

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

***Abstract.** 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.*

The development of indicators

Following a spate of expensive legal cases related to contractual disputes, the government appointed Sir Michael Latham to report in 1992/93. Although narrowly defined initially, his inquiry into the state of the construction sector quickly revealed many deep and difficult issues related to construction procurement, adversarial attitudes, the legal framework and the disaggregated nature of the sector. While his proposals for positive change (his initial interim report had been entitled "Trust and Money"!)- the new government after 1997 appointed Sir John Egan to look again at efficiencies within the construction sector.

Building on his experience in the automotive industry, Sir John made a number of key recommendations, encapsulated in Key Performance Indicators - which assessed those aspects of performance which were measurable and quantifiable - *i.e.* reduction in deaths and injuries, reductions in latent defects, predictability on time, predictability on budget, etc. What these did not assess, of course, were the less quantifiable aspects - although it is often these which give a place or building its character, and which provide human value over time.

In response to this, the architectural fraternity began to discuss the nature of the quality of buildings and spaces, building on the foundations set out by Vitruvius, as translated by Sir Henry Wootton, as "COMMODITY, FIRMNESS AND DELIGHT". Alex Reid, when Director-General of the RIBA, translated these into a set of architectural values in 1997 using the terms "Humanity, Efficiency and Delight". In a short statement he condensed the RIBA's aims for architecture as:

"We value **HUMANE** architecture, which has concern for community and user, which is healthy and safe; which respects the past and is sustainable for the future.

We value architecture which is **EFFICIENT**, in its use of space, materials and energy; which is efficient in construction and in lifetime operation, and which works well.

We value architecture which **DELIGHTS** through the creative use of colour and texture; of space and light; of form and landscape".

Thus, when asked by the Scottish Civic Trust and others to address an annual meeting on the theme "Which comes first: client or site?" I produced a circular diagram, divided into parts: Delight (at the top), Humanity and Efficiency, using some of Alex Reid's key words; and sent this to a number of architects whose buildings had recently won RIBA Awards. They were asked to assess, from their own point of view, the success of their building by marking up the diagram against each of the Indicators, points nearer the centre being poor, points near the periphery, being excellent.

While a number of architects refused to respond, sending me a letter instead about the dangers of "tick-box" architectural assessments, a number of architects did respond. The resultant diagrams told me quite a lot about the buildings, but also quite a lot about the architects!

What struck me most, however, were the responses from those in the audience, who found such an approach accessible and easy to understand - welcoming the fact that all the aspects of a building's character and performance could be on one piece of paper.

Although the assessment of "Delight" may be based on judgment, rather than measurement, the fact that all the Indicators are indeed on one sheet, and can be assessed relatively quickly by a variety of different people, supported the idea that design quality could indeed be made a little more objective - which was the ambition. As these ideas were being developed, it came to my attention that the Construction Industry Council (CIC) in London was developing very similar approaches, and had obtained GBP 100 000 grant funding from government to develop them. At that stage I withdrew from the generic activity, although maintaining an interest in indicators for particular building types. When the CIC DQIs were published in 2002, they were grouped as follows:

FUNCTIONALITY

Use
Access
Space

BUILD QUALITY

Performance
Engineering systems
Construction

IMPACT

Form and materials
Internal environment
Urban and social integration
Character and innovation

These Indicators were then tested amongst groups of clients and professionals and revised – although the revisions did in fact change nothing of either the shape or content of the system!

Prior to and throughout this period, the Incorporation had been running an Education Design Quality Forum (EDQF), bringing together educationists and design professionals involved with school building design, and a number of visits had been taking place to examine current "best practice". The approach of the government in launching new procurement methods whereby private consortia would take the risk on the design and construction of schools, then maintaining them for 30 years or so for Local Authorities, was at that time leading to a major increase in school building activity, although the quality of the product was raising concerns.

The RIAS therefore worked with an architectural practice (Keppie) to develop a set of Indicators for Schools as a subset of the generic Indicators previously discussed, and developed by the CIC. These became the Quality Indicators in the Design of Schools (QIDS).

Since that time, RIAS Consultancy, has been exploring other forms of design indicators – most notably with the Museums sector. A simple software package has been developed to enable the scores from questionnaires from different stakeholder groups to be shown on spider diagrams in different colours. By comparing the differences between either individuals or groups, anomalies or misunderstandings in the design approach can be examined and potential pitfalls avoided.

QIDS itself

The initial aim of QIDS was to inform those preparing briefs for new school buildings, and to provide appropriate trigger points for debate and discussion amongst all the stakeholders: Local Authorities, teachers, pupils, parents, janitorial and other support staff etc, so to inform the brief, that the outcome would be more satisfactory. The idea was that, having established the brief, qualitative aspects could be protected" throughout the design development stages and, particularly, at tender stage, when value engineering processes often tended to compromise key aspects of the design.

