Building Schools for the Future through a participatory design process: exploring the issues and investigating ways forward

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Abstract

This paper considers the theoretical and historical background to consultation and participation in the current wave of school building. It questions how what is already known about these issues can inform practice so that schools and their wider communities can beneficially be involved in changes to their premises.

The current burst of investment in school infrastructure is centred on the Building Schools for the Future (BSF) initiative, which should involve “proper consultation with the staff and pupils of the school and the wider community” (DfES 2002, p.63). There is enthusiasm within both education and architecture for the inclusion of students and other users of the school building in the design process. Many see such processes as a way for architects to achieve a better understanding of the business of education and so design more appropriate schools. However, such involvement is not without difficulties. Within the planning literature there has long been an appreciation of tensions inherent in participatory processes (Arnstein 1969; Richardson and Connelly 2005). Within the educational context, examining previous waves of school building reveals that in the past consultation has tended to leave out certain users (Woolner et al. 2005) while even modern participatory design projects may experience similar problems of narrow focus (Woolner et al. 2007b).

It would seem that if participatory processes in school design are to aim to be genuinely inclusive, and so avoid these past experiences of narrow understanding, they must involve as wide a cross-section of the school community as possible. In a large secondary school this could include teachers, support staff, technicians, administrators, cleaners, lunchtime supervisors, students, parents and the local community. Involving such a diverse range of people produces many practical considerations and this paper considers how high quality participatory processes might be reconciled with the demands of the rebuilding timetable, so that the resulting school premises are a good fit to the needs and aspirations of the school’s users. It explores how the author and other researchers in this area are addressing issues such as developing appropriate activities to facilitate the participation of all. Finally, it also looks for evidence of such inclusive participation in the school design processes currently occurring.

Background

Participation in design

Recently, within education in the UK, there has been enthusiasm for democratisation, specifically through more active involvement of learners. It is evident in practice in schools (in, for example, the resurgence of interest in school councils), within policy at both local and national level, and as a key element to current theorising and research about education (Clark, 2004). Educationalists working within a student voice framework see school design as another area where students should be
involved (Könings et al., 2007; Flutter, 2006; Frost & Holden, 2008). Interestingly, researchers from this perspective can see student involvement in decisions about the school environment as a relatively safe way for students to participate in school planning or organisation: “Issues about the environment are also a relatively comfortable topic for teachers to explore with students whereas inviting students to comment on teaching can be difficult for both teachers and students where consultation is new” (Flutter, 2006: 191).

Within design and architecture, it seems self-evident that planners and architects designing any building would benefit from considering in some detail the purpose and intended use of the space. This leads to the idea that some involvement of the potential users in the design process should lead to more appropriate, closer fitting premises. The wider participation ensures that designers have access to user knowledge and experience, but should also set up relationships and understandings, providing the collaboration is long enough and valued sufficiently. This reasoning has underpinned the development of participatory planning, particularly urban planning, since the 1960s in Europe and the USA, and is becoming more influential in architecture (see Blundell Jones et al., 2005). Some of those working in these fields have specifically argued that differences between lay and expert opinions about architecture mean that it is necessary to involve ordinary users in any design process (Till, 2005; Moore, 1979).

The current burst of investment in school infrastructure is centred on the Building Schools for the Future (BSF) initiative, through which the government intends to rebuild or refurbish every secondary school in England and Wales over the next ten to fifteen years. An important part of the BSF scheme is “proper consultation with the staff and pupils of the school and the wider community” (DfES 2002: 63). This makes sense given that research evidence suggests that there is no ideal educational environment, and that the impact of a refurbishment or rebuild depends critically on the level of inadequacy of the old premises (Woolner et al, 2007a; PricewaterhouseCoopers, 2007: 16). Therefore it is important to fit the building to the needs of the users and develop a sense of ownership, both of which may be achieved through a participatory design process.

The benefits of participatory school design

Buildings

Architects and designers working in educational settings are of course influenced by general trends within their discipline, but there is also a particular historic relationship between architecture and education, which provides some clues about likely outcomes for school buildings that are designed collaboratively. Many writers have argued that during the nineteenth century’s wave of school building architects were more concerned with society’s general aims and ideals for mass education than with specifics of pedagogy or educational practice (e.g. Dudek, 2000). Seaborne and Lowe point out that “the view was widely held, although less often articulated, that the school building should contribute to the aesthetic sensibility of the child by showing him standards beyond those of his home” (1977: 4). Yet by 1911, Derbyshire school architect, Philip Robson was complaining that “Architects generally regard schools as the easiest buildings to plan, and much difficulty arises from the fact that architects will not take the trouble to understand the educational side of the case” (Robson, 1911: 15). He, and others at the turn of the twentieth century, were beginning to be concerned with the detail of the relationship of their buildings to the educational activities that took place there. This engagement with educational ideas and practice was not generally conceived as involving engagement with the teachers and learners themselves, however. As late as the 1930s, the award-winning school architect Denis Clarke Hall based his school designs on meticulous observations of school users but does not seem to have sought their interpretations or understandings of the processes they were involved in (Maclure, 1985: 7).

It was during the post war waves of school-building that the collaboration between architects and educationalists really developed, taking off during the immediate post war reconstruction of the 1940s and 1950s, becoming embedded by the 1960s-70s school building boom. The post war culture of collective and interdisciplinary ways of working nurtured successful relationships between educationalists and architects, who were generally working within local authorities or central government. These partnerships produced schools, including the first open plan primary schools, within tight physical constraints, that seemed to satisfy both pedagogic needs and aesthetic ideals (see Saint, 1987; Maclure, 1985). It can be argued, however, that this period of collaboration went off
track through not casting the net for participants wide enough. Architects tended to concentrate on the educational understanding of advisors and headteachers, and the more forward looking or ‘progressive’ individuals were sought out (Woolner et al., 2005; Cooper, 1981). The experience of ordinary teachers and other staff, together with the perspectives of students and parents, was missed, narrowing the designers’ appreciation of the school learning environment. This resulted in buildings that were fitted to certain pedagogical intentions, but these intentions did not include the wider experience of schooling at the time or over subsequent decades.

