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School as space: spatial alterations, teaching, social motives, and practices

SCHOOL AS SPACE: SPATIAL ALTERATIONS, TEACHING, SOCIAL MOTIVES, AND PRACTICES

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Abstract

Space is only gradually emerging as a topic in educational research in general and in research on schools in particular. In this paper, we approach an empirical examination of social processes in schools within the framework of two prominent theoretical approaches to the topic of space: the absolute and the relational. By empirically examining how classroom arrangements are influenced by material space and in themselves constitute space, we hope to arrive at a better understanding of how space, teaching, and social relationship structures are intertwined in schools. Furthermore, we present the argument that a combination of the two spatial concepts is promising when empirically examining social processes within a spatial reference frame.

Keywords

social space, space, classroom, practice, ethnography

Space(s) in educational contexts

The term "spatial turn" (Soja, 1989) describes the recent academic interest in the category of space (Döring & Thielmann, 2008b) not only in geography but first and foremost in disciplines such as sociology[1], cultural studies, literary studies (Hubbard, Kitchin & Valentine, 2005), theology, and organizational theory (Döring & Thielmann, 2008a). In educational research, too, we see a growing international interest in the topics of space and place in accordance with which it is possible to discern between different research areas. Research on the history of education reconstructs the evolution and transformation of school and classroom design. Traditional and innovative (e.g. open air) school and classroom designs are compared and culture-specific and cross-cultural patterns are interpreted in the context of "ideas about childhood, education and community" (Burke & Grosvenor, 2008, p. 12), technical innovation, and local preconditions (Baker, 2012; Burke & Grosvenor, 2008; Gislason, 2009; Göhlich, 2009; Jelich & Kemnitz, 2003; Lange, 1967; Schmidt, 1967, 1968; Seaborne, 1971, 1992; Seaborne & Lowe, 1977). A second area of research focuses on how school buildings are perceived and under which conditions school buildings are student-friendly. From the standpoint of educational science, Forster and Rittelmeyer (2010) present best practice examples; Sheerin and Burke (2004) focus on the actors inside the schools to examine "what key stakeholders consider […] essential elements of good design in relation to classrooms, schools and grounds" (Sheerin & Burke, 2004, p. 4). Informed by theories of power, historical perspectives (Göhlich, 1993; Hnilica, 2010; Markus, 1996) have been presented, as well as programmatic outlines for the analysis of school architecture following e.g. Bourdieu and Foucault (Alkemeyer & Rieger-Ladich, 2008; Kajetzke & Wilde, 2013; Rieger-Ladich & Ricken, 2009). Böhme and Hermann (2009) suggest linking school culture and space, analyzing both the material presence of school architecture and the spatial practices, designs, and space-related paradigms (Böhme & Hermann, 2009, 2011).

In the context of schools, ethnographic studies focus on space(s) as an effect of action (Adler & Adler, 2003; Breidenstein, 2006). However, theories of social practices and ethnographic approaches postulating the inclusion of a material framework are so far largely unappreciated. This is where our article attempts to link a material framework to the constitution of space.

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[1]   An indication thereof is the fact that in Germany a systematic sociology of architecture is only just emerging (Delitz, 2009), conceptualizing e.g. how architecture and constructed environments can be integrated into society (Delitz, 2010).

On the whole, apart from metaphoric references (Reutlinger, 2012) and the addition of a "spatial lexicon" (Robertson 2010, p. 15), the theoretical and empirical discussion of the topic of space in the research of schools is in its early stages (Ahrens, 2009; Ecarius & Löw, 1997; Kajetzke & Schroer, 2009; McGregor, 2004a, 2004b). Yet to come is an analysis of both the relevance of space and the constitution of spaces for social structuring and, in line with this, of the possible effects on the implementation of teaching and learning concepts. In the context of the research project "LDI: lessons.diversity.inequality – Social inequality on constructions of diversity among secondary school teachers" (see below), fifth-grade classes were ethnographically observed. In one of these classes, the seating arrangement was regularly changed according to a randomized procedure. The changes raised new issues, resulting in a review of spatial concepts and theory not originally included in the research project. The ideas presented in this paper are tentative and should be read as the starting point of a more comprehensive analysis in terms of spatial theory. The guiding question is: What can be gained by linking the absolute approach to an analysis of the constitution of space? To answer this question, two theoretical approaches to space will be discussed, and the empirical material will be addressed in terms of space and school.

