Adapting and Designing Spaces: Children and their Schools

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In schools, children experience their environment on three different levels: firstly, they constantly make spatial decisions by positioning themselves in relation to others and organising their immediate environment; secondly, they can potentially contribute to shaping the classroom spaces; and, thirdly, they are confronted with the designed school as a whole. It is argued here that our experiences of spaces are related to our memories, which provide us with a framework of references that allows us to 'read' and construct spaces.

Whereas on the lowest level of spatial involvement children are natural decision makers, the higher levels require access to, and an understanding of, shared practices and discourses. Although existing data on children's perceptions of their schools suggest that children's participation in the school design process is laudable for all sorts of reasons, such participation means overcoming considerable barriers for comparatively little gain in terms of the design quality. It is the level of the classroom where a more genuine shared organisation and (re)creation of space can take place on an everyday basis.

Keywords: Children, Participation, School design, Space

Introduction

There is general consensus amongst researchers these days that the physical school environment can have an impact on children's learning and well-being (e.g., Burke & Grosvenor, 2003; Clark, 2010; Clark & Moss, 2005; Dudek, 2000; Ghaziani, 2010; Lüke, 2007; Sorrell & Sorrell, 2005). As a result, scholars like Ghaziani (2010) argue that there is a need for further research into children's perceptions of their schools so that their views can shape the design process. Although data on children's perceptions of their environment

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is extremely insightful and valuable in its own right, it is argued here that there is not necessarily a need to use data on children's views to rethink the design process in radical ways; instead, data can be used to develop and foster ways of encouraging children's continuous engagement with and adaptation of their spatial environment.

There are two lines of thought in support of the argument for such continuous adaptation: a) that we need to understand schools in terms of lived changing and changeable spaces rather than neutral buildings that merely contain the school community, and b) genuine participation is most effective in subtle everyday decision making rather than through more formal mechanisms. As Fielding and Moss (2011) argue, there are two rationales of children's participation: on the one hand, the neo-liberalist focus on consumer choices and, on the other hand, the notion of participative democracy. Although children's involvement in school design has a wide range of benefits (Parnell et al., 2008; Sorrell & Sorrell, 2005), if it is not supported by everyday shared decision making in relation to space in the classroom there is a risk of it being reduced to mere tokenism.

In the first part of this paper, I will use the philosophical literature on space to indicate how some of the debates around school design are problematic, and in the following section I will analyse some of the existing data on children's views of their schools (Burke & Grosvenor, 2003; Ghaziani, 2010) in the light of this. In the final section, I tentatively explore how more subtle ways of engaging and adapting spaces might be better placed to meet children's needs, as well as providing more genuinely democratic processes.

Schools as lived spaces

When we think about space and buildings we often reduce them to neutral objects at certain locations. We classify them by measuring distances and looking at coordinates on a map. There can be times when this is useful, but such an analysis of space hides some of its fundamental characteristics.

It first of all hides the fact that we experience space in individual ways. 100m is considered to be an exact spatial measurement, yet although the measurements might be the same for the first and the last hundred metres of a marathon, they are experienced differently. It is unlikely that they are seen as exactly the 'same distance' by those who run them. And what might be a small room for one person could be a big one for the next. It depends on what we measure it against. Our spatial experiences of the past shape our spatial experiences of the present.

As the philosopher Heidegger (1962) argues, we are always already thrown into the world, by which he means that there is never a point zero from which we start exploring the world. We are always spatially located, thus when we enter a school we come to it with an abundance of spatial memories. Bachelard (1969, p. 9f) argues that it is space rather than time that fixes our memories. A similar connection between space and memory is made by Malpass (1999), who argues that memories have a nested structure and that it is a complex structured set of memories that allow us to recall individual events. Space is thus an inseparable part of our memories, and emotional as well as aesthetic and moral experiences are inevitably linked to it.

The manifold spatial metaphors in our language have standardised some of the common spatial associations and are the result of shared experiences. We say we are 'close' to somebody, because most of us like being physically close to people we like and care about. However, as well as these standardised spatial associations often manifested in language, there are also many very individual associations. I suspect most of us have experienced spaces as good or bad because certain memories are linked to them; for example, I avoid the space where I had an accident, even though the layout and structure of the space has been changed since.

