



Learning Landscapes: clearing pathways and enhancing organisational development - involving academics in leadership, governance and management of estates in Higher Education.

The rationale for this research project is the necessity for academics to work with estates and finance professionals to develop and manage academic space effectively in Higher Education in the provision of modern and appropriate collaborative and individual learning needs of students. The emergence of new learning landscapes requires much closer collaboration between academics and estates so these new spaces can consolidate and drive further innovation without losing the strengths of the traditional academic environment.

Project partners: Universities of Lincoln, Loughborough, Newcastle, Oxford Brookes, Queen Mary London, Reading, York; DEGW; individuals – Fiona Duggan, Les Watson.

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WHAT LESSONS CAN BE TRANSFERRED TO HIGHER EDUCATION LEARNING LANDSCAPES FROM THE LEADERSHIP, GOVERNANCE AND MANAGEMENT PROCESSES OF SCHOOL DESIGN PROJECTS?

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Abstract

This review reports experiences from the schools sector in involving stakeholders in the processes of managing school building design. Its aim was to see if any of this could offer guidance for higher education as their learning landscapes are reconceptualised. School architects and designers have gradually accepted greater stakeholder involvement especially from pupils and to a lesser extent from teachers and many innovative ways have been found to make their participation authentic. These could be adapted in higher education together with teacher education in new pedagogies and better liaison with governors.

To

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OVERVIEW: experiences in school design management transferable to higher education

The rationale for this higher education project researching the design of appropriate learning spaces for university students by involving academics with estates, is a new topic for higher education and therefore with little literature. Hence, this review of the sources concerned with provision for pre-tertiary education was requested to ascertain what transferable lessons could be discovered.

1. (1.1-1.4) Extended stakeholder involvement (particularly from staff, students and the wider community) is now regarded as a fundamental part of all three stages of school design management and has therefore been mandated for new school projects within the 2005-16 Building Schools of the Future programme (BSF). The scant literature recognises the complications this involvement adds to managing the process but nonetheless supports it strongly. This conclusion confirms the rationale for this research project.

2. (2.1-2.4) The factors which give impetus to the school design process all underline the value of stakeholder incorporation in the processes of school design and all have parallels in higher education (democracy and social justice, raising standards, health and safety, sustainability and ecology, learning and teaching developments and technology, each with their enabling agency pressures). Their impetus will be strongest where:

- there is the greatest, naturally occurring or deliberately arranged, combination of impetus factors which can be used as coincidental by those with the most interest in launching a project.
- there is agreement amongst teachers about the educational aims to be encompassed by a new project. This is not likely to happen without extensive consultation with teachers throughout the next two stages of design management.
- they are presented as robustly backed with evidence (though the discussions on the standards research (2.3) show that this need not be too exact so long as it fits in with other agendas, particularly those of central government) and are not solely about saving costs

3. (3.1-3.4) Architects and designers can easily dominate the whole planning stage for school designs though there has also been some significant input from senior school managers. Students' views are particularly welcome though teachers are distrusted as too conservative. To enable influences from client stakeholders to make much impression requires:

- very innovative efforts to enable stakeholders to participate in their own language (examples in 3.1.3, 3.2.2, 3.3.2.2, 3.4.1.2, 3.4.3.3, 3.4.4.2, 3.4.5.2)
- a genuine belief that it really matters (hence the importance of the impetus factors)
- a willingness for currently dominant groups to share their scope of influence with others.
- all stakeholder groups included in the design process from its inception and available as standing consultative groups.
- a project manager and a design champion to organise, chart, champion and monitor the progress of consultations as the work proceeds.
- governors used more for liaison with teachers and as conduits for their opinions

4. (4.1-4.1)

- Technical experts dominate during construction and until the building is complete and hand-over checks done, but because of the many issues that arise, client stakeholder involvement should be retained with a team on hand for reference throughout and a project manager/design champion to see it is consulted.
- Once the building is in use, the teachers particularly become the power-brokers on how the school is used, with students and even senior managers as somewhat secondary. This leads to the conclusion that teachers must have adequate time for re-training so that their pedagogy will be enhanced with the new facilities rather than their adapting the facilities to suit their previous teaching methods.

THE BASICS

Figure 1

LEADERSHIP, GOVERNANCE AND MANAGEMENT PROCESSES FOR SCHOOL DESIGN PROJECTS

IMPETUS Initiation	<i>drivers strong enough to make change in learning space design imperative.</i>
INFLUENCE Preparation	<i>meaningful stakeholder impact in collectively defining objectives, gathering and sharing ideas, considering possibilities, establishing project teams, undertaking needs and resources analyses. These stakeholders' influences are collated into definitive guides for designs. Stakeholders are anyone with vested interests in a project.</i>
POWER Design Construction Use	<i>decisions about building appearance and structure, learning spaces, equipment and furnishings. building and equipping the school, monitoring progress. evaluation: formal (post completion checks) and informal (occupying and using the building).</i>

Figure 2

SCHOOL DESIGN PROJECTS

Planning and implementing all, or part, of a school building's remodelling or replacement, including all or any of its learning landscapes. The latter include:

- 1) spaces formally so designated whether the learning is intended to be for whole class interaction, interactive learner groups, teacher- or group-directed or individual, largely self-directed learning.*
 - 2) spaces which have been, or could be, informally or formally colonised for learning because teachers or students decide to expand outside the classroom walls into e.g. grounds, corridors, halls or cafés for sociable or quiet learning*
- Collectively these are conceptually holistic, loosely-coupled interconnections of all formal and informal, on- and off-campus, virtual and physical facilities, sites and services and how stakeholders use them.*

School design projects may take place within reorganisation programmes for all schools in a local authority area or be part of central government policies for rebuilding (such as the 2005-16' Building Schools of the Future programme) or be initiated by a school individually.

1904

From a description of E.R Robson's redesign and rebuilding of the Jews' Free School, London, 1904-5
There were 3500 children, four halls and 76 classrooms and he did it 'without teaching having to be stopped for single day' (Seaborne in Robson, 1874/1972: 23).

1973

From a description of the redesign and rebuilding of Abraham Moss Secondary School, Manchester
The project began with architects appointed in 1967. By Feb 1971, the four year process of planning redesign was completed and only after that did building begin. 'It was clear from the experience of the project that a generous allowance has to be made in the planning timetable for the initial phase in which the various possible partners...are deciding about the nature and scale of their participation in the scheme. Even with good will on all sides, there will be different approaches towards timing and budgeting'. No fewer than seven local authorities had to approve the plans (DES, 1973: 61 [188]).

2008

From a description of the government's Building Schools of the Future programme, launched 2005.
'BSF aims to ensure that secondary pupils learn in 21st century facilities. Investment will be rolled out to every part of England in 15 waves...By 2011, every LA (Local Authority) in England will have received funding to renew at least the school in greatest need – many will have major rebuilding and remodelling projects...through BSF and the remainder will have received resources through the Academies programme or Targeted Capital Fund. By 2016, major rebuilding and remodelling projects (at least three schools) will have started in every LA.
<http://www.teachernet.gov.uk/management/resources/financeandbuilding> 14/07/08).

1 INTRODUCTION

The rationale for this higher education project researching the design of appropriate learning spaces for university students by involving academics with estates, is a new topic for higher education and therefore with little literature. Hence, a review of the sources concerned with provision for pre-tertiary education was requested to ascertain what transferable lessons could be discovered. Recollect, however, that each school will have experienced few building projects on the scale of university buildings and managing their own budgets for building only became their responsibility during the 1990s.

1.1 What's At Stake ?

The built environment that constitutes school learning spaces 'can be considered as the [child's] second teacher' (Sanoff, 2001:7). This is the almost universal message from the many sources on what good school design should be. Where you learn is important to the success of learning and hence all such sources find some elements of pre-2000 school design unsuited to the flexible, personalised and technologised learning that the twenty-first century embraces. This engenders interest in discovering sources on how design processes to incorporate these new forms of learning can be managed (1.2) to ensure schools are fit for educational purposes.

To secure this, there have been gradual moves to incorporate many more stakeholders in the design management process to the extent that 'to receive funding [in the BSF programme]...project[s] must have the support of all stakeholders' (CABE, 2004: 17). Hence this review of the literature, which follows in sections 2-4 of this paper, was structured around how the recurrent theme of stakeholder participation in managing school design processes (Figure 1) is realised in impetus, influence and power. .

This extended stakeholder involvement is recognised in the rationale for this higher education project researching the design of appropriate learning spaces for university students by involving academics with estates. This topic is new to higher education and therefore with little literature. Hence, this review of the sources concerned with provision for pre-tertiary education was requested to ascertain what transferable lessons could be discovered.

1.2 Literature Survey

Dissatisfaction with school design is one of the reasons for the government funded, whole-nation BSF programme described in the opening quotations above. This dissatisfaction has likewise spawned earlier, government led, significant phases of school design development: those for extended elementary schools for the masses from 1833 to the early years of the twentieth century; central schools and open-air schools in the inter-war period; grammar schools post-1944; comprehensive schools and ROSLA¹ in the 1960s with the concomitant CLASP and SCOLA² initiatives; community schools like Abraham Moss in the 1970s, cited in the opening quotations, and latterly the sustainable schools and BSF movements. A plethora of sources can be located that detail what forms such design should take, citing examples of good practice both in the UK and internationally (e.g. Curtis, 2003; Dudek, 2000; OECD, 1995, 2001; Brubaker, 1998; Sanoff, 1994; Mills, 1976; Pearson, 1972; Seaborne, 1971).

In contrast, although 'the management of the design process is inherently different from the act of design' (Grey and Hughes, 2001:7), the process of managing the translation of design ideas into practice does not appear to be well documented, except in educational technology where the words 'learning spaces' have been virtually colonised by those with multi-media technologies in mind. Most of the design orientated sources include only short comments on managing the design process, such as ensuring that building work is scheduled for vacation time or, like the Robson quotation at the opening of this paper, looked simply for quickness and efficiency as the *sine qua non* of managing design processes (DES, 1991). Little about management appeared even in apparently highly relevant material, such as '*Strategies for managing the educational infrastructure*' in OECD's 2001 *Designs for Learning: 55 Exemplary Education Facilities*. Likewise, the government's description of building City Technology Colleges (CTCs) referred to innovations in the management of design processes but then noted only speed building techniques and re-using designs for several schools (DES, 1991 [8]). Sources like these usually also include brief exhortations to involve children, educators, parents and the community in the planning and design process but are mainly concerned with advice on, or exemplars of, types of building and classroom designs.

Hence, the sources used for this review tended to deal marginally, obliquely or inferentially with the topic of leading, managing and governing school design projects. Even where the management of design processes was discussed, the involvement of governance is scarcely mentioned, references to 'staff' appear to assume 'academic/teaching staff' rather more than the associated professions of school business managers, estate managers, cleaners and other support staff. Literature on the roles of governors and support staff was searched but few mentions of the management of design processes were found; one has to infer what their involvement was expected to be from descriptions relating to their generalist positions. There is a growing literature from education sources on how pupils in particular can be, and are, involved in planning school designs especially from the work on the current *Building Schools of the Future* projects and all of this genre offer ingenious solutions even for giving the pre-school children a share in decisions. Ingenious solutions for involving staff in design processes are much less evident though there is general support for the idea.

¹ Raising of the School Leaving Age

² Consortium of Local Authorities for Special Purposes. Second Consortia of Local Authorities

Sources on school management and leadership were accessed but managing school alterations and rebuilds did not figure largely in headteachers' and other senior school managers' responsibilities. Presumptions had to be made about likely roles in this area from their other activities. Only *Managing Complex Educational Change* (Wallace and Pocklington, 2002) was expressly concerned with school remodelling. This did offer some valuable insights but it was concerned with whole-system change at LA level in which school remodelling and rebuilding formed only a very small part.

