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Chapter 19

Creating Spaces for Autonomy: The Architecture of Learning and Thinking in Danish Schools and Universities by Max A. Hope & Catherine Montgomery

Introduction

This chapter focuses on the concept of space and its relationship to autonomy and perceptions of freedom in education. It includes a review of the literature which indicates that the links between physical and metaphorical spaces and learning are still largely unexplored. Eriksen noted in 1973 that our understanding of educational space had not developed in tandem with new concepts of the learning process (Eriksen, 1973). Nonetheless, current research suggests that the environment in which learning takes place can have a significant impact on both the construction of meaning in education and the dynamic of learning (Montgomery, 2008).

The chapter aims to interrogate concepts of free and autonomous approaches to learning alongside the concept of space. Based on a comprehensive literature review of the research on space in education, the chapter raises issues contextualised by two Danish case studies which are cross-sectoral and focus on educational settings aiming to create freedom and autonomy for learners. Whilst the two case studies carried out in a school and a university did not originally set out to explore the concept of space, this idea emerged from the data and had resonances across the two sites. The case studies offer an insight into the experiences of students in two environments which aim to offer students space and freedom, albeit in different ways. The first site is a state-funded school in a suburb of Copenhagen which has used innovative architecture to create physical space for children. When underpinned by pedagogy this links directly with a sense of freedom and autonomy. The second site is a university which constructed its systems, curriculum, pedagogy and assessment to support the development of self-directed and autonomous learners. The themes emerging from the data suggest, ironically, for free and autonomous spaces for learning and thinking to develop there needs to be a "firm framing" (Woods, 2005) structure to scaffold the emergence of freedom. Our work in recognising and recording these environments

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indicates this firm framing is an integral part of staff and student perceptions of autonomy in learning.

The research background: The complexity of space

Conceptualisations of the space in which learning occurs are intensely complex and the research around this constructs space as being multifaceted and contradictory (Taylor, 2013; Vince, 2011). Our engagement with the literature in this area (see the methodology section for details) identified a broad categorisation of spaces in education as falling into research analyses of physical or metaphorical space. The review suggests research focusing on physical spaces and their impact on learning in schools dominates the field (Higgins, Hall, Wall, Woolner & McCaughey, 2005) and, conversely, the work on metaphorical spaces tends to take little account of the work on physical space (Savin-Baden, 2008). Research addressing both physical and metaphorical spaces together and their impact on learning is rare and more recent (Horton & Kraftl, 2014; Woolner, McCarter, Wall & Higgins, 2014).

Physical space

A salient theme in the work on spaces suggests the nature of physical space in education can be correlated with learning outcomes (Tanner, 2008). In addition to this, as physical spaces in schools have developed, so approaches to and perceptions of learning have changed (Sølvberg & Rismark, 2012). Educationalists who study educational space, or more specifically architecture, argue that the physical design of schools has changed dramatically over the last century (Burke, 2011, Grosvenor & Burke, 2008). In particular, the "hegemony of the classroom" in which the classroom is seen as the central organising unit of schools has been challenged (Burke, 2011, p. 418). This, according to Burke, is indicative of a change in perceptions as to the nature of education and of learning. She argues that:

> [t]he planning of schools is never random and always reflects the ways that relationships in education are envisaged: relationships between adults and

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> children, children and their peers, areas of knowledge, and between school and community (Burke, 2011, p. 417).

Burke further argues that "school buildings...should not be viewed merely as capsules in which education is located and teachers and pupils perform, but also as designed spaces that, in their materiality, project a system of values" (Grosvenor & Burke, 2008, p. 8). It is also important to point out that more recent work suggests physical spaces can impede learning as well as support it and it is crucial to understand the relationship between the physical environment and educational activities as some physical space can entrench pedagogy, making it more difficult to reflect and make changes (Woolner et al., 2012).

