The Mobility of People, Not Furniture, Leads to Collaboration

Mie Guldbæk Brøns

Abstract This chapter considers how teacher mindsets, in connection with the physical possibilities at hand, lead to spatial habits and teaching practices. It draws on empirical material from an ethnographic study examining how teachers are influenced unknowingly by the roots of their profession and thus arrange furniture in ways that do not always support their pedagogical intentions. I argue that physical diversity within a larger space is more beneficial for teacher collaboration than the flexibility of the furniture or the architecture. I conclude by noting that we can gain a deeper understanding of innovative learning environments by looking at the positioning and mobility of the teachers' bodies in the space.

Introduction

In this chapter, I argue that physical diversity within a larger space is more beneficial for teacher collaboration than the flexibility of the furniture or the architecture. This chapter represents a small part of the research I did in connection to my master thesis in which I explored how Australian teachers who wish to collaborate used an open flexible learning space. My ethnographic study examined how teachers are influenced unknowingly by the roots of their profession and thus arrange furniture in ways that do not support their pedagogical intentions. My study was built on 300 hours of observation of a teaching team consisting of six teachers working with 180 Stage 3 (5th and 6th grade/year, 11–12 year-olds) students in one open plan learning space in Sydney. The space was designed as a collaborative and flexible environment for the teachers as well as the students with custom-made movable modular furniture, large-screen displays and a robust Wi-Fi network with access to online resources, all to ensure that both teachers and students are able to move around in the space with a high degree of choice. I chose this learning space because the school is well known for being successful in changing its physical environment to support its pedagogy (Calvo, 2015; Mayfield Awards, 2012). This space was the first the school changed

M. Guldbæk Brøns (✉)
Independent researcher, Copenhagen, Denmark
e-mail: mie@loop.bz

to reflect their pedagogical intentions and it had been in use for four years when I undertook my fieldwork, aiming to explore the dynamics behind a teacher team used to working in an open flexible space.

The space was an important element of my investigation of teachers' collaboration because, as Foucault argues, it is somewhat arbitrary to disconnect the practice of social relations from the spatial distributions as it is impossible to understand one without the other (Crampton & Elden, 2007). Most of us will find it hard to imagine school without imaging a building or a space at the same time. The same goes for teachers' practices, which are closely connected to their understanding of education as a spatial practice and influenced by the long history of dividing students into classrooms. During my fieldwork, I discovered that when certain traditional teaching practices were taking place accompanied by the teachers' physical positions near display-screens, no teacher collaboration would occur. In contrast, less rigid behaviours were observed in spaces shared by other teachers; in these the teachers moved around more and engaged students in learning in a greater variety of ways. This spiked my interest into researching how the teachers position themselves in relation to each other, both physically in the space, and as members of a team.

In this chapter I consider how teacher mindsets in connection with the provided physical possibilities lead to spatial habits and teaching practices by reporting observed practices in shared teacher spaces with movable furniture. I conclude by noting that we can gain a deeper understanding of innovative learning environments by looking at the positioning and mobility of the teachers' bodies in the space.

My Perspective on the Field

This study is an ethnographic study, which is an approach increasingly being used within learning space research when looking at the physical space and its social actors (Blackmore, Bateman, Cloonan, et al., 2011; Campbell et al., 2013; King, 2016; Palludan, 2005; Saltmarsh, Chapman, Campbell, & Drew, 2015; Yeoman, 2015). Ethnographic studies are an asset to educational research, because as a researcher you have an opportunity to immerse yourself into this rather complex field and present an aspect of it. I am exploring this field with an understanding that this research does not stand alone but is part of a developing 'body of work' within learning space research that aims to provide nuanced perspectives on complex learning environments. While much of the literature on learning spaces focus on the quality of conditions or users' perceptions, I focus on the educational practices and how the space is used and to what effect (Blackmore, Bateman, Loughlin, et al., 2011).

My inquiry is inspired by social science research on cultural spatiality and texts, which try to understand how people interact with their environment, and see space as both a medium and a product of social practice (Augé, 1995; Berger & Luckmann, 1991; Foucault, 1975). I focus on the social practices of the teachers and on understanding how the space is produced and reproduced by their agency. For the purpose

of this study, I understand everything as socially situated and my perspective is that knowledge and development occurs in the interaction between people and objects.

