Change and stasis within design and practice over three decades in an English primary school

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This paper focuses on the foundational teaching and learning space within schools: the ‘classrooms’ of traditional design and the more varied spaces of open plan design. Since different physical settings facilitate some pedagogical practices while hindering others, it is interesting to investigate a single school where the layout of the learning space has been changed over time, questioning when and why changes were made, together with the eventual consequences for pedagogical practices in the school currently.

The school investigated was built in the early 1980s to an open plan design, based on multi-purpose spaces for children spanning two year groups, learning individually or in small groups, and less often as a class group. Since the school opened, the areas within these spaces have been enclosed in an ad-hoc manner, producing classrooms of varying sizes, mainly but not all enclosed, where four classes of 30, each from a single year group are taught, with a high proportion of whole class teaching. The methodology was informed by Hargreaves and Goodson’s (2006) study of educational change and continuity in a sample of US and Canadian secondary schools, but focused on the physical space and its relationship to practice over time. Interviews with staff, observations of current use and investigation of the history of the interior of the school were combined to provide understanding of current experiences and of changes made.

Gislason’s framework (2010; 2015) for understanding the distinct elements of the learning environment was used to analyse the design and use of the learning space as originally intended and as now arranged. It is accepted that the alignment of these elements is essential to successful functioning and this conception supports the development of an understanding of the changes that have occurred. The teaching and learning spaces, as well as many organisational features, were partially adapted to reflect changes in teaching practice required by teaching strategies imposed in the 2000s (DFEE, 1998, 1999) underpinned by a changed educational culture. However, it is argued that this adaptation occurred reactively rather than through planning of space to match needs, and the resulting spaces now constrain teaching and learning. Suggestions are made for ways to reconfigure the space to address the immediate frustrations of the staff and students, while developing better alignment between the learning environment elements.

Introduction

This paper focuses on foundational teaching and learning space within schools: the ‘classrooms’ of traditional design and the more varied spaces of open plan design. Research demonstrates that different physical settings facilitate some pedagogical practices while hindering others with, specifically, traditional classrooms being more likely to contain teacher-centred approaches and less student collaboration (Sigurðardóttir & Hjartson, 2011) while open plan schools require teacher co-operation, collaboration and, often, team teaching (Gislason, 2010, 2015; Saltmarsh et al., 2015).
In the UK, there was a period of enthusiasm for open plan design, particularly for primary schools (children aged 4 to 11). This is generally understood to have come from both educationalists and architects (Maclure, 1985; Saint, 1987) although it was perhaps not always matched by the views of classroom teachers (Cooper, 1981). It can be dated from the opening of Finmere School in 1959, which had an internal design that was quite different to the cellular classrooms along corridors that had been standard through the wave of post war building until then (e.g. see Herts designs, Saint, 1987: 69). Designed by David and Mary Medd, a husband and wife team who would go on to design many more schools along these lines, the school comprised a hall space and two ‘classrooms’ that could be separated or combined, using folding partitions. A notable feature of the Medds’ work was the ‘bays’ (Franklin, 2012), somewhat self-contained areas equipped for children to work on different activities, either individually or in small groups. This was an important element of the design and was part of David Medd’s later rejection of the term ‘open plan’ to describe his schools (Medd, 1984).

Acceptance of various types of open plan design for primary schools gathered pace through the 1960s, although many designs owed something to Finmere. The educational opinion was that such designs facilitated the child-centred pedagogical approaches that were being trialled and written about through this period. The seminal Plowden report of 1967 (England, Central Advisory Council for Education, 1967), which reported the findings of a lengthy government-funded investigation of English primary school practice, both reported on such innovations and was intended to encourage more. There is very little in Plowden specifically about learning space design, but many of the reported pedagogical practices, requiring room to move, hands-on experiences and learner autonomy, certainly suggest open space rather than cellular classroom. Notably, some schools built in the period referenced the report to justify open designs (e.g. Cheshire Education Authority, 1970). By the 1970s, open plan had become so ubiquitous that an architect’s reference book (Mills, 1976) assumed open plan as the standard design for primary schools with all the examples provided being open.

