitment to education, is making significant additional capital funding available to the schools sector. Over the next three years, through various policy initiatives, about GBP 6 billion will be available to clear the maintenance backlog and improve school buildings. It is important that this money is used efficiently and as effectively as possible.

Capital improvements have a key part to play in helping to raise educational standards. These, together with improved maintenance and better use of premises, are part of the agenda of reform and modernisation of the country's schools, helping to make them become focal points of learning for the whole community. As part of this process, Authorities and schools will need to develop plans for the efficient procurement, management and improvement of capital assets, using innovative, sustainable and energy-efficient solutions.

A key element in ensuring that this happens will be the Asset Management Plans (AMPs) prepared by Authorities in partnership with schools and dioceses. AMPs will provide the means through which likely future needs are assessed, criteria for prioritisation are set and informed decisions on local spending are made. Decisions based on AMPs should lead to greater efficiency in the use of capital and to improved educational outcomes. The decisions will be more transparent than at present and should therefore be seen to be fairer.

Where sound processes and good AMPs are in place, it will be possible for the Department for Education and Employment (DfEE) to operate with a lighter touch, giving Authorities more assurance of predictable

longer term funding and greater discretion to pursue national and locally agreed priorities.

AMPs framework

Local Education Authorities (LEAs) will be responsible for preparing the Asset Management Plans, which will cover all types of state-funded schools in their boundaries. An AMP will provide an agreed basis for local decisions on spending priorities. AMPs will have the following main elements:

1. **Local policy statement** – This will set out how an Authority proposes to develop its AMP and the roles and responsibilities of all partners, including schools and the dioceses.
2. **Condition surveys** – These will provide a systematic, informed and objective assessment of the physical state of the premises and the work needed to bring the premises up to a suitable state of repair.
3. **Suitability assessment** – This will focus on how well premises are helping in delivery of the curriculum and contributing towards raising educational standards at the school.
4. **Sufficiency needs** – This will identify any capital works arising from the Authority's statutory duty to provide sufficient school places and also the need to remove surplus places.
5. **Determining priorities** – Prioritising need is going to be the most important and sensitive task in developing AMPs. Authorities will need to work with schools and dioceses to develop Authority-wide views on premises priorities. These views can be used as the basis for identifying and prioritising the most serious and urgent needs at specific establishments.
6. **Option appraisal** – Having prioritised need, Authorities will need to work up feasibility studies and consider the costs and benefits of alternative solutions. For some repairs and minor capital works, the solutions to particular premises problems may be clear cut. For larger projects, however, consideration of a range of options is needed. Analysis of the main lifecycle costs and benefits of each option will help to establish the most effective and economic solution.
7. **Implementation** – This stage will involve procuring the buildings in efficient and economic ways. Authorities should aim to provide quality buildings based on sustained development concepts.

Appraisal of AMPs

DfEE will appraise all LEAs' Asset Management Plans to ensure that they are robustly put together and that LEAs' partners were involved in the process. It will also check AMPs for consistency and robustness, if necessary, by checking a sample of schools and asking for further information on some schools.

Appraisal will involve marking each AMP. Where the AMP is up to the required standard the LEA will receive its capital allocation, which it can then use to address its priorities. It may also be assured of funding over a number of years.

Where the AMP is not up to standard, DfEE will require further information on individual projects and will then determine and direct the funding.

DfEE will issue guidance on how it will carry out the appraisal of AMPs.

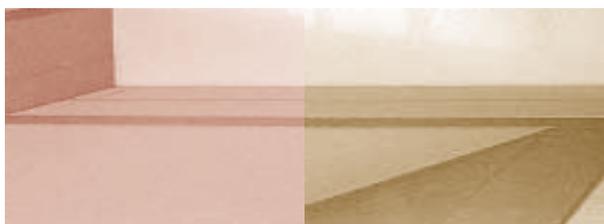
Programme

The following guidance has been issued so far:

- Section 1 – AMPs framework
 - Section 2 – Premises information and data systems
 - Section 3 – Condition survey
 - Section 4 – Suitability assessment
- Time-scales for remaining guidance are as follows:
- Section 5 – Sufficiency guidance
December 1999
 - Section 6 – Guidance on options appraisal
March 2000
 - Section 7 – Guidance on implementation
March 2000

DfEE hopes that 90% of Local Authorities will have fully developed AMPs by end of year 2000.

