



*OECD Programme on Educational Building (PEB)  
and Ministry of Education, Portugal*

*ad hoc Experts' Group Meeting on Evaluating Quality in Educational Facilities  
Lisbon, Portugal, 1 to 3 June 2005*

**ABSTRACTS**

**Theme 1: Defining criteria or principles for assessing quality in educational facilities**

**Maryland 2003 State-wide School Facilities Assessment**

Allen Abend, Deputy Director, Maryland Public School Construction Program, United States

This paper provides the background and a summary of the State of Maryland's 2003 state-wide assessment of 1 342 school buildings. The 31 standards against which the schools were evaluated are provided and the estimated costs, totalling USD 3.85 billion, to bring all school buildings up to current standards are presented. Lessons learned and potential universal concepts for use in similar assessments are offered.

**Potential Problems and Challenges in Defining International Design Principles for Schools**

Teresa Heitor, Associate Professor of Architecture in the Civil Engineering and Architecture Department, Instituto Superior Técnico, Portugal

The paper is concerned with the spatial condition of school buildings and the preconditions it contains for encouraging and facilitating learning through a social, cultural and informational interface. The paper is organised into three parts. The first part identifies key factors that must be considered when addressing design quality in educational facilities. Major international current trends in school design are reviewed, based on a range of research studies, from the reflective practice of educators and design professionals to the empirical work of architects, social scientists and educational researchers. The second part explores criteria and methodologies for assessing and evaluating school building conditions and educational adequacy. Post-occupation Evaluation (POE) methodologies are analysed and recent models in practice are outlined. The third part discusses the implications of defining international design principles for planning and assessing school buildings in such a way that they take account of the leading educational innovations of the day.

**Swiss Quality Framework for School Evaluation and Consequences for School Design and Assessment**

Lutz Oertel, Social Scientist, Research and Development, Education Directorate, Geneva Canton, Switzerland

Within the setting of the Swiss school system, this paper presents school quality dimensions as requirements for building, emphasising its normative character, which is due to the nature of education and architecture, and reinforced by legal prescriptions. The paper then discusses how assessment criteria could be used to mirror educational requirements for design, and how current research on the relationship between education and architecture could lead to the development of criteria in Switzerland. It also discusses pragmatic solutions to organising new procedures of design and assessment involving the relevant persons as agents, with normative concepts of education and building. Gathering their experiences could result in the development of assessment criteria and standards of assessment procedures.



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#### **Quality Indicators in the Design of Schools (QIDS): A Tool for Assessing School Design?**

Sebastian Tombs, Secretary/Chief Executive, The Royal Incorporation of Architects, Scotland

This paper describes the development of key design indicators for schools in Scotland, known as "Quality Indicators in the Design of Schools" or QIDS. It explores the political and architectural context of discussions on the nature and quality of buildings and spaces, including the development of client-based assessments of school-building quality by architects. It also discusses the objectives, nature and possible application of QIDS to a multiple-stakeholder ("What comes first: Client or site?") post-occupancy evaluation approach to evaluating school buildings.

#### **Theme 2: Identifying methodologies to measure these principles**

#### **Working to improve quality in educational buildings: Examples and perspectives from Portugal**

José M. Freire da Silva, architect, SG/DSIEE, Ministry of Education, Portugal

Rosa Oliveira Melo da Silva, Education Inspector, General Inspection of Education (IGE)

This paper presents three experiences on evaluation projects in Portugal over the last 10 to 15 years: characteristics of existing school property; diagnosis of existing laboratories in secondary schools; and a general survey of school facilities. It also presents an activity on "Safety and wellbeing at school", which is currently being carried out by the Portuguese Inspectorate for Education as part of a larger programme that looks to evaluate the effectiveness of the education system.

#### **Pendão School in Lisbon: A POE in progress**

ME/SG (Ministry General Secretariat) and Chris Watson, Architect, New Zealand

This paper presents the methodology and preliminary results of a post-occupancy evaluation, which is currently being conducted at the Galopim de Carvalho School in Lisbon. This school – which was reported in *PEB Exchange* (No. 38, October 1999, "Designing schools for the information society: Libraries and resource centres") – was recently constructed, replacing an older school building, a "temporary construction" that had been in use for 15 years. The school is located on the outskirts of a Lisbon neighbourhood characterised by rapid new urban development. The school has over 800 students from diverse backgrounds, including rural communities, ex-Portuguese colonies and socio-economically disadvantaged areas. The POE aims to document the stakeholders' experiences of the school to identify strengths and potential improvements to this and other schools.

#### **Evaluation School Buildings Indices Quality System (ESBI – Qsystem)**

Emmanuel Baltas, Consultant, Greece

The Evaluation School Building Indices Quality System (ESBI-Qsystem) aims to develop principles, methodology and appropriate indices for the evaluation of the educational infrastructures in the Greek State. It is based on a complete survey of the existing status of educational infrastructure, from which specific indices are generated relating to quality for a specific school year, based on Greek standards (values, achievements, problems, needs etc). The ESBI methodology can be applied in any geographical area of a country with any population size (municipality, prefecture, region, state). The statistics and indicators from this survey promote the quality elements of educational infrastructures both in school units and in the overall educational level of the geographic area.