The growing BSF literature for England does offer more comment on design management processes than earlier work. It is possible that the other two countries with similarly extensive school rebuilding programmes (Scotland and Singapore) may also offer material but there was insufficient time to consult their literature. However, the paucity of direct literature on this topic led to searches in the generalist literature on design management from outside education such as that on architecture, project and construction management (cf. CABE, 2004:5; Burnett, 1998:177-8; Sanoff, 1994: 177; Leeds, 1995: 16; Moore and Lackney, 1993: 12; OECD, 1975).

Such sources focus on the technicalities of their topics and do set out the stages of design processes but rarely discuss stakeholder inclusion in these. It was mainly in such sources that the terminology, 'design management' was used; elsewhere 'design' on its own was more ubiquitous. This sometimes casually subsumed management and sometimes ignored it. This neglect of the topic of managing design processes is not unexpected. In management in general, defining where a project ends and its management to completion begins, is unclear (Munns and Bjeirmi:1996). Only fairly recently have project managers emerged in response to criticisms such as these; 'design was deemed important but who was responsible for it, who should be responsible and what might be the role of a design manager all contributed to what has been criticised as ineffective design management processes' (Dumas and Whitfield 1990:28).

1.3 Literature Review Structure

From these disparate and scattered sources, I devised the framework for this report described in Figure 1. This collates the stages of school design projects into three management segments, each related to stakeholder roles of impetus, influence and power.



I chose the three overarching categories to emphasise that the rationalist view, which was most dominant until this century, is 'not the prime mover in project management... Rather than being a little extra, a tack-on to the more rational techniques,..the softer, behaviour-related aspects are fundamental...far-reaching stakeholder

analysis – requires continual scanning' (Grundy and Brown, 2002:1-2, 3). This recognises that project management does not work to create an 'apolitical utopia, transcending the disruptive politics of the present...[it can be]... a utopia of authoritarian politics, in which dissent is not permitted' (Buchanan and Badham, 1999:167) unless all participants are really committed to extending the groups who give impetus and have influence and power. These views from project management literature are echoed in literature on building design which recognises that there is now 'multiple control of the whole design and construction process' (Grey and Hughes, 2001:2). In the private sector, this multiple control refers particularly to client views. In the public sector, the client input is represented as the democracy of stakeholding and is now mandatory in BSF and similar developments.

1.4 Challenges Of Stakeholder Involvement

Designing buildings so there is place for all those newly enfranchised in the decision-making process, makes 'the issue of space in the school...a challenge from the new postholders to the established order of the school' (Epson, 2002: 62). Ownership is now deemed to shift in each phase (Grey and Hughes, 2001). It has extended beyond the architects, builders, councillors, electrical engineers, governments, landscapers, mechanical engineers, progress chasers, quality assessors, standards officers, surveyors and suppliers - the twentieth century building and construction experts. Wider ownership than this in public sector schooling is not easy to define (Dudek, 2000: 120) but most agree that it must include educational and user experts (teachers, parents, pupils), public opinion and providers of private finance.

While their 'differentiated and often controversial points of view together... can lead to new insights, new ideas (Aria et al, 2000: 84), they also add to the convolutions of a difficult to manage, complex and highly ambiguous process (Wallace and Pocklington, 2001: 210-11; DCSF, 2007:v[11]), characterized by 'abrupt shifts from continuity to discontinuity' (Gorb, 1990: 7) and already criticised for ineffectiveness (Dumas and Whitfield 1990:28). OECD's seminal 1975 report on school building and educational change recognised the challenges of managing even the necessary 'continuous dialogue' amongst the professional and technical experts' (OECD, 1975: 9 [6]) and to these must now be added teachers, learners, senior school managers, governors, bursars and support staff, parents and community representatives (the latter additional to elected councillors of Local Authorities). Each of these is discussed in sections 2,3, and 4 of this report, within the three stages of managing the design processes for schools: impetus, influence and power.

1.5 Experiences Transferable to Higher Education from School Design Management

Extended stakeholder involvement (particularly from staff, students and the wider community) is now regarded as a fundamental part of all three stages of school design management and has therefore been mandated for new school projects within the 2005-16 Building Schools of the Future programme (BSF). The scant literature recognises the complications this involvement adds to managing the process but nonetheless supports it strongly.

2 IMPETUS

Initiation *drivers strong enough to make change in learning space design imperative.*

2.1 The Significance Of Impetus To The Building Design Process

The apparent central impetus for the BSF programme which started in 2005 was the 'deplorable state of school buildings' in England (Caldwell, 2006: 191). This had reached 'crisis level' in the 1990s (Audit Commission, 2003: 2). Most of England's schools were built before 1976 and there had been little funding even for essential repairs for many years. The buildings were not even meeting current health and safety standards. It needs more than poor buildings however, to start a re-design process. The same problems were noted in 1990s USA, for example (Moore and Lackney, 1993), but this has not yet spawned the same massive rebuilding programmes as England's. Higher education possibly lacks the same pressures as schools to replace old buildings but there is a spate of new building as the government announced the expansion of the university sector with both more new universities and the expectation that enrolment should be up to 50% of the 18-21s.

To enhance a buildings imperative, other factors must be perceived to be sufficiently serious to create the political will to begin and to spend the massive amounts of capital necessary to redesign schools on the scale of the BSF initiative. Perceptions are one outcome of stakeholder action from pressure groups which take more organised form in the later stages of design process management. Where factors pushed by pressure groups come to prominence conveniently around the same time, or can be manipulated to appear to do so, whilst also contributing to meeting other agendas, then the building design processes are likely to begin. Collectively they provide the rationale for including stakeholder influence directly in the management of the design process.

For school building in the 2000s, the collective factors embrace democracy and social justice (2.2), raising standards (2.3), supportive agendas (health and safety, sustainability and ecology, learning and teaching developments and technology, each with their enabling agency pressures (2.4). Similarly, for school building in England in the 1950s and 1960s, the collectivity embraced an upgraded curriculum, team teaching, variations in class groupings, changes to the school day and restructuring of types of schools, racial inclusion, increases in school rolls with less money to accommodate pupils and educational technology (television, language laboratories, video and even computers, predicted to 'play an important role in the instructional process' [Morisseau, 1972: 7]). Impetus such as these, have parallels in higher education necessities. The conclusion to this section of the report therefore reflects on how such factors mandate for higher education, the type of participation in design decisions that is currently being attempted during the management of school projects (2.5).

2.2 Democracy And Social Justice

Democratic involvement in schooling itself, gained most credence in UK state schools from the early 1970s onwards. Control over curriculum and pedagogy moved from teachers to government and to technological developments, school governance was restructured to permit wider roles for the laity, ownership was offered to pupils over many aspects of their education as solutions to disparate challenges of behaviour, achievement and commitment (Rowland, 1987) while school management hierarchies opened to admit new professional support staff. Latterly, the inclusion of all these stakeholder groups, particularly children, has been mandated for school design projects such as the *Building Schools of the Future* (BSF) programme. Education in democratic citizenship became a National Curriculum cross-curricular theme in the 1980s; pupil participation in designing their working environment began to be used for practical lessons relating to engineering, design and construction; active involvement in decisions affecting where they work was deemed to help to 'nurture a generation of children who...can *imagine themselves as being participants*' ((Helf and Chawla, 2006; 212-3,

authors' italics). Further, children's were reconceptualised as 'being valid in themselves and not because [the children] will one day be adults' (Sutton and Kemp, 2006: 256). During the same period, the architecture profession democratised too, beginning to accept that they must disseminate information about effective school design to educationalists as well as to their own profession (Smith, 1974). It remains noteworthy though that almost all the literature supporting pupil and teacher inclusion in design management processes, emanates from educationalists rather than from building professionals.

All these educational and other movements arise from the basic credo that extending participation in building design is 'inherently good...a source of wisdom and information...and thus improves the effectiveness of decision making (Sanoff, 1994: 179) and the effectiveness of the resultant schools too (DCSF, 2007: iii[6]). People were found to be satisfied with buildings, their furniture and internal layouts if they felt they had affected decisions on them (Gayeski, 1995:11;Sanoff, 1994:182). In higher education, democratic interpretations of the educative process appear to have been slightly slower emerging than in schools and this, together with other factors such as the history of universities as knowledge providers and the likely public impact of their built environments, could have inhibited wider inclusion of staff and students in democratising the management of the building design process.

The extension of democracy into school design management has been reinforced by the realisation that buildings themselves are indirect teachers, making possible 'a healthier, more inclusive and fairer society' (DfES, 2006: 4[11]). Inclusion and pluralism have created awareness of how learning space organisation can affect gender (Gordon and Lahelma, 1996; Allen 1988:10), ethnicities, socio-economic status and differential abilities (Williams and Gibson, 2003, Nelson, 1996; Lucas and Thomas, 1990). These factors were previously regarded as determinants of educational success (Parsons, 1999: 65-8) but now it is the buildings that have become determining factors.

To enable the voices of the generally less articulate in society to be heard during the design process is not easy as Mason (2008) found when attempting to include clients of a Pupil Referral Unit in such decision making. So far, no other examples have been found of such deliberate efforts to enable these partially excluded stakeholders to advance their opinions separately from their 'parent' groups such as the amorphous 'pupil' representation. Generally others are deemed to act as advocates on behalf of those who can be seen as currently disadvantaged in society. For higher education though, those in such a category have the advantage of maturity to lend weight to their views and there would seem to be no bar to encouraging such users to let designers know their special needs themselves.

2.3 Raising Standards

Desire to raise standards of pupils' achievements and to improve student behaviour, provide the strongest impetus to justify improving school buildings and the management of the processes of design projects. The first annual report for the BSF programme claimed a clear link between higher levels of student attainments and definitely improved pupil behaviour in newer and better school buildings (DCSF, 2007 [2.3]). They were less sure that capital investment raised standards and sounded the cautious note that they would need to monitor this from the forthcoming experiences of BSF schools as longitudinal data becomes available. The teachers they interviewed were equivocal about whether or not new or improved learning landscapes would lift achievement (DCSF 2007:52 [5.14]). Headteachers expected that BSF would bring improvements in the quality of teaching and learning in pupil behaviour (NCSL, 2008a:1) (but note the caution of the future conditional tense).

Other sources confirm this to some extent but, like the BSF report, are rather cautious. USA data shows 'subtle' relationships between poor school facilities and student achievements but 'there is enough data and evidence to draw some pretty convincing arguments' (Lyons 2001: 6). Hence student scores in USA elementary schools were found to be directly related to student achievement (Tanner, 2000) as earlier USA

studies expected (Earthman, 1995; Gayeski, 1995: 4; Moore and Lackney, 1993). UK data cannot yet link examination scores to the effect of buildings but this does not stop government being convinced of their impact (DfES 2006:28). UK research studies confirm this belief for primary and pre-school (Featherston, 2002) and Australian sources also indicate the relationship (Beck, 1980).

Earlier UK data was convincing too, in relation to pupils' behaviour being related to the state of learning environment. Thring, the nineteenth century headteacher of Uppingham School, has been credited with the earliest statement on the importance of buildings in his reform of the school (Seaborne:1971:1). Leaping forward a century, exposing children to good design and fine craftsmanship in Oxfordshire's school buildings and furnishings 'was tremendous and [children's] work blossomed' (Pearson, 1972: 27). The significance of the physical environment to realising pedagogical ideals, brought lyrical endorsement in 1966 (Roth, 1966:293) more prosaically supported by the 1967 Manning Report. Bishops Park School, opened in 2005, has seen an increase in students wanting to continue education beyond Year 11, no teenage pregnancies and no permanent exclusions (NCSL, undated). Pupils' physiological well-being, as measured by blood pressure and ability to concentrate, show connections to their physical learning environments but studies are noted as small scale and qualitative only (Martin, 2006: 91, 102).