To have a broad perspective and keep an open mind to new ideas and impressions, I used a range of methods in my fieldwork that helped me expose various themes in the field. Drawing furnished floor plans and registering users' movements turned out to be one of the most valuable methods even though I had little previous experience drawing floor plans and it was very time consuming. By measuring the space and registering all the furniture for the floor plan, I got to know the place intimately and I became aware of all the furniture and spaces that were never used. Had I solely been focused on observing the users and following them, I would not have paid attention to what they did not use, which provided an insight into how the teachers interacted with the space in general.

I examined my data using thematic analysis (Braun & Clarke, 2006; McCarter & Woolner, 2011; Thomas & Harden, 2007), a research tool used to identify, analyse and report themes or patterns within data. Themes and patterns are found through phases of coding, where important instances in the data first are identified and then developed. Initially I coded all my field notes based on themes I had found in my drawings. Then I re-interrogated the data and found recurring words based on physical places and finally I went over the data using the themes that I had established from the patterns developed through my two initial codings. I would, for instance, cluster activities together that would take place in various spaces, thereby noticing that I could interpret the activities to represent two particular and very different types of behaviour, *passive* and *active*. I then chose to use these two categories to re-examine the data with a comparative analysis of the teachers' and students' behaviour to find out if different combinations of active and passive behaviour among the teachers would limit or enforce certain behaviour amongst the students in any way. The power relation between the social actors, especially the teacher's power over the students, might be less obvious in a flexible and/or open learning space than in a classroom setting. Thus it is important to find a tool that can help analyse how the power relations are in this social setting, both between the users and their surroundings.

Flexible Learning Spaces

Within education, flexible space is a terminology used to describe spaces that can easily be reconfigured by the users established with the intention of providing opportunities for the teachers to create places that suit various activities and group sizes. Flexible spaces often, but not necessarily, contain several identical pieces of furniture in order for multiple users to be able to set up the space the way they see fit for the situation by moving the furniture around. In larger flexible spaces folding walls are often installed so the users have the possibility to resize the space ad hoc. However, flexibility in the physical setting is not necessarily equal to the organisation being open-ended in the way they organise activities or people.

Skills or knowledge about architecture, design or spatial behaviour are not a requirement for teachers who occupy flexible spaces, and though teaching is a spatial practice, understanding the influence of spaces and physical elements is not typically a part of the education to become a teacher. The established set of attitudes that characterises teachers' daily use of space is thus formed by the history of the profession and the buildings it has taken place in, not professional spatial understanding, reflections and discussions. The teachers' mindsets are the prerequisite for their actions and their repeated actions become the habits which dictates the way they set up and use the flexible spaces.

Power Relations in the Learning Space

The teachers generally have the control over the space in which they teach because they set up the space(s) as they see fit before the year/term/lesson starts whether the furniture is mobile or not. The teachers are the creators of the space when they reconfigure the space ad hoc for certain activities, and because they configure the space in more permanent settings. Thus the teachers have the power over the students, in that they dictate their ability to use the space. The students, however, only co-create the space when they choose places and furniture to work at. After an activity or when the day ends, the space will be 'tidied up', a common discipline within educational culture, which means that the furniture will be returned to the places dictated by the teachers. Foucault (1975) argues that the use of power is often invisible to the social actors. Discipline, he states, is the mechanism of power that regulates the thoughts and behaviour of the social actors; people are being shaped without realising it.

As part of my analysis I chose to use concepts developed by Foucault who considers spatiality an integral part of the power relations between the social actors. His theories are built on the notion that power only exists when executed and is not something that can be possessed (Richter, 2011). When we (people) exercise power, there is usually a rationale or knowledge associated with it, we have a knowledge of what we do and what we intend. However, it is important that we do not confuse intention with effect because there is always an element of uncertainty associated with power as it involves more than one actor. This can lead to the outcome not necessarily living up to the intention (Richter, 2011). As in the example above, where the teachers in reality have the power through the configuration of the space, even though the school purposefully designed the space so both teachers and students would have a high degree of choice and agency.

Foucault argues that we can use panopticon, an hierarchical organisation, as a schema to inform us of where to distribute individuals in relation to each other in the space, whenever dealing with 'a multiplicity of individuals on whom a task or a particular form of behaviour must be imposed' (Foucault, 1975, p. 205). If that is the case, we must be able to reverse the schema and use it to investigate why the individuals are distributed the way they are, the hierarchy of the furniture and the disposition in space.