If designers and architects can come to appreciate the range of views held within the school community, this would seem to increase the chances of satisfying more needs. Of course there is a danger that such attention to the perceptions of a school community only familiar with their current situation might lead to diluting of ideals and a failure to understand potential for change. It still seems reasonable to conclude, however, that when designers and architects become familiar with the range of views held across a particular school community and beyond, it is more likely that the resulting environment will be fit for all the purposes anticipated or desired.

**Participants**

The underlying idea that users are generally empowered by understanding, and perhaps altering, their physical setting is popular among architects and environmental psychologists (see e.g. David, 1975; Horne Martin, 2002). In discussions of recent school design projects, it is often the personal benefits for students in terms of increased skills, cooperation and self confidence which are emphasised (e.g. Wright, 2004). To a certain extent these student experiences mirror those achieved by the numerous architectural outreach and education projects (Dudek, 2005) which offer opportunities to think and work in different ways, emphasising physical, spatial and visual, rather than verbal, understanding.

The impact on participants is a distinct aspect of a collaborative design and one that has been noted across projects. A recent independent survey of participatory design (part of a current EPSRC funded project: *Designing New Schools: putting people at the heart of the process*), concluded that this aspect is important:

The process could provide new experiences within the school, giving different children the opportunity to shine and show skills which may not have been evident before. One designer/facilitator found that teachers and children were influenced by work that had been carried out by the artists in their school...Another facilitator had experience of participating students wanting to become architects as a result of their involvement...Also noted was the opportunity for expression of pupil voice and increased motivation that involvement in such projects can bring (Parnell et al., 2008: 214-215).

Yet, valid as these design and architecture based enrichment activities might be in general educational terms, in the meantime a school building project might be occurring, which shifts the focus from the development of participants to the development of the actual physical environment. It is possible for the involvement of users to affect the design process and there are, additionally, these impacts on the individuals themselves. How are these two aspects to be integrated and made mutually beneficial?

The key here is to widen the range of participants to include teachers, who are often involved more peripherally, and other school staff, parents and the wider community, who are generally forgotten. Architects who work in education settings are often keen that teachers are helped to develop an understanding of the physical environment. Dudek (2000:50-55) discusses in some detail how working with teachers to develop their appreciation of their classrooms as physical settings enables them to play a much more central role in the process of designing a new school or classroom. In this he recalls previous calls for training for teachers so they can contribute to school building plans (NUT England, 1974). More recently, architect Sandra Horne-Martin has repeatedly called for “environmental awareness” to be part of teacher training and continuing professional development (Horne-Martin, 2002; 2006), arguing that developing their appreciation of the physical environment would enable teachers to make better and more thoughtful use of the physical space they have for teaching. From this perspective, participatory design of a new or refurbished setting, as part of a school building project such as BSF, could, if carefully conducted, provide a springboard that encourages teachers, learners, and other staff in the school, to become more thoughtful and involved users of their environment. This idea of developing both the building and its inhabitants, anticipating longer term physical, personal and social benefits, will be considered next.
The future

There is perhaps a tendency for both architects and educators to see the physical setting and the learning activities of the users as relatively or potentially separate. Environmental psychologists, however, seem more inclined to see these two aspects of the environment as more fundamentally interlinked. For example, they use the concept of 'affordances', which are the possibilities provided by the environment to a user with certain skills and inclinations (Clark & Uzzell, 2006; Kytta, 2006). These exist at the interface of the person and their environment, and require an understanding of the relationship between them. More concretely, Sundstrom (1987) reports findings of increased satisfaction in workplaces which were designed through user involvement with the comment that this satisfaction could be due to the involvement itself, the resulting building actually being better...or perhaps both.

From the preceding sections, there would seem to be value in both these reasons for increased satisfaction and, particularly, in the interplay between the two as time goes on. The perspective offered by environmental psychology reminds us that the relationship of the user to the environment is not set in stone, but will, or should, respond to the shifting sands of human abilities, needs and desires. The value of such an on-going dynamic relationship, which might be set off by collaborative design, is suggested by the comments of many advocates of participation in the design process. As we have seen, Horne-Martin argues that teachers' abilities to make good use of their space will increase through their engaging with design and architecture. She anticipates that this will make teachers more confident, more inclined and able to reorganise their classrooms according to their pedagogical intentions, and avoid them being "reduced to defensive postures" in their use of space (2006: 101).

It seems likely that any impact of participatory design on teachers will also be seen in the content and style of their teaching, not just in how they arrange their room or cope with a new building. Facilitators of participatory design surveyed by Parnell et al. (2008) mentioned such potential impact on the curriculum, both while the projects are occurring and, hopefully, afterwards:

Many different learning opportunities were noted for the students and their teachers, perhaps the most direct being the development of ‘spatial skills’,...the value of using real life experiences as learning experiences, the opportunity to link different aspects of the curriculum. (Parnell et al., 2008: 215)

It is hoped, therefore, by those involved that the impact of participatory design goes beyond altering the attitudes or behaviour of some individuals to affect the culture of the school in the longer term. This suggests how a school community might be able to continue to appreciate its new building once the immediate 'wow' factor has dulled a little and the students who were personally involved at the design stage have moved on.

It might appear that this is beginning to imply a one-way learning process, where participation in design affects the school building itself and the intertwined practice of its inhabitants, but has no impact on the architects and designers. It is important, however, for designers and architects to continue to develop their understanding of education, which participatory design has the potential to ensure that they do. As architect, Jeremy Till points out, “true participation demands that the process is two-way – that the user should have the opportunity to actively transform the knowledge of the architect” (Till, 2005: 33). It might be argued that the assumptions made in the 1970s by school architects about educational practices would have been more nuanced if they had had more direct contact with teachers, students and parents. Certainly the rather formulaic design of primary schools according to half-understood open-planning principles, and the rolling out of standard designs which occurred at this time (Woolner et al., 2005; Bennett et al., 1980) do not suggest developing architectural ideas or learning from particular school settings.