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**The Development of Guidelines and Regulations on Quality in Mexico's Educational Facilities**

Fernando Larrazabal Bretón General Director, CAPFCE, Mexico, and Jaime de la Garza Reyna, Advisor, Office of the Secretary, Secretariat of Public Education (SEP), Mexico

The paper describes past, present and future directions in education infrastructure policy in Mexico in the context of the development of guidelines and regulations on quality in Mexico's educational facilities. Between 1944 and 1992, 150 000 school buildings were constructed under the responsibility of the Federation. This figure accounts for approximately 80% of today's educational infrastructure in Mexico. Today, due to the decentralisation agreement initiated in 1992, the education sector policy regarding school buildings is changing, with issues such as maintenance, refurbishing and new projects coming to the fore. The development of new sets of regulating guiding principles on several issues will eventually allow the Secretariat of Public Education help determine policy in the short, medium and long terms. Reaching an understanding of and a strategic approach to the quality and needs of existing infrastructure as it relates to the current educational environment will raise awareness of the needs of future educational settings.

**Bringing Post-Occupancy Evaluation to Schools in Scotland**

Chris Watson, Architect, New Zealand and Keith Thomson, School Estate Branch, Scottish Executive Edinburgh, Scotland

The Scottish Executive is currently engaged in the country's largest school rebuilding programme in modern times. As part of this commitment, guidance was published in June 2004 to assist local authorities in undertaking school building evaluations that will collect feedback from users and share outcomes with stakeholders. The particular method of post-occupancy evaluation demonstrated in the guidance has been used extensively for schools and other public buildings in New Zealand since the late 1970s. It is an approach which is considered well-suited to supporting the school estate strategy and wider educational policy objectives in Scotland. This paper describes the method in detail, including examples from an evaluation at an Edinburgh primary school to illustrate key issues.

**"Anything Goes"**

Christian Kühn, Professor, Institute for Architecture and Design, Department of Building Sciences, Technical University of Vienna, Austria

The title of this paper refers to Paul Feyerabend's book *Against Method* (1975). Feyerabend, a disciple of the philosopher Karl Popper, argued that following any strict method places unhelpful restrictions in the path of progress. His famous dictum that "anything goes" is not a principle, but "the terrified exclamation of a rationalist who takes a closer look at history". A closer look at the architecture of educational facilities may lead to the same conclusion. This paper presents two Viennese schools designed in the mid-1990s. The schools are the same size, programme and location, but follow radically different design principles; importantly, both can be regarded as good and successful examples. Humans, their social institutions and their buildings are highly adaptable to each other, which makes any definition of general rules and criteria of quality at least a highly tricky business. A scientific look at the performance of architecture is important, but a building's quality is always more than the sum of its parts. In the opinion of this expert, any general set of criteria should be very short, easy to understand and presented with caution and modesty. Good architecture is always based on the interplay between good clients, a good brief and a good architect, which usually should be selected by a competition. The architecture of educational facilities in Austria has followed this path quite successfully. One of the major problems, though, is the common ground of

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understanding between educators and architects. As society changes and new pedagogical principles demand new typologies, extending this common ground is a major issue.

#### **Post-Occupancy Evaluation in Brazil**

Sheila Walbe Ornstein, Professor, School of Architecture and Urbanism at the University of São Paulo, Brazil

This paper discusses how a Post-Occupancy Evaluation (POE) methodology has been used to assess built environments, namely public educational facilities from kindergarten to secondary schools, in São Paulo and other major Brazilian cities since the 1990s. The application of this approach involves both technical performance evaluation and the understanding of human behaviours, and the needs, expectations and satisfaction of the buildings' users. It demonstrates how POE results could be used as a powerful feedback tool for decision-makers regarding the study case maintenance process. The paper also illustrates how these results can provide data for design guidelines and quality indicators to the main agents engaged in the production process, since the enterprise development, through the design, construction, maintenance, use and facility management phases.

### **Theme 3: Proposing an international methodology**

#### **Research into Identifying Effective Learning Environments**

Kenn Fisher, Research Fellow, Faculty of Education, University of South Australia

Learning environment research, development and evaluation has traditionally focussed on facility technical performance with a range of post-occupancy evaluation tools emerging over the past two decades to meet this need. Still in its infancy is the development of approaches which relate learning environments to learning outcomes; that is, linking environmental measures to learning outcome measures. Studies are now emerging in Australasia, Europe and the United States which, whilst acknowledging the burgeoning body of quantitative research supporting such links, are increasingly focusing on qualitative measures of performance appraisal which can establish more direct relationships between learning environments and learning outcomes. This paper outlines approaches to establishing such links and briefly examines some recent research studies exploring this issue. It concludes by suggesting that the current international focus on measuring learning outcomes and empowering 'student voice' might be examined to see if such a focus could provide a more appropriate measure of the performance of learning environments.

#### **Implementing Surveys in an International Context: An Overview**

Claudia Tamassia, Consultant, United States

This paper discusses the implementation of surveys in an international context. It relies on experiences from OECD Programme on International Student Assessment (PISA) and IEA Third International Mathematics and Science Study (TIMSS) to illustrate the steps and discuss issues involved in this process. It also highlights additional complexities when these are applied to an international context that involves multiple languages and cultures. Implementation of a survey involves the development of a framework, the selection of the most appropriate means of collecting data, development of the instrument, analysis and further studies. It also discusses ways in which an evaluation of educational facilities could be implemented, either independent or linked to current studies so relationship with performance would be possible, and discusses further alternatives.

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