Teachers in Harcourt's 2004 study commented that while buildings 'might make a difference, the quality of learning did not depend upon it' (Harcourt, 2004: 53). This seems a common view if one takes as evidence the almost total absence of advice about school building, design, décor, furnishing and equipping in text books of guidance to senior school managers absence indicating a lack of perceived importance compared with other managerial jobs (cf Thomson, 2007; Muijs and Reynolds, 2005: 77; Marzano, 2003; Bowring-Carr and West-Burnham, 1999). One could also cite the evidence that the 600 English schools designated as failing in 2008 by the UK Government and thus due for closure in 2011 unless improvements are made, include some housed in new, purpose built, accommodation. Much teacher criticism has been directed at the now derided open-plan schools of the 1960s and 1970s but a study in pre-schools demonstrated that 'substantial areas of behaviour showed no significant variation between [open or divided] playschools' (Neill, 1982: 46).

Teachers themselves were, however, found to be influenced by their surroundings with the quality of school facilities being cited as influential on teachers' decisions to leave or remain in the profession another factor likely to affect student achievements, attitudes and behaviour (Martin 2006:102; Buckley, Schneider and Shang, 2005). In contrast, a 1970s' view was more sceptical about the relative importance of buildings and teachers:

it is all too easy to adopt the attitude that it is not the buildings but the teachers who really count in education. One over-modest school architect ...estimated that the ability of the teacher accounts for ninety-nine per cent and the building for only one per cent of a school's effectiveness. But some teachers at least take a different view. A teacher in a recently built primary school said...the building made the teaching method... Teachers and children are almost certainly much more influenced by their physical environments than they often realize, at any rate, consciously (Seaborne, 1971:1)

Overall, the learning landscapes of compulsory schooling were largely ignored as potential influences on student outcomes until very recently (Clark, 2002: 3) when, for varying reasons, it has become politic to investigate the effects of, and to invest in, impressive school buildings. In 2008, there is some evidence of the beneficent effect of buildings on student behaviour which is assumed to indirectly affect student achievement. There is some proof, though as yet not a lot, that pupil attainment is directly affected by the state and type of buildings.

Whatever the state of the research however, the likely correlations have been a valuable support for varying groups vying for influence in the management of the design process and opinions have been shown to relate clearly to differing stakeholder interests. Architects, for example, feel that proving the value of buildings to learning outcomes has to be done otherwise 'the potential for mediocre school design will be a...problem with commissioning authorities...vying for the cheapest new option' (Dudek, 2000: 125). One wonders if Dudek would have found England's City Technology Colleges (CTCs) examples of this? One of the policy objectives was to open these colleges 'as quickly and cost effectively as possible' (DES, 1991 [8]) by using fast build techniques. In the author's opinion, this shows in the designs themselves which might be best described as series of linked sheds.

Teachers may be sighing with relief to discover some factor other than themselves that can be blamed for any failures perceived in current schooling but will be reluctant to suggest a strong correlation of achievement with buildings as this may downgrade the role of the teacher. Governments' well-funded and publicised school building programmes show voters that their children's education is being visibly improved and in ways that meet government aims to raise standards.

This is not to decry in any way the views of different pressure groups nor to denigrate research on the effects of school buildings. In considering what higher education can learn from how attitudes have developed and become supported, experience in the school sector apparently shows that research on links between learning landscapes and student retention, behaviour and attainment can be a major persuader for investors and for affecting public attitudes. Given this importance, it might also be valuable to ascertain the extent to which senior managers are encouraged to give priority to the physical estate of a university or college and trained to lead projects for campus design.

2.4 Supporting Agendas

2.4.1 Health and safety

Health and safety concerns have provided useful support for hastening building improvements. This is partly because they are likely to attract media attention which impacts on government prioritising for the design of learning spaces. Such issues have also been testing grounds for involving parents and children in decision making about designs in areas that are less nebulous than democracy and social justice and better proven than the link between buildings and attainment.

For example, 'special attention was paid to communication' with parents, students, staff, media and community in overcoming ventilation problems which caused an outbreak of asthma at a school in Finland (Haverinen et al, 1999). Wales had its largest E.coli outbreak in 2005 and of the 157 cases, these were mainly amongst children attending forty four schools in particular hence supporting the view that classrooms should be 'clean and reassuring' (DfES 2006:4 [12]). Schools' access control and territorial definition emerged as research areas in the 1990s (Crowe, 1990) and gained prominence after the shootings at Dunblane and various USA schools. These were followed by studies linking crime prevention to schools' environmental designs (Schneider, Walker and Sprague, 2000). Studies have found even the school furniture an object of opprobrium since 80% does not fit adolescents and so injures their likely success at school (Parcells, Stommel and Hubbard, 1999: 8-9). More basically, the early 1990s found large numbers of US schools violating fire safety regulations and health basics such as playground holes and broken toilets (Moore and Lackney, 1993). Toilets have figured greatly in research into UK school environments and their dire effects began to be publicised in the 2004 Bog Standard campaign led by *Education and Resources for Improving Childhood Continence (Eric)*. Their success is evident in the acknowledgement that toilets ensure 'health, happiness and academic performance' (NCSL 2008b:1) and in the new standard specifications for school toilets in the BSF programme.

One would hope that neither the state of university toilets nor the health of h.e. students would become significant issues but the examples from the school sector indicate that a gathering of factors, however unlikely the sources, is important in encouraging the initiation of redesign or new projects. It is also easier to galvanise everyone in and around an educational community to become involved when any results are likely to have immediately obvious, beneficial effects.

Author's note: lest doubt should linger about the importance of toilets, visit the new Students Union building (The Engine Shed) at the University of Lincoln where the unisex toilets meet both social justice and behavioural objectives.

2.4.2 Sustainability and ecology

These are also, like health and safety, easy-to-grasp imperatives that can catch public attention, save public money and so add to forces for school design change. At school level, significant interest was captured through various movements to improve the state and use of school grounds in the USA (e.g. Brink and Yost, 2004) and in the UK (e.g. Durham [DfES 2006, 5]; Northumberland Learning Landscapes). Many of these brought in literal democracy in the design process as parents, pupils and others helped with the digging. Behind such activity lay educational rationales for grounds as outdoor classrooms, mandated in National Curriculum requirements for ecological education. Nationally, sustainability and ecological issues have grown from what might have almost been described as the lunatic fringe of politics in the 1970s into an inalienable part of all parties' manifestos. The UK government's campaign to encourage schools to 'go green' began with the idea of schools aiming for the award of a Green Flag to signal their high ecological credentials. This rapidly escalated to the sustainable schools prescription (DfES, 2006) and all new schools are required to be carbon neutral from 2007 with £110 million funds to ensure that this happens. This initiative shows the value of being able to conflate agendas; sustainable schools are not only to save the planet but will 'provide pupils with a daily experience of sustainable living' (DfES, 2006: 9/30). Thus democracy, social justice, citizenship and curriculum objectives reinforce the ethics of action. Has this agenda been harnessed to support initiating change in higher education estates and who is helping with our digging?

2.4.3 Learning and teaching developments

The value of expanding stakeholder inclusion in the management of design processes has been supported by its curriculum impacts. Many lessons can be taught about design, building and construction, pupils can be 'excited and enthused' (DfES, 2006:1) through on-site activities linked particularly to the new 14-19 curriculum and the 2008 onwards Diploma programme. These are the very practical outcomes of major developments in pedagogical thinking such as constructivism (Savery and Duffy, 2001:2; Stace 2000; Reigeleth and Schank 1999) and progressivism (Halpin, 2007). Teachers and educational researchers also agree that smaller teaching units are better for children's social and emotional health and encourage improved behaviour. (Bennett, 1996: 43,44) and that classroom design should incorporate 'well defined activity pockets' (Moore and Lackney, 1993:13). There is much research on design of specialist classrooms (eg Allington, 1994) and about how classrooms affect social control aspects (gender, bullying, discipline) Few of these ideas appears to 'have had...impact on the design of new classrooms', teachers being expected simply to adapt existing learning spaces internally (Stace, 2000:24). In the 2001 OECD report on exemplary recent schools, only one of the fifteen shown mentioned teacher involvement (and that was an English secondary school (OECD, 2001: 124)³ and one included parent involvement (a Mexican primary school where parents assist with maintenance voluntarily (OECD, 2001: 120).

Is this lack of impact from teaching and learning developments because staff are considered the least of the many stakeholders in a design process? Is it because merely redesigning internal teaching spaces would not attract the same interest as would stunning new buildings? Consulting teachers does not win public support and teachers' ideas cost money, can generally be shown to increase numbers of teachers required or may

³ Author note: Of all the designs shown, in my opinion, the English example was easily the least interesting.

result in many teachers having to alter long-held ideas about pedagogy. All of this would appear to apply in higher education too. However, where teachers are not effectively included in the early design stages, the more likely is it that they will exercise their power at the end of the process where users can dominate how a new building operates in practice.

2.4.4 Technology

In writing about design of learning spaces, there is much literature about what technology to put into learning spaces but these technological decisions are either portrayed as the exclusive preserve of experts and/or other stakeholders perceive them to be (e.g. Boschmann, 1996). There can be no doubt, though, that technological initiatives from the mid 1980s Technical and Vocational Initiative (TVEI) in England, followed rapidly by campaigns and government funding first for a computer in each classroom, then computer suites, interactive whiteboards, lap tops for every child, wifi access and others all brought modern schooling possibilities to public attention and involvement. This was particularly enhanced through parent fund raising to extend schools' computer stock. Internationally too, technology in classrooms was vaunted as vital (OECD, 1995).

From the late 1990s, it was found that schools were becoming 'overttechnologised...technology alone does not change learning' (McWilliam and Taylor, 1998) and needed to be integrated with much wider developments (Bain, 1996). By 2001, there was a much broader canvas internationally too (OECD 2001), recognising that while

we thought the gadgets and gizmos we spent a lot of money installing in these classrooms made them futuristic, we quickly learnt it was the attention paid to making them flexible and adaptable that ultimately earned them the badge of being "Classrooms of the Future" (Festa 2007).

Technological developments have been a great impetus for change but no longer have the valuable 'wow' factor they once had. In primary, secondary and tertiary education, they are now recognised as support facilities that are almost and automatic 'given' that does not need to be discussed.

2.4.5 Agency pressures and enablement

All these agendas become more efficacious in enabling the initiation of projects and their democratisation, the more any of them is backed by an organised agency, government or private. Finding and using alliances thus becomes a valuable part of managing a design process. In the USA for example, the Boston School Yard Initiative was credited with changing government thinking and redirecting government funding to school grounds (Malone and Tranter, 2003). The USA's *New American Schools Development Corporation* (NASDC) is a private, nonprofit corporation which funds the development of new designs for American schools and makes recommendations for both future implementation and design (Rodilly et al 1995). From the 1950s, the Ford Foundation backed the Educational Facilities Laboratories (EFL) to help American schools with their physical problems through grants, research and publication.

It is difficult to assess the extent to which EFL's programs were responsible for the subsequent transformation in school planning and architecture. Had there been no EFL, necessity might eventually have generated change, but EFL's efforts very likely accelerated the process and provided an organization and direction to reform in school architecture that otherwise might have been lacking (Morisseau, 1972: 6).