As part of my investigation of the hierarchy of the furniture and their placement, I analysed my furnished floor plans by first categorising the different elements such as furniture that one would: sit on, use as table tops, use for storage or use to support a presentation. Then I converted the floorplans into diagrams focusing on various power relations between the spaces, the furniture, etc. After having worked with different divisions, diagrams and categories, a pattern emerged. Not only were spaces within the larger open space created, in large, by the furniture, but the presentation furniture would address the rest of the space and the seating furniture would address the presentation furniture. This organisation was creating spaces, within the larger open space, that was closed in on themselves and not interacting with each other. The dominating element defining every one of these spaces is what I call the front. The front would most often consist of a display-screen or a whiteboard (whether mobile or painted on the wall) and was to a large degree defining the teacher's place within the space.

Fixed Teacher Positions

When using a display-screen, the direction of the viewers is automatically established. The teachers use the display-screens as a visual aid for their explanations and stories while standing next to them, using them like one would use a stage, thereby taking advantage of the furniture's hierarchy to naturally attract attention from the students—their audience. When, during the design phase, a front, which is used for direct teaching, is established, they reinforce this activity and the role that the teacher has while engaged in the activity. When the teachers take their place at the front, certain expectations concerning behaviour are 'projected' into the space. No-one is in doubt that whomever is at the front is the one we should all be listening to. 'Eyes up front' is a term we know from classrooms when teachers want the attention of their students. In this situation the hierarchy of the space and the actors is clear. The listeners are expected to be docile and the teachers have the perfect position for supervising them while they teach.

Surveillance is, according to Foucault, an inherent mechanism in the practice of teaching (Foucault, 1975) and though we nowadays do not talk about surveilling the students, we do still emphasise the importance of 'supervising', 'keeping an eye on' or having an overview of the students. This educational culture is apparent in the design of the space I observed, where all the display-screens have been placed where you would stand to have the best overview of the building. Four out of six teachers had placed their caddies (mobile teacher table) permanently at the front in close proximity to the screen. It is likely that the action of placing mobile furniture permanently is not questioned because it is a spatial distribution we are used throughout the history of education. During explicit teaching sessions where the screen is used as an aid, it makes sense because the teachers rest their laptop on the caddy. However, the teachers never move their caddies and therefore themselves after their presentations, even though the students leave their positions to spread out and work independently.

The teachers' bodies become passive and docile in this position, disciplined by the space (the front) and furniture (screen and caddy). Slowly, the space around them is adjusted to this position's permanence, and they start creating an independent space suited for all the different activities and groupings they are working with. The spaces are arranged around the teachers providing options within eyesight and at the same time limiting the options that would require movement. The furniture are moved and arranged within the space near every fixed teacher position instead of grouped throughout the overall space. When the students work independently in groups or individually, they find a place where they would like to sit and work which is mostly based on a choice of which furniture or floor-space they feel comfortable working at or on. Unless mixed in groups or pairs consisting of students from both year groups, students choose to work close to their home base and the teacher. The teacher is either roaming in the nearby space or working at their fixed position next to their caddy. In this way the students and the teachers reinforce each other's positions close to or in the home bases. Gradually, the configuration of the space is influenced more by the teachers' docile bodies than by their pedagogical beliefs.

The teachers' fixed positions in the space separated from each other cause division in the space as well as in the teaching practices. By using the screens to structure the learning sessions the teachers revert to a more traditional furniture setting and practice and their positions become a catalyst for how the students can and will use the space(s). In duplicating the features between home bases the diversity of the spatial configurations in the overall space is diminished. The intention of the flexible space and furniture was not to create multiple almost identical home bases, but to provide opportunities for the teachers to create places that would suit the various activities and group sizes.

Teacher-Mobility Leads to Collaboration

The fact that the home bases are composed of the same elements, makes it less significant for both students and teachers to choose between them, with consequences for their collaboration. Already during my fieldwork, I identified that the teachers working in one half of the space were collaborating more, however, it was not until my analysis of the elements in the space and the teachers' movements that I realised the correlation between the established fronts and teacher collaboration or lack thereof. In the area where three home bases are sharing only two well-functioning display-screens, the teachers tend to collaborate on introductions and explicit teaching sessions. There is not a fixed position next to the display-screen as the teachers place their caddies elsewhere and use a generic table to support their laptop when using the screen. The table is also used by teachers as well as students when working independently. This organisation of furniture and hierarchy in the space leads to the teachers working closer together and roaming around the space when the students work independently.