Understanding participation

The foregoing discussion of the wide-ranging potential benefits of participation in design is very positive but begs the question of why, if it's such a good idea, participation in practice can often be so disappointing. This is the issue which architect Jeremy Till, considering the theory and practice of participation in planning and architecture, spotlights graphically by describing a thinly attended public...
meeting where the local government officer does “a remarkable job in motivating some response out of the slumped bodies, the dropped shoulders, out of people numbed by years of failed promises” (Till, 2005:23). Although a “cursory discussion” has taken place and a vote occurs, this meeting does not seem to be indicative of the genuine participation claimed by such events.

In the context of designing for education, researchers who investigated the 1960s-70s wave of school building expressed doubts that the consultation of teachers was really valued. Bennett and colleagues suggested that, “Even when consultation is offered, there is evidence that motives are often political rather than a genuine desire to assure constructive involvement’ (Bennett et al., 1980: 89). An NUT report of the time (NUT (England) 1974) makes related points about pseudo-consultation and the lack of involvement of teachers (p. 6, paragraph 24). Recognising what constitutes a poor or better participatory process is clearly important in understanding these past instances together with current experiences of participation in school design.

Ladders and levels
Practitioners and theorists of planning have been grappling with the issue of meaningful participation for some time. Arnstein’s ‘ladder of citizen participation’ (1969) is a typology describing how people might be involved in the planning and operation of public programmes. This views participation as ranging from ‘manipulation’, where ideas are basically imposed on users, through ‘informing’ and ‘consultation’, which can be of limited worth if done in isolation, to the genuine participation of ‘partnership’ and ‘citizen control’ (Arnstein, 1969). Roger Hart adapted this idea of a ladder to describe how children and young people might be involved in projects of all sorts, with their participation ranging through tokenistic inclusion to genuine partnership with adults (see e.g. Hart, 1987; 1997). Hart has applied this conception specifically to children’s involvement in architecture and design, as well as to other projects.

Equally relevant to the issue of participatory school design is educationalist Michael Fielding’s categorisation of four levels of student involvement in educational research (Fielding, 2001b). His student voice typology goes from students as data source, through their being active respondents up to students as co-researchers and, finally, researchers. At the most basic level, equating to consultation in the context of planning and designing a new school setting, students are seen as passive sources of information. As the typologies of Arnstein and Hart remind us, this level of involvement in the design process can be carried out more or less honestly: sometimes genuinely seeking information, but sometimes trying to manipulate or offer token involvement.

At the higher levels in all the typologies, there is what might be termed genuine participation, where organisers and participants both have real inputs and it seems possible that a shared understanding might result. The three typologies all have a top level where the ‘participant’ of the previous levels is actually in control of the process. In the context of school building, with a project ultimately controlled by external organisations, such as central government in the case of BSF, it seems unrealistic to expect this sort of level of participation to be achieved. It seems reasonable, however, that a participatory design process should aspire to be genuinely collaborative with the users in school and the designers outside, neither of whom are completely in control, working in partnership.

Adding the who dimension to ladders of participation
These conceptions of ladders of participation are extremely useful in conveying the sense that any act of participation has a level or extent, and they can clearly assist any attempt to assess or evaluate an example of participation. Through discovering aspects of a would-be participatory exercise that reveal its intention to inform, or worse, manipulate participants, thereby placing the exercise low on a ladder of participation, it is possible to critique the exercise and suggest improvements that could move it up the ladder. An example of this use of the conception is provided by an adaptation of Arnstein’s ladder to the context of designing school grounds (Sheat & Beer, 1994: 94).

In trying to apply these conceptions of levels closely to the context of whole school communities participating in the process of a school rebuild, however, a major limitation becomes obvious. All three typologies of participation are designed to categorise the involvement of single particular groups of people, either citizens, children and young people or pupils and students. Although all these groupings are wide it is possible, in the appropriate context, to talk sensibly about them as single groups. In the context of understanding and improving the design of a school, however, there are a
number of quite distinct groups of people. The school community might be seen as comprising senior managers, classroom teachers, teaching supporters, non-teaching staff, students, parents, governors and the wider community. Educationalists have written about the hierarchies inherent in school structure and often focus on the power disparities between adults and children, particularly in discussions of student voice. For example, Catherine Burke reminds us that, “schools are places where adults are in positions of power over children” (2007, p.363). Yet it is clear that in such a hierarchical organisation as a school, power disparities also exist between adult groups. This has been pointed out by innovators and trainers who work in schools with non-teaching staff. For example in her tellingly titled chapter, ‘You're only a dinner lady!', Gil Fell describes how lunchtime supervisors are pleased, though surprised, to be involved in improvements to breaktimes since their jobs have low status and they do not feel respected by students or teachers (Fell, 1994).

Therefore in the context of participatory school design, we need to inquire who is participating, as well as questioning what level that participation amounts to. The examination of the benefits for the school building and its occupants imply that wider participation should reap more benefits. This suggests the validity of a participatory design process will depend on who is involved and where their involvement rates on a ladder of participation. It might be helpful to see this as adding another dimension to the ladder (see figure 1 below).

<table>
<thead>
<tr>
<th>Levels of Participation</th>
<th>partnership</th>
<th>collaboration</th>
<th>involvement</th>
<th>consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>senior management</td>
<td>teachers</td>
<td>learning support</td>
<td>other staff</td>
</tr>
</tbody>
</table>

**Figure 1 A two dimensional ladder of participation in school design**

Although the question of which groups of people are actively involved is particularly central to a school design project, the importance of who is involved in any participatory process has been noted by others studying this area. For example, Richardson and Connelly discuss in some detail how participation in the planning process might be compromised through excluding people from the process (Richardson & Connelly, 2005: 90-94). Previous school design experiences also support this idea of wider involvement. As argued above, the involvement of educational advisors and headteachers, but not classroom teachers, in school design in the 1950s and 1960s contributed to a mismatch between open plan settings and more traditional teaching practices in the resulting schools. More recent interest in student ideas can also lead to the perceptions of teachers being marginalised (Woolner et al, 2007).

**The central purpose of the participation**

In essence these typologies are trying to help us determine whether a participatory process is a genuine, honest attempt at collaboration or a quick fix, minimally fulfilling a statutory duty through ensuring ‘boxes are ticked’. To this end it is important how the process is conducted, which is where the ‘ladders’ come in, and I have argued additionally for the importance of who is involved. Once lots of different people are involved in a participatory process, however, the question of how it is conducted becomes considerably more difficult. It is not enough just to ensure an adequate level of input for each participant, or group of participants: we need further to organise the interactions of their inputs. In a school design project, what is to be done if the experiences of the various groups differ so much that their opinions and desires actually conflict?