In England, the government's own agency developments have been major vehicles for enabling change. The DfES launched a charity, *Learning through Landscapes*, to change views on school environment. Government initiated and funded agencies have emerged to reinforce the *Building Schools for the Future* programme;

Partnerships for Schools (PFS) which developed similarly to the Specialist Schools and Academies Trust, disseminates the message about the private finance initiative, arranges local education partnerships to make it happen and guides governors and local authorities); the Commission for Architecture and the Built Environment (CABE) aiming to improve local governments' understanding of design, 4ps (Public Private Partnerships Programme) works in partnership with local education authorities to obtain finance and develop PFI schemes and the National College for School Leadership which trains and supports the leaders of BSF schools. Private trusts, such as HSBC's Education Trust influence school design for sustainable development (such as the Beaverwood School for Girls Chislehurst DfES, 2006: 46). All these provide motivation, education (as do the many private, specific topic agencies) or funds for school designs and as government agencies are backed by the strength of legislation and their advisory publications such as the Department's Building Bulletins.

Governments are a powerful pressure group even without agency and especially where they coincide with architectural interests to generate noteworthy buildings as visible records of their commitment to education. In 100 years time, the amazing designs of England's BSF schools will be as much derided as only relevant to their early twenty-first century context as are now the great, three story, red brick, Gothic and Queen Ann designs of the Board schools of the nineteenth century. But the designs from both of these periods serve an important role in generating the initiating phase because they inspire and impress.

2.5 Experiences Transferable To Higher Education

The factors which give impetus to the school design process all underline the value of stakeholder incorporation in the processes of school design and all have parallels in higher education (democracy and social justice, raising standards, health and safety, sustainability and ecology, learning and teaching developments and technology, each with their enabling agency pressures). Their impetus will be strongest where there

- is the greatest, naturally occurring or deliberately arranged, combination of impetus factors which can be used as coincidental by those with the most interest in launching a project. These can be used in the next planning stage to strengthen cases for particular inclusions or forms of design. Strong spokespersons for each element are valuable.
- is agreement amongst teachers about the educational aims to be encompassed by a new project. This is not likely to happen without extensive consultation with teachers throughout the next two stages of design management. Of all the impetus factors, however, teacher views seem the least prominent. This may be because as a group they are less in agreement with each other than are the competing agendas, or because they don't have time to push their points of view or because it is not in the interests of other stakeholders to particularly use pedagogic reasons for redesign.
- are presented as robustly backed with evidence (though the discussions on the standards research (2.3) show that this need not be too exact so long as it fits in with other agendas, particularly those of central government) and are not solely about saving costs (history particularly advances educational aims in this respect [Robson. 1874: 159; Wright and Gardner-Medwin, 1938:9]; 2000s' contexts would stress standards and the wow factor of modern architecture).

These impetuses, described in 2-2-2.4, continue into the planning stages (Section 3 of this report) since 'architecture of the future can be characterised by an increasing participation of the user in its organizational and formal definition' (Sanoff:1994: 183). The influence of these users arises from the impetus that each stakeholder group can claim, the extent to which they themselves make the effort to participate and others make it possible for them to do so. This is discussed in Section 3.

3 INFLUENCE

Preparation *meaningful stakeholder impact in collectively defining objectives, gathering and sharing ideas, considering possibilities, needs and resources auditing, establishing project teams. These stakeholders' influences are collated into definitive guides for designs. Stakeholders are anyone with vested interests in the project.*

Participation [in school design processes] is like a professional sport: it takes place in a public forum where there is competition between individuals and groups with conflicting goals;...the playing conditions change from time to time; the planning of strategies is a major activity, no one group wins every contest; and there is an ongoing need to evaluate performance in order to succeed (Sanoff, H., 1994, *School Design*: 178).

3.1. Stakeholder Influence In The Building Design Process

3.1.1 Who are the stakeholders?

With government requirements for 'active user involvement...as a key priority' in influencing designs (DCSF, 2007: v[12]), I have divided 2008 stakeholders into three categories depending on the source of their legitimization as 'users':

Technical experts: architects, builders, suppliers, designers (3.2)

Political experts: governments (local and central), school governors (3.3)

Client experts: headteachers and other senior school managers, teachers, students, parents, community (3.4)

For each group, I sought to ascertain how far and in what ways, each group is perceived as exercising influence at the planning stage of school design management. These groups have mirror counterparts in higher education, hence the possibilities for transferable lessons for university learning landscapes.

3.1.2 The significance of stakeholder influence in the building design process

Meaningful stakeholder impact through 'early and deep consultation...at all levels' (DCFS, 2007: iii[4]) is definitely the *Zeitgeist* of the management of school design processes in the twenty-first century (Caldwell, 2006: 122; Evans, 2006:55; Savery and Duffy, 2001: 4-6). It existed too in previous centuries, but in a different form. A balance was supposed to be struck between professional architects and educators (the latter represented by those in local education authority offices, elected councillors and a few selected headteachers) and everyone was committed to this extent of 'collaboration... participatory decision-making' (Leeds, 1995:16; Gayeski, 1995:3). As designs developed into completed schools, construction workers and interior designers became involved though little consulted in a project's early stages when influence really mattered to design decisions. Occasionally the discussion list extended to include teachers but it seems to have been assumed that these would be conservative in their attitudes:

here we meet one of the most interesting aspects of school design, namely the question of how far it is possible or desirable for educationalists and architects to manipulate the environment so as to encourage or even force the adoption of certain approved teaching methods (Seaborne, 1971:4).

This quotation clearly delineates school leaders and local authority officers as being more likely to favour new teaching methods than teachers themselves. Hence it seems to have become accepted that head teachers, and school senior managers would be forward looking in discussing designs and so allowed to be involved, but even they were not seen as decision-makers (Oates, 2000). A few voices in the twentieth century had

supported further extension to bring in pupils, parents and community as active stakeholders too but there has been a great leap from that to their mandated inclusion as active influencers in the BSF programme.

Creativity ranks high in the rationale for extending client stakeholder influence on design plans (CABE, 2004:4; Dudek, 2000: 125; Castaldi, 1967:15, 97, 101). This is conjoint with the rationale that the abilities of these groups lie in advising on how buildings can best satisfy social and psychological needs as well as the merely technical (Davis, 1982:261, 262). The influence particularly of client groups joining the decision-making, has been seen as central to major social and economic changes as evidenced in an 'enormous international literature' (Black 2003 4). This expresses the significant issue that for the new client stakeholders to acquire some effective part in the process, the political and technical experts must be committed to 'collaboration and accepting that...insiders who use the building may see it differently from outside observers' (Elliott-Burns, 2005:8).

Insiders and outsiders were renamed as 'those with knowledge and those with experience' in a study seeking to find where the boundaries between these two groups should be placed in order to avoid dominance and subordination (Smith, 2006). This is not only good for the design of the building but of educational benefit to the children and

will strengthen alliances between participants, create relationships with funders and building contractors and help generate support for new sources of funding. The alliances form the foundation for the stages of work that follow...They also help participants plan for the time and energy needed to move from understanding their needs and aspirations for the project to creating the design and constructing the schools (CABE, 2004: 11).

3.1.3 Enabling stakeholder influence

To make this possible, structured ways of involvement have to be devised and discussions amongst the groups facilitated through the development of a common language (Holt, 1976: 202). This proved difficult enough during the period when extended consultation meant only that builders should feel confident enough to put their questions to architects (DES, 1958:122). It was still problematic in 2002 when the stakeholder list was much extended and each of the stakeholder groups was found to be 'using contrasting criteria, drawing on different sources of information...One person's equitable treatment could be another's favouritism or victimisation' (Wallace and Pocklington, 2002: 223).

To overcome this, planning teams selected right at the inception of a project should include, according to USA suggestions, school board members and superintendent, teachers, architects, consultants, builders and community representatives; pupils did not make this list (Allen *et al*, 1996). England's BSF programme makes quite clear that all the client groups are to be consulted on both the generalities of visions and the particulars of designs and that it is up to management (unspecified) to make this happen (DCSF, 2007:v{13}). This is not just important for democracy and creativity discussed above but for the very practical reasons of cost saving; clients influencing the designs at the beginning mean they are less likely to find changes necessary later, by which time 'it is difficult, very expensive or even impossible to make changes' (CABE, 2004: 12).

To enable this early consultation requires considerable investment of time in the process by all stakeholder groups. In the past this has led to attenuated planning time (four years, for example for Abraham Moss School – see opening quotations to this Report, p.4) even before there were so many stakeholder groups to consult. This is no longer acceptable within government aims to rebuild, or refresh, all England's secondary schools, and some of England's primary schools, by 2016 so methods have to be devised to expedite participation from client groups. Finding these methods is largely the responsibility of the previously dominant architects and local authority officers who thus have to be complicit in the decline of their own influence. The ways in which this has occurred are described in the next three sections.

3.2 Technical Experts: Architects, Builders, Suppliers, Designers

3.2.1 The basis of their influence

Thirty-Three Educational Design Principles for Schools and Community Learning Centres - this definitive title is from an article for design professionals from the USA's National Clearing House for Educational Facilities. That title seemed to me to epitomise the advantages of the technical experts in influencing design (Lackney, 2000). Its niceties cover safety, comfort, accessibility, flexibility and cost effectiveness. In contrast, educational experts have to convey to architects such diffuse concepts as constructivism, individualism, learner-centredness on none of which is there academic agreement. Architects must turn in relief to obeying principles that require them to use 'sound absorbing materials on floors, walls and ceilings and locate schools away from noisy streets' (Lackney, 2000: 27). They also have to obey the technical regulations of the government department with responsibility for education, from the nineteenth century Board of Education to its twenty-first century counterpart, in 2008 the Department for Children, Families and Schools (DCFS). Each of these ministerial incarnations has determined precise technicalities summarised as the 'floor' and the 'ceiling' of any new school project' (Seaborne 1971: 3)⁴. Only the technical experts can be expected to be *au fait* with all of these so again raising their likelihood of dominance. However, while only technical experts could deal with such matters as testing to see if a 'post-tensioning seismic retrofit...of bracing systems...of prestressed high slenderness steel strands' is supporting the roof (Tena-Colunga, 1996: 883) only educational experts can tell if it is also permitting effective teaching to take place.

3.2.2. How technical influence has developed

The obeisance paid to architects appeared to make them dominant in school design processes and management until the end of the twentieth century since when they have been regarded as having lost influence within the experts' team as the new profession of designer has emerged. There is now 'multiple control of the whole design and construction process' amongst various technical experts (Grey and Hughes, 2001:2). In this new scenario, school architects could re-establish influence by seeking allies from the clients' 'team'. One of the most famous of these school architects, the nineteenth century E.R. Robson, did not have to seek allies since he combined both educationalist and architect in himself and as an administrator and surveyor, also managed the design process (Robson, 1874/1972). Perhaps times were simpler then or at least the designs were much more standardised than their BSF inheritors are supposed to be ⁵.

These architectural inheritors have been developing limited ways of involving professional educators in school design for over fifty years whether the architects are in-house teams within local education authorities or in private firms that specialised in social architecture. Thus one finds architects observing children in school, turning 'teachers' practices...into coherent arrangements of space and furniture' [and]...having discussions with selected panels of head teachers' (DES, 1969:19 [37], 25, 27 [51]). These 'architects studied trends in education, and soaked themselves in the subject; they established special working relationships with far-seeing educators and the most successful practising teachers...the dialogue was a continuing one and allowed school design to evolve round changing educational ideas... architects were observing children at work...and were consulting teachers' (Pearson, 1972: 16, 22). In the 1950s, the Department for Education and Science (DES) also suggested that clients must be consulted (DES, 1958:112) but their emphasis was on encouraging architects to include surveyors and builders in design teams from the beginning. The attenuation in the planning stages that this would cause was recognised but could be overcome, it was suggested, by setting a 'rigid timetable' for consultation (DES, 1958:113-4). In this timetable, each element should be prioritised, daily records of progress kept and methodical calculations made (DES, 1958:114-6). Clearly at this

⁴ Floor = minimum floor space per child and other minimum standards and the ceiling = cost limits.

