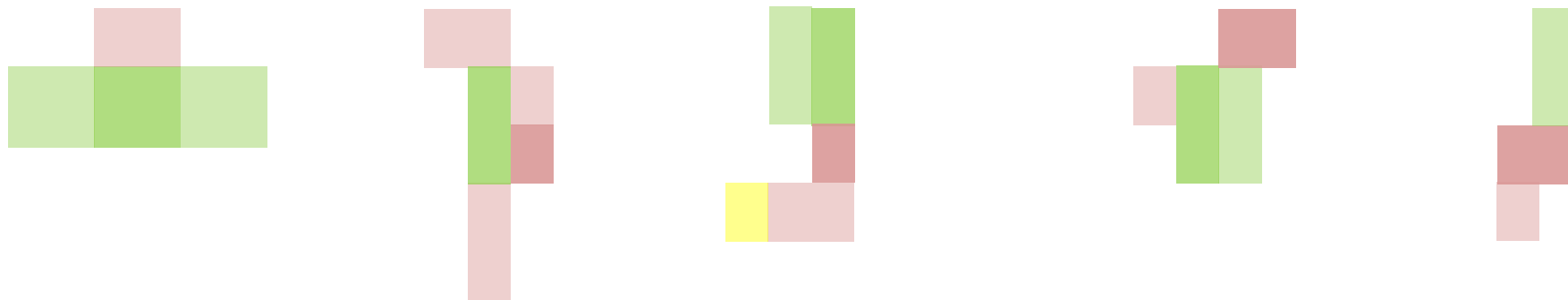


Evolution of Educational Buildings in Finland

Building Design Studio





My background:

Architect MSc, SAFA

Doctoral Student, Aalto

Architect,
Educational Division,
City of Helsinki

CONCEPT OF **LEARNING** ENVIRONMENT

situational

nature

urban environment

social

LEARNING

ENVIRONMENT

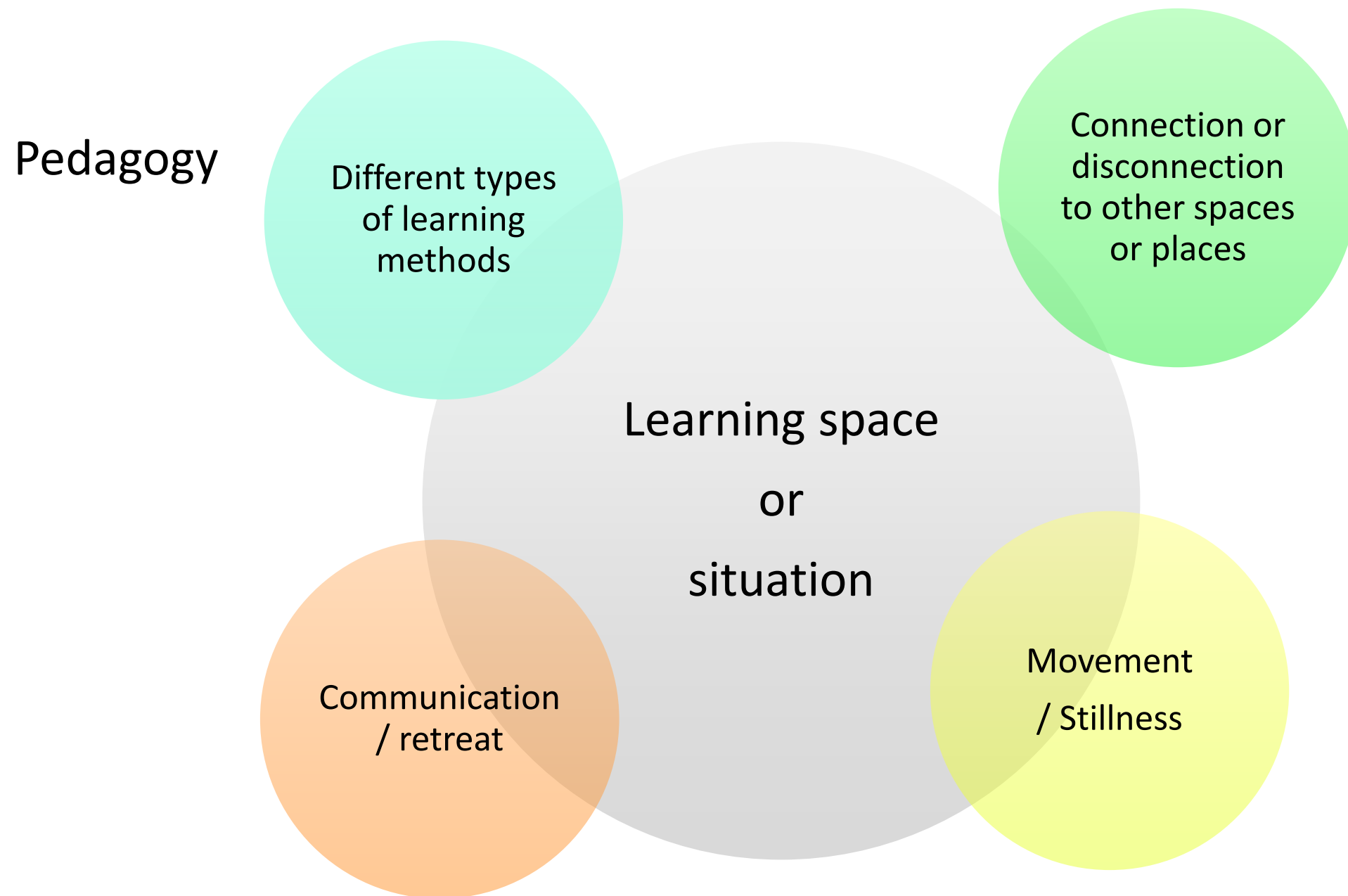
technical

Information and
communication techniques

physical

Supportive
element

SOCIAL AND FUNCTIONAL ELEMENTS IN LEARNING ENVIRONMENT

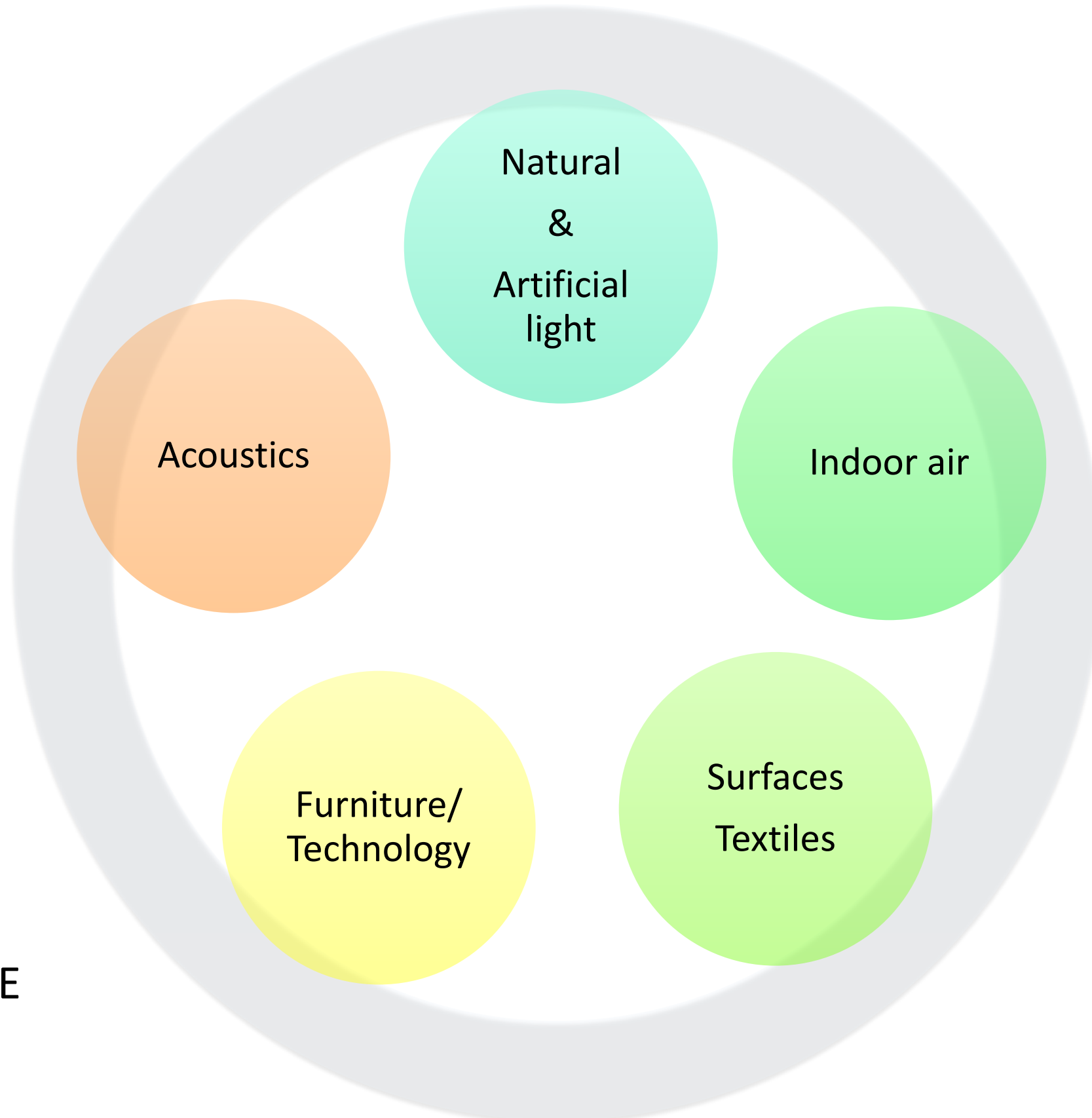


THE OBJECTIVE OF PERUSKOULU, BASIC COMPREHENSIVE SCHOOL IN FINLAND

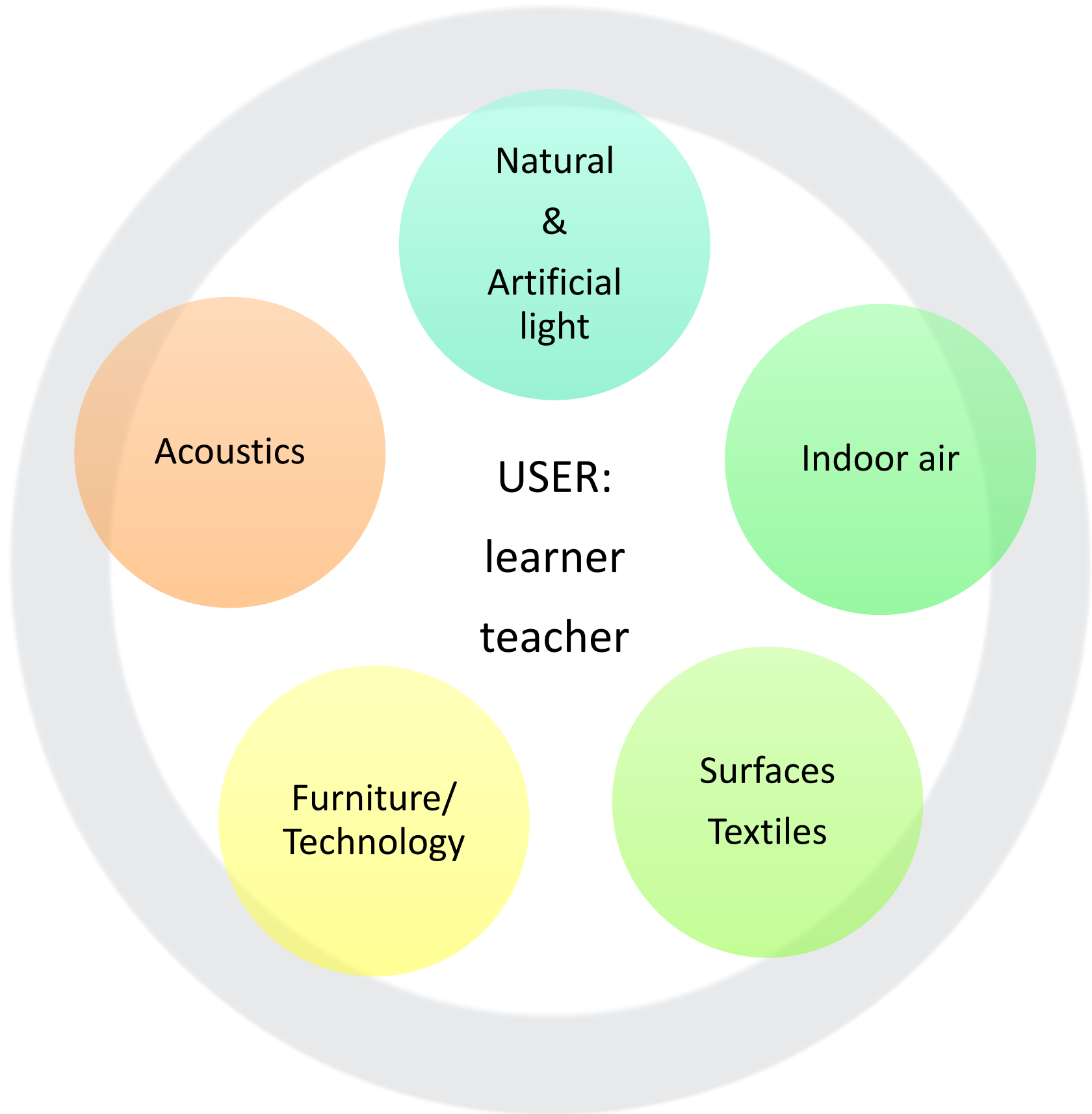
- Evolving **pedagogy** is based on the National Core Curriculum
- Developments in the understanding of the learning process, combined with IT and ICT progress, have led to reconsiderations of pedagogy and the teacher's role (Leat et al., 2012)
- The type of competencies and skills, expected of graduates today go well beyond basic literacy and numeracy skills.
- In learning we need to develop also 21st century skills:
 - Critical thinking
 - Creativity
 - Collaboration and
 - Communication skills

PHYSICAL LEARNING ENVIRONMENT

Architectural elements in learning space



- SAFETY
- HEALTHY
- ACCESSIBLE



Natural
&
Artificial
light

Acoustics

Indoor air

USER:
learner
teacher

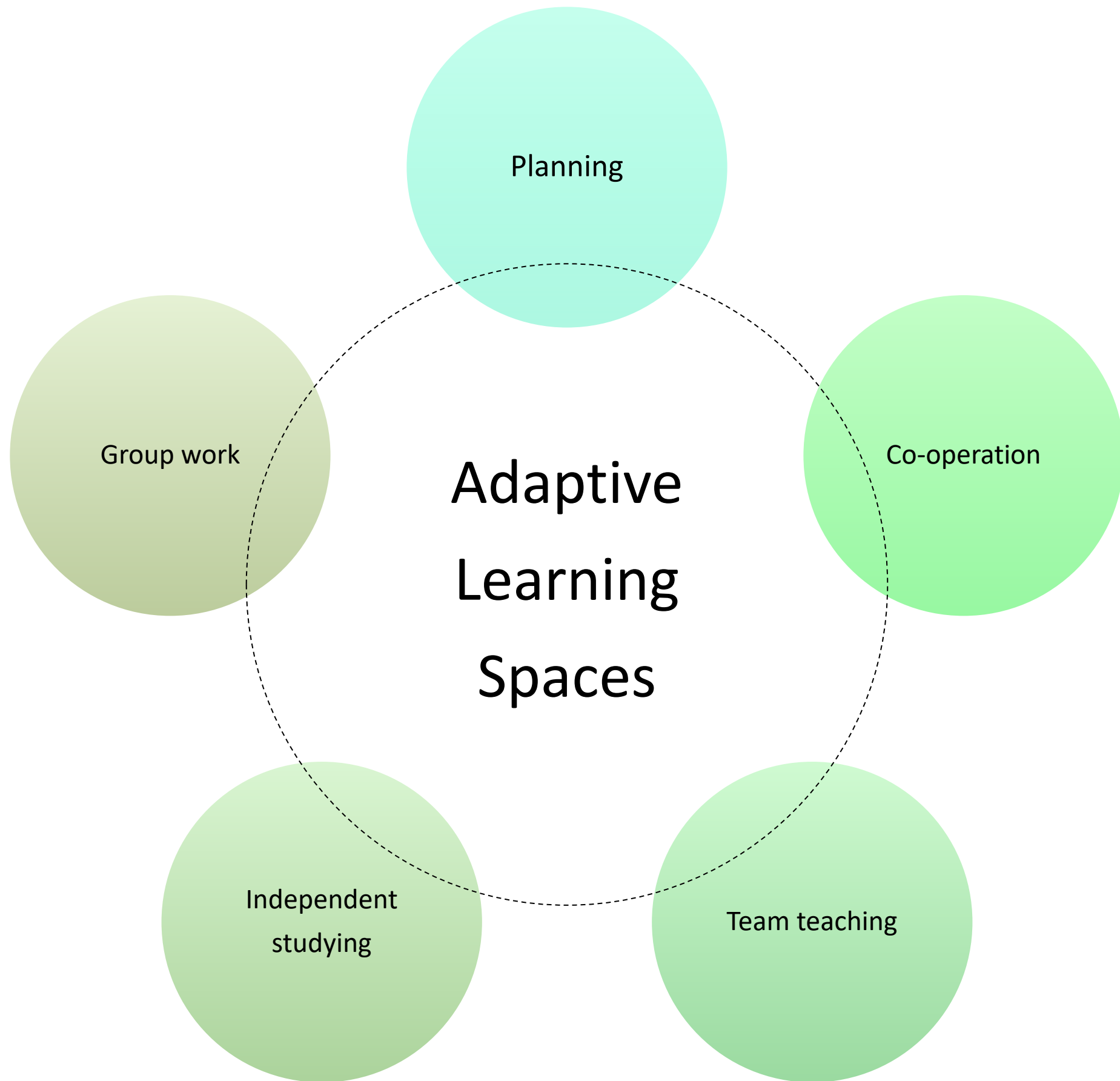
Furniture/
Technology

Surfaces
Textiles



TRADITIONAL LEARNING SPACES

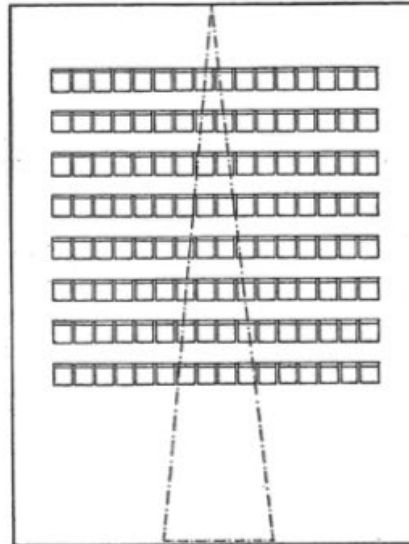
- Classroom & hallways
- Teacher oriented
- Informational
- Communication between learners minimized



SPACE ELEMENTS FOR PERUSKOULU

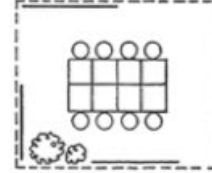
Auditorium

LUOKKAOPETUS



Suurryhmän opetustila.
Opetustapa: esittävä.
Oppilasmäärä: 96–192 opp.
Tila ei sisälly nykyiseen tilaohjelmaan
0,8–1,0 m²/opp.

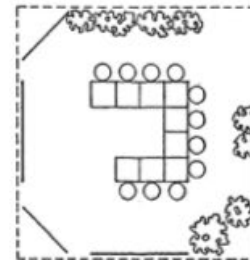
RYHMÄTYÖ



Pienryhmän tila.
Luokkaopetus tai ryhmätö.
Oppilasmäärä: 4–12 opp.
Tilan koko: 18–20 m², kiinteästi rajaama-
ton tila tai oma huone 1,5–5 m²/opp.

Small/special group learning

Discussion space

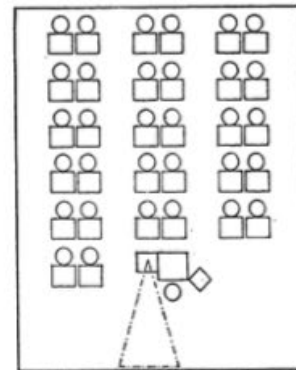


Keskusteluryhmän tila.
Opetustapa: ryhmätö.
Oppilasmäärä: 12–16 opp.
Kiinteästi rajaamaton tila 3–4 m²/opp.

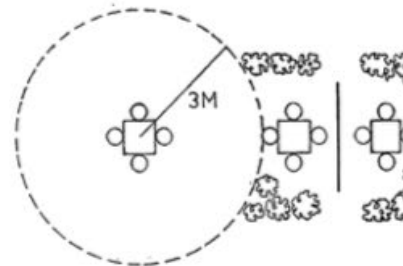
Traditional

Adaptive

Intensive learning
(basic group)



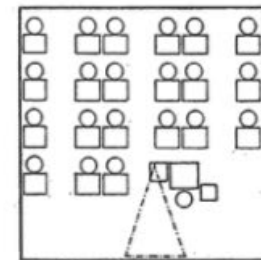
Perusryhmän opetustila.
Luokkaopetus tai ryhmätö.
Oppilasmäärä: 32 opp.
Tilan koko: 54–60 ja 72–80 m²
1,7–2,5 m²/opp.



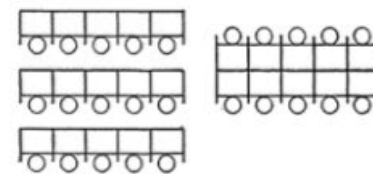
Työryhmän tila.
Ryhmätö tai yksilöllinen opiskelu.
Oppilasmäärä: 2–5 opp.
Kiinteästi rajaamaton tila.
Pinta-ala: 3–4 m²/opp.,
seinämiä käytettäessä vähemmän.

