Changing Spaces: Preparing Students and Teachers for a New Learning Environment

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Abstract
Physical settings in schools have a complex relationship to teaching and learning practices. Uncomfortable tensions can result when the intentions of learners and teachers conflict with each other or with the affordances of the environment. Yet, change may be difficult to achieve and stressful for those involved. This paper considers a case where there has been minimal involvement of staff or students in the design of a new school, but there is a desire to prepare them for the changed environment. Changes will include an integrated curriculum and an “enquiry approach,” which it is hoped will be facilitated by large, shared spaces in the new premises. We discuss an “experimental week” of enquiry learning that took place in the middle of the 2010-11 school year with half of the Year 8 group (12-13 years old) in an existing large space (a school hall). The alteration to the learning environment included changes to both the use of space and the organization of learning time. We concentrate here on the student experience of learning in this new way, rather than the views of the teachers. An enquiry-based approach was enabled by the more fluid, flexible use of school space and time. Overall, students enjoyed the experimental week, but they understood it to be a limited experience. If these changed practices are to be successful they will need to be accepted as more permanent. The challenge for those managing the change process is to remain mindful of the differing needs of students, and continue to develop a shared understanding among staff and students of what learning is or could be.

Keywords: learning environment, visual research methods, student voice, participatory research, enquiry-based learning, school practices

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Introduction

Background
This article centers on a case study of a secondary school in the UK embarking on a process of change that is intended to result in altered learning practices. The changes include alterations to timetabling and planning within the context of new school premises that are to be substantially different from the existing school building. Before considering the issues these changes raised for the students in more detail, however, it is necessary to discuss some background about school learning environments.

Recent research has shown that although the physical school building makes a difference to learning (Durán-Narucki 2008; Woolner et al. 2007a), it is not possible to describe an “ideal school” (Woolner 2010). Historical examples, disparate research evidence and experiences of schools undergoing rebuilding work demonstrate that the relationship of education and physical environment is complex and interactive (e.g. Saint 1987; Weinstein 1979; Gislason 2010; Blackmore et al. 2011). It can be argued that a successful school is one where the setting is appropriate to the teaching and learning being attempted, so that the physical environment helps rather than hinders the educational approach and the practices of teachers and learners fit with the setting.

It is very important not to assume, however, that the space determines the educational practices. The clearest example of this was seen in the open-plan school environments created during the 1960s and 1970s, which, as later research in both the UK and U.S. showed, were often not used for the child-centered, discovery learning for which they were intended (Gump 1975; Rivlin and Rothenberg 1976; Bennett et al. 1980; McMillan 1983). In their detailed exploration of the contemporary experience of open-plan primary schools, Bennett and colleagues include a comparison of practice in two identically designed units, containing the same number of pupils, with dramatically different teaching styles and organization. They argue that “within any building, organizational alternatives are possible and it would seem that the expertise and philosophy of the staff are the central determinants, not the design of the building” (Bennett et al. 1980, 222). It might be added, particularly when dealing with older students in secondary school or college contexts, that the expectations and understandings of the learners will also be important in achieving a satisfying fit between setting and educational approach. The recent work of Gislason in three U.S. high schools, with contrasting physical surroundings and learning cultures, highlights the importance of shared values. Shared understandings of school intentions and practices enable both teachers and students to cope with the specific frustrations or challenges that a particular school design presents (Gislason 2010; 2012).

All this suggests that any change to a learning environment may be difficult to achieve and stressful for those involved. Within the work cited above relating to open-plan schools, there are examples of school users resisting the changes being attempted through the alteration of the physical setting. More generally, the history of educational innovation is full of attempts to change approaches to teaching and
learning that have had only limited impact on actual school practices. Research in this area generally suggests the conservatism of teachers is significant (e.g. Galton et al. 1999; Cuban 1993), but Rudduck (1980) provides an important reminder that learners may resist the imposition of changed approaches to learning if they do not understand or accept the intentions behind the new practices. Rudduck concludes by arguing that

teachers and pupils should be regarded as partners [our emphasis] in the classroom transactions of teaching and learning, and that in the cultural collision that significant innovation provokes, both need to feel secure in the knowledge that they are constructing a new and appropriate set of conventions to replace the old (Rudduck 1980, 145).

In her later work with Flutter, Rudduck went on to develop this belief into a commitment to student participation and engagement (Flutter and Rudduck 2004) and this participatory stance has recently been articulated in the context of student participation in school design by Flutter (2006) and others (e.g. Clark 2005). Through involving learners, teachers and the wider school staff in the design process, it is argued that it is possible to fit a new educational environment to the particular needs and desires of its teachers and learners. Previous work has successfully used participatory methods to mediate and initiate discussions with adults and children about experiences within education environments, with the intention of informing the design process (Koralek and Mitchell 2005; Hartnell-Young and Fisher 2007; Clark 2010; Woolner et al. 2010).