Metaphorical and "free" space

The second broad categorisation drawn from the literature review of this research relates to a construction of space in education as metaphorical (Christie, 2013; Jackson, 2013; Vince, 2011). The construction of metaphorical space is also very complex and can be relational or formed from a "multiplicity of trajectories" (Taylor, 2013). In a higher education context, Savin-Baden (2008) uses "learning spaces" to refer to predominantly mental and metaphorical spaces which enhance opportunities for scholarly reflection amongst academics. She argues that these spaces should be "seen both as a site of learning and more particularly as a site of power" (Savin-Baden, 2008, p. 9). Savin-Baden makes the point that space must be created so that students know they have this space and feel that they can use it in ways that are important to them (Savin-Baden, 2008, p. 116). Spaces are not in themselves liberatory (Deleuze & Guattari, 1988, cited in Savin-Baden, 2008), but they could play a central role in moving towards this. This offers a nuanced conceptualisation of metaphorical space, and one that is important for this chapter. Woods uses the concept of "free space" to refer to "loose structured creative social areas where hierarchy and assumptions of knowledge, norms and practice are minimised" (Woods, 2005, p. 88). There are resonances here with Savin-Baden's learning spaces but Woods adds another dimension, that of "firm framing." He describes this as being similar to a picture frame which provides a structure to the inner picture. He argues that there is a "need [for] a sense of position and place in an organisation, concepts and ideas

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and a context of values to relate to, and a rhythm of social relationships into which they weave their own activity" (Woods, 2005, pp. 87-8). It is firm framing that enables learners to use the free space contained within. It is this firm framing, or use of boundaries, that provides a safety in which learners may experience a greater sense of freedom and autonomy.

The conceptualisation of space and the delineation above into research on physical and metaphorical space is by no means clear cut. For example, some research critically questions the link between physical spaces and impacts on learning (Flutter, 2006). In addition to this, there is an imbalance in the literature on spaces in education. The majority of the work consistently dealing with space per se focuses on schools and foregrounds the physical environment. The work on metaphorical space and education is more conceptually diverse and although there is quantity in this area, the research is spread in its focus. Only a small proportion of the research centres on higher education. A large proportion of the work on physical space remains on a superficial level by considering only the physical needs of learners such as making it easier for students to navigate around school (Higgins et al., 2005), missing the link to "thinking spaces" or metaphorical spaces. One of the current exceptions to this is the work of cultural geographers who see space as a social construction rather than an observable reality. Horton and Kraftl (2014) argue that space and place exist only in relation to society with their meaning and significance only taking shape when examined in terms of the social interactions that occur within them. This approach is slightly at odds with more traditional scientific approaches perceiving space and place as abstract entities in themselves, measurable, mappable and politically neutral. In making this case, Horton and Kraftl mirror an earlier argument by Henri Lefevbre who posited that space is fundamentally bound up with social reality (Lefebvre, 1974; Schmid, 2008). Architecture can be seen as "a form of code-making ..." (Kraftl & Adey, 2008, p. 214), where social practices continually shape the "architectural fabric" of any building (Lees, 2001).

Finally, and crucially for this chapter, some research argues that there is a relationship between physical and metaphorical space and the development of autonomy (Creme, 2008; Fielding, 2009; Fendler, 2013). Woolner et al. (2014) present research on a school that introduced enquiry based learning to complement the new physical spaces during transition to the school new-build. Enquiry based learning or problem based learning is constructed in

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some of the research literature as creating autonomous spaces. Stefanou, Stolk, Prince, Chen & Lord (2013) note that non-traditional student-centred physical and metaphorical learning environments may support the development of self-regulated learning. These enquiry based learning spaces are also constructed as complex and the research suggests that being part of a learning space is a continuum with Savin-Baden noting there is liminality (Savin-Baden, 2008), and Frelin and Grannais suggesting that there are "borderlands" in engagement with space (Frelin & Grannäs, 2014). Both Williams (2014) and Walkerdine (2013) suggest the existence of "third spaces" and that there is a phase of transition to autonomy (Walkerdine, 2013; Williams, 2014). The literature foregrounding the boundaries of space is significant to this chapter; in order to link positively with freedom and autonomy, space needs to be clearly held and boundaried. These boundaries, which again, can be metaphorical as well as physical, provide a "liberating structure" (Torbert, 1978), a "firm framing" (Woods, 2005) for students in which they feel safe and can use the freedoms that they experience to best advantage. The term "firm framing" will be used frequently through this chapter. By this, we mean that the space is held within a boundary or structure (for example, a curriculum, a learning goal, a time frame) within which students can exercise a degree of autonomy and freedom.