⁵ His monuments can still be seen in the many Board schools still in existence and some still in use. Their scale and standardisation of design signalled that free education for the masses was new and for a new world, that they were breaking with a past of Church schools but also that they needed high ceilings and ample floor space for smelly, unclean children and glass classroom walls to enable visible command processes.

time, builders and architects did not communicate, and advice from one to the other was 'difficult to obtain and too spasmodic' (DES, 1958: 122).

3.2.3 The role of project direction

To overcome this problem, the leadership of a project director emerged as the century progressed together with tighter contracting (DES, 1991 [14]) and quality controls (Ahire and Dreyfus, 2000). Project directors included in their job descriptions not only the technicalities of

planning and gathering resources [to] continue throughout the project...[but also revisions because of] the developing expectations of stakeholders... Control systems need to be used to provide feedback so that the original plan is continually monitored and amended... communication within the project team and with the sponsor, client and end-user are crucial (Geddes, Hastings and Briner, 1990: 11).

Those with a vested interest in seeing the profession of project manager develop, stress that 'strategies do not fail when they are being analysed or when the objectives are being set. They fail during implementation and, more particularly, due to lack of proper project management' (Van Der Merwe 2002: 401). Their point of view seems reasonable though when looking at school experiences. School design projects do not appear to have been very quick in accepting the need for design project management. Tabor High School, for example, used a project team of three. Their reflections on what they should have improved in their processes included elements that might seem obvious to a good project manager, such as keeping clear records, ensuring that everyone had copies of the most up-to-date plans and that someone was nominated to ensure that furniture was delivered to its intended classrooms (DfEE, 2000: 83, 84). Ivybridge School included basics such as not keeping records of orders or disputes in their failings but they did make use of the LA architect as project manager (DfEE, 2000:81). This is supported by BSF evidence that a dedicated BSF manager should be appointed for each project as, where this has been done, 'the process has been smoother and more efficient' (DCSF, 2007: vi[16]).

Despite these project director possibilities, and the gradual acceptance by architects that consultation with all other stakeholders really mattered, the 1st annual report on the BSF concluded that 'there is scope to improve communication...and reduce complexity of management which is perceived as a barrier' (DCSF, 2007: iii[4]). This had already been recognised in 2004 by the Commission for Architecture and the Built Environment, one of the government sponsored agencies involved in school design, CABE recommended a design champion who 'is not a full-time member of the project team but provides leadership and commitment to achieving an inspiring building...[and] safeguarding quality at critical decision-making moments' (CABE, 2004: 16).

Technical experts can easily dominate the design process at the planning stages given their professional knowledge. During the twentieth century, architects voluntarily organised some consultation with selected education experts and began to share their status as the main professional experts with designers and project managers. The 2007 report on the BSF project shows that neither of these movements had progressed very far and so the now mandatory, and much wider, stakeholder involvement seems justified if clients are to be fully represented.

3.3 Political experts: governments, school governors

3.3.1 Governments

Local government might be defined as orchestrators in the management of the planning stages of school design processes, given that they have some residual statutory place because of their responsibilities to see that there is adequate schooling in their areas for all who need it and that buildings meet required national

standards (Wallace and Pocklington, 2002). These duties are discharged by their officers. The elected councillors are there to advance the views of their constituents about the placement and suitability of the school buildings; through their various planning and education committees they could exert considerable pressure.

From the late nineteenth century to the 1960s, local governments gradually acquired greater freedom from central government to manage school building developments in their areas (Thody, 1975). Thereafter LAs rapidly lost that freedom especially in relation to education, first to central government and secondly to private companies (such as architects) who gained central government endorsement to compete in the school design market (Dudek, 2000). Studies are few of how this has affected their role in influencing the developments of school building. Extrapolating from Wallace and Pocklington's study of a local authority reorganised its whole schooling system (including some school building, one finds that 'Ambiguity ensued from officials' limited control over other stakeholders' responses and the structural constraints imposed by externally instigated policies' (Wallace and Pocklington, 2003: 223). This limited control is significant because LAs became committed to incorporating community views into their planning processes as support for their architects competing with private providers (Dudek, 2000:126). LAs thus moved from orchestration to playing first violin.

The central government's education ministry provides and regulates the stage on which the other stakeholder actors play their parts. Their influence varies from Building Bulletins (variously statutory, advisory or educative), to allowing private finance into public sector contracts and the current mandating of client stakeholder participation in such projects as BSF. Funds can be withheld if schools are not such as meet a government's political agenda (e.g. Circular 10/66 refused funding for building any secondary school that was not a comprehensive).

Central government influence on design itself has not been prescriptive of any one particular style of building or management but it is obviously able to back its views with large amounts of money, policy trends, legislation and regulation. It also has supportive agencies to promulgate its agendas. The National College for School Leadership (NCSL), for example, runs leadership programmes to enable school leaders to make best use of the BSF capital (NCSL, undated). Such courses underline the requirements for community participation in influencing designs since attendance brings together school and local authority personnel and is for whole planning teams from a school. The agency Partnerships for Schools (Pfs) disseminates and organises the government's messages about the private finance initiative, concentrating particularly on local authorities and school governors. The Commission for Architecture and the Built Environment (CABE) - improves local governments' understanding of design; 4ps (Public Private Partnerships Programme) works in partnership with local authorities to obtain finance and develop PFI schemes.

3.3.2 School Governors

3.3.2.1 *The basis of governor influence*

Much more akin to governance arrangements in higher education is the position of a school's governing body but influencing school design and building is the least discussed element of their roles in both government publications for governors and the many books of advice for them. Since 1945, governors have been responsible for inspecting the premises regularly and informing the local authorities of what needed doing but this resulted in, for example, painters appearing 'to come and go according to their own timetables...Feelings often ran high when internal decoration proposed as the colour schemes was decided in an architects' department and did not always please those who had to work among them' (Beckett, Bell and Rhodes, 1991:150). From 1987, this divorce of premises audits from planning and implementation was ended as schools became self-managing and governors assumed responsibility for both the major and minor works programmes within each school. At the same time, strategic planning which enabled curriculum needs to be linked to building developments, became a school responsibility in which governors had to take a lead (Sallis,

1995:4,8), becoming both policy-setters and monitors of progress on design completion (1995, Esp and Saran).

3.3.2.2 Routes for governors' influence

To conduct this responsibility with knowledge, many governing bodies established both planning committees and building and premises committees (Esp and Saran, 1995, 35-39). The research consensus, however, was that they were not particularly influential in either capacity (Farrell, 2000) though teacher-governors have been deemed more useful in this respect than the other categories of governors (Earley and Creese, 2000). However, governors generally have been recognised as 'the starting point for the formal design process to obtain preliminary consensus...how the brief should evolve' (Dudek, 2000: 126). In such commencements, governors were found to have more awareness of 'the need for futures thinking and an understanding of the context and environment of the school' (Fulford, 2004: 65 - though this study related to their roles in general and not specifically to building design). This may be allied to the type of training they were receiving from the 1990s (Thody, 1998) but Fulford's findings do underline again the expectation that teachers would be more conservative than those with outsider views, such as governors, just as the last century saw the expectation that teachers would be more conservative than LA officers.

Much earlier evidence from the USA strongly supports this view of governors' as forward-thinkers where

Boards of trustees...strongly influence quality and quantity of creativity...the attitude of the governing boards toward the acceptance of promising innovations can spell the difference between mediocre and distinguished school planning (Castaldi, 1967: 101).

England's BSF programme sees governors' role as being that of equal partnership with heads in strategic school leadership (DfES, 2005). Clearly governors have leapt forward from 1999 when 'powerful school governors are in their infancy...it can...be uncomfortable for governors entering the preserve of those they respect for their professional knowledge' (Thody, 1999: 43). Closer inspection reveals that the government's intention of equality in 2005 was mainly aspirational as governors 'need to focus on their strategic role' but what happens in practice will clearly vary from those who abdicate all to the professionals, through those who see their job as monitoring to those who will support the head irrespective of their own attitudes . (DfES, 2005: 6 [14] [18]). Aspirations for governors' influence received another boost with their expected roles in helping their schools to meet sustainability goals with 'ongoing ideas and encouragement...assess the schools performance...help formulate the case for improvement...urge the headteacher to set ambitious...targets...review progress on a regular basis...catalyst for new initiatives' (DfES, 2006: 37, 38). In doing this, they become 'gatekeepers' to the client influence process (DCSF, 2007: v [12]).

By 2008, these aspirations approached reality. NCSL research (2008a) reported that governors did adopt a strategic role in three case study schools where an inner group of the more experienced governors led the planning process, there was clear understanding between heads and governors about who did what, opportunities were made for governors to work with staff, individual governors were able to contribute specific skills and headteachers viewed themselves as one amongst many on the governing body. 'Whilst all agreed that governors fulfilled a strategic role, there was a common theme in that the schools themselves identified and conceived the direction while the governors planned the journey' (Harwood-Smith, 2008: 4). This accords with conclusions from the BSF programme which showed that senior leadership teams in their case study schools 'were determined to provide the governors with a clearly articulated model of their vision' (DCSF, 2007: 27).

This latter statement seems to me to presage school governors' roles in design planning and management as more limited than might be expected of governors in higher education where

3.4 Client experts: senior management, teachers, pupils, community and parents, private finance

3.4.1 Clients As Stakeholders

3.4.1.1 Origins of influence

Suggestions for client participation in school design emerged around the 1970s: 'what the average citizen can do is help define ...or redefine, the skills and behaviours they wish their children to learn, as well as the environmental conditions within which they learn' (Holt, 1975: 186). Client views are expected to demonstrate users views of school ethos, school contributions to surrounding communities, aims of the school for the future, length of the school day and building usage, other users' needs, how the school day should be organised, how much and in what ways people need to move around the buildings, what facilities teachers need to prepare and to relax and what technology is acceptable. This input includes not only the strategic overview that should originate with governors but also details 'crucial to the everyday users of the buildings' because after design is completed, very little can be altered without large expense (CABE, 2004: 24).

3.4.1.2 Routes to influence

All these views should be considered before even tentative designs are drafted and needs to be presented in ways that technical and governing experts will find acceptable. The onus to make this possible rests with those last two groups but getting the clients to participate is expensive and has been estimated to increase designers' workload by up to 40% (Clark, 2002: 15). School workloads are also increased with 'the burden of meetings...[which] should involve the LEA, the school, the bidding team organiser and their design team...The maximum possible number of these liaison meetings should be arranged at useful moments in the programme to facilitate the dialogue. For a complex building such as a secondary school, six meetings would be minimum...[over] four months (CABE, 2004: 22).

