

usability of contemporary finnish schools

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Edra40 - Kansas City,
Missouri - May 30, 2009



background

of the study



number of schools (approx.)

basic education: 3 200

upper secondary level: 400

mixed: 40

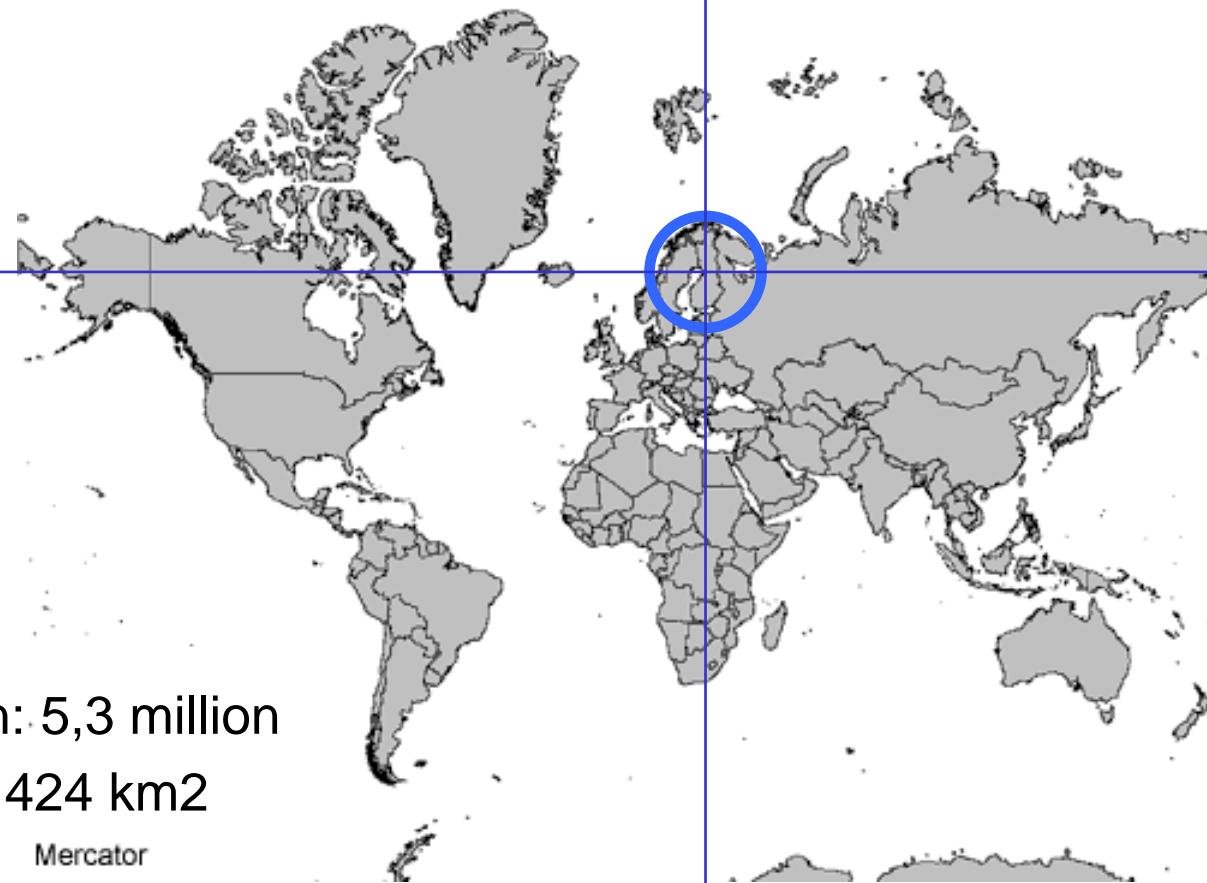
finland

number of pupils (approx.)