Working group

Intensive learning
(small basic group)



Tasoryhmän opetustila.
Luokkaopetus tai ryhmätö.
Oppilasmäärä: 12–24 opp.
Tilan koko: 36–40 m²
1,5–3,3 m²/opp.






Lukusoppi.
Opetustapa: yksilöllinen opiskelu.
Oppilasmäärä: 1 opp.
Kiinteästi rajaamaton tila.
Pinta-ala: 3 m²/opp.

Independent working

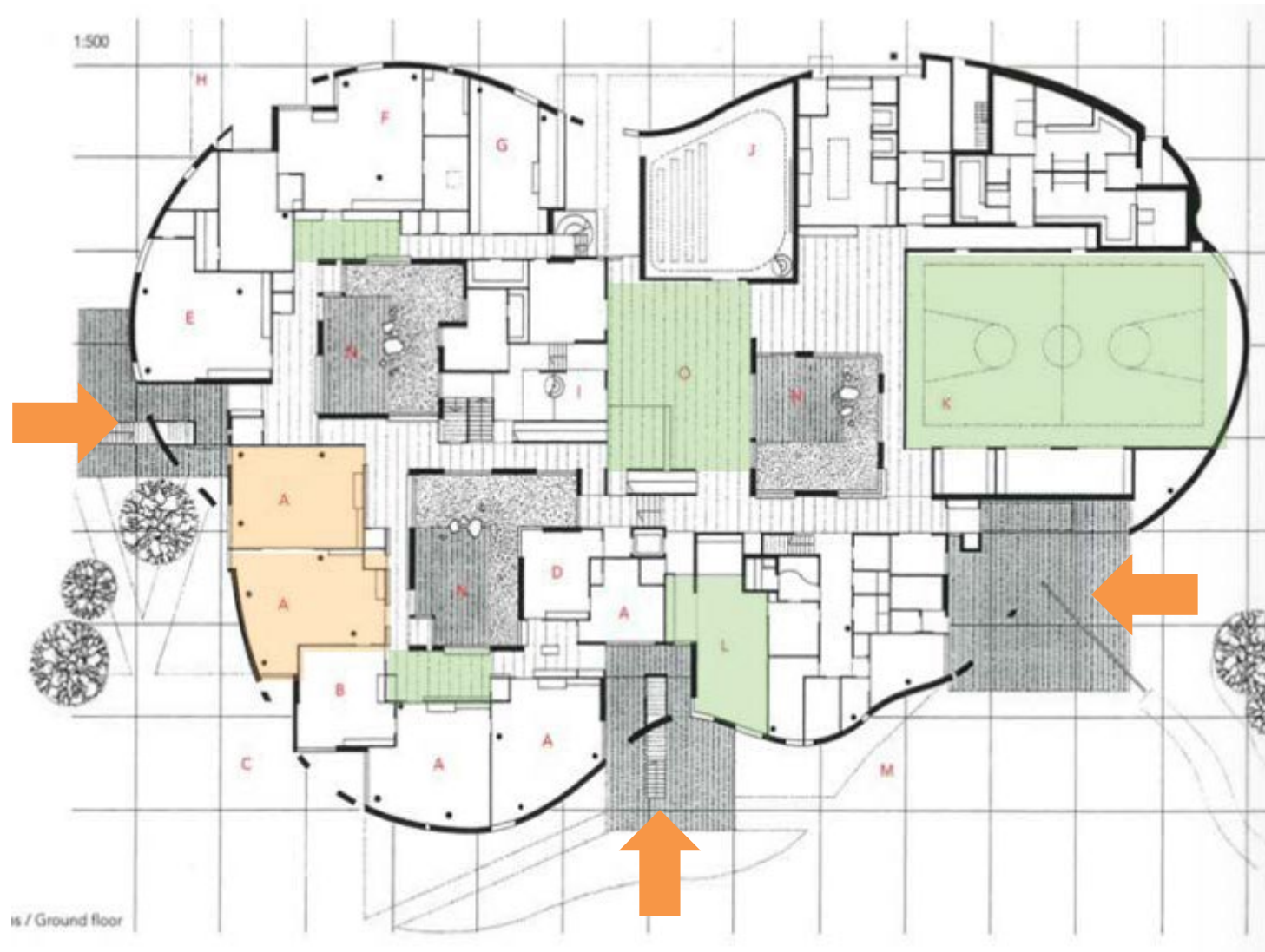
By Arno Savela




Myllyhaka lower-level comprehensive school, Nokia, 1978
Osmo Lappo, architect
480 pupils



-  Convertability
-  Fluidity
-  Entrances for students

Soininen primary school, Helsinki, 1997
Kaira-Lahdelma-Mahlamäki Architects
414 pupils



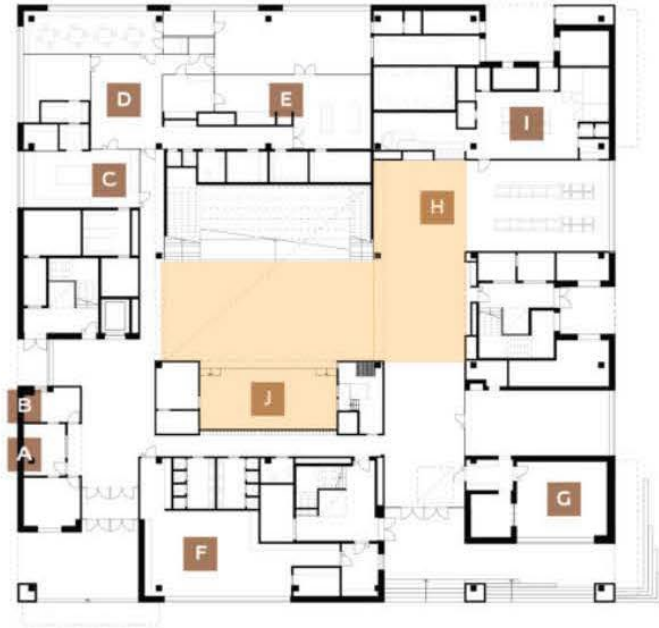
-  Convertability
-  Fluidity
-  Entrances for students