Concepts of space

Essentially, two spatial concepts can be differentiated: the absolute container space model and the relational-spatial model. The first focuses on physical or material space and the effects of spatial arrangements on agents. Space as such is "indifferent" (Ahrens, 2009, p. 78) to content; it is considered "to be a neutral container, a blank canvas that is filled in by human activity" (Hubbard, Kitchin & Valentine, 2005, p. 4). In an absolute and substantial conception, space connotes stagnation and immobility (Schroer, 2012b). However, references to the effects and conditions of space as such run the risk of concealing agent-attributed evaluations (Lippuner & Lossau, 2010). From this perspective, it is never space in itself that spurs behavioral patterns; rather it is the meanings and evaluations attributed by the agents (Schroer, 2012a).

By contrast, the act of constituting spaces lies at the heart of the relational-spatial model. The focus shifts from space seen as a material reference point to the constitution of spaces in the context of social processes. Put simply: the shift is from product to production. Space as a given point of reference becomes subject to the process of its constitution. The German sociologist Martina Löw (2001) defines space as "a relational arrangement of social goods and people (living beings) in places" (Löw, 2001, p. 224; our translation).

Following Löw, essential elements of the relational model are two analytically distinguishable – though mutually dependent – processes of the constitution of space: the positioning of social goods and people in the process of spacing on the one hand and the synthesis of goods and people on the other. Both lead to spaces via the processes of perception and memory subsumed under the term capacity for synthesis (Löw, 2001, p. 214). In contrast to absolute models, relational concepts emphasize the creative aspects in the construction of space via social practices (Schroer, 2008). Thus, in the relational model, space connotes fluidity and flexibility (Schroer, 2012b, p. 365).

Juxtaposing the two spatial models, it is possible to distinguish the following oppositions: spatial product vs. spatial production; structural theory-oriented vs. actor-oriented; rigid vs. dynamic; tendency towards spatial determinism vs. tendency towards spatial voluntarism.

In the analysis and interpretation of the empirical material presented here, we attempt to point out the potential of the respective concepts, as well as combination possibilities. This article should be seen as a tentative contribution to the scientific discourse on school and space. So far, the two concepts have been discussed as mutually exclusive. We propose that combining them could generate very promising insights.

According to Schroer, a sociological analysis of space must examine the constitution of spaces whilst appreciating that the material aspect of space has an impact on behavior (Schroer, 2012a). In a sociological analysis, the material aspect of space must not be overlooked if one does not wish to insist solely on the social constitution of space (Schroer, 2012a). Since we are still only at the beginning of the evaluation process, the following information occasionally takes the form of an open search. In this process, we will determine what the given perspectives are capable of conveying. Our results should be read as a cautious approach towards a combined analysis of space and social relationship structures in schools. By necessity, we focus on the main points which we will illustrate with examples with single lines of interpretation.

Data base and research questions

The empirical material presented here is taken from the ethnographically-based research project "LDI: lessons.diversity.inequality – Social inequality on constructions of diversity among secondary school teachers" funded by the German Federal Ministry of Education and Research. The project's assumption is that important causes of the reproduction of social inequality can be found in the constructions of diversity in school lessons. Its general focus lies on the (re-) construction of social inequality in the lesson practices

and attitudes among secondary school teachers. The project does not intend to research the handling of diversity in school (e.g. with the aim to improve learning in heterogeneous groups). Rather, it aims for a comprehensive analysis of how teachers use social categories in their lessons and how these constructions are influenced by different school types, different teaching styles (more open or more ex-cathedra teaching), or different disciplinary cultures (math and German). The analysis extends to how this helps to establish specific orders, how these constructions of diversity in pedagogical-didactical practices and attitudes are conducted, and in which way these are involved in the (re-) construction of social inequality on the level of school lessons.

The study has an ethnographic-reconstructive design. German and math lessons in three fifth-grade classes at three different schools were examined (a high school [Germ.: Gymnasium], a comprehensive school, and a secondary school) during three field study phases of four weeks each. Research methods were participant observation, videography, and interviews. Teacher interviews were conducted twice, once at the beginning of the school year and once towards the end. Constructions of heterogeneity, pedagogical-didactical ideas, assessment, and disciplinary scenarios were particularly interesting.