Thus ways to empower client influence have had be found that are cost effective and enable real influence from clients . Tried or suggested ideas for all client groups have included:

- presenting a selection of initial design drafts to clients rather than a finalised design as 'drawings...are excellent tools for getting everyone involved in the project' (CABE, 2004) and stakeholders are more likely to authentically participate in the design process from the outset if they feel that the decision is not already taken (Clark, 2002: 14-15).
- using CABE's (Commission for Architecture and the Built Environment) Enablers Panel who advise on designs and how to organise collaborative efforts and CABE publications aimed at the non-specialist such as *Creating Excellent Buildings: Advice for Clients* (CABE 2003).
- charettes (Baltimore and New York). These were week long, drop in meetings of the 'experts' to which any community member could (and did) join in (Holt, 1975).
- providing clients with lists of evaluation criteria prepared for non-technicians (including a special version for pupils) developed from the design criteria of the CIC (Construction Industry Council).
- opportunities for client group leaders to visit other schools as exemplars (NCSL 2008b:3; Harcourt, 2004) and using DCFS designs that users can look at for comparisons (CABE, 2004).
- *School Works* provides guidance on setting up participatory design projects and this has been found to 'provide legitimacy to the approach' (Epson, 2002: 65).
- when appointing consultants and architects, schools should look particularly at their records of consultation as well as at their designs (Dudek 2000).
- test out various 'day in the life' scenarios of different people in the school (CABE, 2004: 22).
- planning teams going to different venues in the community rather than asking community members to come to them (Holt 1975).
- using photo quizzes, roleplaying, game playing (Sanoff, 1994: 188-204).

- architects have sent questionnaires to teaching and non-teaching staff, pupils, governors and parents, and held small group discussions which highlighted concerns about toilets, heating and security. This particular process added about four months to the design planning stage (CABE, 2004).
- a community representative committee was set up as the first stage in the process of designing a new school; from their recommendations, the architects and planners worked to develop the designs which were later returned to the committee for comment (Holt, 1975: 189).
- The DfEE (2000) published a guide for neophyte in a design process. This they can follow from creating the initial vision to assessing the health and safety aspects of furniture to comparing suppliers' quotes
- A School Building Assessment Manual to 'encourage school administrators, teachers, students and parents to discover and reflect upon the physical features of school buildings...to identify what works and what does not work in K-12 school buildings' by going on a school walk-about (Sanoff, 2001:7).
- web sites enabling community feedback (CABE, 2004: 42). An example of this is the blog for Sharrow Primary School, Sheffield, featuring teddy bears Brix and Mortar with regular updates on the school for community and children (school completed 2007).

In the following sections, further examples are cited in relation to each particular group of clients.

3.4.2 Headteachers And Senior Managers

School design planning is not a topic that has appeared in generalist management and leadership texts until very recently when it has been included in both the genre of inspiring leadership philosophies (Caldwell, 2006) and in more prosaic management guidance under the aegis of the NCSL (Keating and Moorcroft, 2006). These mentions are almost certainly in response to the BSF prominence. There seems general agreement that principals and senior managers are likely to exercise the most influence of any client group; in a 2002 study they are listed as 'orchestrating implementation...key-change agents' (Wallace and Pocklington: 166,180). This designation is in recognition of their position between LA officials and school staff as spokespersons for each to the other and for both when dealing with designers 'in efforts to protect their sectional interests' (*Ibid*: 183). However, senior managers are warned that they may well 'lose control of the agenda' to architects – but this warning is contained in advertising material for a consultancy that helps schools prepare for their BSF consultations with architects (Edison, 2008).

The vision and drive of the principal of Bishops Park College, for example, 'brought to reality' his 'schools within a school' concept where his 900 pupil secondary school was designed as effectively three separate schools for 300 pupils each (NCSL undated, Bishops Park College). At Dorothy Stringer School in Brighton, an outstanding new toilet block was 'only possible because the Head drives things forward. Trevor is an inspirational leader...He wanted to create a positive welcoming environment and wanted the toilets to be a place that anyone could use, bright and welcoming' (NCSL 2008b: 3).

The dominant influence of senior managers arises from several sources. Much of the information architects need to produce their initial designs is the prerogative of school senior managers including projections for future numbers of students, their needs and ages, likely learning and teaching developments current and future; likely future organisation of schools; how does the school relate to its community and surroundings and what should the internal environment look like. Much of this will already be in a school's strategic and operational development plans. The creation of these does now include all school staff and governors but its leadership has to be by senior management (Hargreaves and Hopkins, 2005). It is this plan that determines school building and remodelling. Strong influence is supported by central government documents who see 'strong leadership ...[as] essential if the shared vision of sustainable schools is to be communicated to all school staff, pupils and wider stakeholders' (DfES 2006: 38/57). Out of curiosity one asks why a supposedly shared vision has to be communicated but it underlines the strength of influence expected of senior managers.

Senior staff also have powers of appointment; hence for example, the head and governors of Kingsmead Primary School in Cheshire will only appoint staff who share their visions of eco-awareness (DfES 2006: 10). When developments in school design are mooted, such staff are likely to be supportive.

3.4.3 Teachers

3.4.3.1 Lack of influence

Of all the groups whom the BSF programme wants to influence design, teachers appear to attract at best, muted support, as the language of these quotations illustrates.

Whenever possible, potential users of the school should be given the opportunity to comment on design proposals before they are finalised. It is essential that Heads of Departments in secondary schools get an opportunity to comment and it is desirable that other staff...are also involved (CABE, 2004: 23).

Teachers' views are 'critical for efficiency factors, but the facility should not be designed for a personal teaching style' (Leeds, 1995: 15).

This caution is reflected in earlier studies which found that including a committee of teachers in the planning processes in US school building 'has met with varying degrees of success' (Castaldi, 1969: 15). Most English LAs had teacher consultative committees by the 1970s but these tended to focus on furniture and equipment; there was considerable variation in the extent to which such committees were really consultative vehicles though Seaborne concluded guardedly that there had 'probably been some improvement in this respect' (Seaborne, 1971: 3). This conclusion was reflected internationally where the greatest 'concern was expressed as to the adequacy of the educational voice within design groups' (OECD:1975: 10 [8]) as evidenced when teachers were clearly not consulted during the time when open plan school designs were in fashion in the 1960s and '70s. Once these designs became reality teachers subverted the actuality by creating 'walls' from cupboards (Clark, 2002: 16). Outcomes such as these are blamed on teachers not feeling ownership but more recent examples show that little has changed. Reported in 2000, Willow Tree School's project team for its new school design contained no teachers, only three senior managers, and three governors who took the main decisions in liaison with LAs and architects though choices of furniture and equipment were discussed with staff (DfEE, 2000:86-88). By 2007, less than 50% of headteachers felt that staff had been sufficiently consulted (DCSF, 2007: v[14] [15]).

Despite this lack of involvement, there seems general consensus that teacher influence would be 'a good thing' in order to avoid their alienation from the design process and thus its subversion by teachers as the eventual users of the designs in action. BUT there is also general consensus that designers, governors and senior managers see teachers as the most conservative elements in a design process, and therefore, as almost not worth consulting.

3.4.3.2 Distrust of teacher influence

This conservatism was reflected at an Essex school, successfully remodelled to the satisfaction of all client groups as part of the BSF programme (Harcourt, 2004). Remaining to be demolished and its space used for new facilities, was the 1906 section of the building with the then usual central hall with classrooms opening off for around 35+ pupils in each. The teachers opposed the demolition because the old building was 'beautiful...it is part of the ethos of the school...changing the building doesn't [create] revolutions in education...it's what goes on inside the building that's...the most important thing' (Harcourt, 2004: 54). Teachers pointed out that the old classrooms would serve very effectively for the smaller groups that are now the norm for schooling. The teachers, however, generally opposed the idea of more one-to-one teaching with students taking responsibility for their own learning (the principle around which the rest of the buildings had been designed),

likening it to a university-style of education which the teachers did not think would work for younger pupils (Harcourt, 2004:52).

Such traditionalism in attitudes to design and learning methods was noted also in school playground design which schools tended '*over-design* (sic)...as a means for monitoring and maintaining control over children's play activities' (Malone and Tranter, 2003: 30). This criticism echoes one from nearly thirty years previously when architects 'expressed their disillusionment with teachers whose experience has extended little beyond the conventional methods still so widely practised' (OECD:1975: 10 [8]). From around the same time and equally damning is

the advantages [of involving] the local talent of teachers...are limited. The major benefit is financial [since the teachers don't have to be paid extra to do this – it can be just part of their duties]...But local staff...do not usually possess the same level of competence as do outside experts,...some of the local staff may not be as up-to-date or as competent... as outside experts...the...energy that could be devoted to such a study [of modern education] would be...limited'(Castaldi, 1969: 27).

These same attitudes to teachers have been reported from Australia today where 'the process of designing or refurbishing an existing facility is not certain to include systematic consultation with resident educators'...[who are hindered because] From an educator's perspective, the focus of much consultation pivots around plan-view documents – not necessarily a familiar language' (Elliott-Burns, 2005: 5).

Teachers' influence is further hampered for very practical reasons. Where schools are completely new, it is usual in the UK for at least the principal to be appointed up to eighteen months before the facility opens (only five months in Australia – Elliott-Burns, 2005). By this late stage, all but the finer details of interior design and possibly furnishing will already have to have been decided and teachers will not be appointed until an even shorter time before opening. When a school is being redesigned, the only opportunity for teacher input may be restricted to workshops in their lunch hours or after school (CABE, 2004:42) neither of which may be attractive prospects.

3.4.3.3 Routes for teacher influence

Recommendations for increasing teacher influence are to alter their place in the design process and to re-educate them (presumably to decrease their conservatism). Their placement in the chain of influence has to be right at the beginning and also continuously available for reference as the details begin to take shape (DCFS, 2007; Elliott-Burns, 2005: 5). Re-education involves finding sources of guidance and in this respect it is interesting to note that there are many books guiding architects on school designs and what educators need but not for teachers on what is architecturally possible. Acquaintance with the language and possibilities for construction might avoid rather dismissive comments such as 'When pressed for a vision in terms of requirements for buildings for the future, [teachers] suggested that flexible space with infrastructure which can be easily upgraded to what the next technology is, is important' (Harcourt: 2004: 56).

Re-education should start with time off to go away and reflect on what teachers want in a new design; these views should be passed on by their Heads of Departments with staff need to be kept informed termly of progress so they feel 'more positive about what's going on' (DfEE, 2000: 82). Understanding the possibilities of new technology should be included in this re-education (Clark, 2002). Should re-education fail, it seems that designers should just seek out the teachers who don't need re-education and who are likely to accept designers' views, the type of teachers who 'work largely by intuition, are not always articulate and are sometimes to be found in obscure places' (OCED, 1975: 46[72]). This may seem an outdated view but compare it with CABE's advice in 2004 for the teacher appointment to the design and construction team:

Carefully chose a teacher with the right skills and interest to fulfil the role of education expert. This may be one of the deputy heads...[Alternatively,] the education expert may be a teacher seconded from somewhere else in the LEA. Alternatively a schools facilitator can be brought in. It is important to ensure that this persona has the right skills and up to date knowledge and experience' (my underlinings) (CABE:2004: 19).

It seems that consulting teachers is considered necessary to give them at least the appearance of ownership of a design but unless their views correspond to the latest establishment interpretations of modern education and futuristic architecture, their influence is likely to be ignored. The conclusions from this can be either that more attention needs to be paid to staff development opportunities to learn about new trends in both education and school architecture or that designers should accept that teachers' views are valid and then work harder to combine both traditional and futuristic viewpoints.

A movement to involve teachers in learning space design is still in its infancy. Teachers became much more used to consultation once their participation became required in creating the strategic plans for schools in the 1990s and further, as distributed leadership has become the *leit motiv* of twenty-first century school management. . Such learning opportunities may help but giving teachers real influence on design can only happen if it is recognised as legitimate that somehow must be found to accommodate teachers' views that

- they perceive themselves as losing the most status from new designs that visibly acknowledge the transfer of learning-centredness from pedagogue to pupil
- they will be the ones who have to make the designs work in practice and who will have the most new work to do after the new school buildings are handed-over.