basic education: 555 000

upper secondary level: 122 500

mixed: 24 400



finland

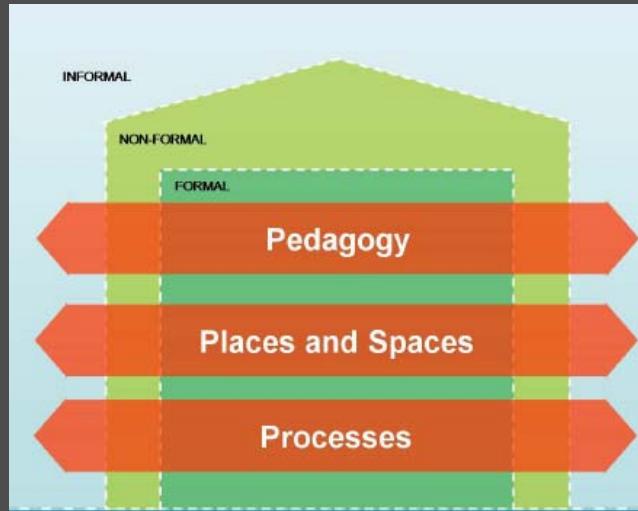
population: 5,3 million

area: 338 424 km²

background

research project InnoArch – places and spaces for learning

Concept Design of InnoSchool



background

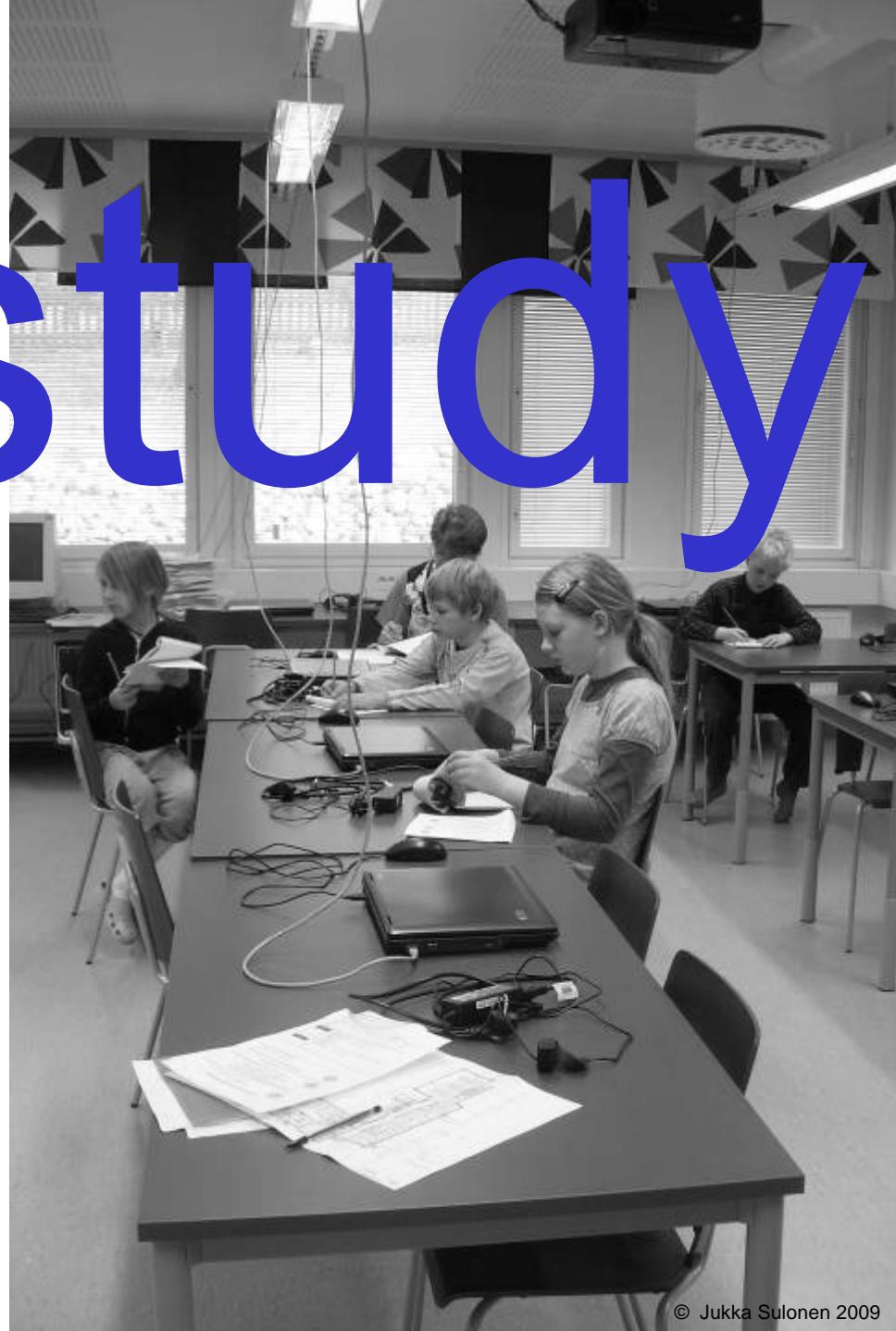
PISA (Programme for International Students Assessment)

new school buildings

STAKES (research of pupils welfare in the schools)

the study

usability of contemporary finnish schools (in progress)



the study questions

- 1. Is there any correlation between a physical learning environment, learning outcomes and comfortableness in a school?**
- 2. How do the users of a school, children and adults, observe their physical learning environment, and are the environmental qualities consciously important at all?**
- 3. What is the correlation between the intentions of users and designers in the school planning?**

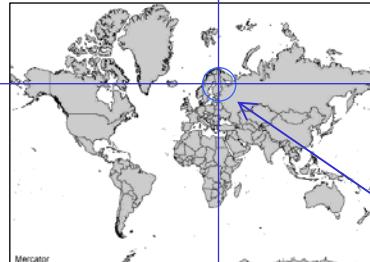
the study

aims

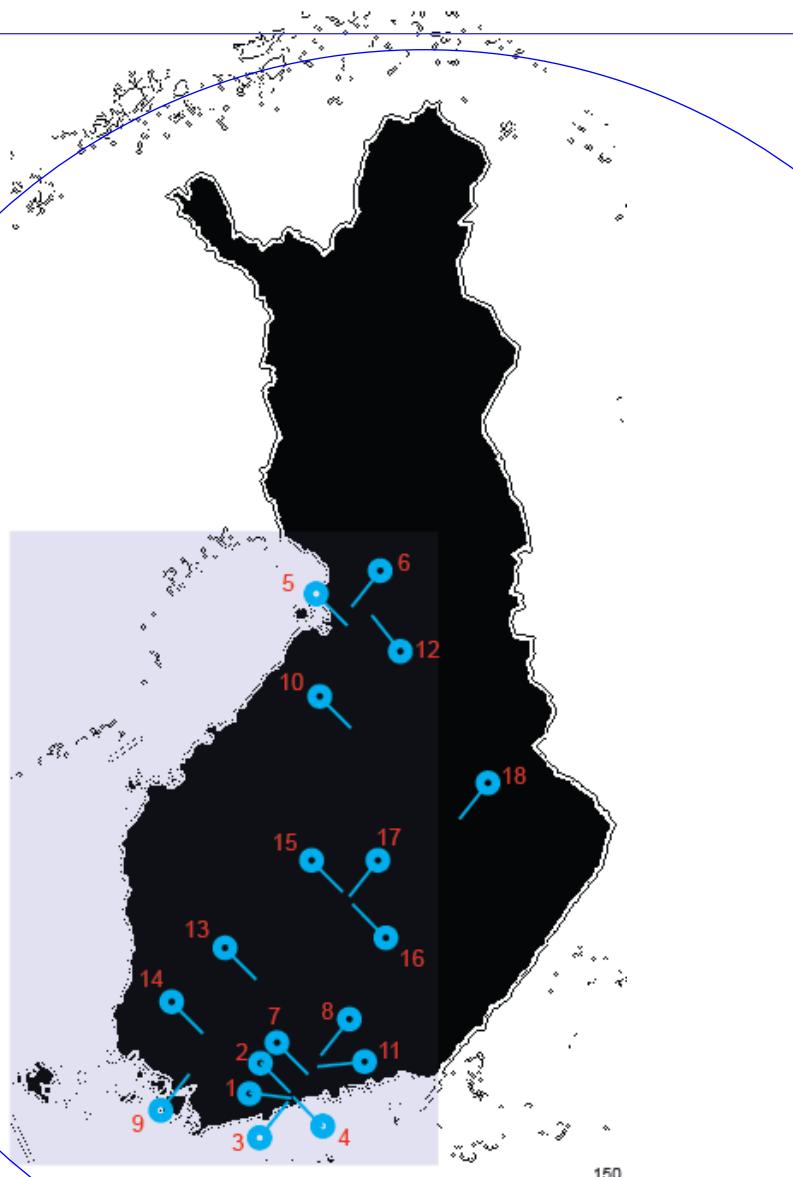
1. to collect data about the usability of contemporary schools for the Finnish National Board of Education to update their planning instructions
2. to collect data for InnoArch aiming to increase the knowledge of the areas where the intentions of the users and the architects meet