1. floor

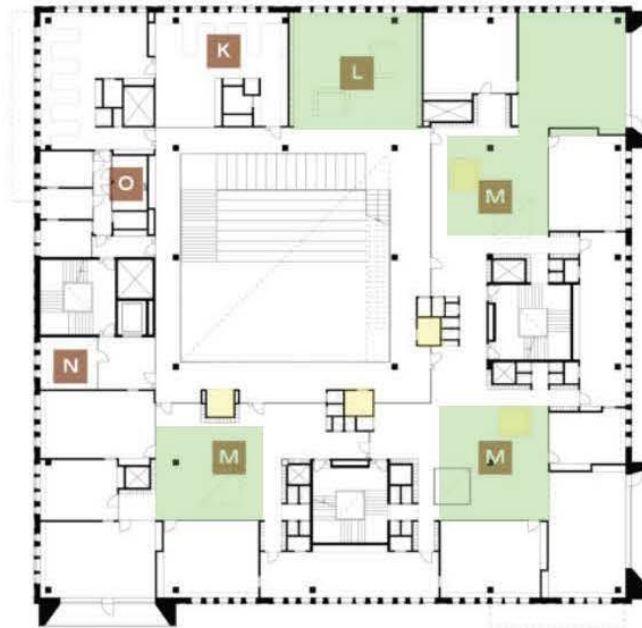
2. floor

Jätkäsaari comprehensive school, Helsinki, 2019

AOR Architects
800 pupils






maantasokerros ground floor



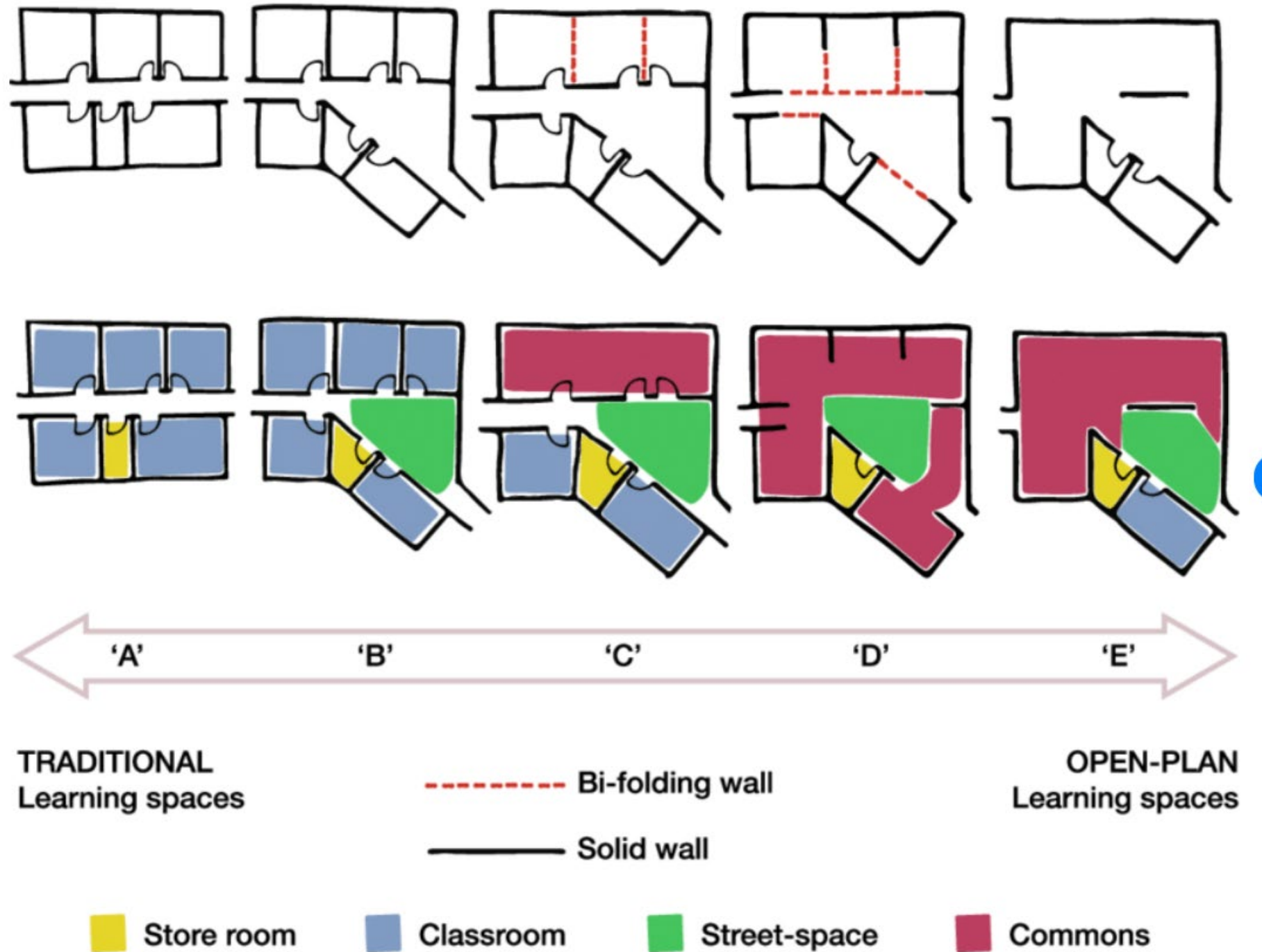
2. kerros first floor



3. kerros second floor

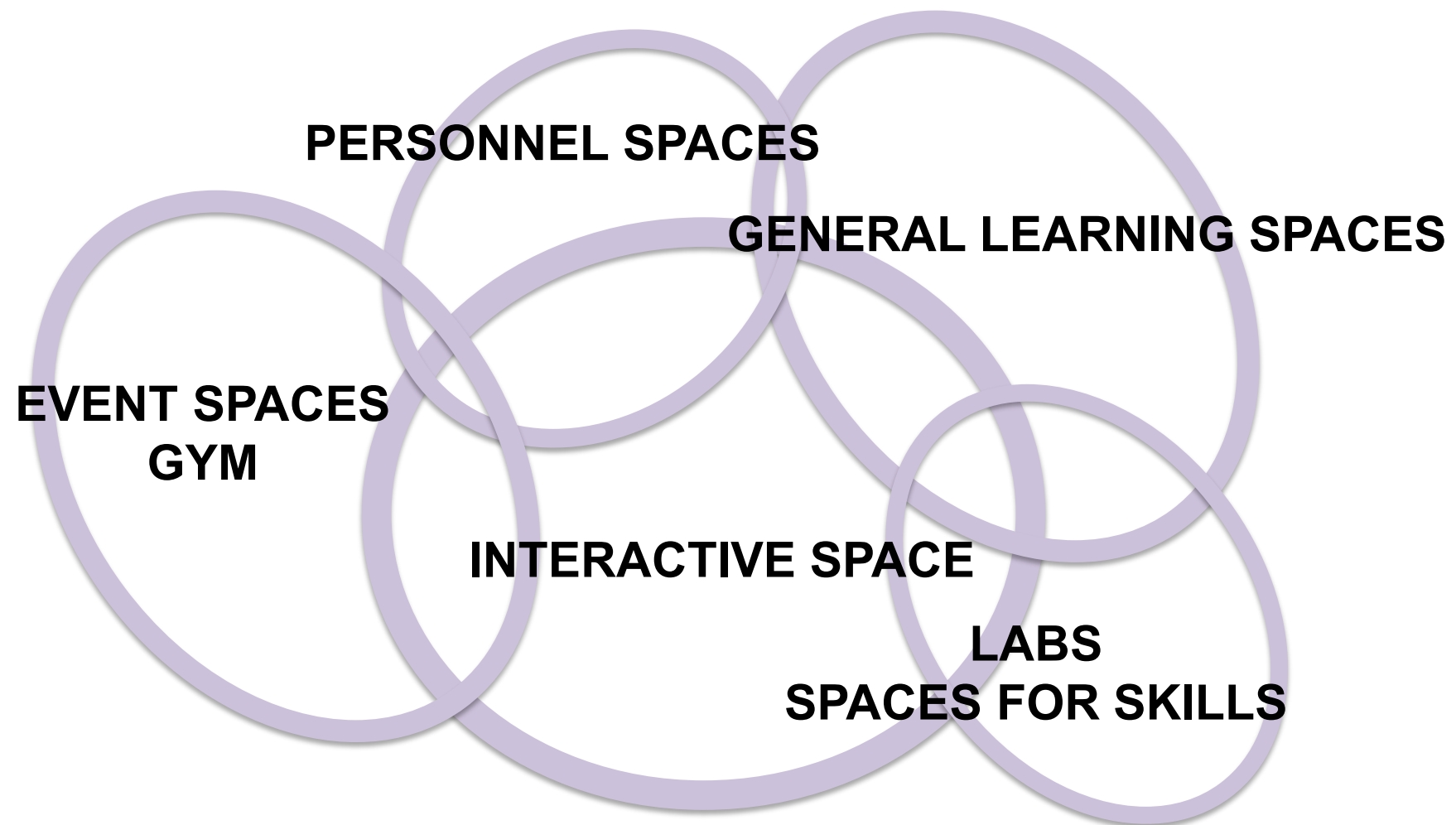
-  Convertability
-  Fluidity
-  Entrances for students

TYPOLOGIES OF SPACE DESIGN



Source: Imms, Cleveland, Fisher (2016)

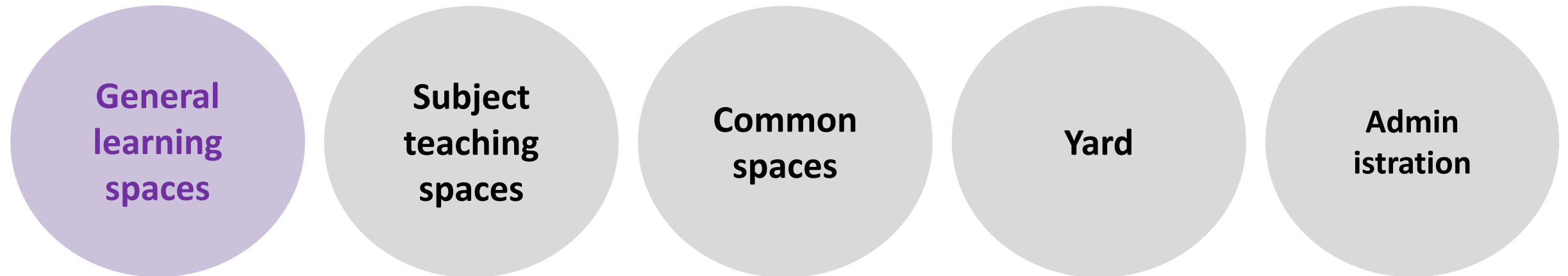
CONCEPT OF EDUCATIONAL BUILDING AS A CITY



- Time and use overlap, hybrid space program
- Multiuse spaces between common spaces
- Urban and informal spaces can be optimized and varied
- **Co-design process with the user is needed**

