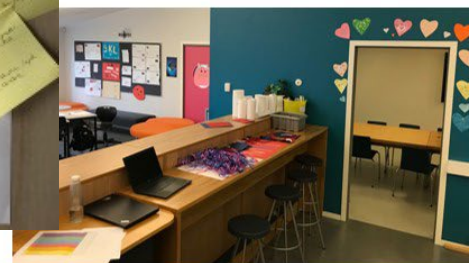


MOBILIZING LEARNING ENVIRONMENTS

PHYSICAL LEARNING ENVIRONMENTS

A GUIDE FOR EDUCATIONAL EVALUATION AND DEVELOPMENT OF LEARNING SPACES





mobile

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1 Introduction: Pedagogical Post Occupancy Evaluation (PPOE)

The physical environment of the school is important for students' learning, well-being and participation (OECD 2018). It impacts both the learning and work environments (Barrett et al 2015). The following describes a process instrument that enables the participatory evaluation of learning environments in order to then initiate suitable spatial-pedagogical measures in further school and teaching development on site.

1.1 Purpose and target group for the pedagogical recording of learning spaces

The aim of this guide is to present a user-driven, self-instructing process tool for assessing and compiling knowledge about learning environments. The evaluation tool will help to further develop your own learning spaces so that they can contribute to supporting teaching and learning. Due to the long tradition of rural schools, the importance of learning spaces can be seen as an underestimated instrument that has only recently become the focus of didactics with the development of cluster schools and learning landscapes. s instrument that only comes with development in learning and teaching. We also see the learning spaces as something that is constantly changing and moving, or that IT departments would call a beta version because it is constantly being developed. The evaluation tool is therefore intended for both new and old learning spaces, because learning environments can be changed.

The tool can be used to assess the interaction between physical design and pedagogical practice in both new and renovated buildings. It can also be used as part of continuous school development, where physical conditions need to be evaluated and adapted to changing educational trends and new curricula.

The following criteria are applied:

- It should be a self-instructional tool for pedagogical assessment of the physical learning environment
- The target group is teachers and school principals, often together with students, assistants and others who work on site,

- Teachers across Europe have busy schedules, so it must be possible to complete the program in a limited time,
- The assessment should result in written documentation and a binding process.

The pedagogical evaluation of classroom buildings does not have a long and strong tradition either in Germany or in other countries. Our classroom buildings are built for multiple generations of teachers and students and are subject to changing requirements over time (e.g. inclusion, shared learning, full-time) and their function changes. In the construction industry, buildings and construction projects are evaluated based on cost, finances, time and sustainability, etc. However, whether classroom buildings actually function for the purpose for which they are intended is currently not the focus of empirical research. Previous building assessments, which are mainly practiced in Scandinavian countries, include a simple questionnaire that mainly deals with indoor climate factors. Indoor climatic factors are very important, but buildings also have to be carefully adapted to a company. Many building assessments involve extensive data collection without analyzing it and putting it into the context in which the company is located. With a pedagogical evaluation of the learning areas, we want to focus the evaluation on school activities and develop a simple evaluation tool for rooms with pedagogical use. What is central here is that teachers, who have special pedagogical expertise, can both collect data and carry out the evaluations themselves.

The tools should be self-instructive for those who use them. This means that no special certification or evaluation skills are required to carry out an educational evaluation of learning spaces. The target group is school management, teachers, student teachers as well as non-teaching employees in social work, psychology or (open) full-day care or other special pedagogical skills.

The evaluation tools must have the potential to uncover new areas of application for the different learning areas. The tools should help create a snapshot of:

- How the learning rooms are used

- What experiences have teachers and learners had with the rooms so far?
- What teachers and learners see as the strengths and weaknesses of the learning spaces.