the study

the schools

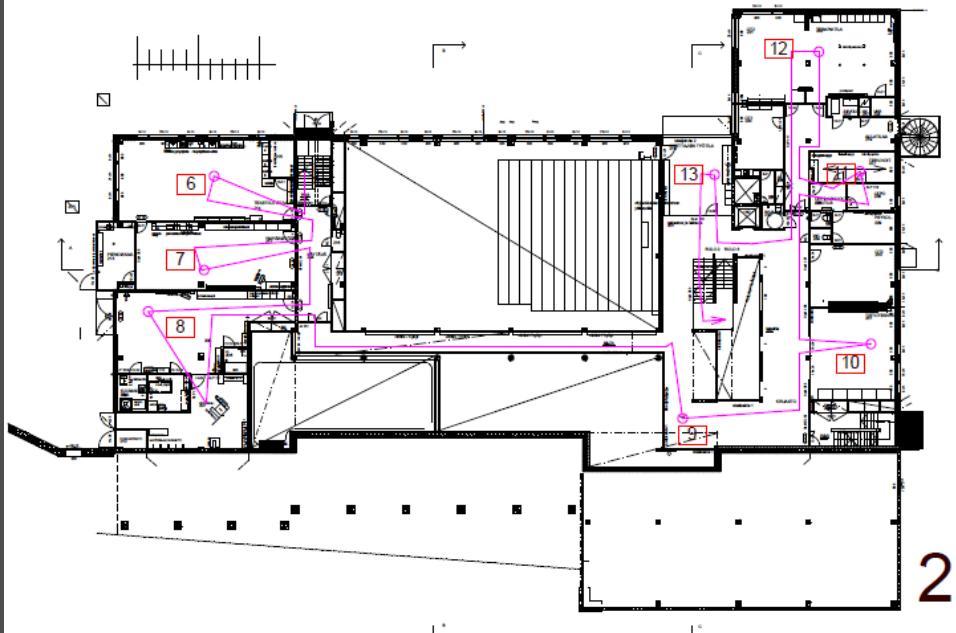


- 18 schools in different parts of Finland
- 14 basic education schools, 2 upper secondary schools, 2 combinations of them
- the material was collected during 2008



the study methods

- 1 architectural plans
- 2 operational information of the schools
- 3 observations,
photographing
- 4 walk-through



theoretical concept of a high quality school

seven criteria of quality

the high quality school....