This article was contributed by Mukund Patel, Head of the Architects & Building Branch of the Department for Education and Employment, United Kingdom.



QUEBEC ENERGY PERFORMANCE CONTRACTS FOR THE SCHOOL SYSTEM: NEW RULES OF THE GAME

Introduction

This article takes a brief look at the new rules covering energy performance contracts for Quebec school boards. It discusses the following questions:

- the school boards' educational buildings;
- the school boards' energy performance;
- regulations with regard to the awarding of contracts in the public and quasi-public sectors;
- the new rules for awarding energy performance contracts in education.

The school boards' educational buildings

From a legal standpoint, a school board is a legal entity under public law. It is administered by a committee made up of people who are elected or appointed under the law on school elections. In addition to ensuring that the pupils that come within their sphere receive the educational services to which they are entitled, school boards are also responsible for:

- purchasing or renting the movables and real estate required in order to carry on their activities and those of their teaching establishments;
- building, repairing and maintaining their movables and real estate;
- deciding how their goods should be used and administering them.

There were 152 school boards during the 1997/98 school year, but with the mergers and remapping of the areas covered by school boards, their numbers have fallen to 72 since 1 July 1998. Previously, there were a number of very small school boards, covering barely 1 000 pupils, and some very big ones like the Montreal Catholic School Board, with 75 000 pupils. As a result of the mergers, the smaller ones have all but disappeared, and the average board is responsible for some 16 000 pupils.

In the 1998/99 school year, the school boards owned 3 996 buildings; they were put to use as follows:

Use	Number of buildings
Teaching	3 459
Administrative centres	138
Sports chalets, day nurseries, warehouses	116
Residences	30
	3 743

The 253 buildings not listed are what are called surplus buildings, i.e. buildings that are not necessarily used for educational or teaching purposes.

The school boards' energy performance

Table 1 gives the results of the school boards' energy assessment for 1995/96 and 1996/97, thereby showing their energy performance.

As can be seen from Figure 1, standard consumption by school board buildings fell by 28% over ten years before stabilising at 0.8 Giga Joule per square metre.

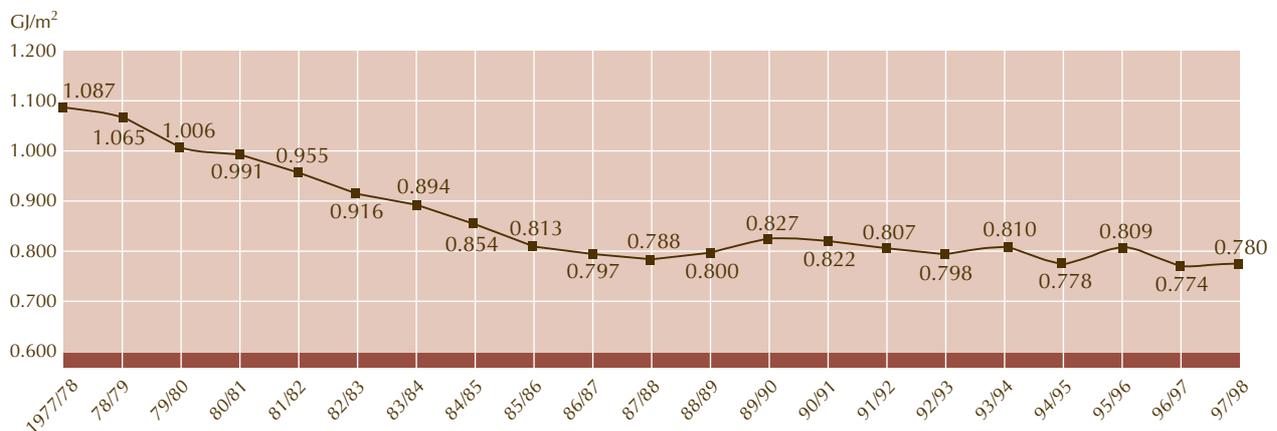
Regulations

In Quebec, the Regulation on Construction Contracts for School Board Buildings (Decree 1015-90) applies as follows:

Table 1. Results of the 1996/97 energy assessment by comparison with the previous year

	1995/96	1996/97
GENERAL INFORMATION		
Number of buildings	3 469	3 464
Total surface area, m ²	14 761 422	14 855 368
CONSUMPTION		
Total energy consumption, gross GJ million	11.75	11.45 (-2.6%)
Standard unit consumption, GJ/m ²	0.809	0.774 (-4.3%)
Breakdown of energy sources		
Electricity, in GJ	5 957 388 (50.7%)	5 789 732 (50.6%)
Natural gas, in GJ	4 783 069 (40.7%)	4 800 626 (41.9%)
Fuel oil, in GJ	1 006 259 (8.6%)	863 950 (7.5%)
Number of buildings by source of energy for heating purposes		
Electricity	1 612 (46.5%)	1 627 (47.0%)
Natural gas	1 247 (35.9%)	1 279 (36.9%)
Fuel oil	610 (17.6%)	558 (16.1%)
FINANCIAL ASPECT		
Total cost of energy, million Canadian dollars (CAD)	155.9	157.0 (+0.7%)
Unit cost of energy, CAD/m ²	10.56	10.57 (+0.1%)
Costs per unit of energy, CAD/GJ		
Ordinary electricity	23.94	24.56 (+2.6%)
Bi-energy electricity	8.31	8.58 (+3.2%)
Natural gas	7.11	7.41 (+4.2%)
Fuel oil	6.71	7.84 (+16.8%)
Overall	13.27	13.71 (+3.3%)

Figure 1. Trend in standard consumption by school board buildings since 1977/78



- When the estimated cost of the work is at least 50 000 Canadian dollars but does not exceed CAD 100 000, school boards may proceed with an open public tender or by means of invitations.
- When the estimated cost of the work is in excess of CAD 100 000, school boards must have recourse to an open public tender.

The regulation was considered to be an irritant for school boards which wanted to draw up energy-saving projects, and also for firms specialising in energy efficiency which wanted to offer their services, since it did not make provision for “turnkey” type projects.

In practice, what this regulation meant was that, once a school board had accepted a proposal for an energy-saving project, it had to invite tenders to carry out the work if the estimated cost thereof was CAD 50 000 or more.

New rules for awarding energy performance contracts

The *Ministère de l'Éducation du Québec* (Quebec Ministry of Education) therefore decided to suggest to the government that it amend the regulation on construction contracts so as to enable all sectors of the education system to award contracts aimed at making savings through improvements to a building's energy efficiency, these contracts being paid out of the savings made and including both the provision of professional services and the execution of the construction work. A whole section has been added to the regulation in question.

Depending on the size of the project, a school board will have to decide whether it is going to call for candidates and then request proposals, or call for proposals.

If the school board should wish to improve the energy performance of its buildings, it will call for candidates in order to allow firms to show their interest in the project and demonstrate their experience and ability to carry it out. The school board will therefore preselect at least three firms on the basis of a minimum of five criteria, two of which are compulsory: the firm's experience and its financial capability. The school board will then invite them to submit proposals.

The quality of the proposals will be assessed by a selection committee, using a scale drawn up by the school board, which has to include at least five criteria, one of them compulsory, namely: “proposed measures and savings” and an appraisal of the plausibility of the proposed measures and savings.

If the school board calls directly for proposals, without calling for candidates, which would normally suggest a small-scale project, the quality of the proposals will also be assessed by a selection committee, using a grid drawn up by the school board which has to contain a minimum of five criteria, three of them compulsory:

- the firm's experience;
- the firms' financial capability;
- the proposed measures and savings.