What seems central in deciding how to deal with these difficulties is returning to the central purpose of the collaboration and whether participation is really desired and valued. This question of why participation is being attempted can be seen as including the who and the how aspects to the endeavour. As far as resolving the dilemma of conflicting views is concerned, if the why question can be answered by a genuine, democratic commitment to developing shared understandings through participation in the design process, then a solution may lie in dialogue. This might appear trite, but it
seems unavoidable that only through open discussion by equally valued groups will it be possible for people to begin to understand each other and perhaps not agree on everything, but be able to appreciate their disagreements and decide on resolutions (Woolner et al., 2008).

Many explorations of participation argue that communication is central to any successful participatory process. In their reflections on participation in planning decisions, Richardson & Connelly (2005) argue that these processes fail to be genuinely participatory through imposing limitations on discussion by excluding people, issues or outcomes (p.90) and producing "bland statements which can be agreed by all" (p.98). Conclusions about dialogue are also reached by Jeremy Till, whose description of unsatisfactory participation in architecture opened this section. He praises the idea of "design as making-sense-together" (Till, 2005: 39) and argues that "[t]he key lies in recognising the power and validity of ordinary conversation as a starting point for the participatory process" (ibid: 37). This reasoning has parallels within recent theorising about student voice, which has argued for the "building of a shared dialogue" (Lodge, 2005: 134) and the importance of questioning "who is listening?" to student voices (Fielding, 2001a: 102).

Participatory school design in practice

Previous sections in this paper have considered the background ideas behind users’ participation in planning, design and architecture, and examined how these might be developed in the context of designing educational facilities. It is now necessary to consider how collaborative school design might work in practice, and investigate whether such participation is actually occurring through BSF.

Although it has been argued that full collaboration should be seen as the ideal form of participatory school design, this is not to dismiss less developed participatory processes. It is worth remembering that even a fairly basic level of participation can be much appreciated by participants, and may still have the power to produce interesting insights, perhaps even contributing to the school community becoming more open and democratic. For a flavour of this, consider the architectural facilitators interviewed by Parnell and colleagues (Parnell et al., 2008). Although they focus mainly on students, their comments would seem to apply more widely:

Students were noted as having in-depth knowledge of their school, the building and what works for them. It was recognised that through listening to them, architects, facilitators and contractors could gain an insight into how the school works. The principle of engagement was described as being effective precisely 'because nobody's ever asked them'. This was true not only of students: "Every time we do a project with students and teachers, teachers especially say, "Nobody ever asked us".". It was felt by some that the act of asking teachers and students for their views was more important than the specific engagement technique used. (Parnell et al., 2008: 215)

Having reported these ideas, and other suggestions about the specific benefits to being involved in a school design project, the researchers comment that it seems "likely that the sense of having a voice, no matter what the sphere, would have similar positive impacts on the life and culture of the school" (Ibid: 216).

Participation can happen at any stage of the design process. It seems important that it is not seen as an isolated instance, and a more iterative approach seems more likely to be effective. Currently, though, Parnell reports that "efforts tend to be disorganised or stand-alone, rarely dove-tailed into ongoing work by the design and construction team. This can lead to disappointment and frustration, not only for schools, but also for designers" (Parnell et al, 2008: 222).

Although an understanding of the school learning environment cannot be reduced to simple physical building blocks of school premises, it seems likely that there are parts of the school’s design, management and use where change will have more impact on the learning and teaching experience. It is important to understand the school learning environment as a complex interaction of setting and behaviour, which cannot simply be reduced to a physical environment, but this does not necessarily mean that we always have to consider the complete school. Instead it should be possible to focus on the relationship between the people and the surroundings in particular areas of the school or aspects of school life. Although these will be set within the larger dynamic of the school as a whole, it will be helpful to take a more focused approach so that the energy, time and expertise of the participants in the design process can be used most effectively and efficiently.
Participation of different groups within the school community

Despite the rationale for general participation, there are particular issues involved in the participation of particular groups from the school community and particular qualities that they will tend to bring to the process (see table 1).

Table 1: Issues and qualities associated with various participants in a school design process

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Issues</th>
<th>Qualities</th>
</tr>
</thead>
</table>
| Students          | • representative samples  
                  | • age  
                  | • experience  
                  | • power  
                  | • appropriate methods | • wide-ranging, detailed knowledge and experience  
                  | | more imaginative? |
| Teachers          | • conservatism?  
                  | • many other demands  
                  | • clash of professional cultures  
                  | • continued involvement | • link to curriculum  
                  | | detailed knowledge and experience  
                  | | day to day control of classrooms  
                  | | link to school’s past  
                  | | link to school’s future |
| Other school staff | • power and status  
                  | • confidence  
                  | • continued involvement  
                  | • pay, time to be involved  
                  | • appropriate methods | • detailed knowledge and experience  
                  | | unusual viewpoints  
                  | | overview of school organisation  
                  | | community viewpoint  
                  | | link to school’s past  
                  | | link to school’s future |
| Parents           | • representative samples  
                  | • dated ideas about education  
                  | • limited knowledge of current school experience | • critical distance but very interested |
| Wider community   | • representative samples  
                  | • limited, dated knowledge  
                  | • specific, limited concerns | • community viewpoint  
                  | | link to school’s past |

Involving students

Although school students were rarely, if ever, directly included in the design and construction of previous waves of British schools, they are now the group who are most commonly suggested for inclusion in consultations and participatory events. Many of the organisations and initiatives recently established as part of the new wave of school construction have particularly targeted school students, usually on the basis that they know their school, and the activities which take place there, particularly intimately. So, for example, describing the School Works initiative, Sharon Wright comments that “it was the pupils who gave us some of the most useful insights into what needed to be different. We simply cannot believe that school design will be effective without asking pupils their views” (Wright, 2004: 42). This targeting would appear to be supporting the involvement of students in practice, since both the evaluations of BSF published to date conclude that students are participating in BSF projects (PricewaterhouseCoopers, 2007; 2008).