...is flexible and allows several modes of working and situations of interaction

...is a versatile culture center of the neighbourhood

...increases psychic healthiness and safety

...is an inspiring utility of learning

7

3

6

4

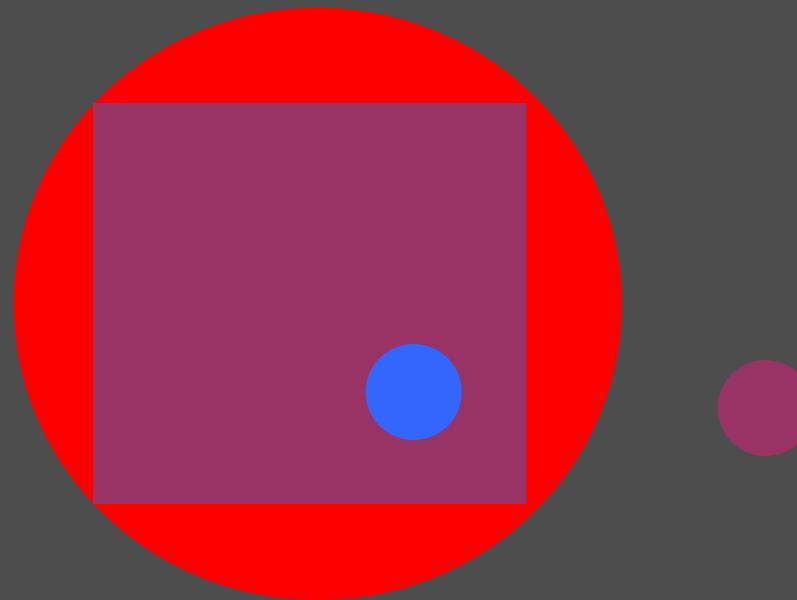
...is correctly measured

...is esthetic and increases psychical and social well-being

5

...supports sustainability

criteria in practice

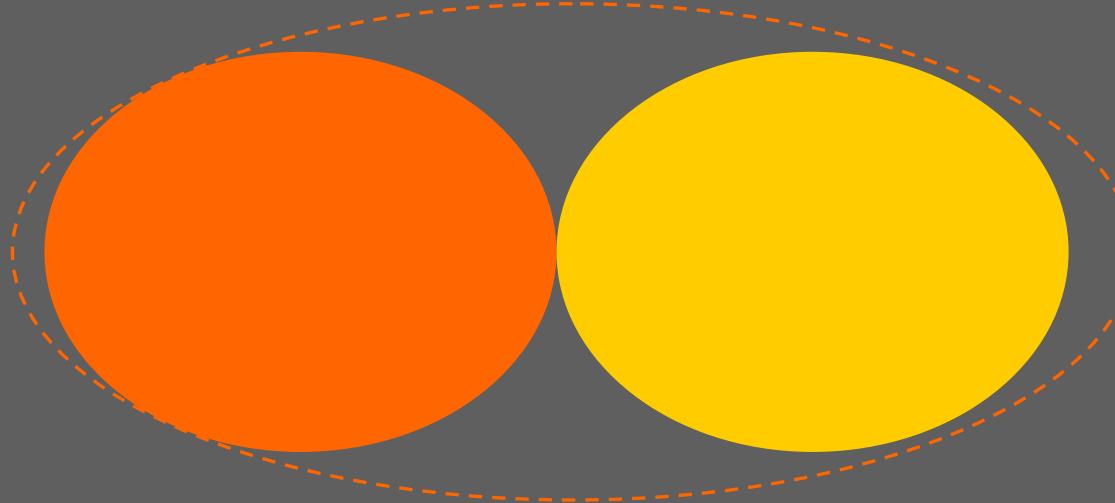


flexibility and
adaptability

criteria in practice

flexibility of space

combining spaces to suit different teaching methods



dividing spaces to suit different teaching methods



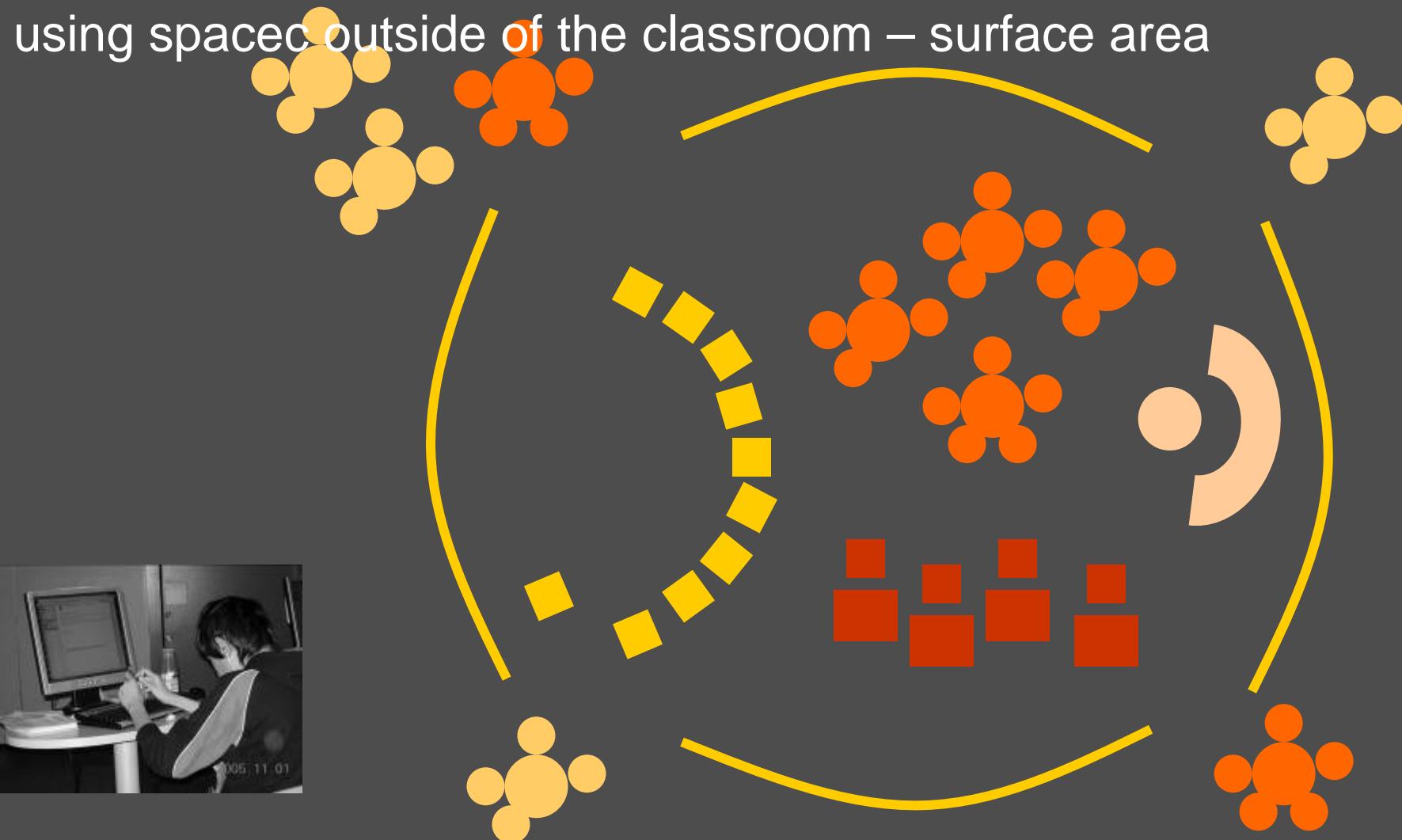
criteria in practice

flexibility of space



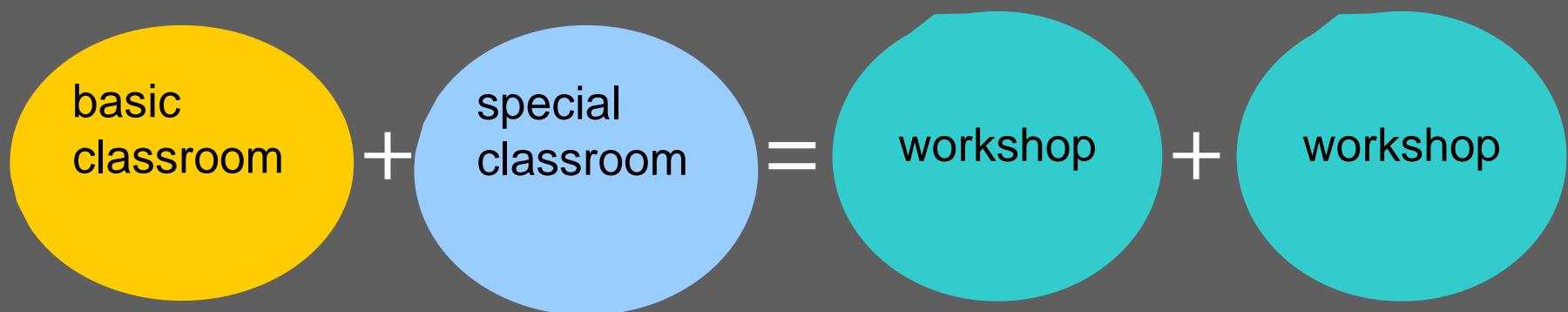
furnishing spaces to suit different teaching methods