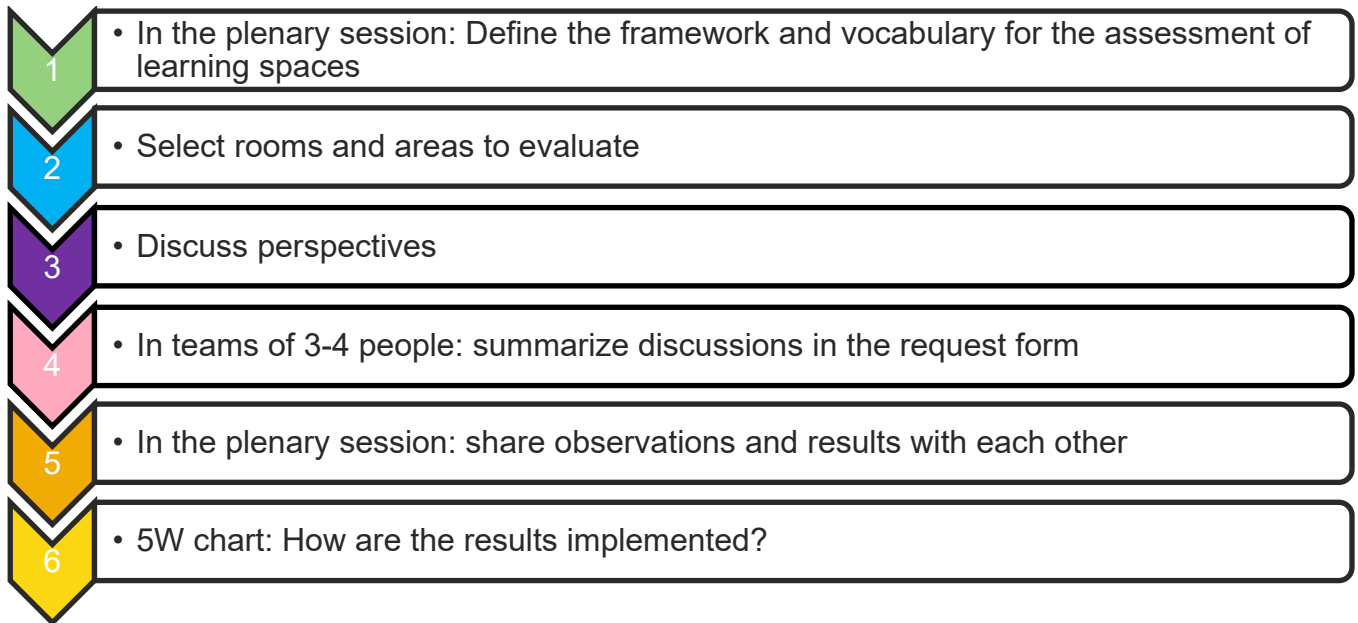
In addition, the tools should help answer the following questions:

- How learning spaces can support teaching and learning
- How learning spaces can be kept in motion and continuously changed in interaction with teaching and learning.

1.2 Scope of delivery of the guide

- Guide with explanations and instructions in 6 steps
- Appendix 1: Power Point presentation for evaluating learning spaces
- Appendix 2: The Mobi.Le poster
- Appendix 3: Evaluation form in Excel

2 Method description: Six steps for evaluating learning spaces



Time required:

The estimated time required for the evaluation process is at least 90 minutes, but preferably half a day. The program can be adapted to the time available.

Equipment Requirements:

- Black felt-tip pens
- Post-it note
- 1 poster per group (3-4 people) with the six Mobi · Le perspectives in A3 format
- Printout of Excel tables with evaluation forms - which were sent digitally in advance or can be accessed via a link.



2.1 Create a framework for conversations about “Space as third teacher”



•In the plenary session: Define the framework and vocabulary for the assessment of learning spaces

Many teachers, students and school leaders have little awareness of how space can contribute to teaching and learning. Educational theories have rarely focused on the physical environment. It is therefore important to first create a framework for discussions about the physical learning environment as a kind of warm-up exercise before starting the actual evaluation. Below are three options for introduction, depending on how much time you have and how thoroughly you want to work on understanding the physical environment.