Both in the context of school design, and within the student voice movement more generally, there is a need to ensure that there is substance to the initiatives, and not just appealing-sounding rhetoric. This involves considering who within the student body is being given the opportunity to participate and examining the purpose of their participation. There are plenty of warnings about isolated, tokenistic initiatives which can leave students feeling frustrated and cynical (e.g. Parnell et al., 2008; Matthews & Limb, 2003; Sheat & Beer, 1994). Considering current practice in BSF design processes, a case study from the most recent evaluation of BSF, “shows how the SLT used a variety of activities to consult and engage pupils in a meaningful way” (PricewaterhouseCoopers, 2008: 27), suggesting some attention is being paid to this issue, although student involvement may still be about consultation than more active participation.
There are often clear benefits for the future of the learning environment of properly including students in its design. Or, more precisely, there are reports of the problems of failing to include students. Rivlin and Wolfe describe an occasion where not involving pupils in an exciting classroom innovation fatally undermined it (“the loft structure that 'suddenly appeared', 1985: 200) and Flutter points out that “when students are not consulted about proposed changes to their environment, their response to 'improvements' can sometimes be oppositional" (2006: 186). More generally, in an article about curriculum innovation, Rudduck remarks that “pupils' definitions of school and classroom behaviour can be powerful conservative forces in educational practice” (1980: 142).

A key issue is that of representation. It might be possible to involve all the students in some initial surveying or ‘design day’ event. It is likely, however, that at some stage, if the student input is to be continued and form a real part of the process, there will need to be some sampling from the student body and it is important how this is done. To benefit the consultative aspect of the students' involvement, it will make sense to have a range of ages and interests represented. Furthermore, considering consultation, it might be easier and seemingly more productive to target more forthcoming, confident or keen students. Here the student voice perspective is useful in reminding us of the pitfalls with such an approach:

Some voices (e.g. middle class girls) seem to be more willing to speak than others, partly because they may feel more at ease with the way teachers speak about students and with the capacity of schools to understand what matters in their daily lives. This more differentiated awareness of student voice thus raises issues of validity and the degree to which some students can legitimately speak on behalf of others. (Fielding, 2001: 101).

There may be no complete answer to the problem of sampling students, and it is difficult to assess how carefully it is being considered in current participatory school building work, or within BSF more widely.

Whatever the method of recruiting the students, a key consideration when involving children is their age. There is the need to ensure that the activities are approximately appropriate in terms of demands on reading or writing skills, levels of concentration and style of presentation, for example. There are, however, many suggestions for techniques and activities that can be used with even very young children as part of a participatory design process. For example, the 'Mosaic' approach (Clark, 2005) has been developed specifically to enable such young children to become engaged in discussions about their surroundings. Clark argues that the range of activities with the children is necessary to capture the “complexity of their everyday lives” (2005: 10). Furthermore, the visual and physical basis of the methods focus on “young children’s strengths – their local knowledge, their attention to detail, and their visual as well as verbal communication skills” (p.10). Thus the approach makes use of photographs and drawings produced by the children, guided walks round the environment and lots of spoken discussion. By using a variety of methods, the approach intends that more children can get involved and more aspects of the environment are brought to light.

Other advice on inclusive approaches to school design similarly suggest using a variety of, hopefully, interesting activities (Harnell-Young & Fisher, 2007; Wright, 2004; Seymour et al., 2001). I have written elsewhere about the benefits of using a range of introductory activities, some based on maps or plans, and some on photographs, to help participants of all ages start to think about their learning environment (Woolner et al., 2008; in press). There are also general methods for engaging with children described within the wider educational literature, which might be adapted to the needs of a participatory design project. This includes teaching and learning techniques which can be found in the professional literature, and with which teachers are often familiar, that can be adapted. For example, we have made use of 'diamond ranking', a thinking skills technique (Rockett & Percival 2002, p.99) to support the ranking of pictures of school features and places (Woolner et al, 2008; in press).

Children's drawings of their classroom have been found to reveal ideas about learning (Lodge, 2007), and could be used as an introduction to a redesign project. A more structured approach to asking about learning in particular situations is possible using 'pupil view templates', which require children to fill in speech and thought bubbles for figures taking part in familiar school activities (Wall, 2008).

Another way to add structure, and perhaps avoid being over demanding on drawing skills, is through the use of collage. Asking adolescents to put together ‘scrapbooks’ has been found to be a successful way for them to communicate ideas, especially if they feel shy (Bragg & Buckingham, 2008). It can be seen then that there is a wealth of established methods for engaging with students of various ages and inclinations, which could also be used with other participants in a school design project.
Aside from their detailed knowledge of the day to day school experience, the other reason often given for involving school students in a design project is their ability to be more imaginative and less conservative than adults. This has certainly been a common impression of professionals from outside education when they have worked with children on projects concerning their physical environment (Dudek, 2005; Rivlin & Wolfe, 1985). An architect, talking about her recent involvement with school design projects in the UK “found the process of working with children to be not only informative, but inspiring, as the designs ‘poured out of her’ based on the children's input” (Parnell et al., 2008: 215). Although such inspiration might seem indicative, it should be questioned whether the input from children is actually qualitatively different from that of other user-participants. In this connection, it is worth remembering the stories of students opposing or undermining innovation. Even if these instances can be explained by inadequate communication or lack of proper involvement, they do serve to question the assumption that children and young people are always forward thinking and imaginative, never reactionary or conservative.

A distinct problem which may be experienced in connection with the imaginative ideas of young participants is that they generally do not have much power, or the accompanying responsibility. As we have described elsewhere in more detail, this can mean that even quite vague ideas are seized by architects or designers and developed into elaborate conceptions, without reference back to the originator of the idea, but with the justification perhaps that the result is what the user wanted. This occurred at a school involved in the Design Council’s Schools Renaissance project:

Initially the school were interested in developing effective storage for the newly refurbished Geography Department […] However, during the immersion days, where students worked alongside teachers and the Design Council team, one student produced a drawing of a classroom which looked like an amphitheatre and the designers picked on this idea and developed it […] At some point after this, the focus moved away from storage and became about producing a ‘classroom of the future’ with the emphasis on flexibility of movement through 360°. (Woolner et al., 2007b).