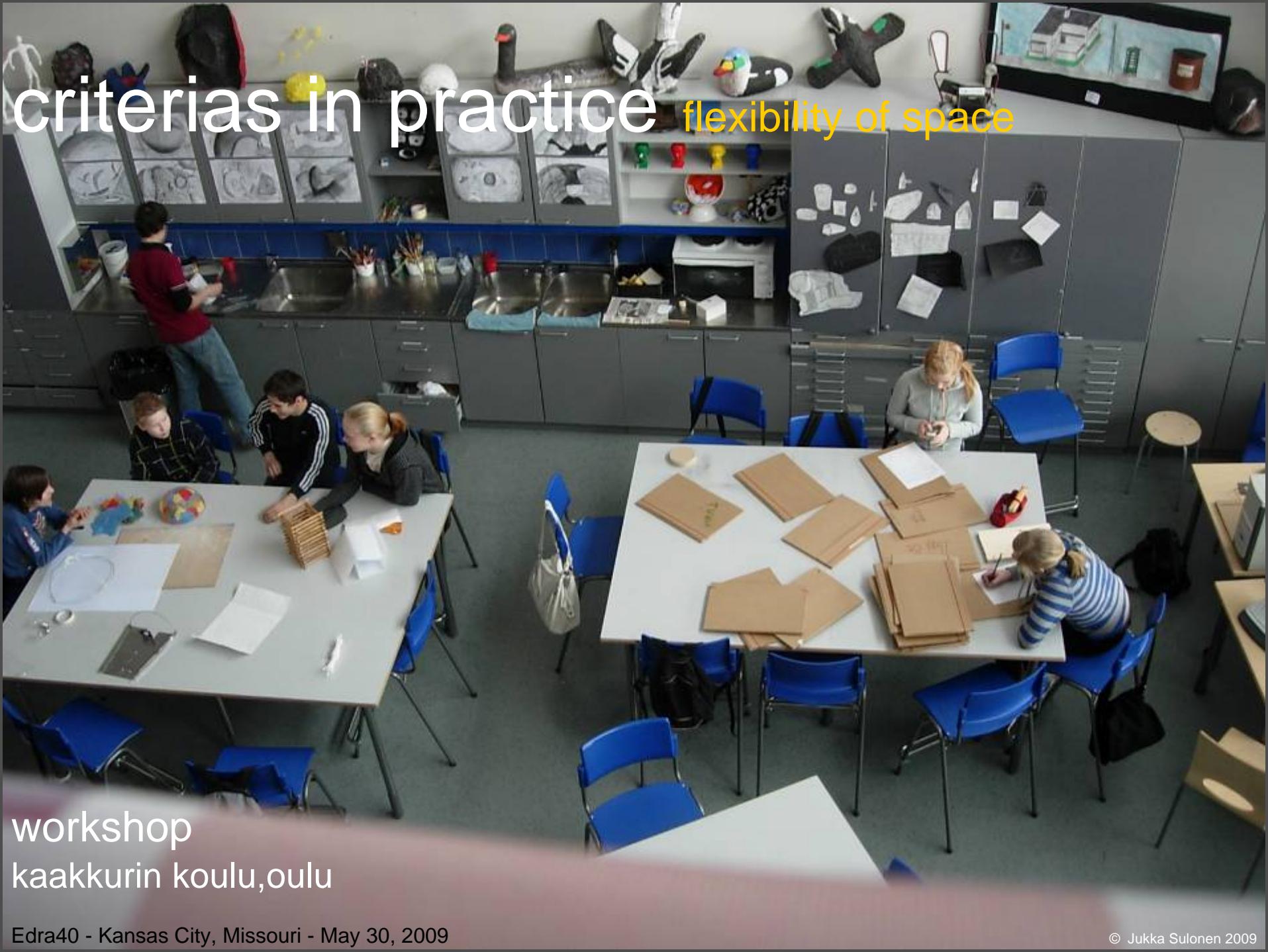
using spacec outside of the classroom – surface area



criteria in practice **flexibility of space**

equipping and furnishing the basic classroom and the special classroom as a multifunctional workshop doesn't increase the need of the surface area