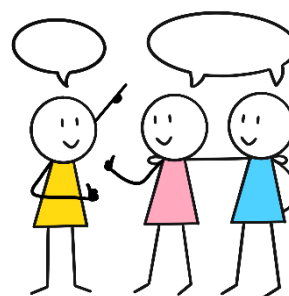
- Option 1 is the shortest variant with a plenary discussion. It doesn't have to last longer than 10 minutes.
- Option 2 is approximately 30 – 45 min and involves working with the Learning Environments Index. a selection of index cards.
- Option 3 is a workshop with Prismatic, which can last at least 2 hours, if you choose. For this variant, a moderator with experience in the field of learning space development is recommended.

2.1.1 *Option 1: Discussion in plenary*

Have a plenary session where everyone takes turns answering a question related to the topic. For example:

- The best thing about the new premises is...
- When do I think these premises work well?
- When do I realize that these spaces are not working well?
- How does the physical environment in our school reflect our view of learning and pedagogy?
- What invitations are signaled by the entrance area, classrooms, staff room (or other room) of our school?

All areas invite different uses and different activities. Architects, interior designers, principals, teachers and students bring different professional and personal perspectives and may have completely different ideas about what a space invites, but there is often a lot that can be agreed upon. If you want to describe "what" works well or poorly, you can capture details and individual elements without linking it to teaching and learning. We therefore emphasize the importance of asking questions about whether and when the areas are functioning well or poorly, because in this way we are asked to become clear about the activities before describing individual elements in the room.



For further discussion:

Check out the two images from the classrooms in the additional material in Appendix 1:

- What do the different areas invite you to do?
- To what extent do these invitations reflect our views on, for example:
- The body (different sitting positions, variations, different physiques, etc.)?
- Who is the most important thing in the room?
- Do we learn best alone or together?
- Who is the expert?
- Do we learn the same way or different ways?
- Which setting is best suited for differentiated instruction?

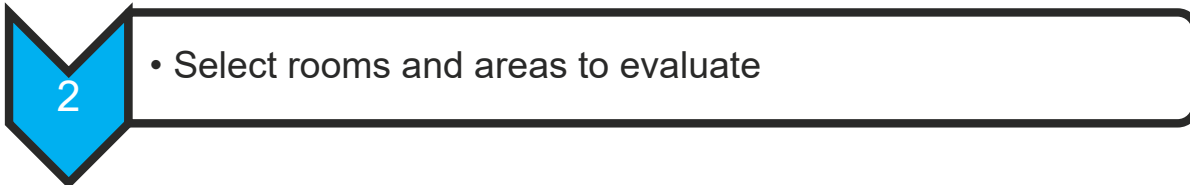
2.1.2 Option 2: Use a selection of index cards

Option 2 is suitable if you have more time than the minimum session of 90 minutes, or if more time is available in advance, to think together generally about the physical school environment and its importance for learning. Depending on the process goal and duration, the questions can be specifically selected in advance or the participants can freely choose from a selection, for example, a color series (red, blue, yellow...) or a topic area (home, liveliness, climate change...).

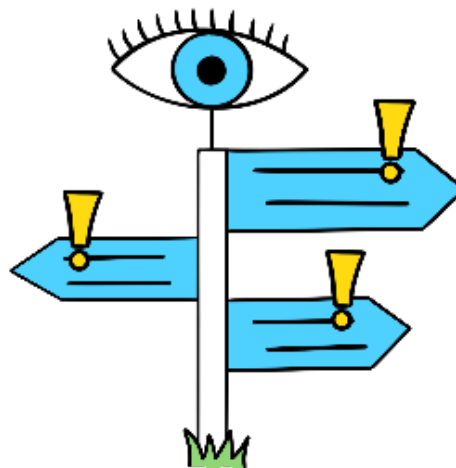
2.1.3 Option 3: Prismatic

The prismatic is shown in detail in the mobi.le learning space training. Variants 2 and 3 will take more time and can also be used as independent process tools for use in school development work.

2.2 Choice of areas



- Select the rooms/areas you would like to evaluate, e.g. E.g. cafeteria (classrooms, group rooms, common rooms, outdoor area, etc.) .
- Feel free to take photos of the areas you want to evaluate.
- Why did you choose these areas in particular?