The proposals considered will be those that, in terms of their quality, give a result of at least 50% for each individual criterion and a result of at least 60% for the criteria as a whole.

The selection committee will then assess the economic value of each of the proposals to have achieved the required marks, the value of a proposal being the sum of the net annual energy savings made over the actual duration of the proposal.

Finally, the contract ought normally to be awarded to the firm obtaining the highest weighted economic value: the economic value of the project multiplied by the result, in percent, obtained for all of the criteria.

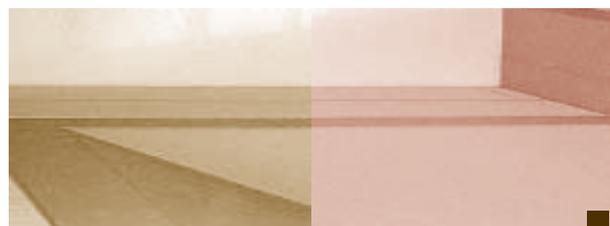
Conclusion

These new rules ought to enable firms specialising in energy efficiency to provide the education system with a comprehensive service, and those in the education sector commissioning the work to further improve their energy performance.

This article was contributed by Jean Drouin, Engineer, of the Ministère de l'Éducation du Québec (Quebec Ministry of Education).

The annual energy assessment of Quebec school boards for 1997/98 was published by the Ministère de l'Éducation du Québec in June 1999. For information, contact:

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SPACE UTILISATION: DARE WE USE A PEDAGOGICAL MEASURE?

A Sydney University, Australia, case study by John Simmons, Facilities Management Office, University of Sydney, and Kenn Fisher, Woods Bagot Architects, Australia.

The University of Sydney's medical faculty has made a major commitment to new ways of teaching and learning and in its graduate medical degree. For some years it has become apparent that industry, commerce and research institutes are seeking additional skills from the new graduates they are employing. Various studies have shown that graduate competencies not only need to include a demonstrated understanding of the knowledge of the particular discipline but also the ability to think critically; to solve problems through problem-based learning (PBL); to work and learn collaboratively in teams; to be able to communicate effectively in both verbal and written modes; and to be able to organise one's own work, research or study programme.

These attributes are particularly important in the medical profession. For example it was recognised in the 1970's that problem solving (such as medical diagnosis) was a skill that required an integrated understanding of a number of knowledge domains, which frequently implied working in teams with other specialists. A number of universities adopted this approach in their medical faculties in those times. Since then the Internet and computer-based learning were supposed to herald a revolution in learning and teaching, but this has only been true up to a point. In particular the three key competencies of critical thinking, work organisation and working in teams cannot be easily learnt on a computer and neither can some modes of communication, notwithstanding the great advances in tele-medicine.

The University of Sydney's medical faculty, which prides itself as one of the leading centres of medical excellence in Australia and indeed the world, decided that to maintain its standard of graduates in an increasingly competitive and medically complex marketplace, a new teaching and learning paradigm had to be explored. However, any new learning and teaching modalities were constantly being frustrated by the way the accommodation which housed these activities was designed. Modelled on what are now seen as only a limited range of available pedagogies, the large classroom in the form of seminar rooms, the large lecture theatres and the lack of small group rooms prevented any team-building

The Clock Tower of the University of Sydney, Main Building



and group-based activity in a meaningful way. Break-out spaces were possible in corridors and in fine weather outdoors, but these spaces were not sustainable for the development of project-based learning, in teams, where ongoing projects had to be housed in a form of studio such as is the case in a work of art in progress. There was also a need for personalisation and the ability to customise spaces to meet particular group and project needs.

More importantly it was necessary for the students to develop a sense of identity in their group and the physical space was a key part of this formation. This has been demonstrated in final year thesis project rooms in architecture, where students often take over a space for up to six months to complete their theses. In at least one Australian university rooms for five or six architectural students now have small refrigerators, couches and, in some cases, even camp stretcher beds, for students to work extended hours. For those interested in efficiency and effectiveness, it can only indicate a maximising of productivity.