However, also during the 1970s, research evidence was accumulating, in the UK and US, of problems with the open plan design. A number of projects showed that open plan designs were often not used to facilitate the ‘open pedagogy’ (Rivlin & Rothenberg, 1976; Bennett et al., 1980): the extensive research of Bennet and colleagues in the UK included numerous case studies of open plan schools being used, sometimes quite awkwardly, to teach in a traditional, teacher-centred way. It also became clear that many teachers, not trained within such an environment, did not like such space (Cooper, 1981; NUT, 1974) and that there were challenges in using these schools as they were designed, particularly in relation to noise (NUT, 1974). The frustrations of teachers in the (open) classroom were not helped by student numbers, which were peaking, and tended to ensure that all schools were full to capacity. A teacher responding to the NUT survey stated: ‘There can be no movement or activity on any scale where there is no room to move’ (NUT (England), 1974: 29).

The case study school
This then is the historic background to the designing and building of our case study school. Woodside School was built in the early 1980s, to an open plan design, apparently based on multi-purpose spaces intended for children learning individually or in small groups, and less often as a class group. Built to serve a new community being brought into being between former mining villages to form a ‘new town’, it opened in 1980 with a small roll that would grow as the local housing was built.
We became involved with the school in 2013, by which time there were 411 children on roll in Reception to Year 6, mainly organised into two classes of approximately 30 children per year group, and an additional nursery facility. The recently appointed head teacher approached us to work with the staff to facilitate them in thinking about how the physical space of the school supported or constrained their work. A half-day of activities, discussion and idea generation considered how space is currently used at Woodside, and the possibilities for change and development. The aims of the session were to consider experience of the existing school premises, discuss educational approaches in terms of appropriate spaces and then begin to plan for developing the premises through refurbishment or reorganisation (more extensive rebuilding work was not a possibility for financial reasons). We concluded that a problem for the school was the internal organisation of the learning spaces, specifically the way that the spaces had been divided up to create some enclosed classrooms, that varied greatly in size, and some teaching areas that doubled as circulation space. Further research work was conducted, working in collaboration with staff and students, to develop further our knowledge of the existing school environment, the current learning and teaching experiences and possible solutions. Methods included measurements of learning space, observations and student led tours of the school, with photographs taken by children during the tours used to facilitate student focus groups, informal interviews, discussions and observations were conducted with Y3/4 teachers to understand their teaching decisions and styles, including observing concurrent maths lessons with two groups of Y3 children.

A continuing interest was in understanding the changes that have been made to the interior design, and this paper presents this thread from the on-going collaboration, drawing on the previous work with the staff and students together with some focused data collection. The methodology was informed by Hargreaves and Goodson’s (2006) study of educational change and continuity in a sample of US and Canadian secondary schools, but centred on the physical space and its relationship to practice over time. Interviews with staff, observations of current use and investigation of the history of the interior of the school were combined to provide understanding of previous and current experiences and practices. A particular intention was to explore when the changes to the physical environment occurred and why.
Woodside Primary School over time

Plan showing current internal configuration and the blocks of learning space as numbered areas

First decade

Woodside School was opened in 1980. The school itself was still under construction, as is made clear by an album of photographs found in a cupboard by the current head teacher. It was built in two phases, with the first part of the building (comprising administration, main hall and two blocks of learning space: Areas 3 and 4 on the plan above) being opened while the second part (two more blocks of learning space and a linking corridor) was being built.