criterias in practice

flexibility of space

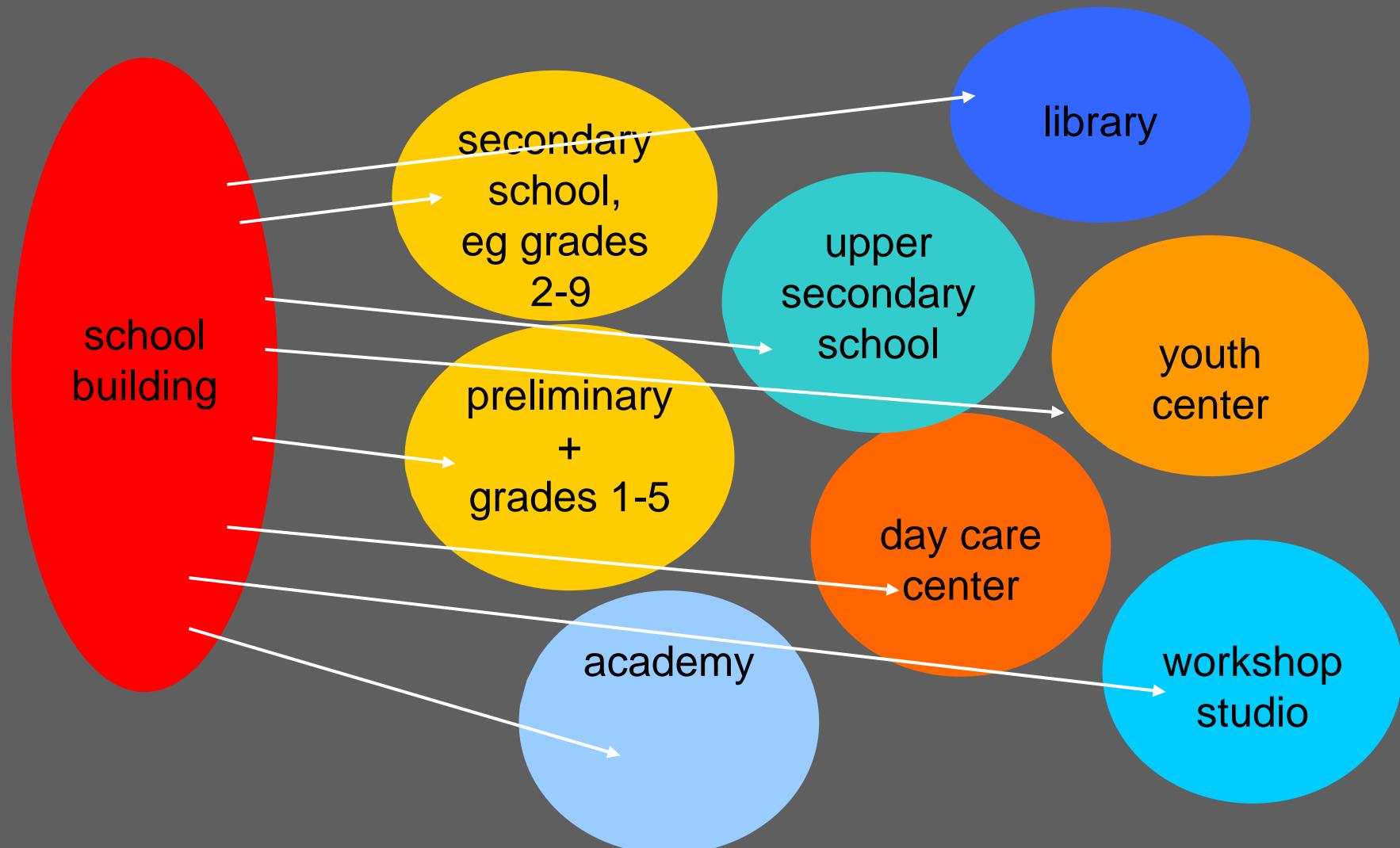
workshop
kaakkurin koulu, oulu

criterias in practice flexibility of space

possibilities of technology

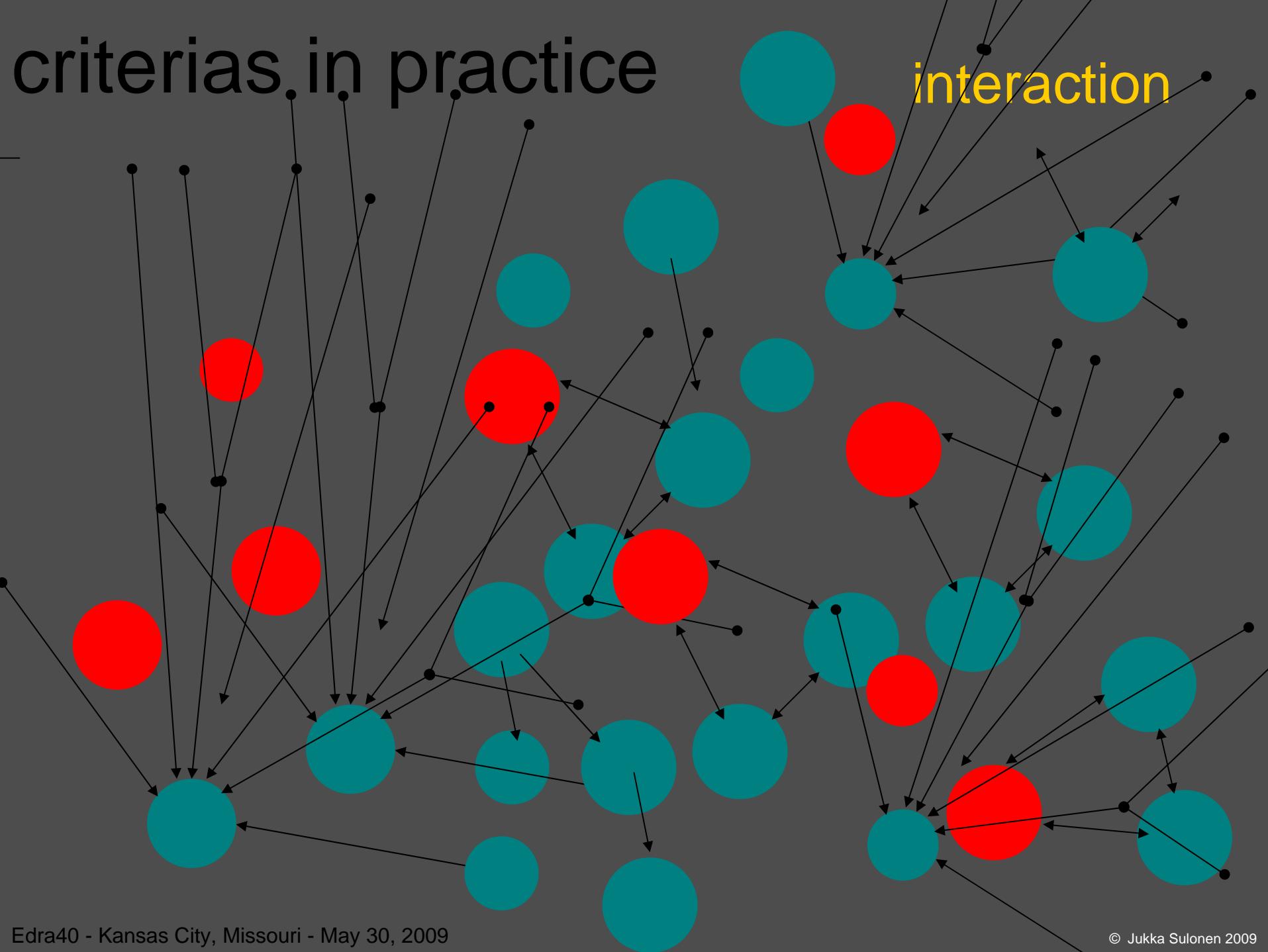
criteria in practice adaptability of the building