Thus, on the one hand, spaces become enshrined with past experiences, while, on the other hand, these experiences are vital for us in order to 'read' spaces, as the past spatial experiences provide a 'spatial reference network', which enables us to understand space, as well as produce spatial meanings. The increasing creation and experience of virtual spaces also emphasises this link between memory and the reading and writing of spaces.

As Lefebvre (1991) points out, space is socially constructed. However, this does not merely suggest that the school building is a product of social interaction; rather, the space within and around the building is constantly (re) produced. There are, for example, forbidden spaces, gendered spaces, divisions, boundaries and shared spaces, which are not constructed by brick walls but by how people make use of the spaces every day. Wherever we are we constantly organise and structure the space around us. Thus, as Hillier and Hanson (1984) point out, society, or the school community in our case, does not merely exist in space but is spatially organised and reorganises the space continuously.

By seeing space as constructed, it also becomes contestable (McGregor, 2004), and questions of power can no longer be separated from discussions about space. However, whereas there is a little doubt about power games being part of the construction of schools, they often remain hidden as part of the subtler organisations of space within schools and playgrounds. The teacher's

structuring of the classroom or the children's divisions and negotiations of space on the playground and in class are just some examples of this link between space and power on a micro level. A Foucauldian notion of power is employed here, where power is seen as omnipresent and shaping any social relations in meaningful ways. The flow of power is never entirely one-sided for Foucault a resistance is always possible.

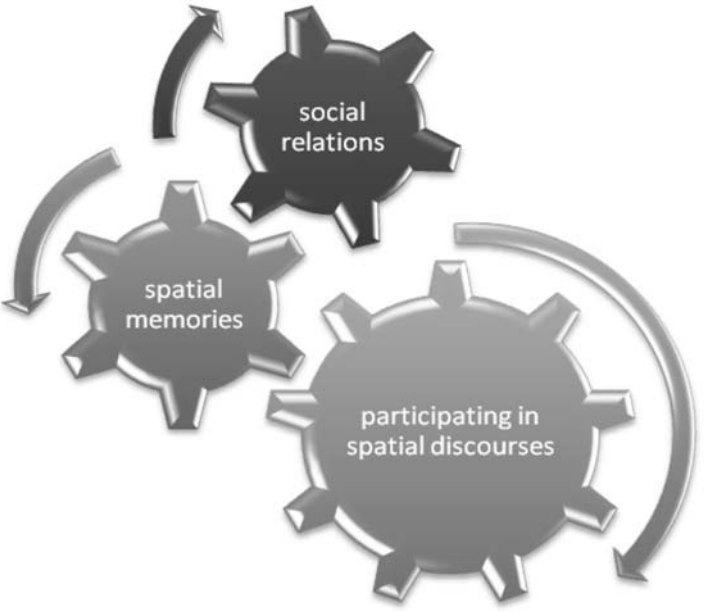

Figure 1: Production and experience of lived spaces

Figure 1 tries to summarise the constant experience and production of lived spaces. The mechanism can be adapted for different levels of spatial experiences. On an individual level, my personal relations to others affect how I position myself in relation to them; for example, whether I keep my distance or prefer to tower over them. In order to do this, however, 'keeping one's distance' or 'towering over someone' must already be meaningful concepts to me. In return, my positioning will have an impact on my social relations and provide new memories for future use.

On a slightly larger level, such as classroom relations, we would want to complement spatial memories with the notion of shared spatial practices. There are certain classroom behaviours that are regarded as being the norm, and a statement can be made in a discourse by disrupting or conforming to given norms. Again, this would in return shape practices and relations. On a

macro level, where buildings are statements in a discourse, as Hirst (2005) argues, shared memories are the history of school architecture, ideas and theories about education, norms about institutional design and past political discourses. These shape present negotiations about school design, which then affect relations between stakeholders and vice versa.