The current deputy head was then the Reception teacher (teaching children aged 4-5 years) and explains how the school “began to fill” as housing was built, so in the first year Reception was “full”,
but there were fewer older children. She described how Reception with Years 1 (ages 5-6) and 2, (ages 6-7) then thought of as ‘infants’, were housed in one of the “semi-open plan” learning areas (Area 4 on plan), which had one enclosed room but the rest of the space was “just open…we just flowed through”. Similarly, at this stage in the school’s development, the junior children, Years 3 to 6 (aged 7-11), were “taught as mixed age range” within a learning space built to the same design which they “just flowed through, we made groupings where we wanted” (all quotes from deputy head interview, 12.7.16)

When the second phase of the building work was complete, the head teacher made an interesting decision in moving Reception into the new block as expected, but leaving Years 1 and 2 where they were. Instead, Years 3 and 4 went into the space near Reception (Area 2). The current deputy explained how this was intended to avoid a separation of ‘infants’ from ‘juniors’, emphasising that this was a primary school “when primary school was a relatively new concept”. She went on to describe how the head at the time also saw this arrangement as contributing to “a family feel school, a community school”, where “children have an opportunity to see their elder siblings or younger siblings”.

Rapid growth in numbers through the decade meant that by the end of the 1980s, Woodside had indeed filled up, with sufficient children for two classes per year group, but still apparently using the open learning spaces in the free-flowing way. The deputy commented on how the mixed age structuring was particularly embedded in the Year 5/6 area, where it continued even when “that wasn’t the structure anywhere else” in school. She commented on how this was a staff decision, based on how the open space provided an “automatic link with each other…sharing of resourcing and opportunity”.

Changes: 1990s to 2000s

In the early 1990s a nearby primary school with falling numbers was closed, resulting in additional children joining Woodside (about 100 additional students, the deputy recalled). The current head explained how these children were socially distinct, coming from the pre-existing ex-mining village, rather than from the new housing. The current deputy described how her role as SENCo (Special Educational Needs Co-ordinator) became much more important since “there were increased numbers of children who had a particular need, whether that was challenging behaviours or special needs learning-wise”.

At this time, a new head was appointed. Her vision for the school is not so clearly remembered by current staff, but she did make some changes to the outdoor space and how this was used, which have been retained. There was a wish for the outside space to be used for learning and for “creativity”, as well as the traditional “physicality”. There was a move to “break up playtimes” with children of different ages having breaks at different times or in different spaces. This is quite in contrast to the original head’s concerns with mixing up ages to create a family feel, but responds to safety concerns relating to bigger and smaller children playing together. This head is also credited with initiating a policy of ‘indoor shoes and slippers’ inside, with children removing outdoor shoes on entry. There is perhaps a sense here of the potential of the outdoor space for learning being recognised, but also needing taming, structuring and making safe. Current Year 3 and 4 teachers who remembered the indoor shoes policy chiefly recalled the practicalities of changing shoes, including lost shoes and unpleasant smells.

The alteration to the learning space that was to have impact down the years, the building of walls to create classroom spaces, occurred at this time, but there is uncertainty about exactly when. The
teachers from Years 3 and 4 suggested 2003. The deputy head described a gathering sense of the open plan arrangement being at odds with expectations of teaching and learning approaches:

“I suppose as the curriculum changed there was a clearer demand for SAT outcomes, formal assessment and you began to feel…erm…also I don’t know…it’s hard now to remember whether there was an element of society change that said the children are struggling to cope with this very open plan aspect. In order to help them to focus and concentrate perhaps a greater enclosed element in each area would be more beneficial”

Asked to put a date to the physical change in space, she thought “shortly after 2000” and related it to the demands on teachers at the time to teach in a very structured way: “teaching style was very controlled – 10 minutes of this, 10 minutes of that”. Here she is clearly referring to the National Strategies (DfEE, 1998, 1999), government policy regarding teaching literacy and numeracy, which prescribed a particular pedagogical approach and included more whole class teaching than had become accepted practice. Coupled with this prescription of teaching approach, there were demands that schools achieve targets in terms of assessment results, leading, the deputy reflected, to a sense of focus on the class group and content: “these are my children and this is my responsibility, this is what I must teach, this is what I must deliver”.