allows to change the size or use of space in the future



criterias in practice

interaction



criteria in practice



interaction with the neighbourhood

school as a place of services and well-being in it's community

sports facilities

auditory

school building

library

day care center

canteen



criteria in practice



interaction with the neighbourhood

the neighbourhood of the school as an informal learning environment



criteria in practice

interaction inside of the school



KIVA point =

place for meeting
place for learning
place for recreation
place for

criteria in practice - interaction inside of the school

the KIVA point beside the circulation area



juankosken koulukeskus, juankoski

criteria in practice -
interaction inside of the school

the KIVA point
at the end
of the corridor

puuppolan koulu,
jyväskylä



criteria in practice -
interaction inside of the school

the school theatre foyer as the KIVA point

kilonpuiston koulu,
espoo



criteria in practice -
interaction inside of the school

the KIVA point in the library

laivakankaan koulu,
kiiminki

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criteria in practice -
interaction inside of the school

the KIVA point

in the center of the
classroom cluster

kaakkurin koulu, oulu



criteria in practice - interaction inside of the school

the KIVA point - transparency

allows the connection between the classroom and the KIVA



photo: Oliver Whitehead

yymmerstan koulu, espoo

criteria in practice

a school of high quality

- is esthetically pleasant
- creates identity
- prevents bullying
- creates sense of togetherness
- allows possibility to privacy

yymmerstan koulu, espoo

esthetic



photo: Oliver Whitehead

esthetic

colours, light, art...

jokelan koulu,
jyväskylä



esthetic

materials, smells...

kaakkurin koulu, oulu



criteria in practice - esthetic

esthetic

= comfortableness



yymmerstan koulu, espoo

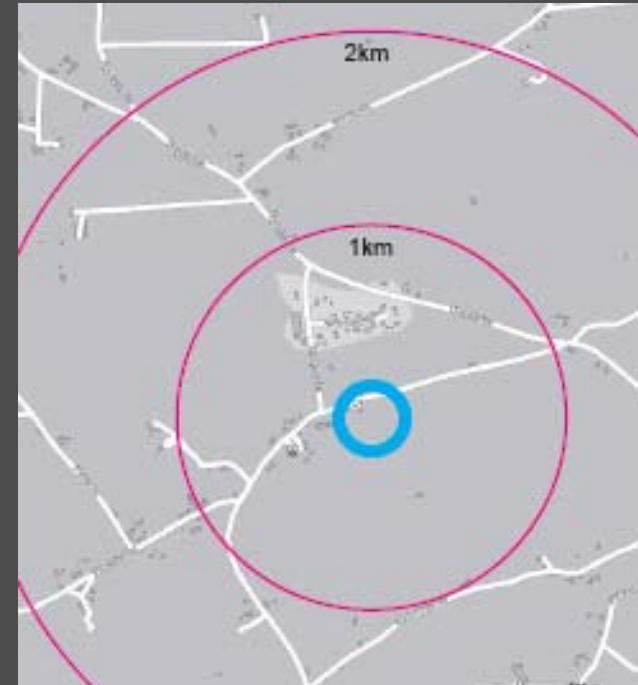
findings

from the study -
a few points

findings

the neighbourhood

a school in a suburban area and in a village



center as a school



school as a center

findings₂

trend of the schemes



findings²



trend of the schemes



kaakkurin koulu, oulu

findings 3



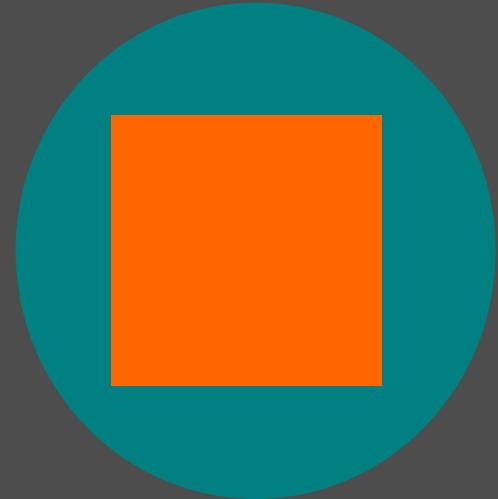
the future of the library

kaakkurin koulu, oulu

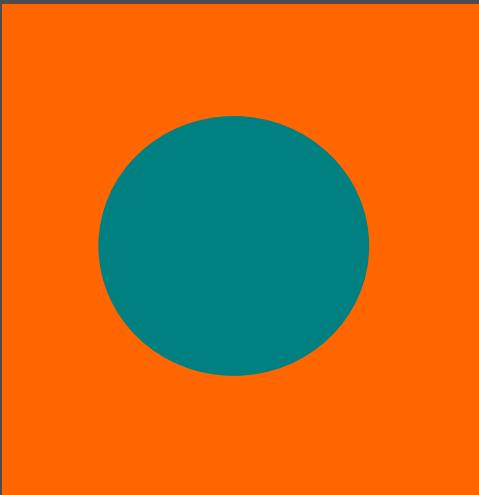
findings ₄

intentions

the intentions of architects
&
the intentions of pedagogues



variations

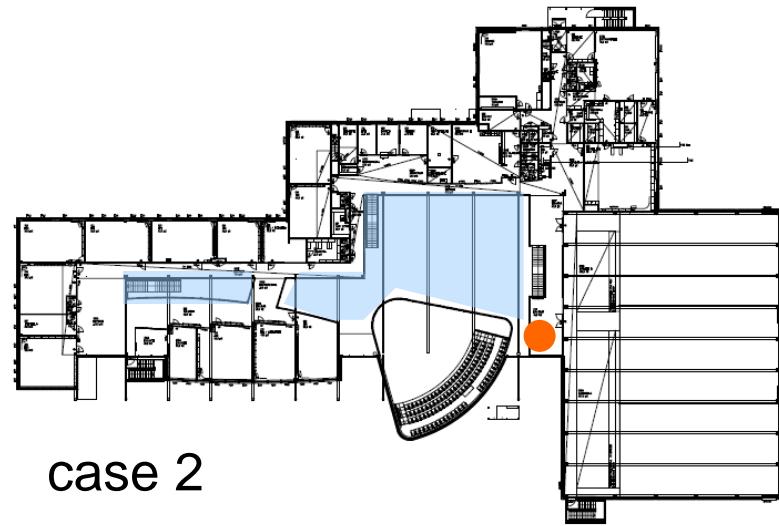
- 
- On the left side of the slide, there is a vertical orange rectangle. In the center of this rectangle is a teal circle, which is identical in color and shape to the one inside the larger teal circle on the right.
1. the intentions of pedagogues goes over the intentions of architects
 2. users don't take advantage of the possibilities of the architecture