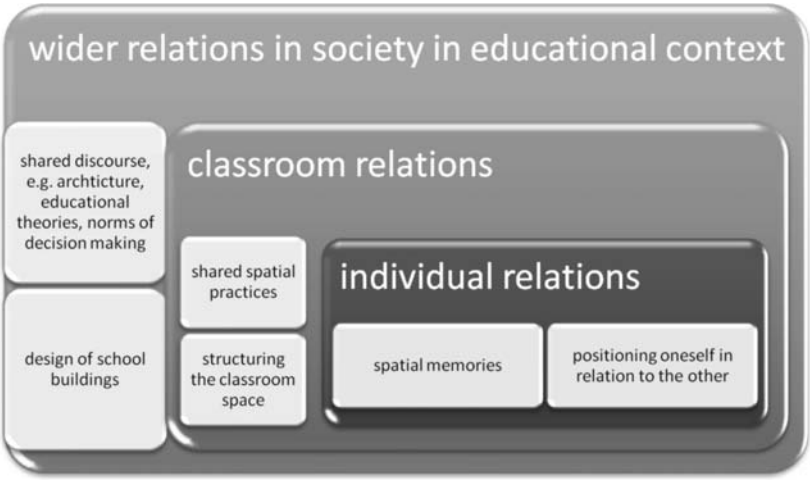

Figure 2: Different levels of spatial discourses

Figure 2 denotes the embedded process of spatial production and experience, but in a flawed way, as we would really need the interlinking cogs on a three-dimensional level. All three aspects can be seen as embedded in wider structures, e.g., individual relations within the school are part of the wider classroom relation, which are part of the wider education discourse involving various stakeholders of schools. School design has an impact on possibilities of structuring classroom space and the individual's positioning within that space. The following quote by the philosopher Edward Casey points to some of the vertical as well as horizontal interconnections in our diagram.

> The power a place such as a mere room possesses determines not only where I am in the limited sense of cartographic location but how I am together with others (i.e. how I commingle and communicate with them) and even who we shall become together. (Casey, 1993, p. 24)

The possibilities of a room (which in itself is structured and created by social relations) determines how I position myself in relation to an other person; for example, tables within a room often create dividers, or one might have

the option to sit down or stand up, some spaces might be designated teacher's spaces (see Kenkmann (2011) for a discussion of some spatial classroom characteristics). Thus I am restricted in placing myself within the space and in relation to others. This then shapes relations, but also the shared identity, as Casey points out.

The notion of identity affects and is affected by the whole process, and is present on all levels. The school's identity is shaped by the building, by the shared practices facilitated or hindered by the building and by the relations of stakeholders involved in spatial questions. What figure 1 is trying to indicate is that there is no starting point for the process; rather, we have a process of constant (re)production. What we end up with is a very complex machinery where one wheel sets others in motion. However, the nested structure of the model means that we need a lot of little wheels moving at lower levels in order to set higher wheels in motion, whereas wheels at the top level have an immediate impact on lower levels.

Children naturally make decisions at the lowest level; they will sit close to their friends and keep their distance from others; they will shape their immediate environment with the resources available to them. Although this might only rarely be consciously discussed, meaningful discourses emerge. On the classroom level, whether children are in a good position to renegotiate and change spaces or whether there is merely a rigid reproduction of space will depend very much on what shared practices exist. However, we would assume that children have a knowledge of shared classroom practices, albeit to a varying degree, and thus 'speak the spatial language' of the classroom; for example, they will know that sitting down might be the norm, thus throwing oneself onto the floor becomes a significant statement in the spatial discourse, which then affects classroom relations.

On the highest level, however, one needs to have access to the shared discourse of building design, educational theories, costs, etc., in order to make an effective statement in the discourse of school design. As we will see from some of the research undertaken into children's views on school design, this is often not the case, and children's potential contributions remain unheard by other stakeholders. However, there is a difference between the design of a brand new school and the adaption or extension of existing schools, as in the latter case children and other users have access to the shared experiences of the building, thus allowing them to make a more prominent statement in the design discourse. However, the discussion here focuses on the design of new schools rather than smaller redesign projects.