2.3 Assessment of the premises

3

- In teams of 3-4 people: Discuss perspectives with each other based on the MOBI • LE

Preparation

- Mobi.Le posters for each group
- Post-its and black felt-tip pens for all participants

Method

Divide into groups of three to four people and take a Mobi.Le poster.

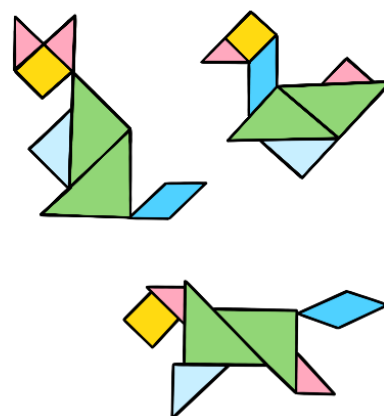
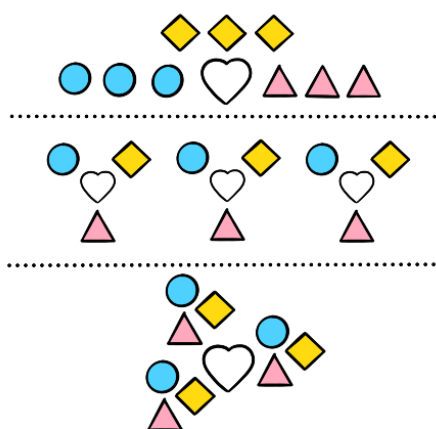
The Mobi · Le-Poster consists of six different colored squares and a word in each square. The terms represent various aspects of the physical learning environment that are correlated with 21st century skills. Critical thinking, citizenship, interaction skills, creativity, communication and identity formation require a learning environment in which students feel safe and belonging (CARE), which invites cooperation and interaction (CONNECT), which offers opportunities for calm and concentration (THINK), in which theory and practice replace each other and develop each other (ACTION), in which the students' mastery is made visible (RESULT) and in which inventory and equipment invite discovery, curiosity and creativity (INVENT).

Discussion

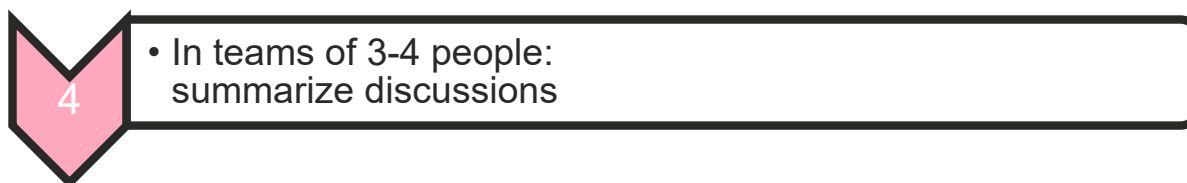
Discuss to what extent and in what ways the different areas accommodate different aspects of the physical learning environment.

Take notes on sticky notes and attach them to the poster using Mobi · Le – the concepts:

- What is already working well?
- To what extent do learning spaces meet these different needs and competencies?
- Specifically: What promotes and what inhibits?
- To the extent that the rooms promote mobility and flexible organization, does this also apply to students with physical disabilities? Or students who need shielding or other accommodations?
- Where do you see opportunities?
- What still needs to be tested?
- Did you have any new thoughts or ideas that you wanted to try after the conversations you had?



2.4 Summary in the form of a flash diagram (Excel file)



Preparation:

Send all participants the link to the Excel spreadsheet with the evaluation forms.

Rate each statement with points on a scale of 1 to 6 (maximum score).

(6 = completely applies | 1 = does not apply at all) .

Method:

This step is best carried out in small groups of three to four people. In the Excel spreadsheet (see Materials) there are a number of color-coded statements that symbolize the different perspectives. The participants are invited to relate these statements to the analyzed spaces and to assess the extent to which the needs represented by the respective color are met.

When the Excel spreadsheet is filled out, in the last tab of the Excel spreadsheet you will find a summary of the results in the form of a network chart for all groups. Enter the values to get an overview of the overall result.