Sydney University has not yet gone this far but it has made a substantial commitment. It now has in the order of 25 rooms for group sizes of eight to twelve students. These are dedicated to the groups for the full academic year and become their personal space. The rooms include computers, whiteboards, meeting tables, small workstations, a small library, coffee and tea facilities and other features as adapted and included by the students themselves. The University has been able to make excellent use of its older building stock by creative refurbishment of spaces that do not easily lend themselves to adaptation to larger lecture theatres and classrooms. The rooms are adjacent to a variety of other more traditional facilities such as lecture rooms, tutorial rooms and laboratories and are therefore able to offer a variety of teaching and learning modalities depending on the curriculum content and the wishes of the lecturer for that particular subject material.

In an age where space management and space utilisation are under very close scrutiny the world over, this innovation is somewhat "against the grain". It might be seen by some as extravagant or elitist. What is happening here is a critical understanding that the learning outcomes are important in measuring the effectiveness of a programme of learning. Of course these outcomes are also highly dependent on the learning processes. So it is not necessarily simply a question of how efficiently the space is used. The pedagogical and the resource utilisation must ultimately be in balance.

PUBLICATIONS

PEB AND OECD PUBLICATIONS

Available from OECD distributors. See p. 23.

Quality and Internationalisation in Higher Education

August 1999, 267 pages
OECD code: 89 1999 10 1P1, ISBN 92-64-17049-9
FRF 230 USD 40 DEM 69 GBP 24 JPY 4 750

Measuring Student Knowledge and Skills: A New Framework for Assessment

May 1999, 84 pages
OECD code: 96 1999 05 1P1, ISBN 92-64-17053-7
FRF 150 USD 26 DEM 45 GBP 16 JPY 3 100

Classifying Educational Programmes: Manual for ISCED-97 Implementation in OECD Countries – 1999 Edition

July 1999, 116 pages
OECD code: 96 1999 04 1P1, ISBN 92-64-17037-5
FRF 250 USD 43 DEM 75 GBP 26 JPY 5 050

Higher Education Management, Vol. 11, No. 2

Journal of the Programme on Institutional Management in Higher Education
August 1999, 139 pages
OECD code: 89 1999 02 1P, ISBN 92-64-16172-4
FRF 154 USD 28 DEM 46 GBP 18 JPY 3 600

Facilities for Tertiary Education in the 21st Century

June 1998, 92 pages
OECD code: 95 1998 02 1P, ISBN 92-64-16081-7
FRF 70 USD 12 DEM 20 GBP 7 JPY 1 500

Under One Roof: The Integration of Schools and Community Services in OECD Countries

July 1998, 65 pages
OECD code: 95 1998 03 1P, ISBN 92-64-16110-4
FRF 120 USD 20 DEM 36 GBP 12 JPY 2 550

Providing a Secure Environment for Learning/ Assurer la sécurité du milieu éducatif

March 1998, 84 pages, bilingual
OECD code: 95 1998 01 3P, ISBN 92-64-05756-0
FRF 110 USD 19 DEM 33 GBP 11 JPY 2 350

Garantire un ambiente sicuro per la scuola/Cómo garantizar un entorno seguro para la enseñanza

February 1999, 84 pages, bilingual
OECD code: 95 1998 01 4P, ISBN 92-64-45756-9
FRF 110 USD 19 DEM 33 GBP 11 JPY 2 350

OTHER PUBLICATIONS

Access for Disabled People to Schools Buildings: Management and Design Guide Building Bulletin 91

Department for Education and Employment, Architects & Building Branch, United Kingdom
May 1999, 88 pages
ISBN 0-11-271062-X, GBP 14.95
Published by The Stationery Office and **available from** The Publications Centre, P.O. Box 276, London SW8 5DT, tel.: 44 870 600 5522, fax 44 870 600 5533

