Evaluating effective learning environments:
the OECD Learning Environments Evaluation Programme [LEEP]

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Torniamo a Scuola | Back to School
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OECD
BETTER POLICIES FOR BETTER LIVES

Agenda: Topics covered in this presentation

- What is LEEP
- LEEP Questionnaire development – LEEP Module field trial
- Earthquake Safety for Schools
- UN Sustainable Development Goals [SDGs]
- Long term vision and strategy

What is LEEP

What is LEEP

- **LEARNING ENVIRONMENTS EVALUATION PROGRAMME (LEEP)** was launched in 2013 and it seeks to broaden and re-focus the work of the OECD Centre for Effective Learning Environments (CELE) by examining the relationship between a range of policy levers that shape the learning environment and educational and other outcomes.
- **MISSION:** "To produce instruments and analyses that inform school leaders, researchers, designers, policymakers and others about how investments in learning environments, including educational spaces and different technologies, translate into improved learning, health, social and well-being outcomes, leading to more efficient use of education resources."

Definitions & objective

Objective:

- To develop the **evidence base** for how the physical learning environment* impacts on learning by continuing the implementation of the Learning Environments Evaluation Programme (LEEP) evaluation methodology and carry out analysis of existing research, data and literature.
- To create **best practice guidelines supported by toolkits** to assist OECD countries in developing physical learning environments that meet the needs of 21st century learning and guide investment decisions.

*A physical learning environment is a term used to describe the interplay between the physical resources and complex learning, social, online, and other environments.

The 3 dimensions defined by LEEP

The **factors** that lead to successful education outcomes include **3 dimensions** defined by LEEP:

i) achieving effective learning environments (effectiveness),
ii) enabling more efficient use of space with regard to resource and space planning, use and management (efficiency), and
iii) providing sufficient to meet the minimum requirements to ensure users' comfort, access, health, safety and security (sufficiency).

Effectiveness, Efficiency, Sufficiency

Educational effectiveness: the ability of a school or school system to adequately **accomplish its stated education objectives**. Studies of educational effectiveness analyse whether specific resource inputs have positive effects on outputs, broadly defined (OECD, 2013c).

Educational efficiency: the achievement of stated education objectives **at the lowest possible cost**. In other words, efficiency is effectiveness plus the additional requirement that this is achieved in the least expensive manner (OECD, 2013c).

Educational sufficiency: the baseline components of the built environment which are considered **necessary conditions** for providing the affordances most likely to impact on student learning (e.g. access to safety, water, natural light, power, heat and technology) in changing demographic, social and political contexts.

The LEEP module:
Developing the questionnaires & the field trial

Development of LEEP module

LEEP Questionnaires on efficiency, effectiveness and sufficiency		
Student questionnaire	Teacher questionnaire	School questionnaire
21 questions	30 questions	14 questions
5 sections	8 sections	4 sections
Common question about overall satisfaction		

The questionnaires were re-engineered to **focus** on only a few issues.

- comfort, safety and well-being
- usability of space & spatial arrangements
- gather info about the whole school

	Student questionnaire	Teacher questionnaire	School questionnaire
Section 1	About You	About You	About You
Section 2	Spaces you use	About your school	The physical environment of the school
Section 3	Comfort	Spaces you use	Technology at the school
Section 4	Safety and well being	Comfort	Overall satisfaction
Section 5	Overall satisfaction	Technology	
Section 6		Arrangement of the space	
Section 7		Space for admin work & class preparation	
Section 8		Overall satisfaction	

LEEP module field trial

Main facts and figures:

	Planned
Age group of students:	13-18 year olds
Number of schools per country:	6-12
Number of students per school:	50-60
Total student questionnaires per country:	300-720
Number of teachers per school:	8-12
Total teacher questionnaires per country:	48-144
Total school questionnaires per country:	6-12

Student questionnaire

comfort, safety and well-being

Section 1: About you

General questions

About You

Section 2: Spaces you use

Use of spaces during lesson time

Use of spaces outside lesson time

Use of outdoor spaces

Spaces you use

Section 3: Comfort

Temperature

Quality of air; Quality of natural light

Sound & See

Comfort of desk/chairs; Shade

Comfort

Student questionnaire

comfort, safety and well-being

Section 4: Safety and well-being

Safety and well being

19. In general, do you feel safe in your school?
20. Do you feel safe (i.e not embarrassed or afraid) in different parts of the school and grounds? *(5 items)*