The research project does not explicitly include questions and theories of space. Therefore the collected data does not focus on this issue. Still, and in the spirit of Grounded Theory (Corbin & Strauss, 2008), the data indicated the category of space as relevant. The data discussed here was collected at a high school located in a small town in northern Germany. The children were between the ages of nine and eleven. The class had 27 students: 14 girls and 13 boys. Both teachers have several years of teaching experience. In accordance with the German school system, the students had just made their transition from elementary school to secondary school and only recently come together as a new class. New social relationship structures had to be formed among them. In this class, the seating order was rearranged every two weeks randomly by lot. As a rule, the rearrangement of the seating order took place every two weeks; in some cases it was initiated by the teacher, in others requested by the students themselves. The practice generally took place at the beginning of the German lesson with the German teacher.

In the context of this repetitive rearrangement, the following questions were raised:
• On the whole, what are the motives for the spatial arrangement/design?
• How is space constituted through practices[2]?

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[2]   According to Schatzki, practices can be defined as a "nexus of doings and sayings" (Schatzki, 2012, p. 14) or "minimally, as arrays of activity" (Schatzki, 2001, p. 11).

We will approach these questions from a spatial-theoretical perspective. Constituents acting as interfaces are space, school and teaching, and social relationship structures. We analyze our empirical data with the two concepts of space presented above. We then show the potential of a spatial sociology-oriented perspective.

Method and methodology

For our analysis, we have used interview passages and memos as well as protocols based on video data and participant observation. The key steps of the analysis follow a multistage procedure which is based – following Löw (2001) – on the distinction between *motives for action* and *contents of action*. Motives for action and contents of action can differ in the same way as intentional and unintentional consequences of the constitution of space. "As far as the scientific analysis of spaces is concerned, it means that although newly constituted spaces can be related to motives for constitution, they still have to be analyzed independently of each other" (Löw, 2001, p. 219; our translation). While the former are discursively produced and associated with the reflexive consciousness, the latter are conceived of as space constituted in practical terms.

    Following this distinction, we analyze:
• The motives for action of two teachers by means of interview passages and memos and
• The constitution of space in practical terms based on protocols that describe the process at hand.
Due to its dynamic conception, changes in time are inherent in the relational-spatial concept. In the analysis of the content of action, we interrupt this movement artificially in order to determine configurations (Löw, 2001). We analyze the dynamic spatial arrangements by a sequence of still pictures or snapshots which we will present in an abstract version.[3] The snapshots graphically trace the actor's motion sequences recorded on tape. Under methodological control (camera work, perspective, shot size) the research tape (Bohnsack, 2011) is still a moving picture, a picture that moves even

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[3]   This procedure could be defined as stop-motion analysis. In its sequential make-up, the snapshots of the classroom relate to the transformational quality of time. This means that a usually dynamic process is artificially stopped in a first step by creating still pictures. In a second step (in the stringing together of the still pictures), con-figurational dynamics in terms of movements and rearrangements are represented.

if it has learned to speak (Panofsky, 1999). Understood thus, we interpret body motion sequence analytically as motion language (Birdwhistell, 1970) whilst disregarding spoken language on research pragmatic grounds. Gestures and facial expressions, operative, and ultimately institutionalized action are captured in order to reconstruct the actor's main sequence of motion as well as the content of their action. As a final step, we relate the dimensions of motives for action from the interviews to the content of action and establish links with the absolute conception in order to ask about the effects of the material conditions of space.

Motives for the constitution of space

With regard to motives for action, we distinguish between two levels of spacing: the arrangement of social goods like tables and chairs on the one hand and the arrangement of students on the other. Based on the material available to us, we can make no statements with regard to the students' motives for action. The reconstruction and juxtaposition of different motives for action could be the impetus for further research. What we present are the German and math teachers' motives for action. The German teacher is responsible for the arrangement of the seating order. Math and German classes take place in the same classroom and the seating order established in the German class remains in place during math classes.

Motives for the arrangement of tables

First, we examine the motives for a given arrangement of the social goods (e.g. tables). The German teacher links the arrangement of social goods (e.g. tables) with centering the students towards the blackboard. As far as the math teacher is concerned, the ideal classroom is a decentralized one. If possible, all students should face each other in order for them to be able to communicate with their peers. In his opinion, a U-shaped arrangement of the tables meets this requirement at the best. However, assessing his ideal concept, he admits its illusory character due to the material boundaries of the classroom. Simply spoken: The classroom itself is too small. Also, as he is the math teacher and not the class teacher, he has less influence on the actual arrangement of the tables. Hence, the existing E-shaped arrangement of the tables seems to be a reasonable compromise.