Current organisation: 2013 to 2016

The walls that were built in the three areas (Areas 2, 3 and 4) added to the existing enclosed room in each area to result in three enclosed classrooms of differing sizes, where classes from a single year group are now taught. A fourth class is taught in the space between these classrooms in Years 3 and 4 (Area 2) as well as in Years 5 and 6 (Area 3). This is also a circulation space. While Area 2 accommodates all the children from years 3 and 4, there are some differences in the other blocks. In 2013, the Year 6 group was split into three classes of 20 instead of two classes of 30, with one of the classes using a smaller room between the hall and Area 4 that had previously been the ICT suite. This organisation was considered a success and has been maintained for Year 6 students since then. Also, one Year 2 class is housed away from Year 1 and the other Year 2 class in the original enclosed room within the Reception space, which remains open plan (Area 1). This leaves the circulation space in Area 4 available as a space for craft, sand and other student-chosen activities (see image).

A mapping activity that we conducted with staff revealed some dissatisfaction with movement around school, some of it related to the location of some of these student groups, including the positioning of the Y2 class in the Reception space, and issues with having to walk the Y3/4 children to and from the main yard and other facilities at that end of the premises (see included map from Y3 teacher).
Student experience of movement in school included some negative comments about crowding in corridors and, particularly, in cloakroom space. However, most discussion with the students about space and movement focused on the shared spaces in each block that doubles as learning and circulation space. These spaces were identified as being ‘good’ in that they are ‘big’, but the benefits of the size were over-shadowed by their use as circulation space. The students described how when people walk through it is ‘noisy and really distracting’. This issue was also reported by teachers, who made comments about noise, and noted that when they or their classes had to go into these spaces, ‘feel like I’m disrupting other classes’. The fact that the toilets are also located at one end of this shared space means that this type of disturbance is commonplace. Similarly, the lack of sinks in each room means that students need to interrupt another class if they require a drink of water. The students commented that this makes them ‘feel bad’ for disturbing the teacher. Notably the space in Area 4 that is used for child-led activities with years 1 and 2 rather than formal teaching was considered much more successful. During research visits, this space was seen in lively operation with Y1 students from the two classes involved in a range of activities across the classrooms and shared space. Staff confirmed that this arrangement works well.

The shared spaces in each block are also used by staff for planning and for after school meetings. Some collaboration is built into the organisation of the school, with ability grouping for literacy and maths from Y1 and concurrent planning time ensuring that staff from the same year group collaborate. Teachers don’t feel isolated as there ‘is always someone within shouting distance’ (Y3 teacher, 22.5.14)

Overall, our research work in 2013-14 with the staff of Years 3 to 6 revealed a consistent issue around the learning space. Within the Y3/4 block, the problems with restricted space were particularly acute as the four classes were all of approximately 30 pupils.

The Y3/4 block (see plan above) provides a mixed provision of space across the four classes. Within the enclosed Y4 classroom (the one enclosed room as originally built), the teacher liked the daylight provided by the numerous windows, and which give the space a pleasantly airy feel. However, the desks looked cramped and little movement was possible during lessons, putting some limits on teaching and learning and, at the time, it was felt that there was no room for a carpet space (see photograph right).
Next door in the unenclosed space, her Y4 colleague had more area but commented that the positioning of the IWB and the shape of the space limits desk arrangements: she would prefer a horseshoe to tables, but had found this ended up too long and narrow. She does have the possibility of a carpet space (see plan), but this is distant from the IWB. Also if used, it can disrupt circulation for the Y3 students, which is annoying for Y3 teachers.

The two other two classrooms, then being used for Year 3 students, are both enclosed spaces, but facilitate different pedagogical practices. There is a considerable difference in area (54.9m² in the bigger room compared to 43.8m² in the smaller room) although each has to accommodate between 28 and 30 children (exact distribution depends on the lesson as ability grouping is used for maths and literacy). In the larger room, there is plenty of space for a carpet space, but in the smaller one, it is far from clear how the children fit in the limited space in front of the IWB.