Unfortunately, the recent UK experience of school rebuilding, centered on secondary schools and including a commitment to consultation (DfES 2002), suggests that participation by students and the wider school community in the design process is often only partial or superficial (PricewaterhouseCoopers 2008; Parnell, Cave and Torrington 2008). Yet, whatever the level of user involvement in the design process itself, the discussion above strongly suggests that the transition of a school community to a new setting or new practices will be a relatively lengthy process of negotiating shared understandings about learning. The gap in the research literature relating to this stage in the process of designing and using a changed space has been specifically noted in a recent review conducted for the state of Victoria (Australia) by Blackmore and colleagues. They found that “there is little recognition of the preparation required for teachers and students to effectively transition into new learning spaces” (Blackmore et al. 2011, 15). It is the early stage of just such a process, centered on a new school building but taking place sometime before it is completed, that is the focus of this article.

The School Context
The school involved is a non-selective secondary school of approximately 1,000 students, aged 11-16 years. The school had been recently formed (at the beginning of the school year of our study) through an amalgamation of two schools which previously existed separately on a shared site. Currently, the school is housed in these existing buildings while the new school premises are under construction. The head of the school, who came from outside the area, was
appointed in the year before the school was opened and was very actively involved in developing the plans for the new building. His vision for the new school was partly informed by the new premises recently built at his previous school where some more open teaching spaces had been developed. Students were involved in some consultation about the new building but consultation of school staff was severely limited by the fact that the new staff had not then been appointed. The school in this study is faced with a number of challenges through its location in an area which has lost much traditional employment and is competing for its intake with a number of other secondary schools.

The response of the senior management team has been a review of the curriculum, through which they intend to spearhead a transition to learning that emphasizes skills and competencies over content knowledge, reflecting what people experience in the real world—i.e., problems that need to be solved that require the ability to draw on knowledge from a wide range of subject areas. Such an integrated curriculum is “characterized by sensitivity towards, and a synthesis of, knowledge, skills and understandings from various subject areas” (Savage 2010, 568). The connections between subjects are often addressed through the introduction of curriculum themes rather than subjects and centered on an “enquiry” approach where students collaborate with teachers and their peers to develop their own learning. Indeed in this school, the enquiry approach is intended to pull together subject knowledge that had previously been more disparate; consequently, the existing departments have been clustered to form five new faculties:

- Communication – English; modern foreign languages
- Discovery – science; mathematics
- Exploration – geography; history; religious education
- Expression – physical education; art; drama; music
- Realization – information technology; design and technology; business

From the beginning of the school year of our project, teachers had been encouraged to collaborate and plan schemes of work within these new faculties, with the intention that beginning the following year, the school timetable would be based on this new division of curriculum areas.

The biggest change, however, will occur at the beginning of the year after that, when the school moves into its new building, which has been designed to promote this enquiry-based integrated curriculum. The design centers on large shared spaces for each of the faculties, where it is hoped that learners will actively engage in their learning, unconstrained by traditional subject boundaries. The overall area of the school is as required in standard UK guidance (DfES 2004), but corridor and office space has been reduced to provide more learning space, where it is intended that approximately ten staff (teachers and teaching support staff) will facilitate the learning of large groups of students (half the year group at a time, which could be as many as 135 students).

These changes, at the physical and organizational levels, will involve much more sharing and collaboration from staff than they are currently used to. In addition,
the change to more independent student learning in a setting that is larger and more open than a traditional classroom will require both students and teachers to develop new, shared conceptions of learning. Only with such new understandings in place will they be able to avoid the past problems of open plan settings, where traditional teaching was shoehorned into inappropriate surroundings. With new understandings, the staff and students should be better positioned to cope with the inevitable challenges of this environment, such as noise and lack of privacy, which some evaluations suggest are particularly problematic for more challenging students (Galton et al. 1999).

As part of the process of change upon which the school has embarked, an “experimental week” of enquiry learning conducted mainly in an existing large space (the school hall) was planned by the senior teachers and school leaders. This altered both the use of space and of time within the school, and evaluations of the experience need to be mindful of this complexity. Each of the five faculties was given one day to facilitate enquiry learning, themed around a local landmark, the Transporter Bridge, with half of the Year 8 year group (students aged 12-13 years). This experimental week took place in the middle of the school year. The students were chosen by senior teachers in collaboration with form tutors\(^1\) and subject teachers to represent students’ full ability range, but the school leaders decided to exclude students whose behavior was likely to be problematic. The teachers’ involvement was broadly voluntary. Although some got involved because they were particularly keen on the new approach, some participating teachers had considerable misgivings. We were engaged to both research this process and to facilitate it, through staff sessions before and after the week, which formed the core of the teachers’ reflection and collaboration processes. In this paper, however, we will be concentrating on the student experience of learning as revealed to us before, during and after the experimental week of enquiry learning in the large, shared space.