Methodology

This research project consisted of two phases. The first phase involved a two-site case study designed to explore the nature of autonomy in the educational system in Denmark. One school and one university were selected, both of which had national and international reputations for offering "freedom" to students. Detailed contextual information on these sites is given below. At the university, ten semi-structured interviews were held with staff and students, plus ethnographically inflected observation carried out during a ten day intensive teaching and research visit. At the school, fifteen students (aged 13 to 15) were interviewed, teaching and learning activities were observed and staff were interviewed during two separate visits to the setting. All interviews took place in English, were audio recorded, transcribed in full, and analysed using NVivo 10. Inter-rater reliability was increased by extensive discussion of coding systems between the two researchers. Each researcher visited both sites.

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The second phase involved a comprehensive literature review around conceptualisations of space in education. Building on the authors' existing knowledge of literature in the field, an initial search of Education Research Complete added more recent and focussed sources. In a separate search, the string "space, place and education" also generated a large number of sources which were reduced by analysis of abstracts. A second search extended the string to include "autonomy" and "freedom." This generated further sources which were again analysed by their abstracts. Following the searches and subsequent analyses, a total of 150 sources were drawn on to construct the theoretical section of this chapter.

The case studies

The Danish School, based in the outskirts of Copenhagen, is a state-funded comprehensive school for children aged 6 to 16. It has places for approximately 660 students and serves the local catchment area which is an affluent middle-class neighbourhood within Denmark (candidly described by its Head as "one of the richest municipalities"). The history of the school is interesting and potentially significant. It was developed in response to a shortage of school places in the locality and opened in 2002. The municipality had an emphasis on individualisation, meeting the needs of "the single child" and teaching in a way to address different learning styles. This philosophy, therefore, originally came from the municipality and not directly from the school itself. The school was designed and built to be based on these pedagogical principles, which makes it different from many other Danish schools which are located in much older and more traditional buildings.

Since its inception, it has been the focus of national and international attention, largely owing to its innovative design. Architecturally, the school is highly distinctive. Although it is sometimes described as having no classrooms, this is not strictly true. There are a small number of fixed classrooms; for health and safety reasons, science, gym and woodwork are all in rooms with lockable doors. Apart from these, the school is entirely open-plan, including an absence of external fencing or walls to demarcate where the school grounds begin or end. Inside, class areas are delineated by arrangements of furniture such as moveable room dividers, lockers and tables. Each class area has its own small kitchen. No

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class area has a door and students can wander freely from one area to another. The school is located over three floors, all looking down over a central atrium, and each loosely housing students of different ages; ages 6-9, mid-secondary, and upper secondary (although, again, students can move freely between floors). The school design in itself is innovative, but it only makes sense in relation to the school's pedagogy. The pedagogy came first; the architecture followed. Everything, including the acoustics, has been meticulously designed so as to enable the school to operate in a particular way.

The school day is divided into six 45-minute lessons every day, each one started by an introduction in cosy base areas. After being set a task (or learning objective), children can choose how they want to engage with the task and the learning. The school has an explicit commitment to ensure that the learning preferences of all children are accommodated. The building is explicitly designed around this, and children are encouraged to move around and find a space in which they want to work. There are tables, chairs, sofas, beanbags, stages, steps. Children can work in small groups, in pairs, on their own. Within the school, there are numerous spaces for children to choose to work in, including outside areas.