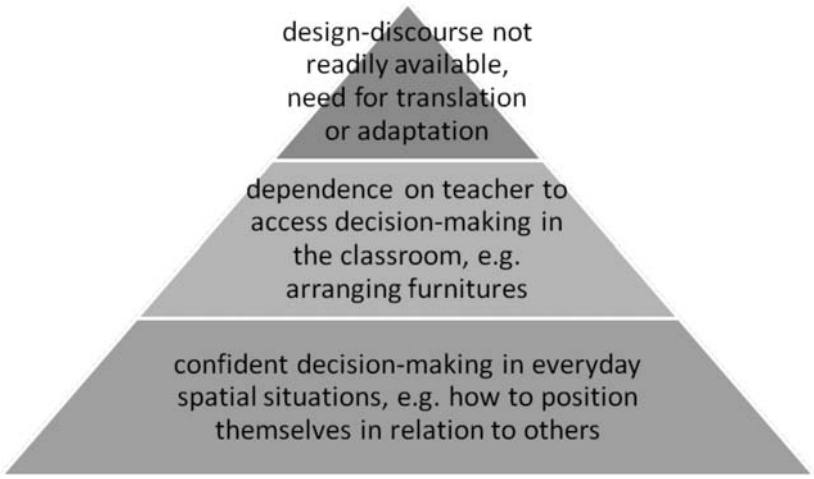

Figure 3: Children as decision makers

One could be tempted to argue that if children do not speak, or only partially speak, the 'language' necessary to participate in a school building discourse, the language itself needs to be adapted. However, Wittgenstein (1984) sees language as inseparable from practices; language is what we use rather than a definable separate object. This means that the language of building design would naturally evolve as part of the relations between stakeholders. So what we have at present is a vicious circle, where due to relationships and experiences of exclusion children cannot fully participate in design discourses, which in return means that they are unlikely to become more confident participants in the discourse.

Simply asking children what they like about their schools does not seriously disrupt the vicious circle, but remains on the level of what Hart (1992) would call tokenism rather than genuine participation. However, there have in recent years also been attempts to establish more collaborative design partnerships and allow children more genuine access to the school design discourse (Parnell, 2008; Sorrell & Sorrell, 2005), although the primary aim here is often to enable children to gain a variety of transferable skills rather than shaping the school space.

Children's experiences of school spaces

One only has to look at some of the available data sets on children's perceptions and preferences in relation to their school environment (e.g., Burke & Grosvenor, 2003; Ghaziani, 2010) to realise there is no such thing as the 'ideal'

school. The comments regarding what children like in aesthetic terms vary considerably. Whereas one child wants the classroom painted in a 'calming sky blue' (Burke & Grosvenor, 2003, p. 25) others want 'nice colours like red' (p. 24) or 'the outside painted gold' (p. 25), to name but a few of the colour examples. Different colours for ceilings and carpets are also mentioned. Both data sets clearly indicate that colours are important to children, even though there is no clear preference for one particular colour. A child in the Ghaziani data set suggests that changing colours are desirable; the suggestion here is to make artificial lights coloured, allowing them to change the colours of blinds and carpets (Ghaziani, 2010, p. 10). Contemporary architects have already picked up on the importance of colours in school design (see, for example, Reggio Emilia, database of contemporary school design at www.imagineschooldesign.org.uk).

There is some indication that children's preferences of colours are related to previous experience. One child would like a pink carpet because the child experienced and liked such a carpet in a previous classroom (Ghaziani, 2010, p. 11).

The link between spatial memories and attitudes towards spaces becomes more visible in other areas. For example, in the Ghaziani study, children liked or disliked the head teacher's office depending on whether they were rewarded or told off in this space (Ghaziani, 2010, p. 17). Schwarz and Steiner-Löffler (1998) noticed similar experiences when they asked children to take photos of positive and negative spaces in their school, and the authors argue that there is a strong association between persons and places at times.

Unfortunately, no data of the actual past experiences were collected in any of the studies. Such data would allow us to draw clearer links between memories related to certain spaces and present attitudes and behaviour. However, similar comments were made by other children: one child wants a triangular classroom 'so that no one could sulk in the back row', while others want a circular classroom so that 'the teachers can't tell you to stand in the corner' or 'there won't be a naughty corner' (Burke & Grosvenor, 2003, p. 23). It would be very interesting to know the exact experiences that prompted the children to make such comments, as it is not the spaces themselves that carry certain values, but rather the experiences associated with them. The conclusion that can be drawn from statements like these is not necessarily the redesign of schools with round classrooms, but rather the children's involvement in spatial decisions within their school, as I will discuss in more depth later.