**Methodology**

**Intentions**

This project has proceeded with an over-arching intention to be participatory in nature. This is how we, as researchers, are accustomed to working (Clark et al. 2001; Clark 2004; Woolner et al. 2010) and the work cited previously about school change suggests why this was important in this case. Although negotiating a successful change to more collaborative approaches to teaching and learning would also seem to depend on student engagement, the experimental week itself was determined by the teachers. If the approaches taken during the week were not to seem like strange impositions it was vital that the students should feel actively involved in the process of considering and evaluating the week in light of their existing ideas about learning. This was our rationale for the way we approached our research into the student experience.

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\(^1\) A teacher with organizational responsibility for all students in a class for a particular academic year; that class meets primarily for a registration period each day. (Similar to a “homeroom” teacher in the U.S.)
Overlapping with our preference for working in a participatory way, we have developed an interest in visual research methods. As other researchers have argued, methods that make more use of visual and spatial material, and are less demanding of literacy skills, may widen participation (Lodge 2007; Prosser 2007). Working with very young children to explore their educational surroundings, Clark has developed a “mosaic” approach which includes children’s photography, map-making and child-led tours of the environment (Clark 2005; 2010). In previous research we have found that a range of participants, including some adults, may find an interview mediated by visual and spatial activities much less intimidating (Woolner et al. 2010, 12).

Further, it can be argued that visual methods are particularly empowering. For example, Prosser asserts that they allow participants to “set the agenda, to decide what is important, and to work at their pace” (Prosser 2007, 24). Certainly an important aspect of visual items is the way that they give researcher and participant something to create, look at, or discuss together, which has the potential to empower participants. Moreover, it has been found by a number of researchers that interviews mediated by visual or spatial artifacts or activities tend to produce additional or qualitatively different ideas from those revealed through more traditional, unmediated interviews (Darbyshire, Macdougall and Schiller 2005; Bragg and Buckingham 2008; Croghan et al. 2008; Woolner et al. 2009).

For these reasons, social sciences research increasingly uses photo elicitation, in which researchers introduce photographs into a formal interview context. It is suggested that photographs sharpen the memory and give the interview a more immediate, realistic character (Collier and Collier 1986, 106). Harper emphasizes that photo elicitation succeeds through “bridging the gap between the worlds of the researcher and the researched” (2002, 20). One should not presume, however, that using photographs in research is unproblematic. It is necessary to question how we understand and analyze the results of these encounters, remembering that they are products of the context and the task demands (Croghan et al. 2008), with meaning for us as well as for our participants (Piper and Frankham 2007).

In this project, we made use of several visual methods, centered on using photographs to elicit views and reflections on experiences, to facilitate the active involvement of the school students and to enable us to develop a more complete understanding of the changed setting for learning. These methods will be discussed in more detail below.

**Methods**

Before the experimental week, we used the *annotation of photographs* to gather students’ understandings of different approaches to learning. This is essentially a simplified form of photo elicitation that can be conducted with large groups of participants; we have previously used this successfully to gather opinions from similar-aged young people about an innovative classroom setting (Woolner et al. 2007b). For this project, we prepared a visual questionnaire consisting of a pair of images to represent “some enquiry lessons” and a pair to represent “some normal
lessons.” In each case, students were asked to annotate the photographs, with suggestions for this referring to the surroundings, the teacher, the children and what is being learned. These questionnaires were administered by teaching staff and completed by groups of students during three history lessons, one month before the experimental week (resulting in eight completed sheets for each of the “enquiry” and “normal” lesson photographs). In practice, they did not result in much data and very little of any depth, but the comments we collected did convey some sense of students' pre-existing ideas about learning, to which we will refer later.

During the experimental week, two members of our research team observed three of the five days with the intention of noting how teaching and learning activities were organized in the space available and how the days were experienced by students and teachers. We talked to students about their learning, recorded information about how space was used through the day and collected other information. This included lesson plans and Exploration Day evaluations. These questionnaires were designed by the teachers of one faculty and completed by all the students during one day of the experimental week (resulting in 71 completed questionnaires). These evaluations asked students about their enjoyment of the enquiry task, their experiences of working in groups and of presenting findings to the whole group. In addition, all the days were recorded through photographs taken by a professional photographer and shared through a website (approximately 100 photographs for each day). The photographer’s brief, which we were not involved in developing, was very wide. It was essentially to achieve as full a record as possible of the events of the experimental week and, through the daily website postings, to enable the wider school community to have access to this record.