3.4.4 Pupils

3.4.4.1 The value accorded to pupil influence

Those who advise on extending stakeholder influence seem much more ready to trust pupils than teachers, the pupils' opinions being rated as the most important of all client perspectives (Leeds 1995:15). The BSF programme requiring pupil consultation is based on this belief. Children's influence has been particularly studied in school design projects (Flutter, 2004) as part of a wider interest in the field of involving student voice in all matters educational (Flutter and Rudduck, 2004; Rudduck and Flutter, 2003). Student voice and school design is also picked up in US` organisations such as DesignShare (Designing for the Future of Learning) and the NCEF (National Clearing House for Educational Facilities) both of whose web sites report collaborative projects involving student input and how this has been organised in countries around the world. The BSF insistence on involving pupil voice is thus part of a wider, and international, movement to include students much more in their teaching and learning, their curriculum and the environment in which they learn (Fielding, 2001).

Pupils are not expected to be in the management processes but their views are required at the initial stages of the design process both for whole schools (the BSF 2005-16 programme) and for elements such as the toilets (NCSL 2008b). Generally the tone of the literature glowingly supports involvement. There are examples of children's great ideas (Holt, 1975: 200-203). The innovative approaches of the design for the David Hope Academy in Leeds for example, 'was inspired by the students who worked with the architects to create their perfect place to learn'. Students worked with the architects throughout, visiting their offices and working through day in the life scenarios; pupils influenced everything from asking for, and getting, more social space and particular wall colours (Building4Education Nov 2006: 7). The literature further recognises important spin-offs into curriculum work and future careers in construction (CABE, 2004: 23), ascribes lack of vandalism and graffiti in school premises to a sense of ownership engendered by pupil participation in design (DfES, 2006: 29), finds examples of improved pupil motivation (Mason, 2008) and goes to great lengths to find ways for

children to exercise their influence. There is only the rare word of caution that children's ideas are not as original and useful as they might be (Mason, 2008). Where this did happen though, it was because pupils were not involved early enough in the design process (Mason, 2008, final chapter; (DCSF, 2007: v[14] [15]).

3.4.4.2 Routes for pupil influence

Listening to children's views directly is a fairly recent development in design planning. Until around 2000, what children needed from school buildings was largely gleaned by adults observing and recording children at work and play (Malone and Tranter, 2003) though there have been examples that are more dependent on the children's own perceptions of their days (Gordon and Lahelma, 1996). If student voice is to be taken seriously in the 2000s, it must have the necessary time, preparation and dialogic form to be successfully incorporated (Fielding, 2001: 105, 108); ways of doing this have included:

- interviewing students (Malone and Tranter, 2003) using simply framed questions with limited foci such as 'If you could make one change to the schoolgrounds, what would it be?' and 'What is your favourite place in the schoolgrounds?'
- asking them to draw their ideas (Mason find ref).
- establishing a permanent committee of the School Council so on-going expertise can be developed and easily consulted. Thomas Tallis School in Greenwich, for example, has set this up with especial reference to the sustainability building agenda. 'Every two years this group leads an environmental audit in which all students, staff and interested parents identify areas for improvement in the school' (DfES, 2006: 29).
- offering choices in a limited range such as 'developing a colour palette from which colours for walls and furniture may be chosen by students in the full knowledge that they will harmonise and match and be approved whatever combinations are chosen' (Mason, 2008, final chapter)
- giving children their own modelling equipment so they can devise their own designs then to be translated into the real world. One example of this was at Penton Primary school in the 1980s (Allen, 1988). Here the children were offered a 'parallel experience' to that of the artists and designers' (Allen 1988: 3). Using old tyres, and scale kits of playground materials, the children produced their own ideas for play structures so that 'the children's 'language' was easily apparent to the adults on the design committee' (*ibid*: 10).
- writing 'wish' poems.
- pre-school children designed their own learning space by being enabled to remove everything from their classrooms and put them back as they thought best. This had the unexpected outcomes that 'parents became interested in the project...fewer conflicts developed between children (Pfluger, and Zola, 1974:78-79).
- primary school children took photos of their existing school and then talked about what they liked and disliked. They then went to visit other schools and likewise took photos. This better enabled them to take part in discussions (Sharro, 2008).

Despite these examples, many teachers are reported as seeing student voice as only peripheral because the language of consultation was inappropriate for children (Fielding 2001). Australian experience likewise decided that pupil influence on design will 'remain a peripheral exercise implemented on the fringes of an overcrowded curriculum' (Black, 2003: 2). The BSF programme has also reported delayed schedules because of 'the 'longer than expected planning...processes...causing delays' though there is no indication that this is particularly because of pupil involvement (Building4Education, Nov. 2006: 8). Mason's 2008 research into children's voice in BSF school design was,

inconclusive on the impact of student involvement in the design process... The research did find some evidence of skill development and improving behaviour (one example) and motivation (one example) but these were examples of where students had been involved in a more detailed and

iterative stage of design development. The research revealed that student voice had very little impact on the completed design, compared to that of others involved, with very limited opportunities for their voice to be heard above the more powerful voices of others (Mason, 2008, final chapter).

3.4.4.3 A questionable influence?

A cynic might suggest that children's influence in the early design stages is highly recommended because children are more malleable than other stakeholders, because media interest is guaranteed for children's activities and because empowered children do not threaten the permanent established order in a school. These views are encapsulated in Fielding's questioning about whether or not the encouragement of children's influence is 'new and emancipatory...or the further entrenchment of existing assumptions and intentions using student...voice as an additional mechanism of control?' (Fielding, 2001: 100). The less cynical should still look at the ways that have been found to engage these young stakeholders. Most of these could be usefully adapted to help other groups to increase their influence. Combine them with their being enacted right at the beginning of the design process and maintain a standing consultative committee of all client stakeholders and 'influence' becomes realistic and valuable to the technical and governance experts.

3.4.5 Parents And Community

3.4.5.1 Who are the community?

This is considered the most difficult group to involve in design. Parents have been found to lack interest in anything other than that which directly concerns their own children (Farrell and Law, 1999). The community is so amorphous a concept that it is difficult to be sure that all elements can be involved (local elected politicians, residents and businesses in areas adjacent to a school, religious bodies, societies, public services, community charge payers) given the usual limits on time and costs. The importance of all these arises from different constituencies too: their rights to be involved range widely, including for example, finance, paternity, citizenship and aesthetics given both the 'image-building aspects of education' (Castaldi, 1969: 13) and the socio-economic effect of regenerated buildings in previously neglected areas (CABE, 2004:10). Some already have representation in other forums such as the governing body which has members for both parents and community. Nonetheless, their importance has been noted. When, for example, the noted Victorian landmark primary school in Sharrow district in Sheffield was to be replaced, strong efforts were made to include the community in the decision making since there 'have been too many instances of new school architecture struggling to gain acceptance or failing to overcome a community's sense of loss' (Sharrow, 2008)

3.4.5.2 Routes for community influence

Given such varied sources of legitimation, their views can seem difficult to characterise and collate and they may therefore become swamped by 'the voice...of an educational administrator seeking the expedient solution which a community will readily accept' (OECD:1975: 10 [8]). This seems to have been the case from historical evidence. 'Involvement should be channelled through a 'group of selected citizens *under the guidance of experienced professional persons*' (Castaldi,1969: 28 [his italics]). This USA suggestion echoes an assessment of England's success in post-war school building which was due to architects, educationalists and LAs being firmly in control and the general public did not think they had sufficient knowledge to enable them to contribute to school design (Saint, 1987: 228). Overall, enabling 'broad community participation can be a difficult and frustrating process' (Lackney, 2000:3). Much has changed since those views were recorded but the likelihood of the unexpected from these clients can leave them isolated and their views neglected. An example of a school in Essex showed how, although the modernisation was generally well received, the school's alumni (many still living in the school's area) wished to retain one of the old buildings, its symbolism having cultural and historical significance to them (Harcourt, 2004: 5).

Efforts to genuinely enable these groups to influence design have been inventive and could well be copied in higher education where relations between town and gown may not always be amicable.

- *A 'core of active parents organised Open Days and Bring and Buy sales to encourage others to share in the design process... The developing designs were exhibited on huge display boards and by providing tracing paper and pencils, pupils, parents and teachers had the chance to work on the designs themselves... Views were gathered on lap tops by members of the design team' (CABE, 2004: 36, 37).*
- Local residents were asked to attend a meeting about a new school and its location. The architect covered the floor with a map of the area large enough for them to walk on and write their comments on (Brubaker, 1998).
- *one school...used an intensive study week promoted in local newspapers, TV and radio...at the start of the week six advisers – from the LEA and from the DfES – set up shop near the entrance to the school's hall. On tables arranged like a café, they listened and wrote down people's views...Each team member spent about twenty minutes with everyone who came. These findings were published in a report that was subsequently presented back to participants at a public meeting...It was cheap to run an simple to organise' (CABE, 2004: 38, 39).*
- The architect for Sharrow Primary School in Sheffield organised work shops for parents which included their choosing the wall colours and the type of concrete for the exterior walls. Sharrow Project workers from libraries and community activities represented the local estates in similar decision making (Sharrow, 2008)

3.4.6 Funders

From 1833 until the mid 1970s, funds for public school building had variably been provided by central government (from taxation), local governments (from community taxes), religious bodies (as part of the set-up costs of a building) and private endowments from local philanthropists though the surviving value of these was largely minimal by the 1970s; all of this was mainly distributed and controlled by the local authorities who likewise controlled school building design under central government regulations (Thody, 1975). Since then major changes have occurred in funding with various different approaches being tried. Central to these have been first the direction of funds straight from central government to schools without passing through the intermediary influence of LAs but now subject to some influence from new agencies and secondly, schemes allowing for private finance to be once again used to build schools (the Private Finance Initiative, PFI).

This has given a new legitimation to schools to influence the design of their buildings and to the new private funders who, like those of the past, will often want to see image conscious design. Neither group have much expertise or experience in school design since prior to this period, schools had only the most limited power over minor repairs and initially lacked planning information from LAs for longer than one year. These new client groups have also to grapple with the usual government regulations for buildings, in language accessible only to technical experts, including such as recent stipulations that central government funding will be available only to projects meeting high environmental criteria' (DfES, 2006: 7/2.4). Meanwhile, LAs often retain leadership of a project as the 'lead client organisation which has the funding and is responsible for progressing the product' even at the early stages of initial designs (CABE, 2004: 13, 14). Where funding partnerships had been established, 'the appointment of an effective LEP (Local Education Partnership) manager has added a "local face" to the process' (DCSF, 2007: iv [10]).

In this area at least, schools should be looking to higher education for transferable lessons rather than vice versa. Universities have always managed their individual budgets, and have had mixed incomes from fees, endowments, investments and private capital. They are more used to balancing stakeholder influence in building design than schools will be.

3.5 Experiences Transferable To Higher Education

Particular groups of technical experts (notably architects and designers) can easily dominate the whole planning stage for school designs though there has also been significant input from senior school managers. Students' views are particularly welcome though teachers are distrusted as too conservative. To enable influences from client stakeholders to make much impression requires:

- very innovative efforts to enable stakeholders to participate in their own language (examples in 3.1.3, 3.2.2, 3.3.2.2, 3.4.1.2, 3.4.3.3, 3.4.4.2, 3.4.5.2)
- a genuine belief that it really matters (hence the importance of the impetus factors) not just to creating a more effective and outstanding building, but to democracy, behaviour, results, the local economy and good community relations.
- a willingness for currently dominant groups to share their scope of influence with others.
- all stakeholder groups included in the design process from its inception and available as standing consultative groups. The more this happens early on, the less likely are disruptions later in the project since the numbers of last-minute demands should be reduced and the sense of ownership generated by early participation enhances good-will to speed completion.
- a project manager and a design champion to organise, chart, champion and monitor the progress of consultations as the work proceeds.
- governors have become more significant in the process but could do more to liaise with teachers rather than only senior managers.