The Danish University is a self-governing higher education institution within the public sector and is funded by the government. It is a small university of 8,000 students, located on the outskirts of Copenhagen and draws students and staff from both the region and the wider national context. The university is predominantly populated with Danish students (90%) but is known for serving a wealthy middle class element of Danish society. It is a distinctive institution which is renowned for being a critical, innovative and experimental university even by the standards of its own national context. It was established in 1972 as a Marxist institution, part of the European university reform movement and also the student movement. The institution began as a cooperative with strongly espoused values relating to equal relationships between students and staff and the structures of the university reflect this in both the governance and the pedagogy. The institution is directed by student led committees although there is a more traditional structure above the academic levels with a Rector, Pro-Rectors and a University Board.

The university began with no formal programmes or courses in the traditional sense and at its inception was entirely inquiry based project work which again reflected its

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egalitarian and democratic values. The university has a less structured faculty organisation than more traditional institutions and there are only three different Bachelor routes—Humanities, Natural Science and Social Science—led by six different departments including Culture and Identity and Science Systems and Models. Due to the fact that students can cross departments in their studies, the university has another structure that provides students with a space to belong and that is the house system. Students are allocated to a house which has a physical space with a kitchen and living room and the house is led by a student committee and a house coordinator. The physical and metaphorical space of the house provides a place for students to locate themselves in an institution that does not have course or programme cohorts.

Cross-sectoral themes

Defining and locating space

When the data were analysed, it became clear that space was an important concept within both of the case study settings. In the school interviews, all fifteen students referred to this, at some point or another, using words such as "different," "free," "open," "creative" as well as "space" itself. One student, for example, explained that:

> I would describe it as different, I'd describe it as freedom ... I'd describe it as a creative school. Different and free and creative and it's a really good school, I like it a lot, because you're not really... you don't have any rooms to just like... you know, like it's like when the rooms are open and it's like your mind is more open also (female student, aged 15).

At points, these terms referred to the building in itself (its layout and design) but they also strongly alluded to the connections between the architecture and students' perceptions of the freedom that this gave them. Many of them referred to being able to move around, sit with friends, find a quiet space, sit under tables or work outside. Space, in this context, was clearly associated, in the first instance at least, with physical space. Nonetheless, it was important to note that the building was not, in itself, the main preoccupation of all students. One, for

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example, stated that "I don't really care about how it's designed; it's mostly how it's inside." This offered a clear indication that the physical architecture was aligned with a way of working, a pedagogy, a set of philosophical principles about how teaching and learning should take place.

In the university context, the physical environment was hardly mentioned (perhaps because the buildings themselves were not particularly distinctive) but space became apparent in the way that students and staff described the academic and social systems. The practical arrangements of the curriculum and the inquiry-based pedagogy provided space for students to engage with one another and with ideas. One student described their experience:

> ... we are responsible of our own knowledge, we decide how much we learn in a semester or the next ones. So in a way we are very independent and, well, no, I haven't really been at the other type of university where you are right behind your professor all the time, you read what they tell you to read. In here you're welcome to read as much as you want to if you can, and just take everything, absorb everything that you want to ... (male first-year student).

This level of academic freedom was underpinned by a house system, a social structure that offered space for students to make friends and to belong. This was deliberately and carefully introduced to new students through planned activities within the first two weeks of semester. One of the new first year students described that as being "a very, a very good mix of showing us little bits about the academic working, you know, working together in a group and being, you know, keeping eyes on the other group members" (male first year student). Space, at the university, therefore, was metaphorical rather than architectural and contrasted with the school's innovative use of physical space.

After the initial phases of analysis, it was tempting to make an argument that the two case studies provided illustrations of two different ways of "creating space" for students, the first in terms of physical architecture, and the second with reference to curricula, pedagogy, assessment and social structures. Through further analysis, however, it became evident that this was too simplistic: in both cases, the uses of physical and metaphorical spaces were

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inseparable. Architecture, philosophy and pedagogy were completely intertwined. In the Danish School, the innovative architecture did not, on its own, offer freedom to students. The architecture only offered this because it was indivisible from a pedagogy which valued individual students and offered them choices about how they engaged with the curriculum. Similarly, the Danish University, though housed in more conventional buildings, had broken away from the "hegemony of the classroom" (Burke, 2011), and students were able to choose where and how they studied, including working away from the campus if they chose; this was not monitored or controlled in any way. In addition, the house system meant that students lived together as well as studied together and so the academic and social spaces became merged.