Through my analysis of the teachers' movements around the space with only two display-screens I uncovered that the teachers' mobility and engagement in shared activities support collaboration in the team. Teachers who move around in a space together and amongst each other are more likely to collaborate because they have to negotiate, coordinate and share. They start using more time on planning the use of space and how to utilise each other when executing learning activities. Not having enough screens for all teachers to use, thus having to share, prompted them to collaborate even when it was not their first instinct. Repeated behaviour is what becomes habits and the easiest way to discontinue a unwanted habit is to replace it with new repeated behaviour. If the new habit is to reflect with colleagues about which practice to use, it is more likely that new habitual practices will not take hold. This encouragement of reflecting upon fixed practices supports the growth mindset which is valued in educational environments and learning organisations. Reflecting together, the teachers join in committing to the task of optimising the learning situation. When a team has a joint commitment, the commitment no longer belongs to the individual but is shared amongst the collaborators (Amit, 2012). Sharing the commitments and responsibility helps alleviate stress for the individual and frees up energy within the team. Unfortunately, this type of deep collaboration (developing and executing student activities) is rare to see in typical educational environments (OECD, 2016; Schleicher, 2016).

My analysis of the situations in which I observed teachers' collaboration identifies that the most valuable spaces for teacher collaboration are those spaces that are not allocated to any specific group of users but where the users cohabit it and use it depending on which activities are being organised. It is possible for multiple users to share a feeling of association and belonging to a space as long as no individual has priority or a permanent place in that space. The hierarchical organisation of the space and actors enables teachers to have equal rights over the space, help all the students working there and to find ways to move around amongst each other and work together.

Dixon (2013) suggests that we should look at and listen to children's bodies before we teach, because they are the target of pedagogical power, this is a way to understand the impact and consequences of the powerful discourses they are shaped by. Inspired by Dixon, I suggest that when designing or researching learning spaces in the future, we will benefit from looking closer at the positioning and mobility of the teachers bodies in the space.

Summary

I was interested in investigating flexible open learning spaces because current practices encourage spaces that can be reconfigured as a way to provide teachers with choices for their preferred learning setting. An important point of my analysis is that flexible spaces are not equal to the organisation being more open-ended. Teachers' mindset is challenged when transitioning into a flexible space from a traditional

setting, however, it is rare for schools to prioritise the professional development of the teachers' spatial mindsets amidst all the other daily responsibilities. Supporting a growth mindset through the configuration of the physical space can help teachers question their habitual behaviour and the mindset behind it. I observed that both the teachers working in more fixed positions and the teachers working more mobile collaboratively had growth mindsets, the main difference was if this was supported by the physical environment they were teaching in. Seeing them from time to time swap spaces confirmed this as they would almost instantly adapt to the more fixed or collaborative mode of working. Encouraging negotiations between the teachers proved beneficial to their collaboration which in turn supported the individual teacher to establish new routines and practices.

I argue that an established diversity within a space is more beneficial for teacher collaboration than flexibility because the teachers share the space when they moved around in it, not when they are moving it around. During my analysis it became clear that no matter how much the teachers tried, their pedagogical intentions were in effect changed by the strong influence the physical setup had on user's behaviour. Physical elements strongly influence the choices the teachers make about where to place themselves in the space. Teachers could feel that they were sharing a larger space meanwhile creating their own spaces within it, where their positions and practices would resemble those of traditional educational environments based on closed classroom. The difference being that in the open space, the individual teacher's practices and behaviour influence the behaviour of the other actors in the space. The use of space is a relational construct not only between the teachers, and the space, but also between the teachers and the students and between the students themselves. An examination of this could provide further important insights into the use of open learning spaces.

An important point in my larger analysis of teacher collaboration (of which this chapter reflects one segment) is that learning how to share a space is an individual journey that involves changing practices and habits. However, the journey takes place in a joint process with all the teachers who share the space because moving around in the spaces in order to cater for different activities entail that there are no fixed teacher positions. Transport between spaces, which can be done without coordination, does not attribute any value to the learning situation or teacher collaboration. Whether moving around within a space or between spaces thus becomes an important distinction.