When examining the Key Indicators for Schools, these were reduced from 10 to 8 in the following group:

FUNCTIONALITY	BUILD QUALITY	IMPACT
Uses and spaces	Engineered systems and performance	Character and form
Access	Construction	Internal environment
External environment		Social integration
		Sustainability + ecology

It was felt that these grouped relatively well and appropriately for schools design. Nonetheless some architects have been critical of this approach, in that certain aspects, considered to be paramount, were perhaps not given sufficient profile: for example: teaching philosophy/pedagogical approach. This, they argue, requires to be a headline item, because without an appropriate understanding of these matters, a very fine building may not end up delivering the places/spaces within which appropriate teaching can take place *i.e.* the school might be a very poor performer!

Nonetheless, the Indicators do provide sets of issues which all stakeholders need to address, although some aspects will be, for them, of much greater importance than others. Often, for example, for architects, the clear architectural vision, the scale and proportion and the issue of colour and texture, might be important, whereas for the janitorial staff, the management systems and controls, and artificial lighting system etc may be far greater significance.

As we all appreciate, successful buildings are those which bring all of these aspects together into a building which in every sense is greater than all of these parts: *i.e.* an integrated whole.

For each of these main headings, a further 6 – 10 sub-headings explore a further range of decision points, and each of these is then sub-divided further in sets of bullet points. At the initial stages, these are really all questions. How important is this issue? How much does this issue relate to those of others, perhaps in another section? Are there some groups of stakeholders for whom these things are paramount?

Moving through the iterative process of delivering the design, it should be possible to identify those areas where a hierarchy of decision making is required, at all times working to keep all stakeholders on board.

QIDS for Post Occupation Analysis

During the course of a number of schools visits, various (EDQF) participants were encouraged to provide some feedback, using the QIDS headline Indicators, of their assessment of the schools' successes. On a very rough-and-ready basis, scores out of 10 were requested, and various brave members of the group complied with my requests!

While acknowledging the limitations of this, being a very crude tool – or at least a crude use of what could become a sophisticated tool – clear distinctions did emerge between those buildings which had been procured by one means, rather than by another. Those who had used the tool did provide some good reasons for their scores, albeit based on a short visual tour of the building.

While this was taking place (between early 2003 and early 2004), the second phase of the government's Public Private Partnership programme (PPP) was getting into full swing. In early 2004 the Educational Institute of Scotland undertook a survey of new and refurbished schools, reporting in the spring of 2004. While the number of questionnaires distributed was less than 200, a 33% return rate indicated strong interest. Unhappily, many of the responses pointed to serious concerns amongst teaching staff with the quality of the new establishment. One major factor which determined poor staff

perception of the new/refurbished buildings, was the very low level of staff teaching input at the consultation stage. “Perhaps the starkest figure to emerge is that a mere 27% of teaching staff believe that their comments made any impact on the plans for the school”. Also, only 30% of schools believed that their new/refurbished school provided value for money.

On the other hand, 72% of schools believed that the impact of the new/refurbished school in the impact of learning had been “very good, good or adequate”. The RIAS contributed some of the thinking toward the questionnaires used, and followed up with a supplementary on the building qualities themselves. This exercise appeared to vindicate the potential for QIDS, but implied a much greater engagement with all stakeholders was required. The number of pupils consulted was negligible, and little information appeared on consultation with parents, or janitorial and other support staff.

At the same time my colleague from the City of Edinburgh Council, Keith Thomson, had been seconded to the Scottish Executive Education Division to undertake work on Post Occupancy Evaluation, to some extent taking forward the initial beginnings of the EDQF. POE raises tricky questions: academics prefer to undertake scientifically based detailed and lengthy studies, while practitioners prefer the “quick and dirty” approach! Using QIDS in some format could provide a useful set of measures – at least for the product, but Post Project Evaluation is also required to examine the process. Pitching this work at the right level, and obtaining sufficient commitment from all those who need to participate is not easy. However, with a major building construction programme underway, it is anomalous that we are not learning from our own experience, and feeding this back into our design and construction approaches.

QIDS can, I believe, have a useful part to play in assessing the success not only of new schools, but existing schools in terms of design. Unfortunately, it has not been used sufficiently to know whether this hypothesis is a fair one – at least as yet.

As far as QIDS has found a place in the briefing stages of new school programmes, there appears to have been some success. However, these systems are not sufficiently robust to resist the harsh axe of “affordability” at final negotiation stages, indicating that the whole issue of “affordability” has not been adequately addressed at the briefing stages.

Without appropriate feedback loops, little research and continuous learning of any objective kind can be taken forward. One advantage of QIDS is that it can provide a framework which can track design decisions from the outset through to completion and occupation. In this sense, it offers real potential, in my view, for future applications at the Post Occupation stages.