

Tool: Cartographic observation of space use

Range of contexts of use

Over the course of the CoReD project, Cartographic Observation has been used in a range of schools, from kindergartens to secondary institutions, in Italy and Portugal. The existing premises were extremely varied, ranging in age from recently built to 50 years old to over a hundred, including some renovated buildings, and based in urban, suburban and rural areas. An obvious commonality in this diversity was the intention to look at the current educational environment and plan for future change. The mapped observation was always carried out by a researcher from the project to provide an observational view. The observation results were analysed and communicatively validated. Representatives from the pedagogical teams, the school management, the district management and researchers from the project were present at this debriefing. Depending on exactly how the activity was used, Cartographic Observation was able to contribute to the design stage of *planning* or form part of *reflection* on current spaces and practices.

Rationale for activities and tool adopted

School communities used the results of the Cartographic Observation for exploring particular educational issues in relation to the design and use of space in the classroom. This happened in different contexts, including in the context of further training measures (workshops), but mostly as an evaluation of premises or due to dissatisfaction with certain areas of the premises. As cartographic observation focuses on the movement patterns of the teachers, the results are also used for the further development of pedagogical professionalism. Some projects were led by people at the municipal or district level, but others were initiated and carried out by school staff, including principals, teachers and teaching support staff. However, an observer is always necessary when using the tool. In the project, a researcher from the CoReD group took on this role in each case. An over-arching concern was for school space to support pedagogy, but this could involve staff discussing the adequacy of specific areas or the use of Cartographic Observation activities to develop staff, or indeed student/children, understanding of the relationship between space and practice.

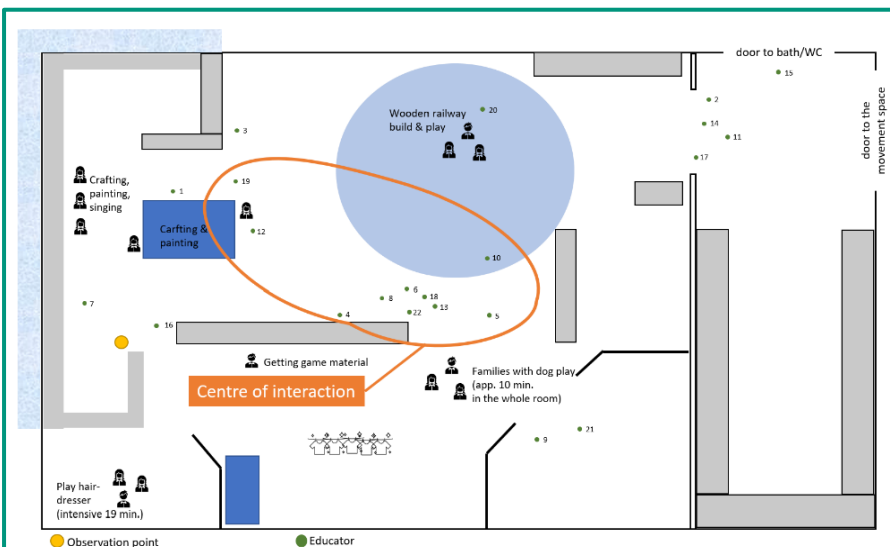


Secondary school in Portugal, built 1972, where Cartographic Observation was used in a classroom



Nature of starting environments

Most, though not all, of the case studies involved participants based in a shared educational environment with which they had some concerns, but where there were broadly supportive professional relationships. Thus, the tool does seem to appeal particularly to people within school communities that are not entirely satisfied with their setting, although they might not be able to articulate the reasons for this. The cartographic observations were carried out in kindergartens and in secondary schools. Although the two educational institutions are very different due to their framework conditions, the results are very similar and well comparable.



Graphic analysis (right) of the movement pattern of a kindergarten teacher in a learning space (shown above) in a German-speaking kindergarten in South Tyrol.

Workshop on communicative validation of the observation results in the context of a pedagogical training course



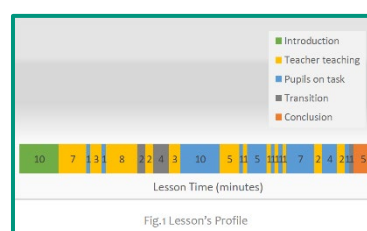
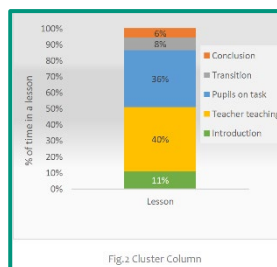
Outcomes

There was a range of outcomes to the projects using Cartographic Observation. Using the tool with German-speaking kindergarten teachers in Italy from a number of kindergartens in various workshops led to a broad discussion on room design. In one kindergarten, the group rooms were redesigned according to the results from the cartographic observation. This redesign is now being monitored by the kindergarten teachers and flows into the pedagogical considerations. In the trial of the tool in Portugal, classroom situations were observed. This shows the typical frontal spatial arrangement of a school class. However, the movement patterns of the teacher depend on the subject and the individual teaching style.

Across the projects, the tool empowered educational practitioners to develop an understanding of the importance of the physical environment for teaching and learning. This learning has informed decisions taken at the levels of district, school and individual teacher.



Movement patterns of teachers and students during an art lesson and the corresponding breakdown of pedagogical activities by minutes or percentage



Conclusions

Who should use this tool and when?

The case studies tended to confirm the view we had developed through the earlier use of Cartographic Observation: This tool is best used with an observer who is not involved in the educational activity. Then the movement patterns and lesson profiles can be accurately recorded. The discussion of the observation results shows that the way of looking at the pedagogical events gives new insights into the structure of the room as well as into the pedagogical interactions.

Key findings from case studies and changes to tool instructions or recommended process.

The cartographic observation is particularly suitable for use in a team in the context of lesson and school development. Observing the pedagogical interaction in the room is a visualization of what is happening in the classroom. This highlights connections clear that are not visible in conventional observation. Based on the analysis of the experiences in the case studies, we recommend, if possible, an external observer, perhaps also from another discipline. It is also recommended to validate the observation results communicatively. This means first having the graphical observation interpreted by the pedagogical topic and then comparing it with the observer's comments.

Although the tool does not require specialist facilitation (which is important, given that lots of systems of participatory design rely on architects or designers to facilitate cross-disciplinary collaboration), it does appear that thoughtful and insightful results are particularly produced when someone outside the participant group (e.g. the teacher where the participants are students) or external to the educational institution(s) oversees the activity and the discussions that are generated. Given that seeing the school from an external perspective seems, for some participants, to have been a key experience, initiating new conversations about the design and use of their school space, it is worth considering if there are generic prompt questions that could be provided for participants managing their own cartographic observation activity.

Although the case studies support our assumption that Cartographic Observation can be used at any stage of a redesign process, there is a clear tendency for the tool to be chosen as part of *planning change* or *initiating the development* of space and the interaction within the space. Its use frequently centred on facilitating users' reflection on existing space, but with this more often being a first step in altering to a well-established space, as opposed to evaluating a new space.

In the CoReD project, the instrument was used by architects and educationalists. But not by educators and teachers. This is unfortunate but can be explained by the difficult conditions during the corona pandemic. Training the teachers with the tool was not possible.