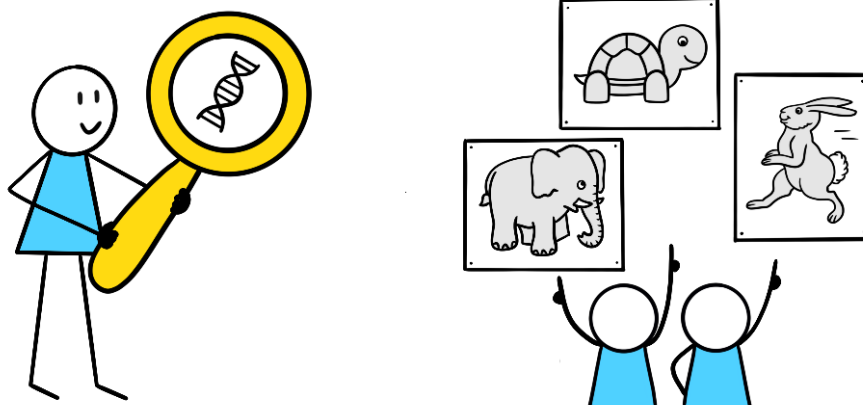
[**Variation** : You can also differentiate the evaluation and create network diagrams of the different actors, e.g. the teachers, the all-day care, the students, the students...]

2.5 Reflection in the plenum: What can be seen from the network diagram?

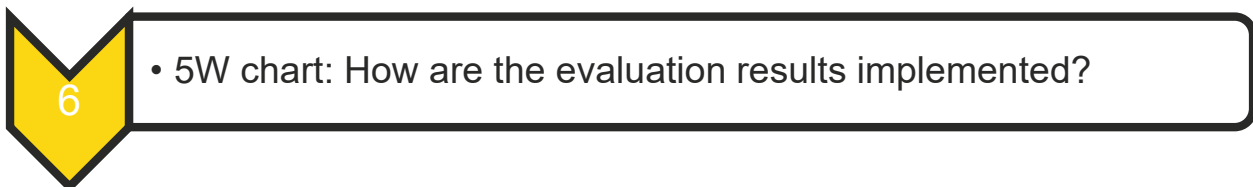
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- In the plenary session: share observations and results with each other

- What does the network diagram show ?
- What do we think of the result ?
- What can be done so that the surfaces can help fulfill the different visions represented by the colors ?
- What can be done in the short term with few resources ?
- What can be done in the long term ?
- What would we like to do differently if we had the opportunity to redesign?

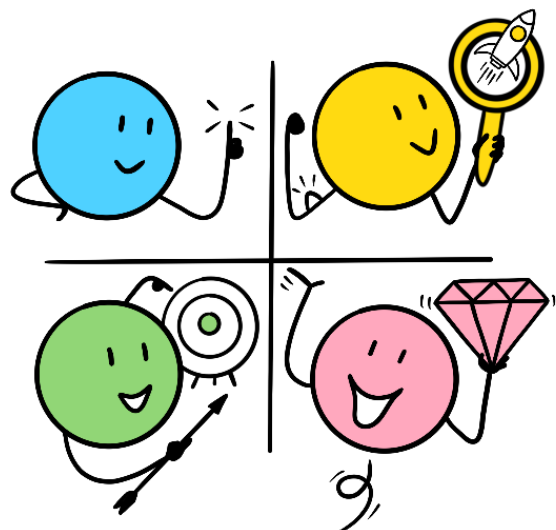


2.6 FLYT chart



The purpose of a 5W chart is to briefly summarize the path forward and commit to each other to further develop what we have found. What needs to be done, who is responsible for what, when will it happen and when will we have the next meeting?

Feel free to print it in large format or as transparencies and display it for anyone interested in advancing learning environments. So it can also become a living document as part of spatially supported school development. The text is adapted to the respective context of your own school.