Motives for the arrangement of students

Concerning the positioning of the students, the teachers' motives for action also differ. The German teacher relates the method of lot drawing to producing a sense of community. The randomized seating is intended to ensure that all students are– as she says – "taken on board". This metaphor allows two readings: "on board" can be understood from a social and mutualizing perspective (being part of a group) and it can be interpreted in educational and study-related terms (achieving the same). The common feature of the two interpretations is that successful schooldays are constructed as a collective project rather than one that can be achieved alone. The periodic rearrangement of the seating order aims to include the excluded. The constant seating rearrangement is supposed to hinder the students from forming social structures along the students' own criteria that might exclude certain students. Ironically, the outcome might contradict this intention, by preventing the consolidation of social structures and therefore supporting the constant possibility or danger of exclusion.

By contrast, the math teacher's motives for positioning the students aim to keep lesson disturbances to a minimum. The students are supposed to relate to one another through the experience of both nearness and distance in such a way that communication that is not pertinent to the lesson is minimized and communication that is beneficial to learning is maximized. In accordance with this conception, social relations are to be oriented towards the educational content.

The constitution of space in practical terms

According to our analytical grid, we will turn to the constitution of space in practical terms. As the analyzed section does not deal with the rearrangement of the material goods, we concentrate on the different phases of spacing – i.e. the students being reseated – illustrated in still pictures. We distinguish between the initial arrangement (still picture 1), its annulment and the first rearrangement (still picture 2), the process of further rearrangement by the teacher (still picture 3), and further changes to the seating order triggered by the movement of certain students (still picture 4). The arrows roughly indicate the teacher's motion sequences. First, still picture 1, with an E-shaped arrangement, will be described.
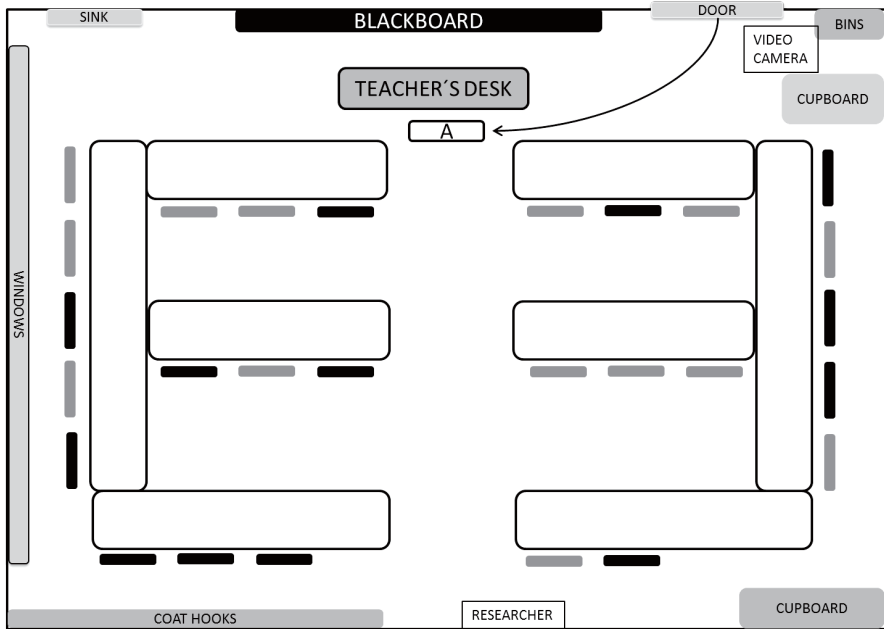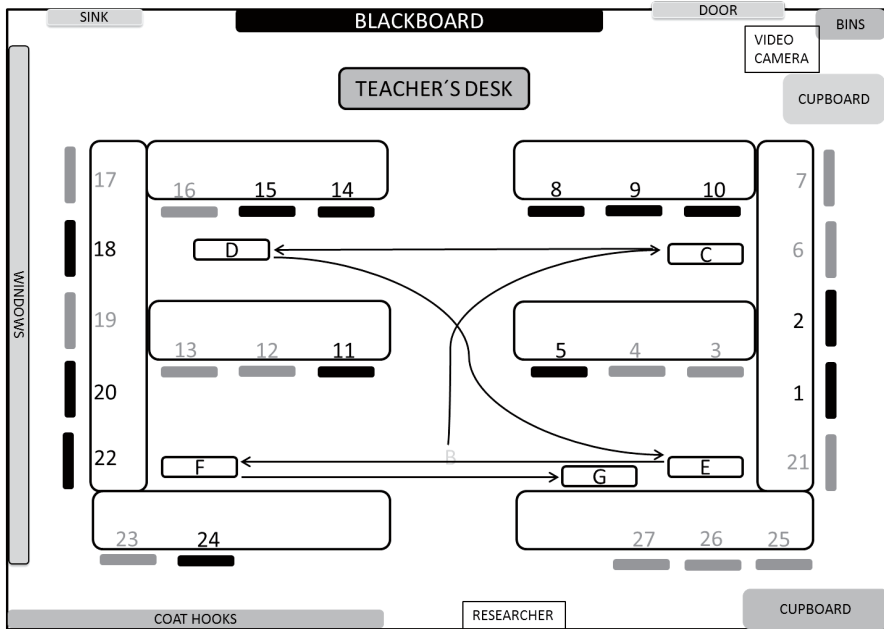
Still picture 1