Approximately two months after the experimental week, we returned to the school and presented the students involved with sets of 50 of these photographs for a selection activity. These sets comprised ten photographs from each day and were chosen by the research team to provide a range of scenarios (small student groups, single students, teachers and students; engagement in discussion, activities, and presenting) and an approximate balance of genders. Working in ten groups of five to eight students (the groups organized without particular purpose by the teachers), they were asked to “sort through the images and produce a shortlist of six favorites which you think should be included in any display,” with an opportunity to also record “reasons for particular choices, how you made your selection, the numbers of any photographs that nearly got chosen or photographs your group couldn’t agree about.” The decision to make this a semi-structured activity was based on our previous experience in which we found that more-structured visual activities can be more productive than more-open approaches, such as simply discussing images in a group (Woolner et al. 2010, 12).

This activity was followed by one-to-one semi-structured interviews with 13 of the young people (mainly chosen by a teacher to be forthcoming interviewees but including some additional volunteers), which were much closer in design to classic photo elicitation interviews. The young people were given the opportunity to choose their own photographs and reflect on why their group had selected
particular pictures, and why they might choose differently. Essentially, the interviews were centered on conversations elicited by the photographs of the experimental week, which were used to prompt reflection and discussion about the students’ experiences of the enquiry-based learning in an open setting.

The analysis of this range of data proceeded through a process of continual, collaborative reflection as the project progressed, facilitated by team meetings and discussions. Later parts of the data collection drew on preliminary findings to ensure that the information could be integrated meaningfully (e.g., student comments during the experimental week often referred to working in groups, so the structure of the photo-elicited interviews included asking about who was shown in the chosen photographs—groups or individuals?). Some of the data allowed relatively self-contained analyses, but the aim was always to relate these parts of the findings to the others, a process we facilitated by sharing out the collection and analysis tasks. Thus, for example, the Exploration Day evaluations were collated by a team member not involved in the experimental week visits and the semi-structured interviews, which had been conducted by one person who had visited during the week and one who had not, were analyzed by a further two members of our team.

**Student Experience of Learning in the School Setting**

As the first section below demonstrates, students clearly experienced the enquiry learning in an open setting as distinct from normal school organization. We were interested in moving beyond this acknowledgement of difference, so that this experience of the experimental week would be useful to the school’s process of physical and organizational change. Therefore in the following sections, we will briefly consider the overall student experience of the week, students’ understandings of learning, and then their ideas about the spaces where learning and teaching occur. As will become clear, students were more forthcoming and explicit in discussing learning, as opposed to the settings for learning, but some of their ideas about learning have implications for the use of school space.

**Changed School Experience during the Experimental Week**

The photographs of the experimental week convey student enjoyment and engagement, while the overall impression from our observations was of students very busy and, generally, happy. This view was corroborated by the results of the Exploration Day evaluations, which revealed that the majority of the students reported enjoying the enquiry task (28 students felt that it was “good” and 21 indicated that they “thoroughly enjoyed it”). Students reflecting after the week often chose photographs that showed people “having fun” and, on the whole, the young people with whom we conducted photo elicitation interviews expressed positive views about the week.

Several students commented that it was something “different” from everyday schooling. Young people felt that much valuable learning went on during the week, although it was not the “traditional” kind of teaching and learning that they were used to; several pointed to photographs that showed students very actively engaged and interested in their activities, indicating that this was an aspect of
learning that was particularly appealing. Some of the comments the young people made about the day included:

*It was actually fun—you were building knowledge and creating something.*

*We learnt creative stuff because we don’t normally do it, and listening and speaking skills and teamwork.*

*Lessons are just boring, there was a bit of writing to do, but not much and we actually did things getting out of our seats. I would like to do this every day. The first day was very fun. I just wanted to get to school.*

This last comment, in mentioning “getting out of our seats,” also draws attention to a sense of a different physical experience of school with more movement than is customary in secondary schools. When asked by the researcher on the Friday of the experimental week about their favorite day, two students specified different days but justified their choices in each case by stating that they “moved about more.” This issue will be considered further below.

It would appear that overall the students experienced the experimental week as an enjoyable change from their normal schooling. There were, however, some aspects that were experienced less positively, such as groupwork, further discussed below. Furthermore, the active, self-directed style was tiring and by the end of the week some said they were exhausted and would not want to do it all the time. This desire for a mixture of approaches, or voicing of satisfaction with contrasting ways of learning, was noted on a number of occasions during the experimental week. A student commented about the Tuesday saying, “It’s more practical, more physical. It’s good, but sometimes I like writing.” Similarly, summing up the week, a student said, “I have enjoyed every day, but I also like all my normal lessons.”