Framing the space

Analysis of data clearly showed that creating spaces, both physical and metaphorical, was an important feature of the environments studied. The relationship between these spaces and student's sense of freedom and autonomy was complex. Spaces, though apparently liberating for some students (e.g., "it's a free school and it's also very open, [it] symbolises freedom in some kind of way because it's not closed halls, small halls"—male school student, aged 14), were not automatically liberating for everyone (e.g., "I think for some students it's a rather… well, hard experience to come here"—university staff member). Data were interrogated further in order to try to establish more information about the nature of the spaces in these settings, and through this process, it became apparent that the space was not shapeless or unstructured. Rather, in both case studies, there was evidence that it was clearly structured, or firmly framed (Woods, 2005).

In the Danish School, the Head Teacher explained that "It seems very loose and very free for the children, but underneath, it is very secure." By this, he meant that the school had clear structures and processes, within which, the children had considerable amounts of freedom. This was particularly apparent through observing lessons. Students were given freedom to choose how they wanted to engage with a task, and some flexibility about what they did, but this was within the parameters of a curriculum topic. Pedagogy was designed to

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embed freedom but within clear guidelines about aims and timescales. As one student explained:

> I'm quite sure that students in [the Danish School], they have like... yeah, they take a much bigger part in what they want to learn, what they want to put their focus on, and I think to me that's freedom; freedom to choose what especially you want to focus on. And of course we also have to do, you know, all the basics but we also, you know, like get to choose what we want to put special focus on and "freedom" I guess ... hmm ... We can like... A teacher presents an assignment and we can like do it the way we want to do it, the way we think is the best way to do it, and I think that's freedom instead of a teacher just telling us to write two pages around that topic and around those things (female student, aged 15).

Learning was more scaffolded (or more "framed") for younger children in order to support them to develop confidence to work independently. For them, experimenting with using the physical space and trying out different approaches to learning was particularly important. As the students got older and progressed through the school, they were given more autonomy, although there was still a clear structure, a firm frame, in place.

At the university, space for autonomy was also created through structure and firm framing. Despite the stated aim and philosophy of the institution to espouse democracy, openness and autonomy the university learning context was framed by structured space that scaffolded and supported the development of freedom. For example the initial student induction was strongly structured and created space for independence through a highly organised programme. The student "tutor" roles, study groups and peer mentoring formed a significant part of this structured space. The student-led design of the curriculum and the inquiry-based pedagogy, though clearly offering freedom and autonomy, were firmly framed by the assessment process which mirrors the doctoral viva process but is conducted in a group. Within this context, it is perhaps ironic that some students sought more structure and more framing. One, for example, explained that:

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> But maybe I would like to have maybe a few more classes now because we just have lectures, yeah, two times a week and it's only two hours. So maybe it would be six or eight and it will be pretty good with me (female first year student).

Some staff disagreed that the students needed more contact time, or more framing. One argued that "the students who prepared less wanted more lessons" and "what we try to get the students at is being autonomous, and we don't think that more lessons is the solution at all" (senior member of staff). Getting the balance between the desires of all students, and the underpinning philosophy of the institution, is perhaps one of the challenges of offering spaces for freedom.

The university, in contrast to the school, had strong and effective structures for embedding students' voices within the governance structures. Although the Danish School had attempted to do this, there was frustration amongst students that their level of influence was limited. At the university, the governance arrangements were delicately structured and where this was reliant on students, this was also highly structured and complex.