Two maths lessons, running concurrently in these two Y3 rooms were observed. In fact as the sketch shows, the children in the smaller room did not fit into the ‘carpet space’, but ended up sitting between desks with limited views of the IWB and not entirely visible to the teacher (see sketch). Presumably for this reason, the students were mainly seated at desks during the lesson, while the teacher explained examples using the IWB. Towards the end of the lesson, when the teacher got the children to gather on the carpet space and use whiteboards in pairs to answer some challenge questions, the children took a couple of minutes to get arranged. In contrast, the teacher in the larger room was able to make longer and considerably more varied use of the floor space in her room, with transitions achieved more smoothly, and too quickly to be worth timing. The lesson involved individual work at tables, interspersed with gatherings on the carpet, as well as the carpet space being used for an extension activity by two children who had finished the assigned work. It was notable that when whiteboards were required on the carpet, the teacher was able to lay them out ready for the class, rather than having to remind children to bring them over as happened in the smaller room. This produced a considerably faster, but also calmer, transition between activities.
The elements of the learning environment: design and use

Gislason has written in a number of places (e.g. Gislason, 2010; 2015) about the need for a framework for understanding learning environments that recognises the distinct, but interacting, elements that make up each learning environment. The framework above is his adaptation of previous suggestions, which he used to analyse the learning environments he observed in three US high schools (Gislason, 2010). Both this work, and our own use of his model (Woolner & Tiplady, 2016), suggests that the alignment of these elements is essential to the successful functioning of learning environments.

Applying the model to Woodside: past and present

It is clear that, as originally designed, the physical space (the ‘semi-open plan’) aligned with the organisational aspects then prevalent, such as flexible groupings of children and fluid timetabling within the block, all founded on local curriculum decisions. It would also appear, from the positive comments of the deputy, then the Reception teacher, that staff culture, reflecting educational views that had developed over the previous two decades, was supportive of this pedagogy. Although it is wise to be cautious of how much espoused ideals influence actual classroom practice (see Pollard 1985: 19, for a pithy comment about teachers talking about but not practising progressive pedagogies), it seems apparent that there was not the undisguised animosity towards working in an open plan learning environment that has been found elsewhere (e.g. Cooper, 1981). Perhaps the timing here is significant, with enough construction of open plan schools through the 1970s for this type of learning space to have become relatively normal by the opening of Woodside. Possibly staff had prior experiences as trainees or practitioners within open plan in other schools, in a way that was not possible for teachers in the initial open plan schools. Certainly there was enough support for the approaches that had been developed for the staff in the Year 5/6 area to continue to use them.

Thus three of the four elements were aligned. Without access to a student voice, it is not possible to be certain about the student milieu. However, it is notable that because the school ‘filled up’
from Reception, most of the children at Woodside during the 1980s would have only experienced school here so would have developed appropriate expectations about learning, and the relative autonomy that was expected of them. This reading of the situation is also suggested by the challenge that seems to have been posed by the influx of children when the neighbouring school closed. The increase in numbers would have strained the learning environment, but, also if the joining children did not have these same expectations it would have been more difficult for them to learn in the ways expected at Woodside, perhaps contributing to the increases in ‘challenging behaviours’ and need for learning support, noted by the current deputy. The current head also mentioned that the socio-economic background of these students would indicate that they would present more educational challenges in any case, which has significance when it is noted that Gislason sometimes paraphrases ‘student milieu’ as ‘student characteristics’, and has reflected on the socio-economic background of the students in the high schools he studied.

Despite this stress within the Woodside learning environment in the early 1990s, it seems from the deputy’s account and the timing of the physical alterations, that it was the changed organisation of learning, imposed by the National Strategies (DfEE, 1998, 1999) and the associated change in educational culture, that produced a fundamentally unaligned environment. The open space that supported ‘free flow’ of students and flexible groupings was much less suitable for the whole class teaching required for the teaching prescribed by the National Strategies. As the deputy reflected, this valuing of highly structured teaching was a part of a changed educational culture, of “society change” as she put it, which therefore no longer valued the less structured alternatives. Thus the decision was taken to adapt the spaces to create, as far as was possible, the enclosed classrooms that aligned with the new organisational and staff/cultural elements. Presumably, the student milieu adapted as students came to expect a different pedagogy. Some of the recent comments from students about distraction and disturbing classes are suggestive of this.