Although this could happen to any idea produced by a participant, it could be that the ideas of children and young people are particularly prone to this problem due to the mismatch between their lack of power in the adult world but the high status given by that adult world to their imaginations and ideas.

This issue of power also has implications for the organisation of the participatory process. The ideals of dialogue and communication might suggest that any groups working together during a project should include mixtures of participants: students, teachers and other staff all working together. Furthermore, architects and enablers are enthusiastic about the potential of a shared design process to help teachers “see children in a new light” (Parnell et al., 2008:126). Yet it might in fact compromise these ambitions, particularly at the beginning of a process, if students are obliged to work on a supposedly equal basis with teachers with whom they usually have a quite different relationship. It can also put teachers in a difficult position if the detail of their role is not made clear and they are unsure whether they are expected to maintain, or override, their usual responsibility for supervision and order.

Involving teachers

This concern about power relations inhibiting the design process, could also be raised in relation to teachers of very different seniority working together, and also has implications for the involvement of non-teaching staff in the design process. The more immediate concern in current practice, however, is whether less senior, classroom based teachers and non-teaching staff are being involved at all. Both research evidence (Parnell et al., 2008) and recent quantitative surveying by the evaluators of BSF (PricewaterhouseCoopers, 2007; 2008) show that, in practice, it is still the case that not many classroom teachers are participating in the redesign of their schools. Although the “consultation with staff and pupils in schools has improved overall” (PricewaterhouseCoopers, 2008: 26), a 2008 survey of headteachers in BSF schools found that heads reported the involvement of themselves and their deputies but less than a fifth described a classroom based member of staff as being ‘involved or likely to be involved’ in the BSF process (PricewaterhouseCoopers, 2008: 44).

This lack of involvement could be seen as repeating past mistakes. In the past, and currently it would appear, when educators have been directly involved in school design, these participating teachers
tend to be in senior or advisory roles. We might ask why this is occurring, despite the current wave of school building being more supportive of more general user involvement.

The architects and facilitators interviewed by Parnell and colleagues were generally enthusiastic in principle about involving teachers in school design. Yet they also complained that on some occasions “teachers were not excited by the project and did not feel involved” (Parnell et al., 2008: 220). A clue to why this might be the case is given a little later on the same page, when it is remarked that “teachers need to be assigned a role within the process. When asked to attend participatory workshops without a specific role, they tended to loiter, interfere or disappear”. This suggests that in some participatory projects teachers are just being invited along, perhaps to help organise the students, and do not feel that their professional knowledge of the school, or education more generally, is being valued. As well as contributing to their perceived lack of excitement, this also undermines the aims of making links between current practice, the teachers on-going experience and the future classroom environment. It seems necessary that the role given to teachers during a school design process is explicitly related to their knowledge of school life, and genuinely values their potential to embed the new environment within continuing and developing practice.

In the wider context of school change or reform, a study of six secondary schools in the 1980s drew the tentative conclusion that “the direct involvement of staff seemed to have played a part in encouraging school-wide innovation” (Ouston, et al., 1991). In a review of school change, Thomson argues that the genuine commitment of practising classroom teachers is vital (Thomson, 2007: 38-39), but also notes the many other demands on teachers’ time and suggests that “provision of teacher time generally requires additional funding at least in the short term”. Within school design projects, this issue of funding becomes particularly relevant for the senior teachers with on-going management roles, and generally some sort of secondment arrangement is implemented. It is worth noting, however, that rebuilding budgets do not include finance dedicated to this purpose and, as a result, the seconded time does not usually add up to as much as the half-time secondment recommended by Parnell. Also, this provision of costed time often does not extend to less senior teachers. If the involvement of other teachers, beyond their attendance at an initial consultation event, is valued it will be worth the school or local authority considering how an on-going commitment of time by a wider pool of teachers might be paid for.

When teachers are involved in design there are also likely to be tensions caused by lack of understanding of the professional knowledge of other participants. In their work considering the collaborative design of school grounds, Sheat and Beer talk of “bridging the gap between educationists and designers” (Sheat & Beer, 1994: 90). This problem is also often described as being due to differing languages spoken within professional groups. Parnell's interviewees “suggested that there are issues regarding the languages used in distinct professional areas and difficulties around creating a common language dealing with design, construction and learning/pedagogy. This implies a particular roles for facilitators and challenge to be overcome before dialogue can be established” (Parnell et al, 2008: 221).

In addition to Parnell's ideas about facilitators and a common language, research suggests a role here for more visual methods of consultation and communication. These can circumvent the need for professional vocabulary and provide something concrete for all participants to look at, manipulate and discuss. Creating or referring to photographs and plans can be a valuable way to understand an existing physical environment as a first step to change or development (Woolner et al., 2008; in press; Clark, 2005). It must be acknowledged, however, that such methods may be resisted if participants feel that they are obstructing them in getting their point of view across. This might be a particular problem for teachers faced with more visual or spatial activities, but who feel that their professional understanding is inextricably linked to the language they usually use to express themselves. (Woolner et al., in press; Varga-Atkins & O'Brien, 2009).

There are probably no easy answers to the participation of teachers in the design process. Among all the school users who should be participating, the successful, as opposed to the tokenistic, involvement of a good range of teachers is particularly challenging. The relative ease of finding a sample, their clearly defined professional expertise and their usual willingness to voice their opinions must not distract facilitators from the very real difficulties of finding time and appropriate methods for their full and continued participation. If the issues described in this section can be acknowledged and resolved, however, the potential prize is a school environment that accommodates current practice,
but supports development, and is considered by teachers to be an integral part of educational activities.

Involving other school staff

Despite concerns with inclusion voiced in the research of Parnell and colleagues, the facilitators they interviewed appear to consider that a school community only consists of teachers and students. This perspective neglects not just the parents and wider community beyond the school gate, but also the substantial number of adults working in the school in positions other than direct teaching jobs. Their roles range from those centring on personal involvement with students, such as learning supporters, mentors, teaching assistants and lunchtime supervisors to those which involve managing aspects of the school facilities, such as technicians, administrators and cleaners. This group of people tend to make up approximately a third of the school workforce, so could easily amount to fifty or sixty people in a secondary school. Their numbers are likely to grow, given the current tendency to a more 'extended' provision in British schools, and, in existing schools, it is likely that there is a large and varied non-teaching staff, as well as links to professionals based outside the school who visit the premises in their work with students and families.