Learning space units

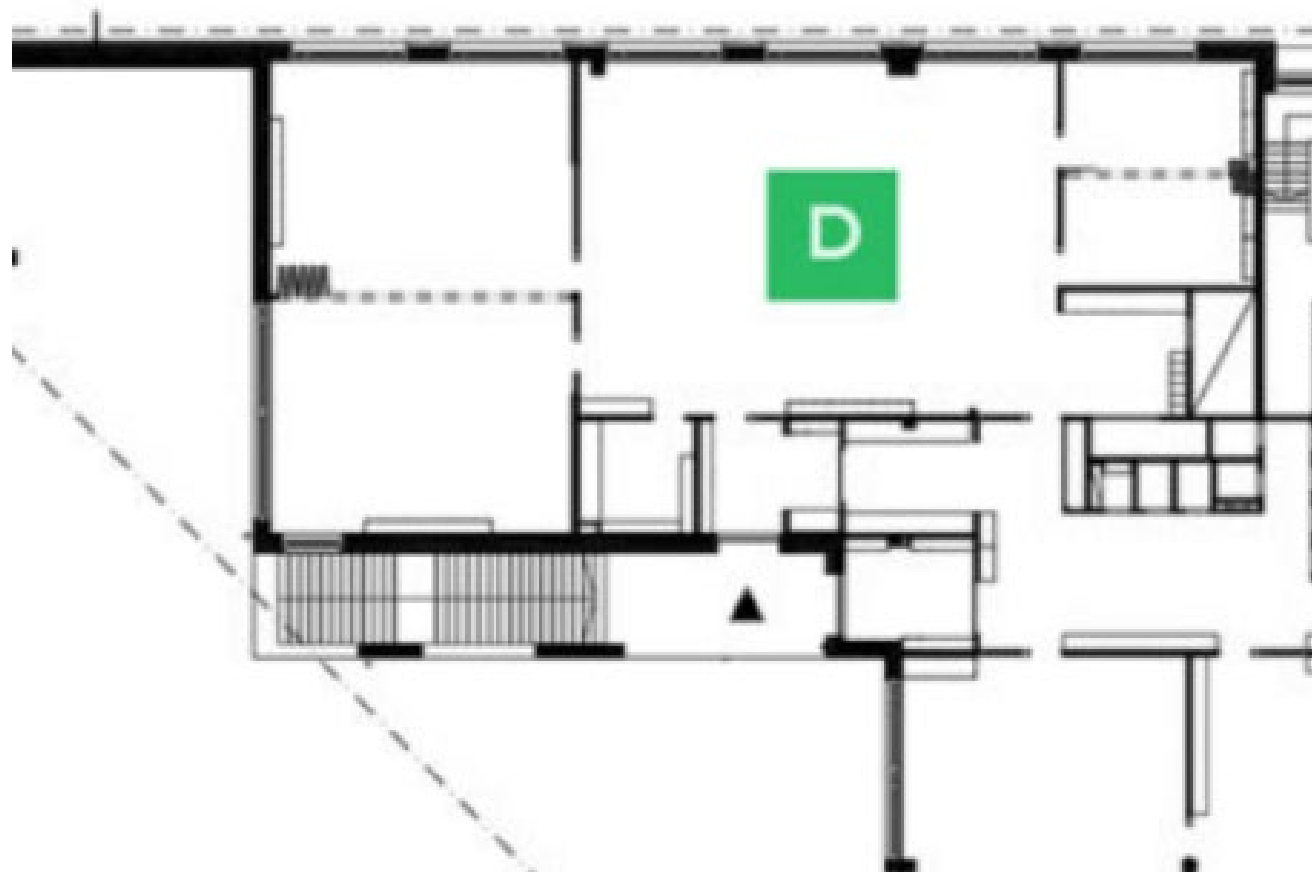
Space program



various types of learning and playing
storages for learning materials

”Block” of general learning spaces in Helsinki

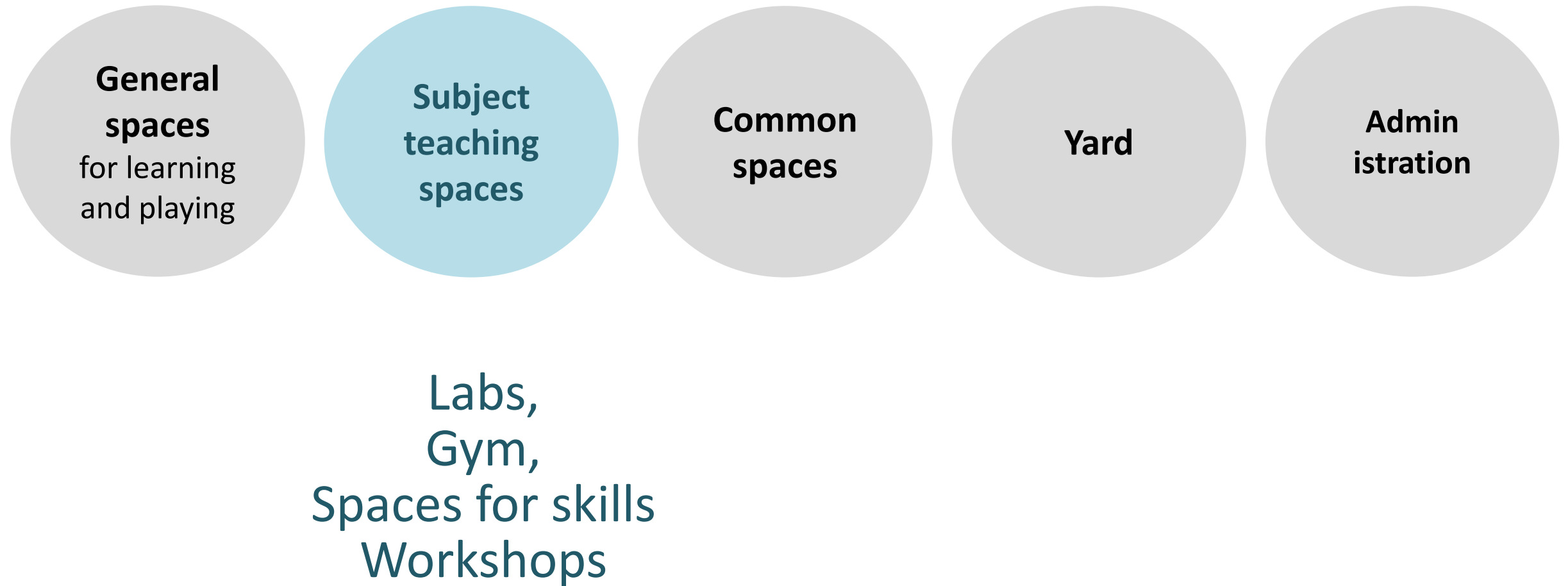
- For app. 130 students
- Several blocks in school building for different year level students
- Combination of adaptive and traditional space elements