The differences between the university and school sectors in their government and financial arrangements preclude transference of experiences.

4. POWER

Design	<i>decisions about building appearance and structure, learning spaces, equipment and furnishings.</i>
Construction	<i>building and equipping the school, monitoring progress.</i>
Use	<i>evaluation: formal (post completion checks) and informal (occupying and using the building).</i>

4.1 The Last Stages

By this last stage of the building design process, the buildings take physical form according to the plans influenced in the previous phase. Some design decisions will remain, mainly in relation to what can be termed interior design. Once construction is complete, there are contractual evaluations to be done just before the users occupy a building and then again about a year later. I have related this period to power, since decisions here are literally set in concrete.

During these final stages, 'the most enabling feature of BSF projects was to have responsibility for BSF at school level concentrated in a small group of individuals' (DCSF, 2007: iv[10]). Texts on project management present this as largely unproblematic because it is focussed on the technical processes with the manager's job simply to keep it all on track. The project manager is usually one with credibility within the construction professions involved and whose principal objective is to maintain everyone's focus on the final target. (Geddes, Hastings and Briner 1990), This description obscures the political nature of design completion. Its apparent rational simplicity a way to 'exert total control...[it] legitimates the agendas of dominant groups, invalidates discussion of political options and recognizes no limits on acceptable means to achieve pre-determined ends'. Where dissent appears, there are ways to overcome stakeholder resistance (Buchanan and Badham, 1999:167).

The most likely of a school's personnel to be closely involved in the final stages on a daily basis is the school bursar. Usually, but not invariably considered a school senior manager, is this new profession of school bursar Bursars' influence on the building design process will have started with their roles in reporting on the state of facilities and how these might be improved though bursars acknowledge that 'the involvement of others in these processes are important...such as whole governing body, committee and parent teacher meetings' (Evans, 2006:47). Beyond that they are required to monitor progress and often to organise building work on site. However the role envisaged for a bursar by the Audit Commission seems to put he/she more into the technical experts category as an 'experienced bursar with a high level of contract management and financial skills [and]...a professional building background' (Audit Commission, 2003: 28) is needed in the project management process. Site and building management featured in 80% of the job descriptions of bursars in a research project at the end of the 1990s, thus putting them in the likely role of project managers. There was also a major role in the management of capital projects...[including] arranging business development projects, inviting tendering for maintenance and services. To ensure that contractors perform duties according to contract and recommend termination or renewal to the headteacher...ensuring full utilisation of premises...The management of sites and premises...is an area where bursars can take the initiative' (O'Sullivan, Thody and Wood, 2000:34). More recent research shows this to be the case (Keating and Moorcroft, 2006) and it is through bursars that whole facility management needs can be built into design from the start and the school's point of view maintained during these final stages when the influence of the client stakeholders can easily wane.

4.2 Design

The time constraints of the final stage of the building design process mean that speed of decisions can become more important than maintaining consultation. The result can be what has been described as 'silent design development' (Grey and Hughes, 2001:7) hence the importance of a continuing consultative committee from the previous stage, a design champion and the bursar. Decisions taken on design during this stage can also reduce the remaining budget; Tabor High School, for example, found their furniture and equipment budget had to be reduced because of unforeseen design amendments and consequent rises in building costs at this stage and learn the lesson that a defined budget for furniture and equipment should have been ring-fenced from the start (DfEE, 2000: 83-5).

During this final stage of design work, the performance indicators for the success of the project will be determined, the brief will be developed with precise specifications, including what materials will be used, and the orders placed. Architects will usually be the final arbiters here (Dudek, 2000:xv) but ideally:

an intense period of detailed work where channels of communication between the project leaders, the education expert and the design advisor are essential. This sub-group needs to report to the project team and the project steering committee (through meetings, presentations, newsletters) so that their work benefits from wider discussion and commitment (CABE, 2004: 20).

4.3 Construction

as the first physical signs rise – this construction can have a highly emotive effect upon the prospective users...control by the lead consultant is crucial...the client [must be] 'nursed' through if necessary (Dudek, 2000:126, 129, 130).

Buildings taking shape often do not appear to the end users much like the form agreed in designs. Combine this with users' needs to meet opening schedules in time to prepare for teaching when a building in progress appears to clients as if it will never be ready. Then recall children's (and adults) natural curiosity about what is going on behind the barriers, teachers' needs to keep noise and disruption minimal and BSF calls to use the construction for learning purposes. Recollect the many who (hopefully) will have been involved at the influence stage and who want to see their ideas realised. Add the detailed checks that must be made before the building is handed over to clients. Overall, it is not difficult to see why the situation is so emotive as in the opening quotation to this section.

The contract will have included agreement on works on site which for schools now usually entail some possibilities for children's access at particular points. A contractor's Health and Safety Officer can give presentations to staff and pupils and the site itself can have viewing platforms and web cams so pupils can learn during construction. In one of the school case studies in the 2004 CABE report, groups of 9-10 year old children went to the architects' office to study the plans and part of the project was built of cardboard made from the children's collections of waste paper (the latter is the most extreme form of user involvement encountered during this literature review). Secondary school pupils looked at the careers of those in the construction industry, incorporated the buildings' progress into technology and maths lessons and its design into art sessions.

All these efforts are directed at the child clients. For the adults who participated in the design stages and who will be using the building for many more years than will the transient child-group who helped to design it, the involvement at this stage is much more staid and less direct. The building also represents a potentially great effect on their working lives, who will gain and lose power/influence, whose empires will change and who are those with the most influence; 'nurturing these people can be invaluable when the project starts to meander off

course' (Burnett, 1998: 174). Thus the project leader/design champion will be holding regular site meetings with the contractor during construction and with the project steering team to oversee the technicalities of implementation. Because 'these are often quite technical meetings...it might be more appropriate to have separate meetings with school representatives to discuss practical issues affecting the school' (CABE, 2004:26). Thus there should be a project team for strategy with representatives available from 'all the key stakeholder groups' - pupils from the School Council, LA councillors, local residents, teaching and non-teaching staff – all of whom 'must be given the opportunities to contribute' (CABE, 2004: 17).

4.4 Use

Apart from the technical hand-over assessment that all has been completed as contracted, there are ideally post-project evaluations after about a year to see if buildings are working in the ways for which they were intended. In commercial project management, these evaluations do not apparently take place as often as they should (Melton, 2006:139). The BSF programme has commissioned annual reports that should usefully enable some of this to happen though at rather a high level of generality; less than one fifth of pupils in the 2007 survey for BSF progress report, for example, found their classroom furniture was comfortable (DCSF, 2007:iv[5]). Too late for their own new schools but a timely consideration for those who come after. More specifically to assist this phase, *School Works* can provide a post occupation evaluation guide for new secondary schools www.school-works.org but for individual schools, little seems to have changed in forty years since Seaborne commented that what

still seems to be lacking is any systematic attempt to estimate the efficiency of the school building once it has been actually constructed and occupied...too few attempts have been made to obtain consumer reaction from teachers and children actually using the building (Seaborne, 1971: 4).

Power to ensure that buildings are used as intended, and to add additional uses to original intentions, lies with their teaching and support staff, students and senior managers. Training courses to help staff adapt to the pedagogic expectations of BSF buildings are currently available at the NCSL but so far only for senior managers, the ones least likely to be teaching. The teaching and support staff will be conveying to the students how they think the building should be used and students will be adding their own interpretations. Unless everyone is helped to use the opportunities provided by a new build or remodelling, then the opportunities are less likely to be used. This is all part of the last stage of the process of building design management because:

'people...can only take so much change...there [has to be] a change-positive climate...even the changes that take-off can wane after the publicity has subsided' (Burnett, 1998: 2).

Examples are many of how users can powerfully affect buildings' intentional design so a few can suffice here. Open-plan learning spaces reflected 'a belief in more child-centred methods among educational authorities...though this is by no means reflected in the actual teaching which occurs in such schools' (Neill, 1982:45). Adventure playgrounds for schools have apparently survived most successfully in Scandinavia because there are playspecialists to lead the children's activities and demonstrate different use for equipment (Haverinen *et al*, 1999). Countesthorpe College in Leicestershire, powerfully designed to enable full student and teacher democracy in the 1970s failed to re-educate its surrounding community into the new ways of working and had to significantly lessen its democratic emphases. It is people who make the buildings work however good the design:

The built environment, however well designed cannot solve all of the problems encountered by disabled people. Managerial or organizational decisions often determine whether the disabled are included or excluded (DFEE, 1999: 4 [1.11]).

4.5 *Experiences transferable to higher education*

- Technical experts dominate during construction and until the building is complete and hand-over checks done, but because of the many issues that arise, client stakeholder involvement should be retained with a team on hand for reference throughout and a project manager/design champion to see it is consulted.
- Once the building is in use, the teachers particularly become the power-brokers on how the school is used, with students and even senior managers as somewhat secondary. This leads to the conclusion that teachers must have adequate time for re-training so that their pedagogy will be enhanced with the new facilities rather than their adapting the facilities to suit their previous teaching methods.

5. CONCLUSION

School building designs come and go, and come back again...

no corridor should be provided...the corridor considered only as a passage should be eliminated as far as possible (Robson, 1874).

pretty revolutionary design...corridors were eliminated - Sharrow Primary School, Sheffield, (Sharrow, 2008).

but the major change in the time between these two quotations has been the gradual acceptance of the client-expert as a potential stakeholder in the process of managing school building design. This extended consultation has been cautiously welcomed but might not have reached its current extent without its mandate in the BSF programme. This particularly stresses pupil engagement. The involvement of academic staff, on whom our higher education research programme focuses, do have impact but there is some distrust of their inclusion and the assumption that they will be invariably conservative. Given the power of teachers to affect the way an educational building is used, it is important to allow time for study and discussion of new pedagogies and new buildings and more liaison between governors and teachers. This, together with the use of much more innovative ways of gathering stakeholder opinions from all groups would be as valuable in higher education building programmes as in schools.

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Appendix 1: Methodology Notes

In the spirit of post-modernism, I believe it is important for readers of this review to be aware of my provenance so that you can better judge the data in relation to its selection from my perspectives. My original discipline is politics and my later subject interest developed in education management and leadership. Within this field, my research specialisms have focussed on school governors, school bursars and the history of school management particularly in the nineteenth century. I have recently completed supervision of a doctoral thesis about student involvement in the BSF programme. From these interests emerged the political slant to the analysis, an attachment to the notion that consultation is *ipso facto* 'a good thing' for democracy, the managerialism inherent in the organisation of the data, the foci on the roles of governors and bursars and the search for historical evidence.

The resources of the libraries of the Universities of Lincoln, Loughborough and Leicester were directly accessed with internet sourcing providing the remainder of materials.

DATA BASES USED	KEY WORDS USED
British Education Index Australian Education Index ERIC Arts and Humanities citations Journal publishers' sites – Sage, Blackwell, Emerald Google-scholar	Building Schools/school building Building Schools of the Future Classroom design Design learning spaces Design management/managing design Designing schools/school design Instructional space Learning environments Learning spaces/design Managing classroom design Managing design projects Project management School leadership School bursars/bursars School governors School learning spaces School management Spatial design