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Creating 21st Century Learning Environments

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OECD

PEB Exchange Programme on Educational Building

PROJECTS

CREATING 21ST CENTURY LEARNING ENVIRONMENTS

The seminar on "Creating 21st Century Learning Environments" was organised by the United Kingdom's Department for Education and Skills (DfES) and the OECD Programme on Educational Building (PEB). The seminar was posed as a networked learning experience with professionals from throughout the world presenting their accomplishments and findings. Australia, Canada, Japan, Korea, New Zealand, Singapore, Switzerland, the United States and many European countries were among the 23 countries represented. Two presentations from the United Kingdom are described here, and PEB plans to publish a full report soon. The event took place in London on 26-28 May 2004 and included site visits to new and renovated schools in the area.

Stephen Heppell of Ultralab presented his one-year study of "what students are learning and what is happening to learning" from which he challenged the participants to consider the difference between productivity and creativity in learning. As evidence, he shared a stunning film clip directed and produced by a 12-year-old student entitled "Out of Step with Society".

"The residual value of what we are putting up today depends entirely on the ability of the delivery of education tomorrow," Heppell referenced his findings. Children move less, he explained, spending a whole day or a half day on one activity. They need more space to do things with others. Heppell presented his Notschool.net as an example of the potential role of the virtual or electronic learning environment. Students who had been excluded from schools were reported to have 98% success in public exams by participating in the electronic "Notschool". This example led to Heppell's concept of a networked school without boundaries or the "dissolved school". To summarise the physical and electronic alternatives to "school as we think of it", Heppell offered a thematic mission for the seminar with his final remarks: "There is something wrong with school that is blocking the enthusiasm of children."

Mukund Patel, Head of the DfES Schools Building and Design Unit, presented their programme which has risen from a GBP 700 million per year expenditure in the 1990s to a predicted GBP 5.2 billion expenditure in the next few years. Learning from the mistakes of the 1950s and 1960s, the mission is to take responsibility to upgrade schools across the United Kingdom and to try different approaches, at the same time. Three initiatives make up this new programme: (1) the Classroom of the Future Programme with 21 new educational design environments based on local proposals and competition; (2) the City Learning Centres, extended technology centres as part of the Excellence in Cities Programme; and (3) the New Academies Programme (new construction, private/public sponsorship). The seminar's site visits offered newly constructed or renovated examples of each of these initiatives.

The New Academies are an important part of the United Kingdom's strategy for raising standards in schools. The programme focuses on "schools in difficulty" by transferring responsibility from the local education authority to new governing bodies (educational trusts). Funding and greater flexibility in educational programming is available through public/private partnerships. So far ten Academies have been opened in the United Kingdom and planning calls for 60 Academies to open by 2007.

"This is not a building programme, this is an education programme", Patel specified as the department's key ambition. To achieve this goal, the focus is not only on the building but also on the future of teaching and learning. Five areas of concern were explained as key in future school building design:

- Flexibility and adaptability particularly in response to change in the use of information and communications technology (ICT).
- The need for social spaces and places for informal study.
- More inspirational buildings with a sense of identity.
- Inclusive design with small group rooms and use of the school building for extended schooling and community use.
- Comfortable and sustainable design.

Such an ambitious programme with dramatically increased spending levels poses many challenges. Supply chain and capacity-to-deliver were cited by Patel as possibly the greatest challenges facing the UK programme. The construction industry's capacity to respond to the increased demand presented by the Building Schools for the Future programme was yet to be demonstrated. The department is now exploring new procurement methods and facilities management

systems. Patel aptly pointed out that this was a learning process for everyone involved.

To support the learning process, Patel and his staff have published a book entitled *Schools for the Future: Exemplar Designs, Concepts and Ideas* to further stimulate discussion amongst designers, schools and industry. This is an exceptional publication developed by Project Manager Andy Thompson and his team in the DfES tradition of remarkable research and design foresight.

Site visits

Patel's team offered a first hand examination of nearly a dozen exemplary schools designed by UK architects including Kingsdale Secondary School and the Business Academy Bexley.

The Kingsdale Secondary School received accolades from the seminar visitors for its renovation of an existing school, transforming a traditional 1960s school into a social open plan. The school reoriented the large ineffective internal courtyard into a social courtyard as the heart of activity by enclosing it with an ETFE roof and introducing a geodesic auditorium in the centre of the courtyard.