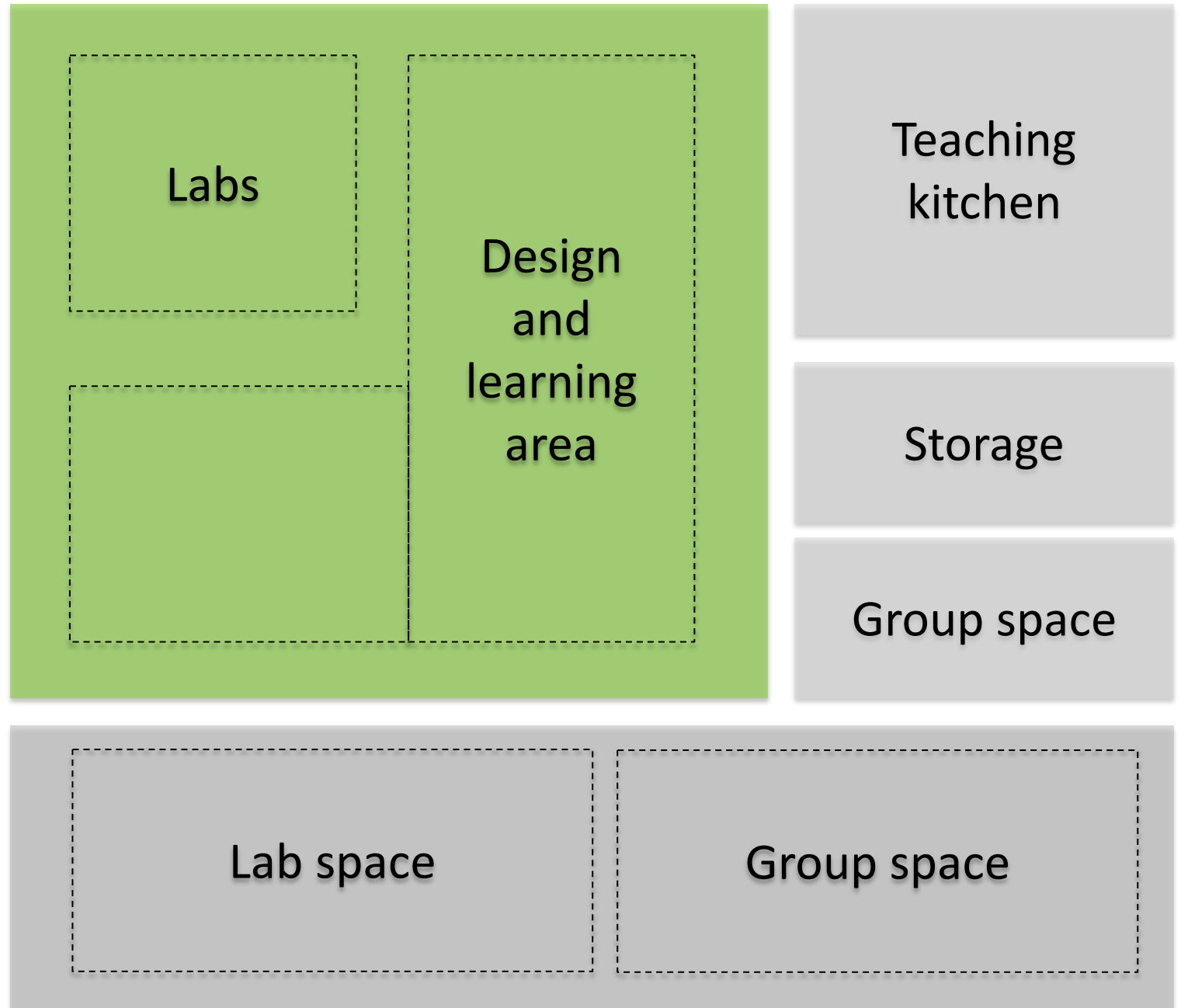
Auditorium

Learning space units



Lab areas

Physics
Chemistry
Domestic science





PRECAMBRIUM
CAMBRIUM

ORDOVICIUM

SILURIUM

DEVONIANUM

PERMIANUM

TRIASSICUM

JURASSICUM

CRETACEUM

TERCIARIUM

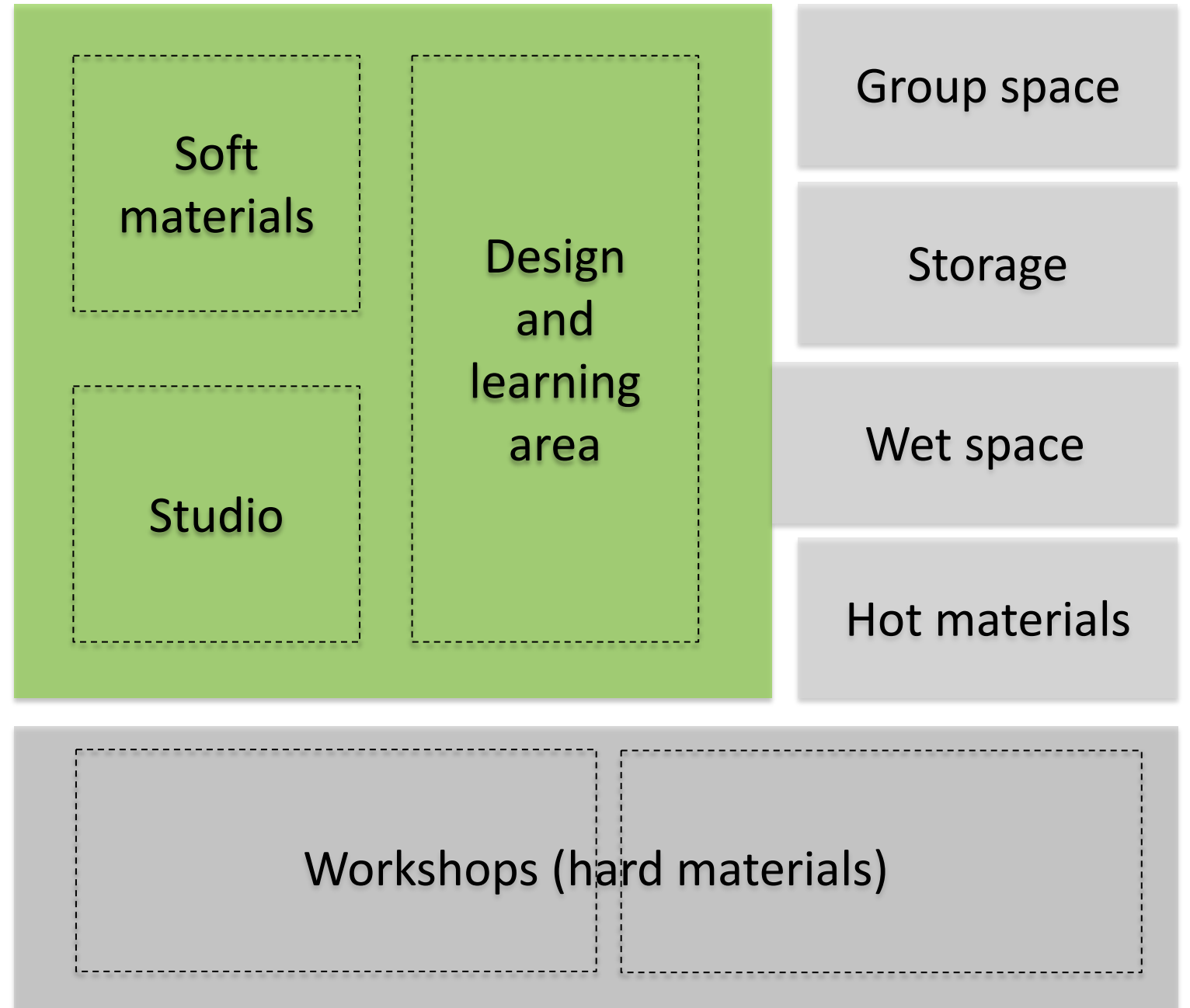
QUATERNARIUM

RECENTIUM

Labs

Spaces for skills

Arts
Textile crafts
Technical crafts





Spaces for skills / workshops

Learning space units



Dining
Toilets
Entrance spaces
Stairs
Spaces in between



Dining & kitchen



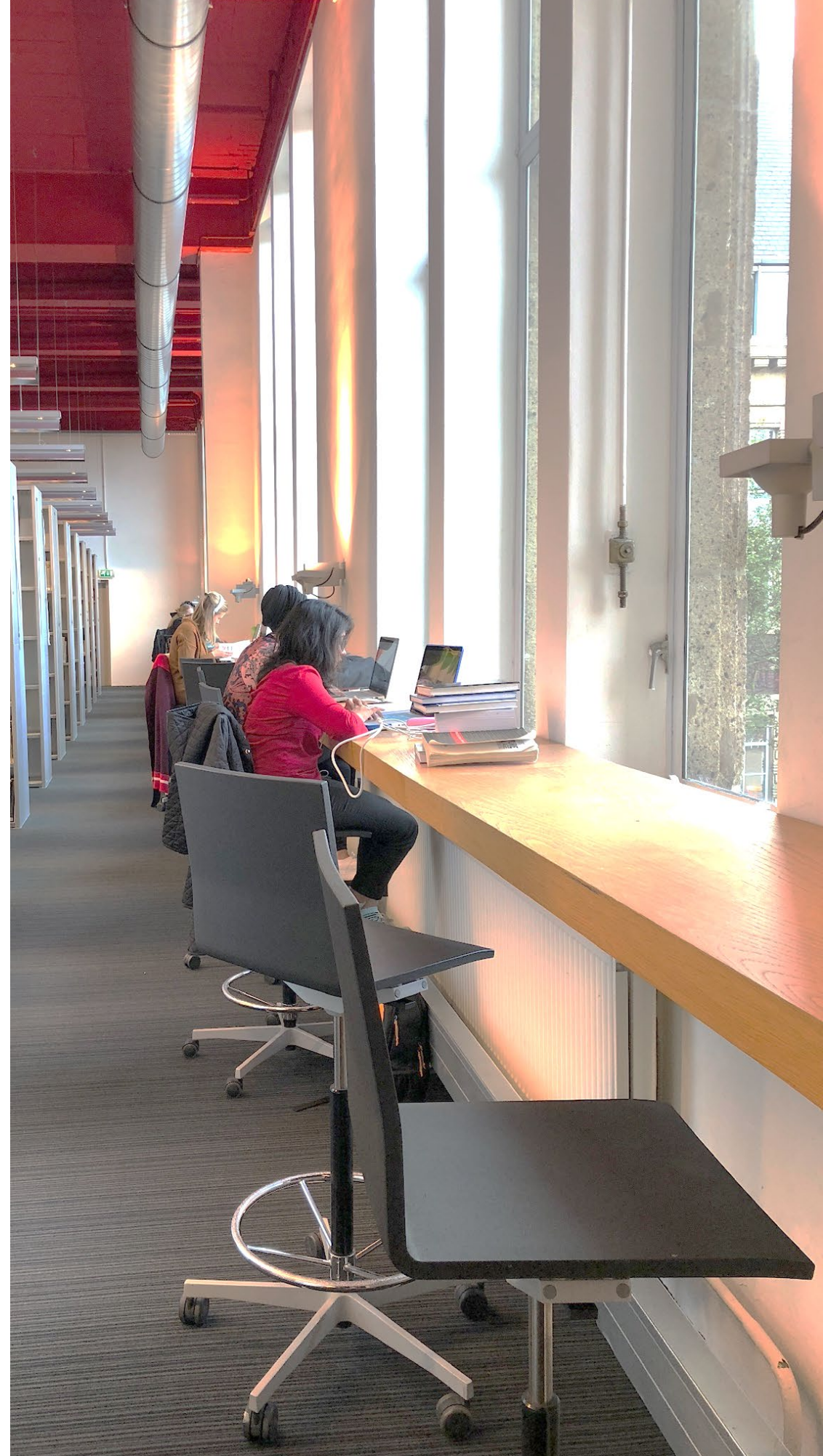
Independent
working

Places
for
retreat

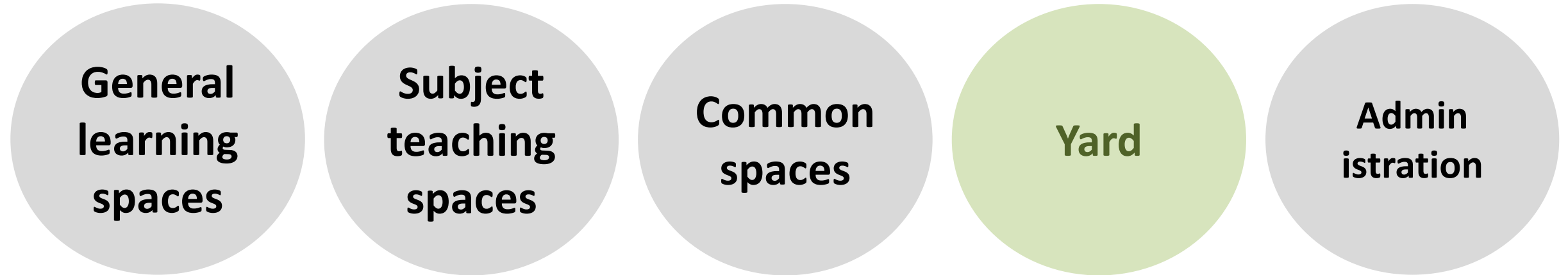




Spaces in between



Learning space units

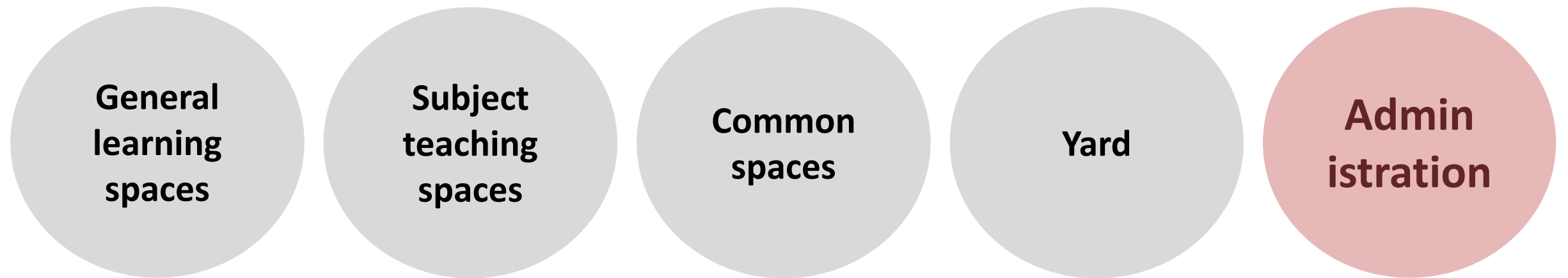


for
playing
and **learning**



Sari Lehtonen | Department of Architecture | ARTS | Aalto University

Learning space units



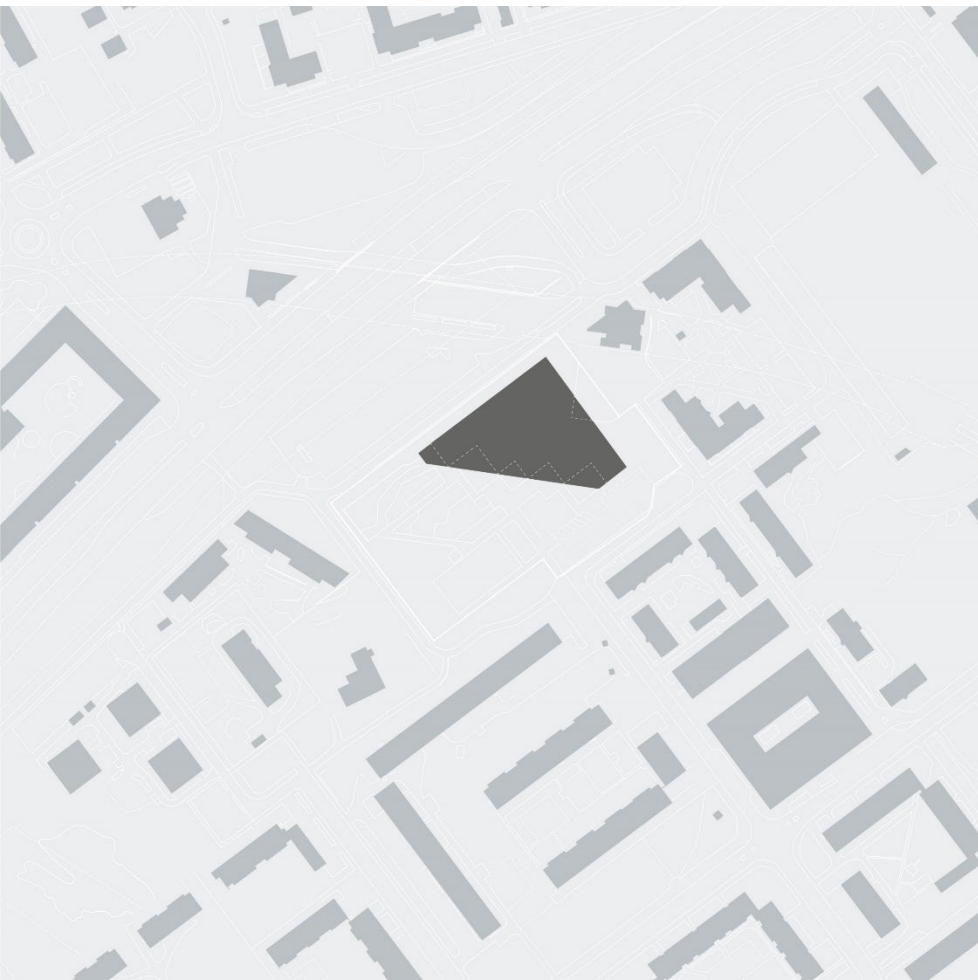
Multispace Office
Meeting and Lounge Room
Staff Social Spaces
Student welfare



Puotila
elementary
school

600 students
Architect: Verstas Architects
Client: City of Helsinki
Co-design process with the users