Development of School Buildings in Korea

Ministry of Education, Republic of Korea
June 1999, 11 pages
Available from the School Environment Division, Ministry of Education, 77 Sejongro, Jongro-Gu, Seoul, fax: 82 2 730 6068

Culture Web : recherche exploratoire sur les représentations d'Internet chez les écoliers Carole KUENZI

1998, 51 pages, (Recherches 98.102), CHF 8
Full text **available at**:
<http://www.unine.ch/irdp/publicat/publi-cd.htm>
or order from the *Institut de Recherche et de Documentation Pédagogique/Secteur Documentation*, 43, Faubourg de l'Hôpital
Case postale 54, CH-2007 Neuchâtel 7,
tel.: 41 32 889 69 70, fax: 41 32 889 69 71

La sécurité des aires collectives de jeux

Direction générale de la concurrence, de la consommation et de la répression des fraudes
1998, CD-Rom, FRF 370

Contact:

CNFDCEI, BP 2048, 2, rue Saint-Pierre, 34024 Montpellier Cedex 1, tel.: 33 (0)4 67 14 71 46

Early Warning, Timely Response: A Guide to Safe Schools

K. DWYER, D. OSHER, C. WARGER
1998, 41 pages, ERIC no. ED418372, USD 8.66
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1999

November

4-7 – “The 7th International Conference on Computers in Education – New Human Abilities for the Networked Society” will be held in Chiba, Japan.
Contact: ICCE 99 Secretariat, Artificial Intelligence and Knowledge Computing Lab, Graduate School of Information Systems, The University of Electro-Communications, 1-5-1 Chofugaoka Chofu-shi, Tokyo 182-8585, Japan, tel./fax: 81 424 89 6070, e-mail: icce99@ai.is.uec.ac.jp, <http://www.ai.is.uec.ac.jp/icce99>

24-28 – The French League for Learning and Further Education is organising an education tradeshow in Paris, with the support of the Ministry for Education, Research and Technology.
Contact: *Ligue Française de l'Enseignement et de l'Éducation Permanente*, 11, rue des Petites Écuries, 75010 Paris, France, tel.: 33 (0)1 47 70 05 23, fax: 33 (0)1 47 70 09 17, <http://www.salon-education.org>

December

6-8 – “Sustainable Infrastructure: Emerging Technologies for the New Millennium” is the theme for World Wise '99 which will be held in Winnipeg, Canada.
Contact: Sheila Atkins or Dara Trembath, World Wise '99 Co-ordinators, Manitoba Heavy Construction Association, 1236 Ellice Avenue, Winnipeg, Manitoba, Canada, tel.: 1 204 947 1379, fax: 1 204 943 2279, e-mail: info@mhca.mb.ca

16-17 – The International Council for Research and Innovation in Building and Construction (CIB) will hold a commission meeting on “Building Non-Handicapping Environments” in Reading, United Kingdom.
Contact: Mr. K. Bright, University of Reading, Department of Construction Management and Engineering, P.O. Box 219, Whiteknights, Reading RG6 6AW, Berkshire, United Kingdom, tel.: 44 118 9316734, fax: 44 118 9316735, e-mail: k.t.bright@reading.ac.uk

2000

February

22-25 – PEB will organise an international seminar on the financing of capital and recurrent expenditure in co-operation with the Spanish Ministry of Education to be held in Toledo. Details will be posted on the PEB Internet site.

April

12-14 – An international seminar entitled “Changing Patterns in University Management” will take place at the Tsinghua University in Beijing, China. The event is organised in co-operation with the OECD Programme on Institutional Management in Higher Education.
Contact: IMHE Secretariat, tel.: 33 (0) 1 45 24 92 24, fax: 33 (0) 1 42 24 02 11, e-mail: monique.collin@oecd.org or visit <http://www.oecd.org/els/edu/imhe/>

May

A conference on the transition from school to working life will be organised by the Austrian Federal Ministry of Education and Cultural Affairs. Further information will be published in the February 2000 issue of *PEB Exchange*.

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