However individual the children's comments about their schools are, we can classify them into a variety of categories. As we have already seen, their aesthetic responses to spaces are highly individual, as are their emotional

associations with spaces. A considerable number of the children's comments relate to the functionality of certain features. Locking toilet doors are mentioned several times, as are the issues of enough space for wheelchair users, windows that need repairing and a lack of doors between classrooms that cause noise disturbance (Burke & Grosvenor, 2003, p. 26f). Unfortunately, neither of the data sets gives us an idea of the extent to which children disagree about these problems, if at all. We would, however, expect considerably more agreement regarding the functionality of equipment and features than about aesthetic considerations. Safety issues, such as an uneven floor mentioned by one child (Burke & Grosvenor, 2003, p. 29), also fall into this category.

We would also expect a shared element with regard to what constitutes a comfortable environment, especially as far as chairs are concerned. Even though the heights and preferences for certain materials of chairs are related to individuals, there seems to be a shared sense that 'chairs are really, really uncomfortable' (p. 29) and that the ideal school would have 'soft chairs instead of hard chairs' (p. 29) or they should 'be leather, the ones you can put your feet up on and relax instead of having a sore back all the time' (p. 145), 'egg shaped chairs' and 'soft bean bags' (p. 144) are also suggested (Burke & Grosvenor, 2003). One child also points out how unfair it is that teachers have more comfortable chairs than students. (Burke & Grosvenor, 2003, p. 144)

The final category of comments I would like to suggest is that of excitement. A lot of children want change and innovation. For some, it is changing lighting (Ghaziani, 2010, p. 10), while for others it is futuristic design, including features such as a fountain (p. 24) or a river in the playground (p. 25) (water is a metaphor for change in itself) or modern and innovative technology (Burke & Grosvenor, 2003, pp. 25-26) that makes a better school. Some children also mention large windows as a positive feature of schools, which could fit into all of the categories, but nature also continually changes with birds and clouds flying past, changing weather conditions and different seasons and thus provides a disruption from the possibly mundane classroom routines.

Table 1 summarises the different elements of children's responses to their spatial school environment. In the concluding section, I seek to bring the two discussions of participating in spatial discourses, on the one hand, and the children's responses to their schools, on the other hand, together and assess the extent to which children's participation can easily and genuinely be achieved.

Table 1: Children's responses to their school spaces and design implications

consideration in relation to space	examples	individual/ shared	design implications
aesthetics	colours, shapes, carpets	highly individual	adaptable designs
emotions	negative spaces where told off, positive spaces where rewarded	highly individual	no design implication
functionality	locking toilets, doors to keep noise down, windows repaired	shared	achievable
comfort	comfortable chairs, short distances to walk, cold water, larger playground	individual + shared	achievable, but high cost
excitement	futuristic design, changing colours, new technology	individual	changing design

Adapting and designing school spaces

As I have argued, we all make constant spatial decisions on a micro level by positioning ourselves and the things around us in meaningful ways. On the macro level of school design, children are not necessarily involved in decision making. What we need to assess is how powerful the children's comments are as part of the design process. Clients of building projects usually have a say in all aspects of the project, but, as Parnell et al. (2008) point out, in school projects there are two clients, namely the paying client and the users of the school. But who are the users of a new school? Can we create generic categories of 'children' and 'teachers'? There are two problems here, one being the fact that schools are used by generations of different children and teachers, which means that some of the concrete clients might not even be born, while the other problem is that even if we use the current school population as a client we could end up with a thousand individuals.

What is needed is a shared statement. Judging from the actual data on children's perceptions of schools, such a shared statement is most readily achieved in relation to functionality; for example, toilets that actually work and a floor without holes. But some of these issues are maintenance rather than design issues, and one would hope that architects and designers have some understanding of the functions a school building needs to fulfill.

The other area where a shared statement in the design discourse seems feasible is in relation to questions of comfort. Although there is clearly an individual element to what we find comfortable, as we would expect this to be linked to our emotional responses to our environment, there is also a shared sense of what we find uncomfortable. However, again one would assume that it takes comparatively little consultation to find out what children and teachers

prefer in terms of comfort, as considerations of cost are likely to limit available choices quite radically.

What we would need to analyse in more depth is whether schools where children have participated in the design and building discourse look fundamentally different from those where this has not occurred. Parnell et al. (2008) indicate that this might not really be the case.