Acknowledgements I would like to thank Northern Beaches Christian School and the teachers in the Zone for sharing their daily professional lives with me. This paper is based on the research I did for my master thesis at The Danish School of Education, Aarhus University. Data utilised in this research was obtained in adherence to the required ethical protocol of the author's host institution. All images and diagrams are the property of the author, or the author has obtained consent to use them from the appropriate copyright owner

References

- Amit, V. (2012). Community as "good to think with": the productiveness of strategic ambiguities. In Amit, V. & Rapport, N. (Eds.) *Community, Cosmopolitanism and the Problem of Commonality*. London: Pluto Press.
- Augé, M. (1995). *Non-places: Introduction to an anthropology of supermodernity*. London: Verso.
- Berger, P. L., & Luckmann, T. (1991). *The social construction of reality*. Bungay: Clays Ltd. St Ives plc.
- Blackmore, J., Bateman, D., Cloonan, A., Dixon, M., Loughlin, J., O'Mara, J., & Senior, K. (2011) *Innovative learning environments research study*. Deakin University.
- Blackmore, J., Bateman, D., Loughlin, J., O'Mara, J., & Aranda, G. (2011) *Research into the connection between built learning spaces and student outcomes*. Education Policy and Research Division, Department of Education and Early Childhood Development. Melbourne.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>.
- Calvo, A. H. (2015). *A journey to the 21st century education. This is how the world's most innovative schools work*. Madrid: Fundación telefónica.
- Campbell, M., Saltmarsh, S., Chapman, A., & Drew, C. (2013). Issues of teacher professional learning within 'non-traditional' classroom environments. *Improving Schools*, 16(3), 209–222. <https://doi.org/10.1177/1365480213501057>.
- Crampton, J., & Elden, S. (2007) Introduction. *Space, knowledge and power: Foucault and geography*. Birkenhead: Ashton Publishing Limited.
- Dixon, K. (2013). A change of perspective: Seeing through children at the front of the classroom, to seeing children from the back of the classroom. *Studies in Philosophy and Education*, 32, 273–284. Berlin: Springer. <https://doi.org/10.1007/s11217-012-9347-y>.
- Foucault, M. (1975). *Discipline and punish. The Birth of Prison*. New York: Random House.
- King, H. (2016). Learning spaces and collaborative work: Barriers or supports? *Higher Education Research & Development*, 35(1), 158–171. <https://doi.org/10.1080/07294360.2015.1131251>.
- Mayfield Awards. (2012). Retrieved from mayfield.cefp.org.au/awards/2012-awards/2012-category-2-renovation-modernisation/the-zone-northern-beaches-christian-school.
- McCarter, S., & Woolner, P. (2011). How listening to student voice can enable teachers to reflect on and adjust their use of physical space. *Educational and Child Psychology*, 28(1), 20–31.
- OECD. (2016). *Supporting teacher professionalism: Insights from TALIS 2013*, TALIS. Paris: OECD Publishing. <http://doi.org/10.1787/9789264248601-en>.
- Palludan, C. (2005) *Børnehaven gør en forskel*. Danmarks Pædagogiske Universitetsforlag.
- Richter, J. (2011). Magt og afmagt i individets liv. *Psyke & Logos*, 32(2), 418–431.
- Saltmarsh, S., Chapman, A., Campbell, M., & Drew, C. (2015). Putting "structure within the space": Spatially un/responsive pedagogic practices in open-plan learning environments. *Educational Review*, 67(3), 315–327. <https://doi.org/10.1080/00131911.2014.924482>.
- Schleicher, A. (2016). *Learning environments as a third teacher*. Retrieved from <http://pubdocs.worldbank.org/en/997521458819730105/7-Linkages-of-the-innovative-learning-A-Schleicher-eng.pdf>.
- Thomas, J., & Harden, A. (2007). Methods for the thematic synthesis of qualitative research in systematic reviews. *NCRM Working Paper*. ESRC National Centre for Research Methods. (Unpublished). Retrieved from <http://eprints.ncrm.ac.uk/468/>.
- Yeoman, P. (2015). *habits & HABITATS—An ethnography of learning entanglement*. Ph.D. Doctorate, University of Sydney, Faculty of Education and Social Work.

Mie Guldbæk Brøns (Denmark) is educated as a teacher and has a MA (Ed) in Educational Anthropology. She has studied physical spaces and social behaviour, mainly in educational environments. She has done in depth research on teachers' collaboration and the relationship with the physical space. This has led her to do studies on acoustic environments with a focus on twenty-first-century learning. She studies educational environments by visiting schools all over the world looking at the connection between spaces and pedagogical approaches.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.