Most students are facing the blackboard; the others are seated along the walls facing each other. The teacher enters the room, walks straight to the teacher's desk and positions herself in front of it. In short, the procedure for establishing a seating arrangement takes place as follows: the teacher announces the seating rearrangement; the students pack up and assemble in the front section of the classroom (still picture 2).
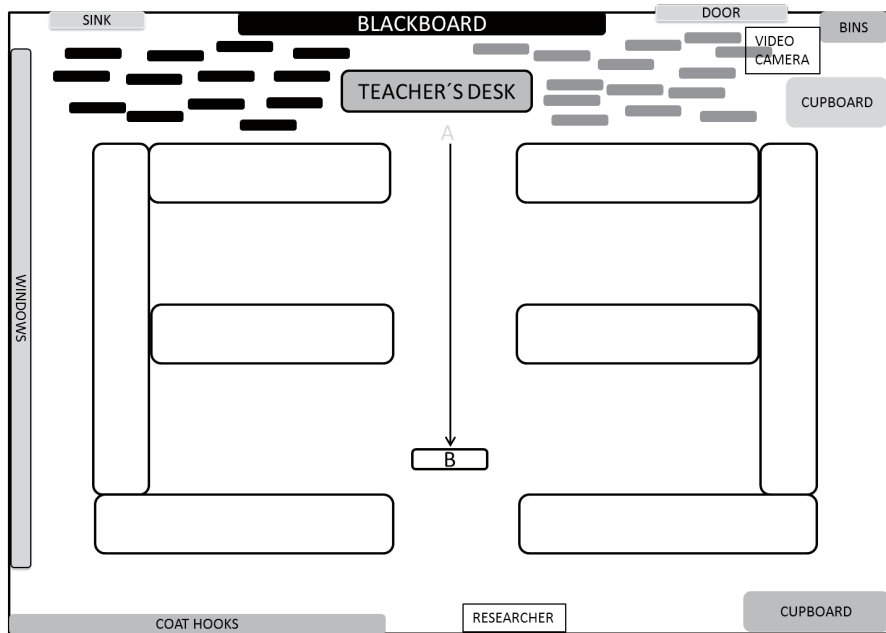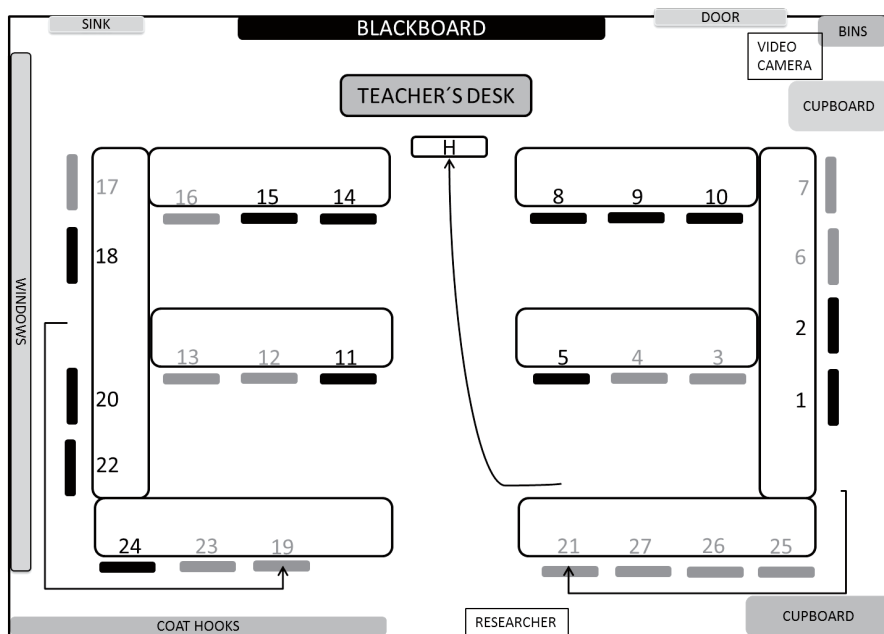
Still picture 2