**Views of Learning**

The annotated photographs, completed before the experimental week, suggested a fairly limited understanding of learning among these students. Although there were comments on the teamwork of the group of students in one of the enquiry scenes, respondents appeared to see the students and teacher in the other photograph in very traditional terms, writing that the “teacher is angry” and the students “are all scared.” On reflection, this might not have been a good choice of image since, as one respondent pointed out, “the teacher is in control,” but these responses do suggest a difficulty in seeing passion or excitement as valid aspects of learning. This view is reinforced by more approving comments on the images of normal lessons, such as “listening to what the teacher is saying” and “all looking at the whiteboard,” which convey an understanding of school learning as essentially passive. The addition of comments such as “what we should do” suggest that these ideas are somewhat personally relevant and not merely assessments of the subject matter of the photographs.
Yet our semi-structured interviews revealed that these young people were able to engage with other sorts of learning and many appreciated the opportunity to do so during the experimental week. For example, one student told us:

*On the whole it was enjoyable and different....I would want a mix in a classroom like what we normally do now, and once a month have a week doing this. Because you get to learn more and experience different learning, and learning differently is important.*

This child demonstrates an awareness of the value of learning in itself. For this type of learning to be effective, there may be a requirement for a certain amount of culture change where young people do not see learning in a purely instrumental fashion—obtaining good examination results—but value learning in its own right. One of the outcomes of enquiry-based learning is to encourage learners to become more self-reliant, more independent and able to identify, investigate and solve problems. These are all skills that are needed from an educated workforce. The young people we spoke to, however, rarely recognized these skills as a valued outcome of school work but were more focused on seeing their progress in the context of formal examinations. Students seemed to accept the centrality of examinations and expressed the desire to use more traditional methods in order to prepare for their GCSE\(^2\) qualifications:

*I would rather work from text books for my GCSEs, I don’t know why, but I prefer text books and answering questions in tests.*

*Exams are a big worry, but you’ve got to do it—but before that you can work differently.*

We now describe in more detail young people’s views about enquiry-based learning as they developed during the experimental week and through the mediated interviews.

Several themes emerged from our semi-structured interviews with students. Many felt that the teachers involved had taken on quite a different role and that students had to be much more self-directed in their learning. They came to see teachers in a different way, and recognized that the learning that had taken place was different to what they saw as traditional learning, particularly as it was project-based instead of subject-specific and called for active involvement. They pointed to the increased capacity for collaboration with peers, and the effect that this had on relationships within the school.

**The Role of Teachers in Enquiry-Based Learning/Self-Directed Learning**

Young people’s perceptions of the role their teachers played during the week indicated that they felt teachers had very much taken a back seat during the activities. For observers this would be consistent with an enquiry-based approach in

\(^2\) General Certificate of Secondary Education examinations are taken in a range of mainly traditional, academic subjects at age 16 at the end of compulsory schooling.
which teachers act as facilitators and activities are student-led rather than teacher-led. They went so far as to say that, in some cases, they felt that the teachers were not able, or allowed, to help them in their work, as these students explained:

*I think I remember that week as one of the best weeks in school because we kind of did what we wanted, but if we asked the teachers a question they wouldn’t really answer you, you just had to figure it out for yourself, and its good and we had more independence because the teachers tell you everything, what to do and what not to do, and we were just, free, and it was good.*

*Most of the time they weren’t really helping you because they were trying to make you work individually which was supposed to be better. It was different at first, but sometimes it wasn’t because you’d start fighting because there was no one there to tell you what to do, one person, there were a lot of people who wanted to do different things, so it wasn’t just one person telling you what to do, what you HAD to do.*

*There were no teachers—that was another good thing, we got to do what we wanted and we weren’t sat at a table all day long.*

It is unclear from our interviews, however, whether this view of teacher absence originates from students’ expectations of teachers in a classroom situation in which teachers are more directive and provide answers. Since teachers were facilitating their learning during this week, rather than being didactic, students may have felt that they were not being “taught,” which would fit with the sense of schooling suggested by the annotated photographs. This was not necessarily a problem for some young people, who appreciated the opportunity to learn independently and expressed an increased sense of ownership over the work that they produced:

*That was our design and shows what we’ve been up to, and how we brought out things to do our own thing. So that was our plan and that was what we actually built. We usually read from text books, but we like something different.*

A similar positive reaction to the independent learning of the experimental week is suggested by the comment recorded on the Wednesday that students “hardly ever get to do things on your own in normal lessons.”

For other young people, however, the lack of direction from teachers proved difficult when negotiating relationships and tasks within their groups. Other issues revealed by the recurrent mention of group-working will be considered below. Here it is worth noting that without someone providing authority, differences in opinion within groups could be difficult to resolve. One girl told us:

*... after we’d got on, we started fighting and we started bickering, because we were sick of being with the same people, we didn’t have that nudge to do*
something, to do one thing, we like had to do it independently which I think was a bit hard sometimes.

For some young people, the nature of self-directed learning was such that even without the help of a teacher they felt that they had learned more than they would have done using traditional methods such as textbooks, as the following comments illustrate:

... I think we learned more, because when we went off to the Transporter Bridge we learnt so many things and we had to find the information on our own and not from a textbook.