> Currently, it seems that dialogue between schools and their architects/contractors is limited. What little engagement does occur in the early stages of design seems to be rarely followed up in the later stages of design and construction. (Parnell et al., 2008, p. 222)

It seems unlikely that children will be considered as equal partners in the discourse of school design in the near future, and enabling them to participate fully might actually have very little gain in terms of the quality of school buildings. The involvement of children represents a considerable challenge in terms of overcoming access barriers to design and building discourse. Thus it is not surprising that there is no user involvement in many school design projects (Tischer, 2007).

It is the level of the classroom where spatial decisions can be made much more readily; decisions about how we arrange the space of the classroom and how we shape the immediate environment of our learning. If colours are important to children, why could schools not have Miro-like canvasses (created by children) or coloured curtains or blinds that could be shared around the school and changed as those 'living' in the classroom desire? One could, for example, have a blue week followed by a green week. Tables and chairs can be changed around or, as one child suggests, 'we could bring our own cushions to school' (Burke & Grosvenor, 2003, p. 29).

Children could monitor, arrange and be involved in the maintenance of the school. They could take the initiative on how to decorate the classroom and put up displays that are important to them rather than having educational posters put up by the teacher, as displays were clearly important to the children in the Ghaziani study. Changing the spaces around us does not necessarily involve high costs; what is needed is some creativity and democratic structures in the classroom. The question of virtual spaces arises here as well; for example, students and teachers 'leave' the classroom or extend spaces through Interactive Whiteboards, computers and other technology. Who controls virtual boundaries? Who decides what spaces are made available? Democratic participatory processes could lead to a shared responsibility regarding virtual spaces.

Classroom discussions about the use of space might also challenge behaviour patterns linked to spaces, e.g., the sulking in the back row, or the head teacher telling students off in his or her office. My hope is that some of this might be happening already, even though my own experience of classrooms in secondary education suggests that spaces are primarily organised by teachers.

What is needed is a school that is changeable and adaptable, allowing those using it to organise and reorganise the space in creative ways. As the architect Hertzberger says:

> ...a thing exclusively made for one purpose, suppresses the individual because it tells him exactly how it is to be used. If the object provokes a person to determine in what way he wants to use it, it will strengthen his self identity. Merely the act of discovery elicits greater awareness. Therefore a form must be interpretable – in the sense it must be conditioned to play a changing role. (as quoted in Dudek, 2000, p. 5)

It is not so much the colour and shape that is important, but its neutrality and adaptability. As Rasmussen (2009) argues, schools should not provide gendered spaces or spaces that marginalise other users. Schools should not be designed around the control and surveillance mechanism and the convenience of the staff. What is needed are adaptable spaces that are equally accessible to all users.

When one looks at contemporary school architecture, one can find many examples of open, interpretable and adaptable spaces (for a sample of contemporary school designs see the database at www.imagineschooldesign.org.uk), but what is still lacking is the genuine involvement of children in everyday decisions in the classroom. As Harber (2010, p. 36) says, »the dominant model of schooling globally is authoritarian, with pupils having very little say in what is learned when, where and how.«

Fielding and Moss (2011) argue for 'more poetry, less prose' in their support for transformative and participatory education; and maybe what is needed is more spatial poetry. I recently had the pleasure of seeing a residential home for older people transformed into a Hollywood Oscar venue; with a large amount of creativity and joint effort only few resources were needed to succeed. Listening to each other, and perhaps a willingness to take risks, can help us not only to transform our environment but possibly also ourselves in the process. Ellworth (2005) argues that alternative places of learning allow us to learn in surprising ways, while scholars like Foran and Olson (2008) put the emphasis on outdoor education. However, some of the benefits of leaving the

classroom might also be achievable by transforming and adapting the given spaces in more creative ways.

Discussions about school design and children's participation in it are all very laudable and interesting, but if they are not supported by everyday practices, they remain fairly meaningless projects useful for marketing purposes. Children are prepared to be clients in a consumer society rather than participating members of a community. Whereas the community of stakeholders in school design is likely to be an extremely challenging environment for children, the more immediate community of the classroom provides a more accessible scope for joint decision making, and maybe the success of the latter will ultimately lead to a transformation of the former.

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