Kingsdale Secondary School

Business Academy Bexley

Visitors to Business Academy Bexley[1] (designed by the architects Foster and Partners) were introduced to the Academy's educational programming which is intended to reinforce entrepreneurialism. Paul Kalkhoven (Foster) described the building's design principles and sustainable qualities (daylighting, ventilation and heat loss reduction). The architect's design signature was interpreted by the school's project management team creating an open plan with transparent classroom spaces rationally organised around three open courtyards. The Bexley Business Academy devoted one of its large open courtyards to the making of art, reflecting the Academy's unique educational approach. The students showed their enthusiasm for the school remaining open after school hours and were busy with their homework. Foster's interpretation of a secondary school has stimulated the interest of other school partnerships concerned with creating the same qualities in their planning of new academies.

Conclusions

The seminar "Creating 21st Century Learning Environments" was a "coming home" event for many of the participants. Over the last decade, PEB members have

1. See "The United Kingdom's Part-Privately Funded Business Academy Bexley" in *PEB Exchange*, no. 52, June 2004.

discussed these issues and have attempted solutions with varying degrees of success. Technology has improved offering the foundation to realise ongoing dreams for the potential of the learning environment. This seminar gave energy to those dreams through built examples and demonstration projects which explored many possibilities. The initiatives on the part of the UK Department for Education and Skills inspired the discussions and were echoed in the work of others from throughout the world. This is a continuing discussion giving evidence that, as described by John Locke of New Zealand, the quality of life for the learner and learning leader will improve in the future.

Web sites
www.notschool.net
www.joinedupdesignforschools.com
www.sorrellfoundation.com
www.i-cert.net (Ultralab)

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SCHOOL PROPERTY FUNDING IN NEW ZEALAND

New Zealand's special funding system allows state schools a greater level of independence in managing their property compared to most other countries. Schools receive a fixed budget as an entitlement from the three "pots" of the educational property funding structure. The government's unique use of accrual accounting together with a new Five-Year Property Plan agreement gives schools a high degree of certainty of the property funding available, as well as responsibility for deciding how to modernise their own buildings.

The government delegates expenditure decisions to schools in the belief that those who are closest to the educational action are best placed to solve their related property problems.

Background

The framework under which New Zealand schools operate was established in 1989 and is called "Tomorrow's schools". The Ministry of Education for the most part owns the schools' land and buildings, however with the advent of this framework, property became the responsibility of the individual schools (under their Boards of Trustees[1]). Initially under "Tomorrow's schools", property was allocated to schools which bid for it to the government and therefore depended on their lobbying skills and often on the projects' attractiveness. A survey in 1998 showed that, despite the NZD 500 million spent on deferred works over the framework's first decade, schools were unhappy with the state of the buildings and with the lack of transparency in how funding was allocated; many felt they were not getting their fair share.

In 2000, a new programme was designed to overcome variability in funding between schools. The Five-Year Property Plan agreement introduces fixed budgets and allows the schools themselves to decide how best to utilise funds available from the government.

Property funding structure

The educational property funding structure in New Zealand is comprised of three "pots": maintenance, baseline and capital injection (in 2004, NZD 62 million, NZD 204 million and NZD 90 million respectively). The first two "pots" cover existing buildings and the third serves to ensure that enough property is available. The Ministry of Education provides all three "pots" to schools on an entitlement basis; that is, schools no longer lobby the ministry to gain access to them. The ministry itself receives funding from the New Zealand government as an entitlement for the first two pots only; the third, the capital injection, is the subject of an annual business case to Treasury which sets out the demand for new buildings to support growth forecasts.

The New Zealand government uses accrual accounting, rather than cash accounting, for managing its books and presenting its National Accounts; therefore the Ministry of Education is not obliged to turn to the Treasury annually for either the maintenance or baseline funds.[2] The result is that depreciation, and hence the cash it generates for school maintenance and improvements, is an entitlement. The entitlement basis of this funding gives both the ministry and schools a greater degree of certainty of income and consequently a longer-term planning horizon.

1. Each school's Board of Trustees reports directly to the government (the Ministry of Education acting as the government's agent); there are no intermediate bodies.

2. In accrual accounting, depreciation is an automatic line item, whereas cash accounting has no allowance for depreciation (hence the annual negotiations between education ministries and treasuries for school modernisation in some countries).