[usually] we’re just in the classrooms and like out of a book, but in this one, we were working in groups and we didn’t have to read anything or get anything from out of a book, we just basically had to make stuff and the teachers weren’t allowed to help us. That’s basically the whole point of school, to learn.

Although the perception was that teachers were doing less formal teaching, students commented that they had been able to see their teachers in a different way. Observations during the experimental week suggested a different dynamic between teachers and students, with students saying that the teachers seemed more relaxed. This perception was corroborated by the teachers when asked, who explained it in relation to sharing responsibility with colleagues for managing activities and facilitating learning. During interviews, the young people recalled that they had enjoyed seeing teachers having fun, which for some people, changed their view of relationships between teachers and students.

The picture shows how much fun it was, it’s a different experience, different good, because you saw the teachers make a mess of themselves.

Everyone is just having fun, especially Miss! You don’t often see teachers like that, having fun and just dancing away. They would talk to you more as a friend, that is nicer, and I’d like that every day.

One student commented that they got to know staff members with whom they do not normally have contact:

Some teachers I don’t normally have, so I got to meet different teachers more of the time. I could see that they enjoyed it too.

**Working Collaboratively for a Common Goal**

Throughout the experimental week, students worked collaboratively in groups to complete various team projects, and these groups were chosen at the discretion of the teachers. Some teachers allowed students to choose with whom they worked, others allocated them to groups in different ways—sometimes randomly, sometimes based on teaching groups. This meant that in some cases groups were made up of friendship networks, while in others young people who did not know
each other were expected to work together. Generally, students reported during the experimental week and through the later interviews that they liked being with their friends. This preference was voiced repeatedly to us during the week and identified by the Exploration Day questionnaire; the interviews also revealed the idea of working with friends as more comfortable:

When we chose our own groups I was comfortable and it was enjoyable actually.

Sometimes you went with people you didn’t really know so you were a bit awkward. It was ok when you were mixed, half with your friends.

It was not always easy for students when they did not know others in their group, but most of the young people told us that while it was difficult at the beginning, they came to see the value of working with new people in the activities.

We’re not used to these people, so we had to work with these other people that we’re not used to, they are not in our teaching groups.

When we didn’t know the people in the group it was really good because we just got talking, it was alright after the first ten minutes. I didn’t know them at all before but I’ve spoken to them since.

I didn’t know some of them before then, so it was good to meet new people and work with them. I know my friends better but got to know some new people.

At first we got put into groups and no one liked that at all and everyone was a bit moody but in the end we just didn’t care because we were all having a good time. I was in a group with no one I knew like properly and I didn’t want to work and I was quite stubborn, but then I just couldn’t... I wanted to do it and we all just mucked in together and we won in the end.

Our observations confirmed that in general the groups, however constructed, appeared successful. It is worth noting, though, that on two of the three days observed, there were problems with a minority of the groups. The random grouping of one day produced a group of four girls and one boy where the boy was never successfully included in the teamwork; friendship grouping on another day resulted in a minority of groups who found it difficult to work as a team, with one group reporting that they were unable to work as they kept arguing.

Despite these issues, however, it is notable that when students were explaining their favorite photographs to us, many of them commented positively on the teamwork that had taken place during the week. On their comment sheets for the selection task, three of the ten groups referred specifically to working “as a team.” During interviews, the young people suggested that they recognized a sense of common purpose within their groups and that in order to complete tasks a collective effort was required. Many seemed to value producing a joint product.
(e.g., Figure 1) as a concrete expression of their teamwork and expressed a sense of ownership and pride in their achievements.

\[ I \text{ like this one because we were working as a team and if that person wasn’t there then the structure would fall. } \]

\[ \text{Colorful and different to everything that we would do normally—in class you might just do one piece yourself in art, but you’re working as a team here. } \]

**Figure 1. Working collaboratively on the stage backdrop** (photo: Keith Pattison)

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**A Suitable Environment—Use of School Space**

The experimental week was held in the large school hall in order to mimic the large shared spaces for teaching and learning in the new school. In addition, the teachers arranged the activities to utilize outdoor space and some specialized space within the school. The intention was to use a variety of spaces to facilitate the enquiry-based, integrated curriculum approach that the school hopes to develop, and indeed some students were conscious of an approach to learning that was less bounded by traditional subjects. One interviewee commented:

\[ \text{we’ve learnt how to work in a team, working together... independent learners and how we can take one thing and it can be connected with every subject.... because it’s like everything connects—you’re not just learning one thing and then changing to another subject, which is confusing. } \]

In addition, there was evidence that some young people appreciated the relative freedom of movement during the experimental week including the use of outdoor
space. Asked about this movement between spaces, during an interview, one student replied:

*that was better because instead of being trapped in one room we got freedom to move out and stuff... it was a lot better.*

The preference of some students for learning outside was clear from the interviews and other comments about the experimental week. For example, two interviewees commented:

*I liked the English day because we had to get up and sing a song, and move around and do a dance thing outside on the grass.*

*I like getting outside and being active.*

Even before the experimental week, students noted the use of outside space in their annotations of the image of outdoor enquiry learning. After the experimental week, we found that the three photographs used in the 50 photograph selection task that showed activity outside were all moderately popular with the students, being chosen by both some groups and some individuals. Combining individual and group choices, one of these photographs was the fifth most popular image overall. It could be argued that for students to learn outside it is not necessary to completely change teaching practices or redesign the school premises, but it might require changes to some of the shared understandings teachers and students have about secondary education and the learning that is appropriate.

The main hall setting enabled more physically active learning, which appealed to many of the students as described above. It also facilitated activities that involved large jointly produced products, which was another aspect of the learning experience that proved popular. Yet not many students explicitly referred to the nature of the space they were using. They told us, however, about a variety of activities that would not normally be practical in a classroom setting such as the catwalk, doing the conga, the wall mural and making large models, which were possible in the space available during the experimental week. There were also some interview comments that appeared to compare the hall to a standard classroom and others discussed classrooms unfavorably, which could be seen as alluding to the physical environment:

*I like a bit of both, in a classroom and in the bigger space.*

*We weren’t stuck in a boring classroom and we were enjoying ourselves. [normally] you’re just sat at a desk and you get given the work and you’ve got to do it.*

Interestingly, one reflection that was explicitly concerned with the setting expressed a desire for more personalized spaces:
It felt too open, it felt like you didn’t really have your own little space, you were open to everyone to hear. I thought like, you were very quiet and not like let people listen to your ideas in case they thought that was good. There’s too much space, it felt like you had to stay on your table and keep everything on one table.

While many of the photographs imply vigorous enjoyment of the big space, there are some which suggest the occasional tension of finding more personal or limited space in which to work. For example, Figure 2 shows a young person carving out their own space within the large hall.

**Figure 2. Finding an individual space within the hall** (photo: Keith Pattison)

During the week, the teachers were able to decide how to set up the hall in line with their planned activities and our observations showed some variation in how the space was used, both during the individual days and over the week as a whole. For example, one day started with a lecture-style arrangement of seats, then split the students into four groups, each seated around tables forming squares, which then broke into smaller working groups scattered around their corner of the hall. The afternoon session repeated the move from more formal seating in roughly class-sized groups to smaller teams tackling an activity. This variety of arrangements within the hall, with perhaps more alteration than was evident on some other days, shows confidence in moving the furniture and suggests some flexibility in the use of the space. The movement from a lecture-style introduction to the four initial groupings also demonstrates the engagement of these teachers with the future school building since their organization anticipates the faculty area with a central teaching space and surrounding break-out spaces. Yet it must also be noted that the four groupings appear to mimic standard classroom organization and this use of
the space is unfortunately reminiscent of the attempts of a previous generation of teachers to use open plan areas for traditional whole-class teaching (Figure 3).

**Figure 3. Larger teaching groups sharing the space** (photo: Keith Pattison)

It is also interesting to note that the photograph in Figure 3 was among nine (out of the set of 50) that were not chosen by any individuals or groups of students to represent the experimental week.

Whatever organization of the space is attempted, however, the number of people is likely to make noise an issue and indeed this practical limitation was noticed by some students. During the week, we recorded comments that “noise goes high,” although, as this student explained during an interview, some increased noise might be beneficial:

*It wasn’t as formal as normal lessons, where we have something and we have to stick to it. This is much better, normal lessons are all right, but this was better. If it was a bit less noisier—but it makes it interesting so it sticks in your brain and you learn more when you’re interested, and if you’re bored you just can’t be bothered listening.*

**Conclusions**

The intention of this investigation of the student experience of a changed learning environment was to inform the school’s change process through facilitating the active participation of the students in that change. Our aims were to engage with students’ developing understandings about learning as a way of considering how the process of change should proceed. In doing this, we were also interested in
how the experience in this school relates to wider issues of student participation in school design, organization and use.

**Settings for Learning**
The physical organization of school space clearly has the potential to influence educational activities, in terms of what is attempted and how successful they are. Yet, as argued in the introduction, this influence is not straightforward and it should not be assumed that changing a setting will lead to predictable, intended alterations in teaching and learning practices.