Firm framing has, thus far, been discussed in the context of an educational setting offering a structured space in which students could develop autonomy. These internal structures, such as those relating to architecture, governance arrangements, project work, pedagogy and assessment, were largely in the control of the internal stakeholders (such as governors, staff and students). It is important to note, in addition, that some elements of framing resulted from external factors and were influenced by external stakeholders (such as national government, local municipalities, parents). In both case study settings, there was increasing amounts of pressure from neo-liberal drivers and from governmental bodies, and both settings worked hard to retain the philosophy of their institutions. Nonetheless, these external factors could be said to affect the "frame" in which the institutions operated. Freedom and autonomy could not be offered to students without taking account of these external constraints.

Linking space with freedom

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Data from both case studies were analysed to find connections (if any) between the creation of spaces and students' perceptions of freedom. It was notable that these connections were made most strongly by the students in the Danish School. For example:

> You have a lot of space ... it also gives you the freedom ... (female student, aged 14)

> ... it's a free school and it's also very open, it really gives... like symbolises freedom in some kind of way because it's not closed halls, small halls, it's just one big place really ...(male student, aged 14)

Well I'm sure that other schools also do movies and also do creative things but we just have...you know, I think we do it more and I also think that, you know, our circumstances around us just is more creative in itself and I guess that makes your brain go more creative and stuff. Instead of just like sitting in a classroom it's...you feel like you're almost like trapped in a box, you know, and here we get to like think outside and go outside and stuff, yeah (female student, aged 15).

It is perhaps unsurprising that the school students made the connections between space and freedom because for them, the space was clearly visible, or at least, the space that was created through architecture was visible. In these data, the words "space" and "freedom" were frequently used interchangeably. In the university data, the context was slightly more complex, and the space was largely metaphorical and thus less physically visible. This is not to suggest, of course, that the university students or staff would not have made a connection between space and freedom but this did not emerge explicitly from the data.

Discussion and conclusions

This chapter has argued that the concept is space is complex, nuanced and multidimensional. In the case studies, there appeared to be a strong connection between the provision of space and students' perceptions of freedom and autonomy, although this link was much more clearly articulated by the school students. According to the literature review, space could be

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physical or metaphorical, but as both the Danish case studies have illustrated, these were not easy to separate. Architecture, pedagogy, curriculum, assessment and social structures were intertwined in each of these sites. This research adds to the research field by arguing that ironically space for freedom needs a structure in order to generate perceptions of freedom.

Through the Danish case studies, we have shown that space was not shapeless or unstructured: it had boundaries, or a firm frame (Woods, 2005). Through this frame, students were able to understand where they could use their freedom and where there were limits to this. In the Danish School, for example, students knew that they could choose where they wanted to work and how they wanted to tackle a particular task: they also knew that there were expectations of them. In the Danish University, the curriculum and pedagogy offered flexibility for students to self-direct their own learning whereas the assessment processes and the governance arrangements provided a structure for this. In both cases, internal factors provided a firm frame, but this frame was increasingly influenced by external influences as well. It is important to note that each of the environments, despite being in different age sectors, saw the need for scaffolding and development of freedom. In both institutions learners were progressively given more autonomy and both curriculum and governance had a clear structure and a firm frame in place. This suggested that freedom and autonomy in educational space needs to be developed as part of a structured community.

It was interesting to note that each of the institutions had a reputation for adopting open and democratic approaches to learning. The school was known in Denmark and internationally as an experiment in student-led learning. The university is widely recognised as espousing enquiry based learning and having its origins in a Marxist philosophy. The impact of this is that parents and students chose these learning environments cogniscent of their nature and how they would learn in these institutions. Staff in both the school and the university acknowledged that these approaches do not suit everyone and in some ways the reputations of the institutions provide a self-selection process.

As a final note, it is interesting to consider the external context for these case studies in slightly more depth. Denmark has a reputation for being a social democracy in which educational institutions have experienced greater flexibility and less pressure on performativity than many other nations (Ball, 2008, McNess, 2004). Although this situation

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shows signs of changing, it is nonetheless important for understanding these particular case studies. This raises important questions about how educational institutions might offer space, freedom and autonomy in political, cultural and social contexts which are not so free. This is an essential area for further study as it would add significant insights into the impact of external factors on space within schools and universities.

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