findings ₄

intentions - two cases



case 1



case 2

two storey high central area

● KIVA point

	case 1	case 2
Tot building area:	6973	7250
Pupils	600	400
Grades	3-9	7-9

ndings⁴

intentions – case 1



the intentions of pedagogues goes
over the intentions of architects

kotimäen koulu
kaarina

findings 4

intentions – case 1

the KIVA point beside the circulation area



kotimäen koulu,
kaarina

findings 4

intentions –case 1



the circulation areas as learning places

kotimäen koulu,
kaarina

findings ₄

intentions – case 1

transparency



kotimäen koulu,
kaarina

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findings⁴ intentions – case 1

multifunctional
furniture

kotimäen koulu,
kaarina



findings ⁴

intentions – case 1

the school and the
neighbourhood -
the youth centre in
the school building

kotimäen koulu,
kaarina



findings ₄

intentions – case 1

the school and the neighbourhood - the public library in the school building



findings ₄

intentions – case 2

users don't take full advantage of the possibilities of the architecture



pitkäjärven koulu kangasala

findings ⁴

intentions – case 2

library atheneum and
the potential place for
KIVA



pitkäjärven koulu,
kangasala

findings⁴ intentions – case 2

the KIVA – points?

the lack of the places for
recreation, learning....

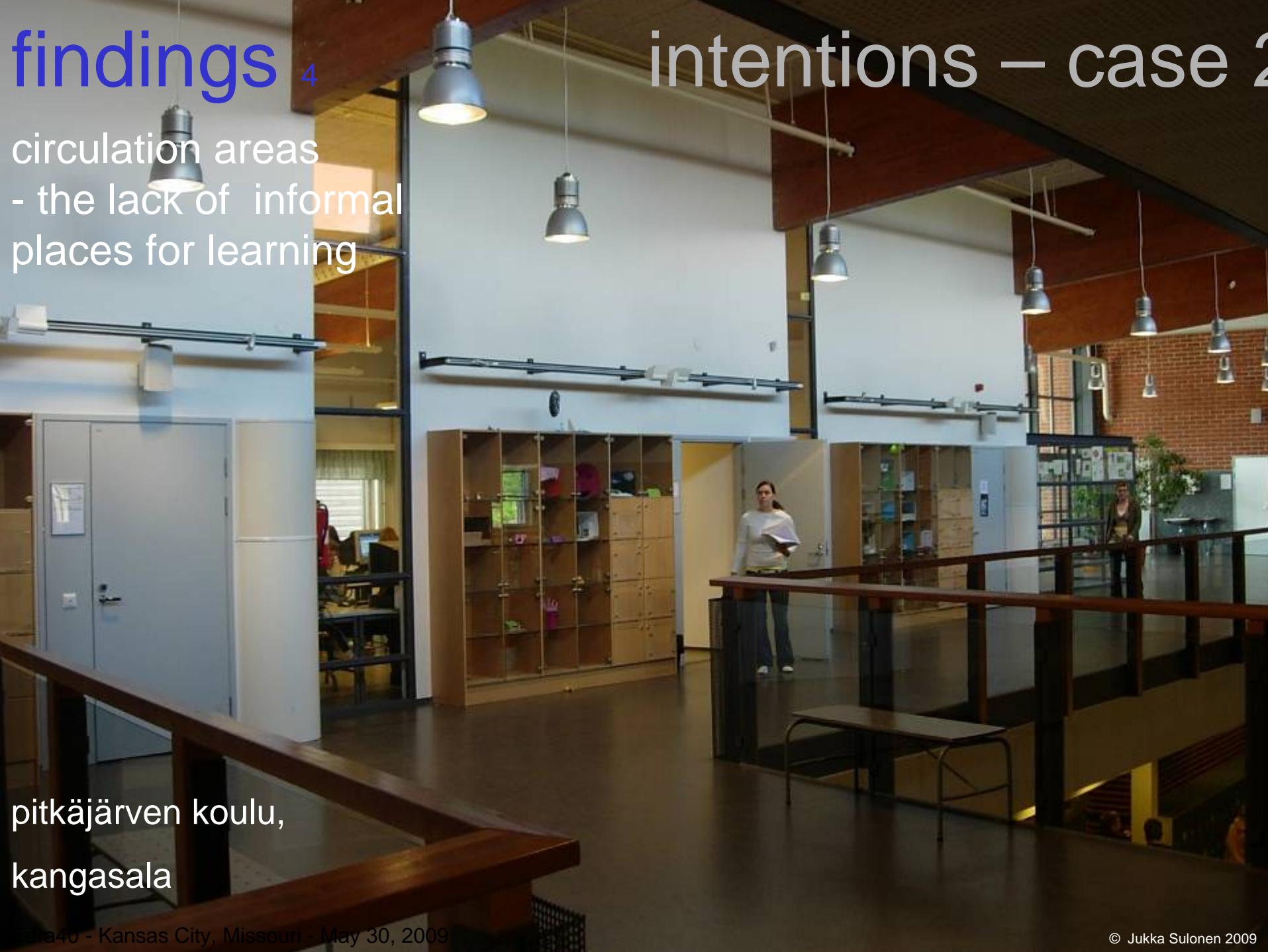
pitkäjärven koulu,
kangasala



findings ⁴

circulation areas

- the lack of informal places for learning



pitkäjärven koulu,
kangasala

intentions – case 2

findings ₄

intentions – case 2

the school and the neighbourhood –
places for sports, adult studying, assembly....



pitkäjärven koulu, kangasala

preliminary

conclusions



conclusion

children

as the evaluators of the
environment !

conclusion

correlation

- between the intentions of users and designers in the school planning
- between a physical learning environment and comfortableness

conclusion

importance

of the environmental qualities



thank you



yymmerstan koulu, espoo