They position themselves, predominantly separated according to gender, to the left and right of the teacher's desk. At the same time, the teacher positions herself in the center aisle toward the back of the classroom. Next, the teacher distributes seating cards with the student's names on them based on a "random choice". She lays down the seating cards on the table and calls the students who go and sit down at their assigned places. The result is the new seating arrangement in still picture 3. The numbers on the picture indicate the order in which the students are assigned to their new seats. The arrows indicate the course that the teacher takes whilst distributing the seating cards. The letters C to G document the chronology of the positions from which the teacher distributes the cards.

Still picture 3

With regard to the constitution of space in practical terms, the teacher undermines her own discursively produced motives for action. An analysis of the new room arrangement shows that the seating plan is mainly based on gender. Every student sits next to at least one same-gender student. In this regard, it would be useful to examine further rearrangement processes in order to possibly identify gender as a tacit arrangement criterion.[4] In addition, applying contextual information – e.g. which boys regularly disturb the lessons – to picture 3, it is noteworthy that the boys in question were placed where they could easily be observed, and reprimanded, by the teacher. Neither gender nor troublesome students were a criterion for the teacher's discursively produced motives for action.

Still picture 4

Changing perspective, we analyze the seating rearrangements initiated by the students (still picture 4). Both in the case of the "secret" exchange of places (between position 23 and 24) and rearrangements after negotiation with the teacher (illustrated by the long arrows) the students' major criteria for the choice of a new place to sit were friendship relations and, more or less in agreement with the friendship motive, the "perfection" of the sex/gender-based room arrangement. As for the latter, the implicit arrangement criteria of the students match those of the teachers.

So far, two points stand out. First, the discursively produced motives for action differ from the practical constitution of space. Secondly, it is noteworthy – and somewhat absurd – that an arrangement that is intentionally randomly produced is subject to selected corrections.

The process of correction is complicated in an absolutist spatial conception and/or the physical conditions of space. The material arrangement limits the options – an effort is required in order to rearrange the space and break through the persistence of the goods. This effort is reflected in secret exchanges of seats or possible re-movements to free seats. Both undermine the concept of randomized positioning and transform the constituted order.

We can conclude: to overcome the material arrangement, a specific effort is needed, and this effort is invested in the reproduction of a social order that favors existing peer-relations.

Conclusion

Our primary goal was to point out the potentials of a spatial sociology-based perspective on the classroom and to relate them to social order and social relations. We demonstrated through our example that the relational-spatial model can both reconstruct and juxtapose motives for action and content of action, spatial design and its practical implementation, and explicit and implicit arrangement criteria. On both ends, the agents are confined by the limits of the absolute space because the absolute space makes the practical implementation of motives for action impossible and because it restricts actions which we have defined as transformations of space in the context of a relational-spatial model. Accordingly, a strong relationship exists between relational space and absolute space. More so, they intermingle. Focusing on the arrangement of the tables, the material circumstances affect the possibilities of different conceptions of learning and their implementation. The classroom is too small and therefore prohibits the implementation of both a teacher-centered and a U-shaped arrangement. Therefore, absolute space can be seen as preconditioning the relational space.

The understanding that the arrangement of space and the pedagogical concept are mutually influential is logically consistent. However, in practice this understanding is hardly reflected on and thematized (Sopp, 2007), even though it directly affects current developments in the school system. For example, implementing new learning cultures that are flexible with regard to courses of action could prove problematic in traditional classrooms that do not comply with the demands of the new learning culture. The relevance of space should thus be thematized in the discussion on the competences of teachers.

Turning our attention to processes of student positioning, we find a tension between the motives for action concerning social and learning issues and the practices constituting the space. The German teachers' motive to include all students through a random seating arrangement collides with the practice of correcting this arrangement. Rather, the formation of exclusive relations is reinforced and the prospect of including excluded students therefore minimized. In other words, social arrangement patterns can only be understood under consideration of this contrast. In this regard, social relationship structures are at the origin of the constitution of space and at the same time influenced by the material space.

Summing up, sociology-based theories of space provide a promising framework for the further analysis and a better understanding of school, teaching, and peer cultures. Also, our sample has raised the issue of how to shape the flexible classrooms that new learning cultures and learning arrangements require with regard to notions of open and flexible learning, democratic teaching, and self-monitoring.

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