3 About Mobi·LE project and its partners

3.1 Mobi·Le and Erasmus+

In 2020, six partners from Germany, Norway and the Netherlands received approval from the German national agency PAD for an Erasmus+ innovation project on the physical learning environment. The project was named mobi·le - an acronym for Mobilizing Learning Environments - and has set itself the goal of developing previously missing instruments for phase ten. The project is divided into three sub-projects:

1. Pedagogical evaluation of classroom buildings. Development of a practical, pedagogically based guide for the spatial-functional evaluation of learning environments (Educational Post Occupancy Evaluation).
2. Learning Environment Index: A self-taught tool that supports educational teams to improve the spatial use of their own learning environment.
3. Development of learning space training for teachers at all hierarchical levels in order to be able to design and use learning environments more pedagogically efficient.

All three sub-projects have completed the tasks they set themselves and created a series of materials that are available for download as open educational materials (OER) in various languages on the landing page website [[www.learning-space](http://www.learning-space.eu)].eu.

Increasingly larger cities and metropolitan areas in Europe require more new schools. Many of these have already been built or are to be built according to the principles of pedagogical architecture (Seydel iftung 2017). In short, this means that the



long tradition of school design with traditional corridor schools must give way to a global trend by designing schools in the 21st century as so-called innovative learning environments (ILE). At the same time, the demands on teaching and learning are increasing, which is creating an increased awareness of the relationship between pedagogy and architecture. There is great potential at the

interface between pedagogy and architecture to facilitate teaching and learning in innovative, physical learning environments. The materials of the mobi.le project will contribute to raising awareness about the use of traditional and innovative learning environments and to strengthening the competence of teachers in relation to the use of such learning environments and to participate more effectively in the design.

The collaboration in the partnership was characterized by diverse discussions, binational meetings and joint learning trips - initially only virtually during the pandemic. After the pandemic, the developed instruments were piloted, evaluated, optimized, translated and published in the participating countries with around 250 teachers from all educational sectors. All three project results draw attention to the diversity of learning spaces and the connection between learning spaces and pedagogy and increase professional field competence.

Working together in an Erasmus+ project with the exchange of experiences and ideas across national borders was stimulating and educational for those involved in the project. By comparing similarities and differences in their home countries, the partners were not only able to learn from and with each other, but also broaden their horizons about the diversity of the European educational landscape. This know-how was actively passed on to all local, regional networks and had already reached around 18,000 people by the end of the project.