In this project, however, a limited, “experimental” change to the setting for learning and the style of learning activities did result in a different learning experience for the students. An enquiry-based integrated curriculum approach was enabled by the more fluid, flexible use of school space and time, resulting in altered learning relationships. Changed relationships were evident between students, as they had to negotiate learning with their peers, sometimes working with those they might not otherwise and between students and teachers, with teachers viewing their students in a different light and vice versa. Underlying these observations, suggestions of changes to student conceptions of school learning can be seen. However, these findings leave the school community to grapple with the implications of these altered understandings and different relationships within school. What happens to the changed relationships between teachers and students when the learning style of the single week is extended to cover more school time as well as the entire student body, including the students whose behavior is more challenging?

It has previously been suggested that vulnerable or disadvantaged students, arguably most in need of reliable school learning, are least able to manage more open learning (in terms of open space or self-directed activity), although exceptions to this generalization have been reported (Gislason 2010). Extending the experiment across more “normal” school time, and designing more school space to match, may undermine the feel-good factor of a single exceptional time and place. Indeed, some may see the student response to the experimental week in terms of the famous “Hawthorne effect,” where participants’ awareness of alterations to a setting and their interpretations of the purpose of the change, in part causes the resulting effects. However, as Brown (1992) argued, this issue can be seen in educational settings as emphasizing the need for innovations to be centered on collaborative change and development, along the lines that were discussed in the introductory sections of this article.

This interpretation adds to the conclusions drawn from research relating specifically to the physical environments of schools. It would appear that central to successful use of school space is the culture of the school community as a whole and the sharing of intentions and understandings (Gislason 2010; 2012). It could be argued that the experimental week was judged a success because such a sharing was in place and developed during the week. The comments of the students suggest that although they tended to understand school learning in fairly passive terms, they could enlarge this conception to include enquiry learning in a large
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space, understanding some of the aims and intentions behind it. This did, however, take effort and energy on the part of the students as well as the teachers, and an obvious concern for the school is the extent to which such efforts can be made every day. If they cannot be made, there is a danger of teaching and learning practices slipping back into old routines, which will tend to conflict with the design of the new school building.

A way forward is perhaps suggested by the comments we recorded about the benefits of variety and mixtures of approaches to learning, such as the student who said, “I like a bit of both” (see above). Learners were happy to engage with the changed learning environment but they did understand it as a limited experience rather than a permanent and all-encompassing change to their schooling. It might be suggested that within the new school premises, organizational and physical spaces for more traditional learning should be found and explicit references made to such a mixing of approaches. This might allay some of the concerns that students voiced about how the new approach to learning fits with old necessities, such as exams. Of course, the danger with a more mixed approach to learning is that an unsuitable hybrid may result, which is again in conflict with the physical space. It seems clear that the school community needs to consider this issue further: how can an appropriate flexibility in the use of space be achieved?

Design Process

As mentioned above, this project has implications for the facilitation of student participation in the process of environmental change in educational settings, particularly for the often forgotten “implementation and transition phase” (Blackmore et al. 2011). Centering this stage of the process of change on an experimental week where a range of students and teachers were able to experience different learning in a changed setting enabled the development of new understandings about learning possibilities. The project demonstrates the benefits of seeing what else is possible and of experiencing different ways of doing things. In the context of school design, the advantages of viewing alternatives is usually construed in terms of visiting completed buildings. The experimental week offers an alternative that can include more people, be conducted over a longer time period and allow experience from the inside as opposed to being visiting observers.

Such an extended experience revealed a range of potential challenges, as well as advantages, to a new way of approaching learning in school. These have generally been explored in the preceding sections but it is worth mentioning here the range of student reactions and opinions that we found. We have noted elsewhere that managing contrasting, or even conflicting, views is a challenge that directly results from participation that is genuinely wide (Woolner 2010, 51-53). In this case, on each issue, many differing views were expressed and, as the change process progresses, individual teachers and school leaders need to be mindful of the needs and desires of different students.

We began from the understanding that student involvement in change is necessary for success, since students are “partners” (Rudduck 1980, 145) with teachers in creating learning. This study has supported this view since the involvement of the
students in an experimental week and, crucially, facilitating their reflection on the experience has enhanced understanding of enquiry learning in this school context. The student perspective reported above suggests underlying conceptions of learning, school space/time and relationships with which the teachers and school leaders need to engage. Doubts about whether they will be able to do this are less about past lack of participation than about how the process of change is now continued. Participation at the planning stage, which is the element of the change process that is weak in the case of the school we studied, is often criticized for being superficial and limited to a single consultation event, with design as an ongoing process being emphasized instead (Parnell, Cave and Torrington 2008; Woolner et al. 2007b).

Therefore it seems important for this school to continue to develop a shared understanding among staff and students of what learning is, or could be. The challenges here are to include the less enthusiastic teachers, integrate the perspectives of non-teaching staff and, vitally, facilitate the involvement of the rest of the student body, including the “troublesome” students. This will not be straightforward but the school, as a community engaged with change, has made a start.

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References