This then produces the current Woodside learning environment, with which there are considerable frustrations. Although it is difficult to be precise about the capacity the school was designed for, the school community is managing in a space that appears to have been intended for a smaller body of children and seems to have been more successful when roll numbers were lower. Perhaps because the changes to the physical structure were made reactively, to satisfy the requirements of national policy, rather than through local planning of space to match needs, the resulting spaces now constrain teaching and learning. In contrast, the location of certain year groups (specifically the Y3 and Y4 pupils), which is now experienced as irritating, was explicitly planned to support a particular school culture, where separations between ‘infants’ and ‘juniors’ were to be minimised. These are, though, concerns that the passage of time now makes less significant, and it is striking that only the older teachers have any understanding of the reasoning behind the original decision.

It is timely for the school to initiate, as it has, discussions about the learning environment that is now required. This explicit consideration of their premises, practices and educational values appears to be helping the members of the school community to build a shared understanding of the requirements they have of their learning environment. A key aspect of this has been exploring the implications this has for the physical setting and planning alterations, within tight budgetary constraints, that will enable the premises to facilitate rather than constrain.

**Possible ways forward**

The initial discussion day with staff in 2013 produced clear priorities for action together with some ideas about how to enact the desired changes. The single most addressed issue was the
suggestion of swapping Y1/2 with Y3/4, which was a priority for the Y1 and Y2 staff, but was also addressed by the Y3/4 group and other groups.

This led to consideration of remodelling the internal spaces in the two blocks concerned, with the priority being to reconfigure the Y1/2 block so that it could house the four classes of Years 3 and 4. At this stage, the head teacher’s desire to see more equity of provision in an attempt to provide learners with “equality of experience” (head teacher, 7.2.14) combined with the noted dislike of teachers and learners for the unenclosed circulation spaces to suggest a solution of four completely enclosed, similar sized classrooms. However, it did become apparent that this solution might limit the existing collaboration between staff, leading to an alteration to the original plan to include double doors between classrooms. Furthermore, using the same layout for Years 1 and 2 quickly came to be seen by the head teacher and other staff as inappropriate. This design for this block has been redrawn to provide a mix of open and enclosed space, specifically for Year 1 students, that is “flexible enough to mirror reception but can become more formal towards the end of the year” (head teacher, 12.7.16)

The collaboration with this school developed, as hoped, shared ideas across the staff about the design and use of their space, facilitating productive discussion about the future. However, as yet, nothing has been built, which has resulted in a loss of momentum and the growth of uncertainty about what is happening. While this is clearly unfortunate, it was noted on the most recent visit that some organisational and spatial adjustments had been made within the existing physical environment. Changes in the management of arrival and departure has reduced the extended walks of Years 3 and 4 students and all the Year 3 and 4 classes now have a satisfactory carpet space. Rearrangement of furniture, in two cases by an incoming teacher, has enabled both the small enclosed classroom and the unenclosed learning space to have carpet spaces where the teachers find them useful. In the other enclosed room, the teacher who was struggling with an inadequate carpet space in 2013-14, has slightly regroups chairs and tables, pushed some against the wall, and now has a good sized space under the IWB. It seem possible that these changes were made because of the teachers’ heightened awareness of the physical learning environment, in which case we can conclude that drawing a school community’s attention to the design and use of their learning space is rarely completely wasted.

References


Cheshire Education Committee (1970) Tattonhall, The Park, County Primary School
http://www.tattenhallhistory.co.uk/wp-content/uploads/2012/05/Tattenhall-The-Park-County-Primary-School.pdf


DfEE (1999), The National Numeracy Strategy: framework for teaching mathematics from reception to Year 6, London:


Medd, D. (1984) An attitude to school design in retrospect. An address delivered at The Open Plan Primary School Conference, Berkshire, NAPE.