For democratic reasons alone, it seems vital that these individuals are not left out of a participative design process. The fact that they are often missed out may make them pleasantly surprised to be included: we found that school cleaners were particularly pleased to be asked to participate in an initial consultation on school redesign (Woolner et al. in press). It appeared that the relatively low status of their jobs in the school made it less likely that they would be invited to share their experiences and knowledge. In this connection, it is appropriate to mention the findings of work aimed at improving school breaktimes through the professional development of lunchtime supervisors. One researcher points out the benefits of a whole school approach to any training or innovation, including the observation that "shared training also makes a statement about the status of supervisors in the school community (Sharp, 1994:123). Echoing Jean Ruddock's experience with reluctant students, another researcher considering lunchtime supervisors adds that "those who feel most powerless can exert a form of negative power in the form of sabotage" (Fell, 1994: 143). In a way that parallels the conclusions drawn above about the participation of students, it would seem that there are both positive and negative reasons for ensuring that school staff members from across the range of roles and jobs are included in a collaborative design process.

It is important, however, that inclusion of these staff members does not become merely a tokenistic exercise, ticking off the involvement of someone from each employment group. It must be recognised that a desire for the involvement of people from across the school staff is not just a matter of decency, politeness or reducing negative attitudes, but should result from an appreciation of their wide ranging experiences of the school. Some of these staff members will have particular, perhaps unusual or very detailed, understandings of certain aspects of the school's functioning. These perspectives include some that are fairly obvious, such as the knowledge of the kitchen staff about the catering facilities or the librarian's understanding of the school library and resource centre. Some knowledge, however, is less predictable: the school cleaners involved in our consultation provided detailed information about the resilience of all sorts of fixtures and fittings, which could guide decisions about finishes and design details in the new school premises. This suggests incidentally the importance of the continued inclusion of non-teaching staff as the design process progresses.

Even where the nature of the person's role makes their area of expertise reasonably predictable, their actual understanding can be wider or more nuanced than might be expected. Science technicians we spoke to had a complex knowledge of the circulation issues in the science block due to their movement between rooms with equipment. As a result, they had developed detailed ideas about how the science classrooms needed to be arranged and linked, and the placing of storerooms, to facilitate efficient and safe use. These descriptions of problems and proposals for improvements tended to concur with the experiences of the science teachers. Yet the ideas of the technicians were both more precise, pinpointing particular difficulties, and more complete, considering organisation and movement within the science block as a whole.

This sort of overview, resulting from the particular responsibilities of a job within the school, was not an isolated instance. During this consultation we were also struck by the overarching understanding of the school's layout, organisation and functioning held by members of the administration team. In particular, one long-serving administrator was able to discuss variations in school policies, access
arrangements and timetabling, referring back over a twenty-five year span of experience. The spatial, as well as historical, reach of her knowledge was clear when she sketched her typical day on a plan of the school. Unlike many of the teachers, whose days centred on limited spaces where they usually taught, her role took her around the school, providing knowledge of particular areas, but also of how they fitted together and contributed to the functioning of the school. Thus the use of mapping was a successful activity in eliciting ideas from this participant, and helped her refer to particular places, but also made the experience on which she based her conclusions clear.

The length of service of this particular employee also highlights another quality that non-teaching staff are likely to bring to a collaborative design process: their knowledge of the school's past. The inclusion of 'long views' is an advantage of involving any adults in the design process, but the past experience of the non-teaching staff is particularly likely to extend beyond their current role. These staff may have changed jobs within the school and are considerably more likely than the teachers to live nearby and so have experience of the school as parents or grandparents, neighbours, or even, previously, as students themselves. Thus their knowledge of the life of the school may go back some distance in time but also be broader than initially realised. The potential insights into a wider community perspective on the school might be particularly valuable if the involvement of community members without existing connections to the school proves hard to arrange.

Many of the issues likely to arise over the inclusion of people from across the school staff echo challenges already discussed in connection with teachers and students. The potential for difficulties due to differences in power and status has been considered in relation to students working side by side with adults, particularly their teachers. It has been pointed out, however, that discomfort due to power differentials could also be present in groupings of teachers. The inclusion of other staff adds to this potential problem, but perhaps also makes it more complex since some of the staff members, though in relatively poorly paid or low status jobs, may wield considerable power within limited areas. Groupings during activities need to be carefully considered to develop trust in the proceedings.

The sort of activities which are used also seems important in this respect. A mediating activity can break down barriers and build confidence, giving participants something to do initially and something to refer to as discussions proceed. During the school design consultation we facilitated, and through other research use of these tools, we have been impressed by how the provision of a structured activity helps participants to relax and begin to reveal their experiences. One advantage of using broadly visual activities, based on photographs or plans, is that participants can easily talk as they look, sort, draw or cut out. These activities also seem to be especially effective, in drawing out certain aspects of the specialist knowledge of non-teaching staff. In particular, the mapping exercises were very successful in revealing the organisational understanding of certain staff members. An alternative technique, when the locations and activities of a participant during the day are of interest, involves respondents being reminded by mobile phone messages at intervals throughout the day to record where they are and what they are doing (Riddle & Arnold, 2007). These could be transposed onto a plan of the school. Having annotated plans, produced by either method, to refer to later in the design process could also be useful for establishing the validity of certain viewpoints or ideas, and so perhaps assisting in more respectful and genuine dialogue between participants of differing status who having different perspectives or understandings.

The continued involvement of a wide range of staff members seems important to the success of the design process, as has been suggested for other groups of participants. As for other participants, it is necessary to ensure that time is made available for this, which could present particular challenges for some staff. Some of these roles, unlike that of teacher do not automatically include expectations of meetings, discussions and reflections on the job. In the work with lunchtime supervisors, it was noted that a training course for these members of staff usually provided “the first time that lunchtime organisers had ever had the opportunity to sit down all together to think about their work” (Fell, 1994: 136). In addition to these issues relating to the cultures of certain jobs, it is also necessary to consider practical aspects, such as fitting sessions around the times staff members work or ensuring that hourly paid staff are paid for the time they contribute.