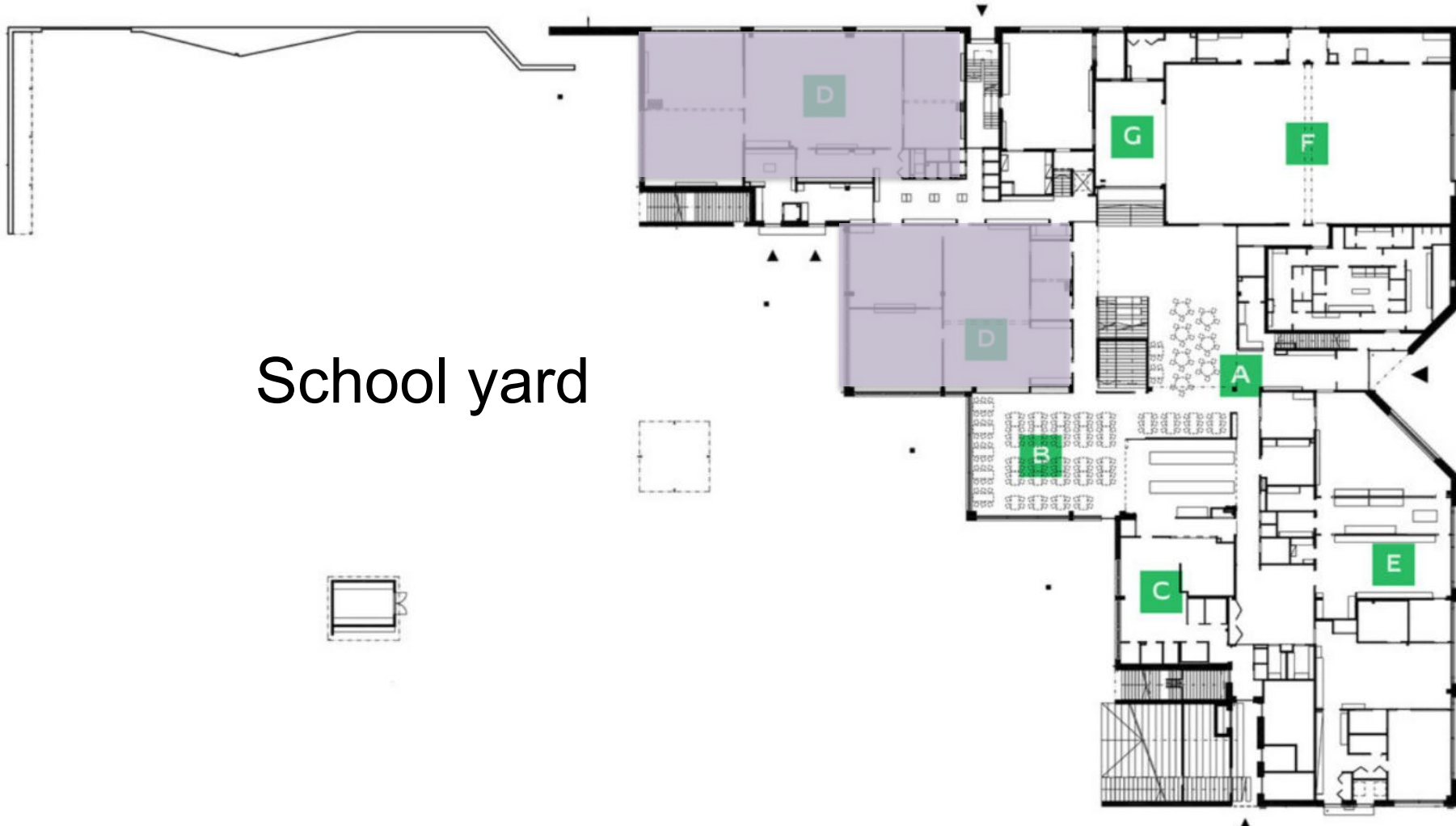


Scaling optimized for the user
Suitable building materials

General learning spaces



2. floor



School yard

1. floor

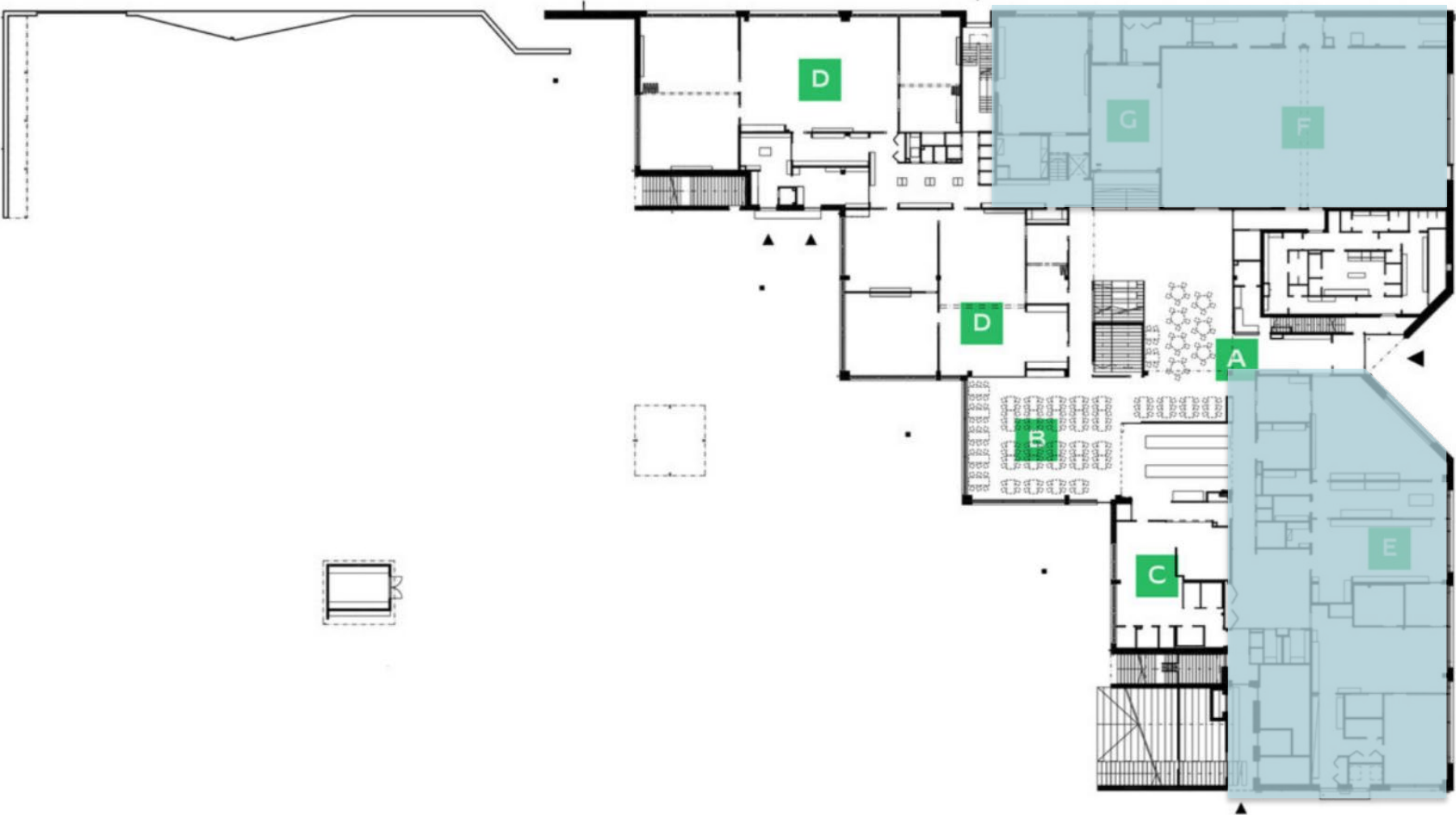
- A aula lobby
- B ruokailu dining hall
- C keittiö kitchen
- D opetustila teaching
- E taito- ja taideaineet crafts spaces
- F liikuntasali sports hall
- G näyttämö stage
- H hallinto administration
- I oppilashuolto pupil welfare