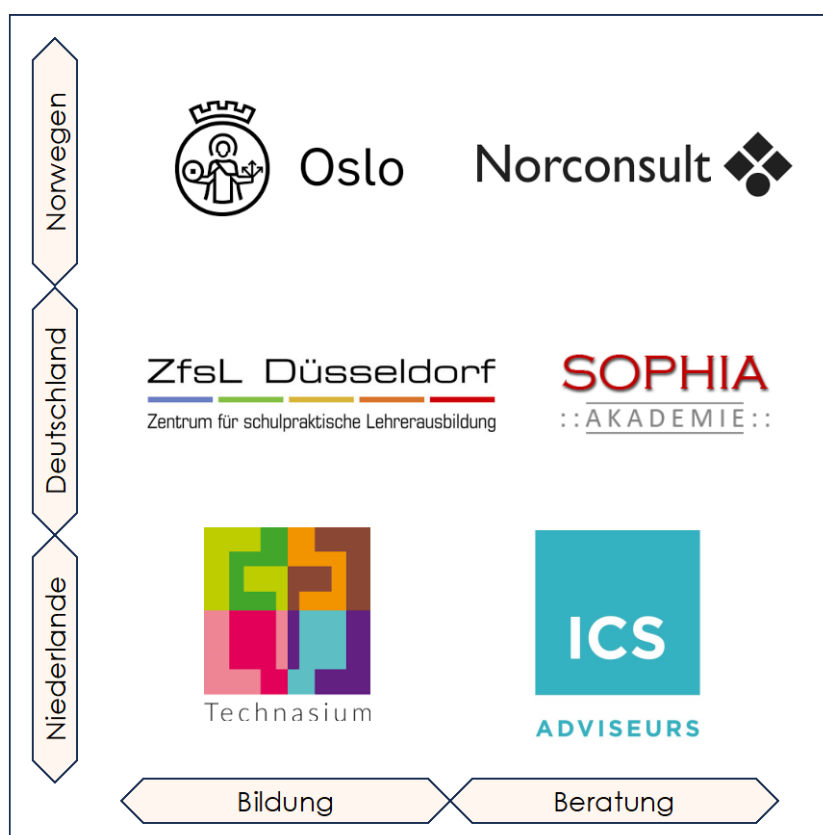


3.2 Partner

Two partners from three countries worked together: The project coordination and management was the responsibility of Sophia::Akademie, a non-profit training institute that works for school development and linguistic integration of people with a refugee history in Düsseldorf. The center for practical teacher training in Düsseldorf is the second institution from Germany.

In the Netherlands, the partners are ICSadvisers, a consulting company with more than 100 employees specializing in school planning, and the Technasium Foundation, which is responsible for over 100 technasiums.

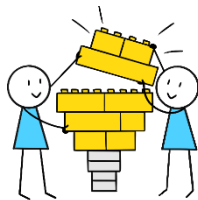
In Norway, they are the Oslo City Education Agency, which includes around 180 schools, and the Norconsult School Division, which has the leading school planning environment in Norway.




Materials

All materials described in the three texts that are needed to carry out the evaluation of learning spaces are available for download on the website: www.mobile.learning-space.eu .

1. PPOE in a nutshell
2. Mobi.le poster
3. Evaluation file (Excel file)



Pädagogische Evaluation der Lernumgebung
Bewerten Sie jede Aussage mit Punkten. 1 = trifft nicht zu | 6 = trifft voll zu.



		1	2	3	4	5	6
Wohlbefinden (Sicherheit)	Du kannst wahrnehmen, dass Du Dich an einem sicheren Ort befindest.						
	Es gibt Elemente im Raum, die für eine angenehme Atmosphäre sorgen.						
	Es gibt verschiedene Möbelemente, die Dich einladen, den Lernraum so wie Du es brauchst, zu nutzen.						
	Zum Aufhängen von Unterrichtsmaterialien ist genug Platz vorhanden.						
	Es gibt Möbel/Schränke/Regale für die Aufbewahrung von Materialien der Lernenden - bequem erreichbar für alle.						
	Es gibt die Möglichkeit, gemeinsam als Gemeinschaft zu arbeiten.						
Zusammenarbeit	Kleingruppenarbeit ohne Andere zu stören ist möglich.						
	Es gibt die Möglichkeit sich im Raum zu bewegen und mit anderen Lernenden zu kooperieren.						
	Arbeit in unterschiedlichen Gruppengrößen ist je nach Bedarf möglich und kann verändert werden.						
	Möbel und Einrichtungsgegenstände laden zur Zusammenarbeit ein.						
	Eine Umgestaltung für Großgruppen ist unaufwendig.						
	Es gibt mehr als je einen Sitzplatz für jede Person, so dass Plätze gewechselt werden können.						
Konzentration	Farben, Möbel und Einrichtungsgegenstände sorgen für eine konzentrierte Arbeitsatmosphäre.						
	Die Schüler haben die Möglichkeit, sich visuell abzuschirmen, wenn sie konzentrierte Aufgaben ausführen.						
	Die Schüler können sich zurückziehen, um in Ruhe zu arbeiten.						
	Die akustischen Bedingungen machen es leicht, sich zu konzentrieren.						
	Es gibt Rückzugsbereiche für ruhige Pausen.						
	Der Raum ist so gestaltet, dass er zu Stillarbeit einlädt.						

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YouTube channel Developing learning spaces :: online
https://www.youtube.com/channel/UCJmWmKNqmmi6EXIjZNY0_Ow



Imprint

The development of this guide was led by Siv Stavem and Espen Stostrand (Norconsult), who developed it together with Jorun Lovoll , Helene Damsgard , Sissel Holemark Kongrund from the Oslo Education Administration, developed on the basis of the mobi.le wheel. Petra Moog was responsible for the German revision and final editing.

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www.learning-space.eu (landing page)

www.sophia-akademie.de

www.projektlernraum.de

[EU project results platform](#)

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