All these provisions should then make it possible for members of the school staff to contribute their wide-ranging experiences and knowledge to the design process. If these ideas are to form part of a more complete understanding of the school as currently used and inform a genuinely collaborative design process for the future school, however, they need to be integrated into the developing
understanding of the school. This will involve relating a wide range of experiences and viewpoints, and it is the very diverse and disparate perspectives of the wider staff body which might make this particularly challenging. The wide range of experiences and understandings likely to be produced by the full staff of a school potentially provide a more comprehensive understanding of the school, but also make an overview more difficult to achieve.

Difficulties in participants understanding each others' viewpoints or experiences may sometimes be due to “clashes of values”, as was found between teachers and lunchtime supervisors discussing school breaktimes (Fell, 1994:136). In that context, a solution seemed to depend on there being genuine value given to the experience and knowledge of the lunchtime supervisors, which in turn was more likely in schools committed to a whole school approach to change. There are also echoes here of the tensions often observed between educationalists and design professionals, which were discussed in the section on teacher involvement in the design process. Again, the answer seems to include mutual respect and genuine dialogue. There are also perhaps opportunities for facilitators who are outside the particular contrasting perspectives, and for activities which produce tangible products which can form the basis of discussions or validate viewpoints. It is worth noting, however, that sometimes there might not be a simple overview which can easily reconcile all the points of view, or a way to resolve who is right and who is mistaken.

Involving parents and the wider community

In previous eras, schools have often been quite isolated from the surrounding local community. For example the design of post war secondary schools, set apart in large areas of playing fields, made them seem very separate from the nearby houses. There has been recent pressure, however, from various policies and initiatives to integrate schools with the communities they serve. Against this background, it is not surprising to find recommendations that school design projects involve the local community. The consultations of a BSF project are supposed to include “all potential users in the community” (DfES, 2002: 63). The School Works Toolkit recommends involving the local community “including those who haven’t traditionally been involved with the schools” and parents, “including those who find it difficult to get to the school” Seymour, 2001: 29). Whether this is actually happening in practice is difficult to assess. The recent evaluations of BSF do not provide much detail on this aspect of current practice, although the 2008 report claims that “Evidence from field work indicates that schools are using more sophisticated methods to engage the full range of stakeholders” which includes enabling “pupils to interact with wider stakeholders outside the school” (PricewaterhouseCoopers, 2008: 27).

Concluding thoughts

This paper has considered the reasons for attempting participatory design and investigated practical ideas for integrating the perspectives and opinions of wide range of individuals within a school community. If such wide consultation is attempted, the problem of reconciling conflicting views to construct a relatively complete understanding of the school is increased. Furthermore, if maximum care is taken in such circumstances to understand and include all relevant views and ideas, it will tend to further complicate and lengthen the design process, making it more difficult for such a process to continue.

I have tried to suggest why the inevitable tensions are worth encountering, and discussed some general approaches to understanding and, perhaps, resolving them. There are numerous books, articles and ‘toolkits’ in various forms, which offer ways to organise collaborative design and activities to develop ideas. It seems possible to pursue these methods thoroughly, reaping the benefits of the experiences of others and allowing their suggestions to enhance or inspire the development of an appropriate and useful range of methods for a particular school design project. Equally, however, it seems possible to go through the motions of participation, apparently following the suggestions of the toolkits, without people feeling truly involved. It was argued that the key to real participation lies in an ongoing, respectful and genuine dialogue, involving a wide range of people and ideas.

In their work on participatory approaches to designing school grounds, Sheat and Beer argue that a successful process will be a “compromise”, which allows “the fullest possible educational and developmental benefits of the participation process, whilst at the same time minimising the costs of full participation” (Sheat & Beer, 1994). From work on collaborative approaches to improving school breaktimes, Sharp and Blatchford (1994) reach three main conclusions, which suggest how such a
compromise might be achieved in the context of participatory school design. They argue firstly for the need for a holistic approach, considering all aspects of the breaktime situation, including the physical space, together with the management and organisation of time, space and people. Any change must recognise and encompass all these aspects; otherwise it will be short-lived and superficial. Similarly, it has been argued here in the more general context of school design that the physical setting cannot be seen in isolation from the activities which take place there.

More clearly relevant to the foregoing discussion of collaborative design is the second conclusion about breaktimes: that for attempts at change to succeed they must involve the whole school community. The authors note that the phase “whole school approach” is over-used but they emphasise that there is a central “need to involve all in a meaningful dialogue about change” (Sharp & Blatchford, 1994: 190). As has been argued, this conclusion deserves to be applied to our understanding of any school design process, as well as informing actual practice. Notably, within BSF, facilitator John Mitchell has recently concluded from his experiences that one of the main requirements for success is “whole school involvement” (Mitchell, 2008: 244-245). Yet reports and research into current practice suggests that this is not happening in all cases.

Finally, in connection with making changes to school breaktimes, it is concluded that it is important to understand that the process of change is not straightforward. Similar conclusions can be drawn from Pat Thomson’s recent review of whole school change (Thomson, 2007). In the context of school design, it seems necessary for all those involved to acknowledge this, and it might seem harder to achieve such understanding if more people are involved. It must be hoped that through their involvement they come to recognise this complexity of the situation as inevitable, rather than as a failing of the particular process with which they are involved. Again the best way to achieve this aim must be through genuine collaboration, where the difficulties, as well as the successes, are seen as the shared responsibility of all parties, rather than as the result of individual power-play or willfulness.

To conclude, we have seen how the potential benefits of participatory design encompass influencing the altered environment itself, for good or ill, and the participants, over the short and, perhaps, the longer term. Importantly, it seems that the potential for longer term influence is bound up with recognising and understanding the inextricable linking of actor and setting, as this applies to the wide range of school users throughout and beyond the period of change. If this shared understanding can be developed through participatory design, this should satisfy the needs of architects and educationalists (e.g. Dudek, 2000 and Clark, 2002, respectively) who have called for more involvement of users in school design and recognition of the practical contribution of the physical setting to teaching and learning.

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