Subject teaching spaces



Music Gym

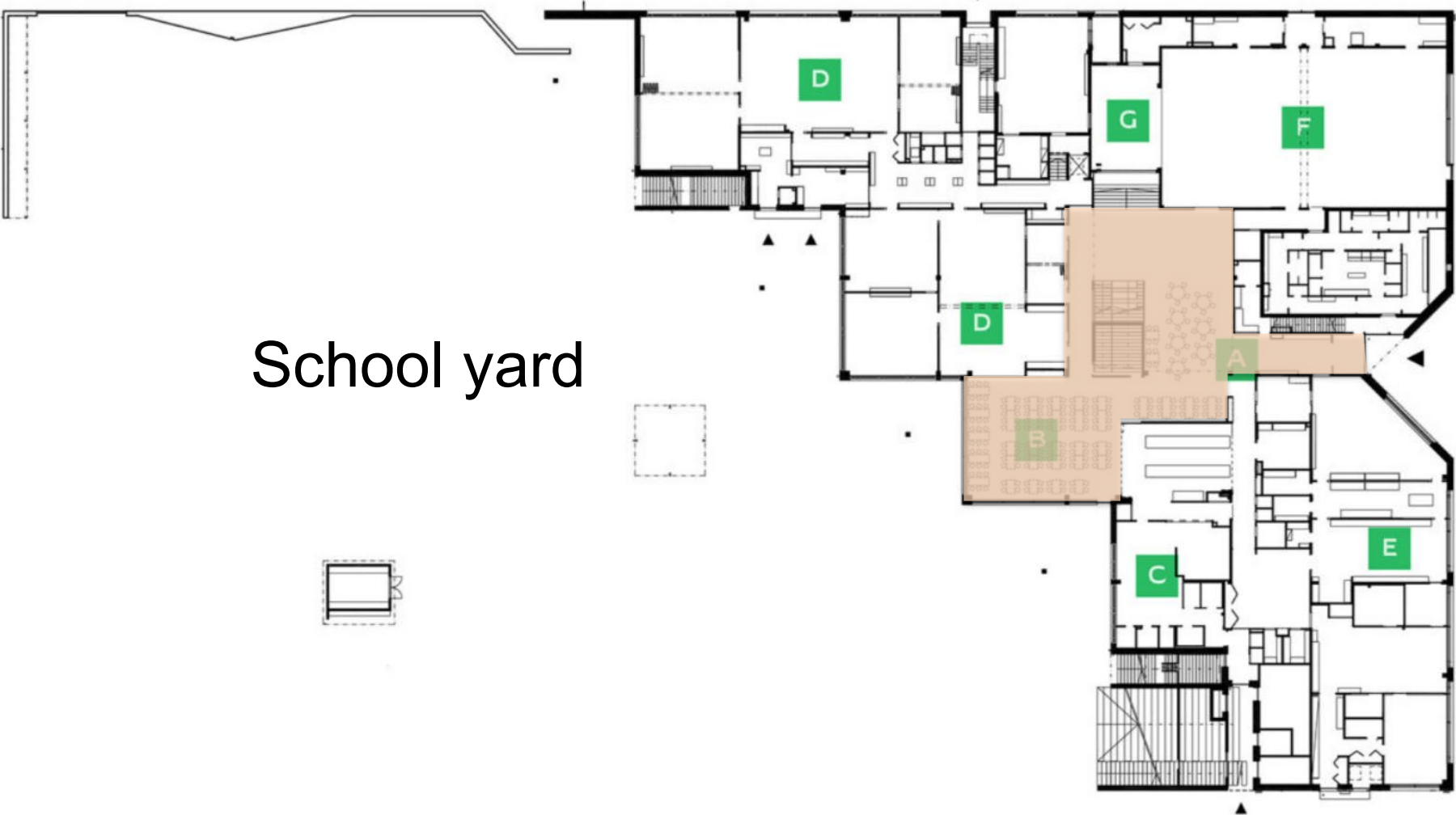


Arts and crafts

1. floor

Common spaces

Dining & communal space



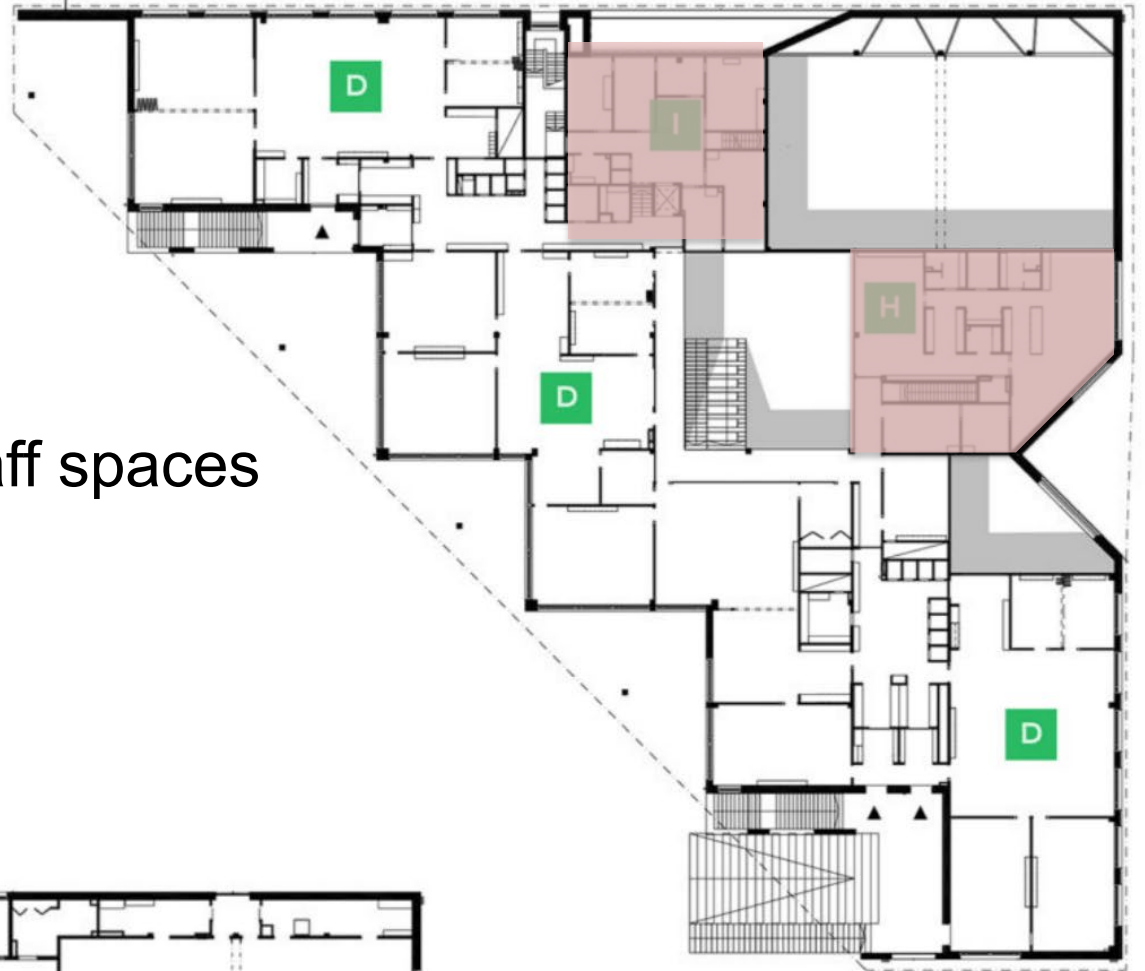
1. floor



Admin
istration

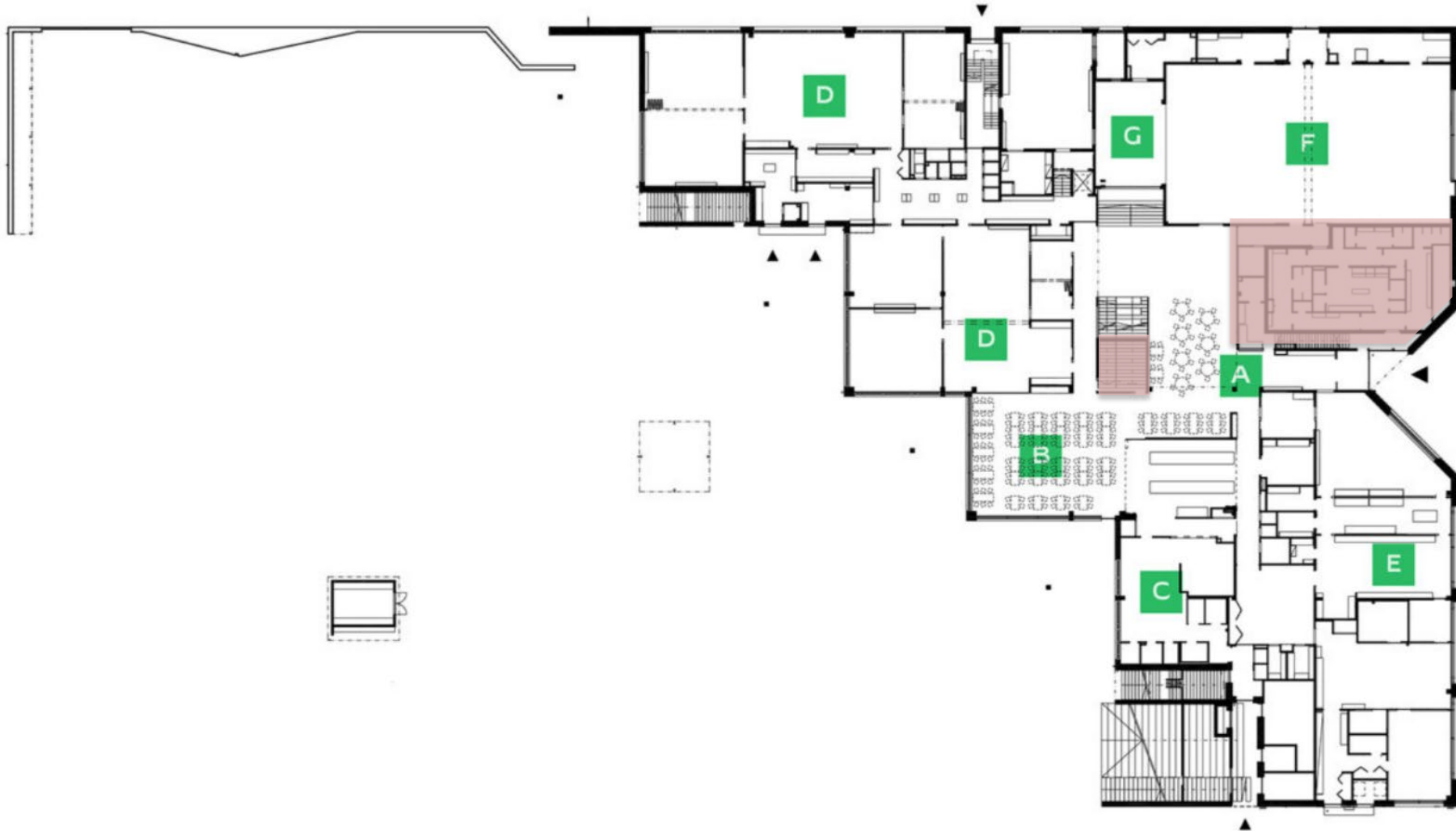
Student
welfare

Staff spaces

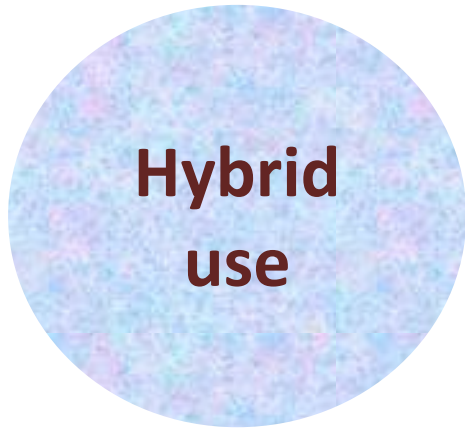


2. floor

Dressing room



1. floor

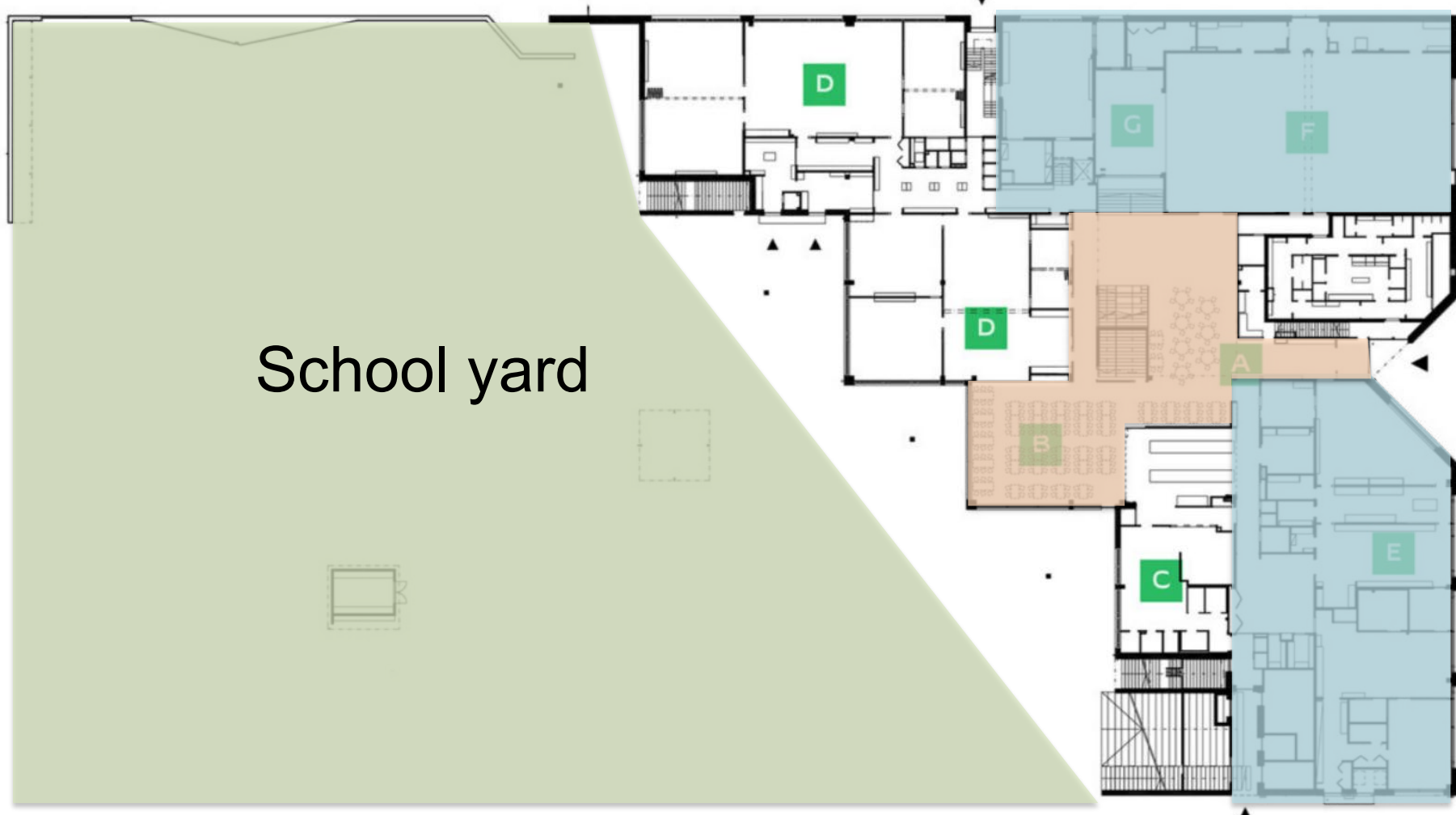


Hybrid
use

Spaces in use outside school hours
What the school building can give to the city?



2. floor



School yard

1. floor



WE DESIGN FOR THE USER!

References

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- Finnish Architectural magazines: editions 3/1978, 5/1995 and 1/2020.

Thank you!

Questions?