(toilet facilities; learning spaces; school buildings; school grounds)

Section 5: Overall satisfaction

Overall satisfaction

21. In general, how satisfied are you with the spaces you use for learning? (all)

Teacher questionnaire

usability of space & spatial arrangements

Section 1: About you

General questions

About You

Section 2: About your school

Vision of school shared with principals

Potential impact of the buildings and facilities

About your school

Section 3: Spaces you use

If they use only one classroom

Number of teachers; number of students in a class

Frequency of use of internal and external spaces

Spaces you use

Teacher questionnaire

usability of space & spatial arrangements

Section 4: Comfort

Comfort

Temperature

Quality of air; Quality of natural light

Sound

Control over temperature, natural light, etc

(In all of the spaces; In most of the spaces; In a few of the spaces; In none of the spaces used)

Section 5: Technology

Technology

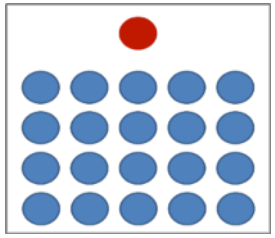
Available technology equipment

Use of technology equipment

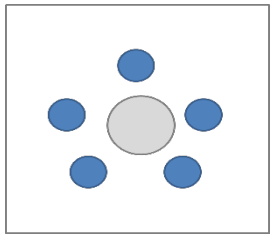
Teacher questionnaire

usability of space & spatial arrangements

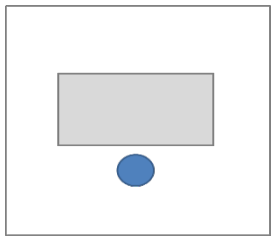
Section 6: Arrangement of the space



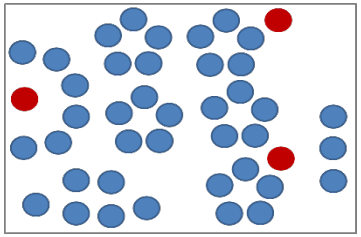
Presentation:
Layouts that support explicit instruction/presentation to the whole group.



Group:
Layouts that support approaches where students are required to collaborate and work in small groups to share ideas and help each other.



Individual:
Layouts that support approaches where students work independently to write, read, research, think and reflect.



Team teaching:
Layouts that support approaches where two or more teachers work collaboratively with groups of students sharing the same space.

Teacher questionnaire

usability of space & spatial arrangements

Section 6: Arrangement of the space

Arrangement of the space

24. Thinking about your current teaching, how often do you use the following spatial arrangements?
25. Thinking about the spaces/rooms in which you teach, how often do you: *(rearrange layout) (4 items)*
26. Thinking about the spaces/rooms in which you teach and what supports or hinders the use of different spatial settings, how much do you agree or disagree with the following statements?
27. When you need to, in what proportion of the spaces/rooms in which you teach can you quickly (in less than 5 minutes) rearrange the furniture to create any of the following arrangements?
28. If you could, how often do you think that you would use any of the following spatial arrangements for teaching?

Teacher questionnaire

usability of space & spatial arrangements

Section 7: Space for administrative work and class preparation

Space for admin work & class preparation

Provision of quiet space in school to work; space to socialise; meet parents

Section 8: Overall satisfaction

Overall satisfaction

30. In general, how satisfied are you with the spaces/rooms in which you teach? (all)

School questionnaire

gather info about the whole school

Section 1: The structure and organisation of the school

About You

General questions

Section 2: The physical environment of the school

The physical environment of the school

Temporary buildings ; age of buildings

Allocation of classrooms/learning spaces

School's vision shared with teachers

Potential impact of buildings and facilities

School questionnaire

gather info about the whole school

Section 3: Technology at the school

Technology at the school

Technological equipment available

Bring-their-own-device scheme

Internet speed

Section 4: Overall satisfaction

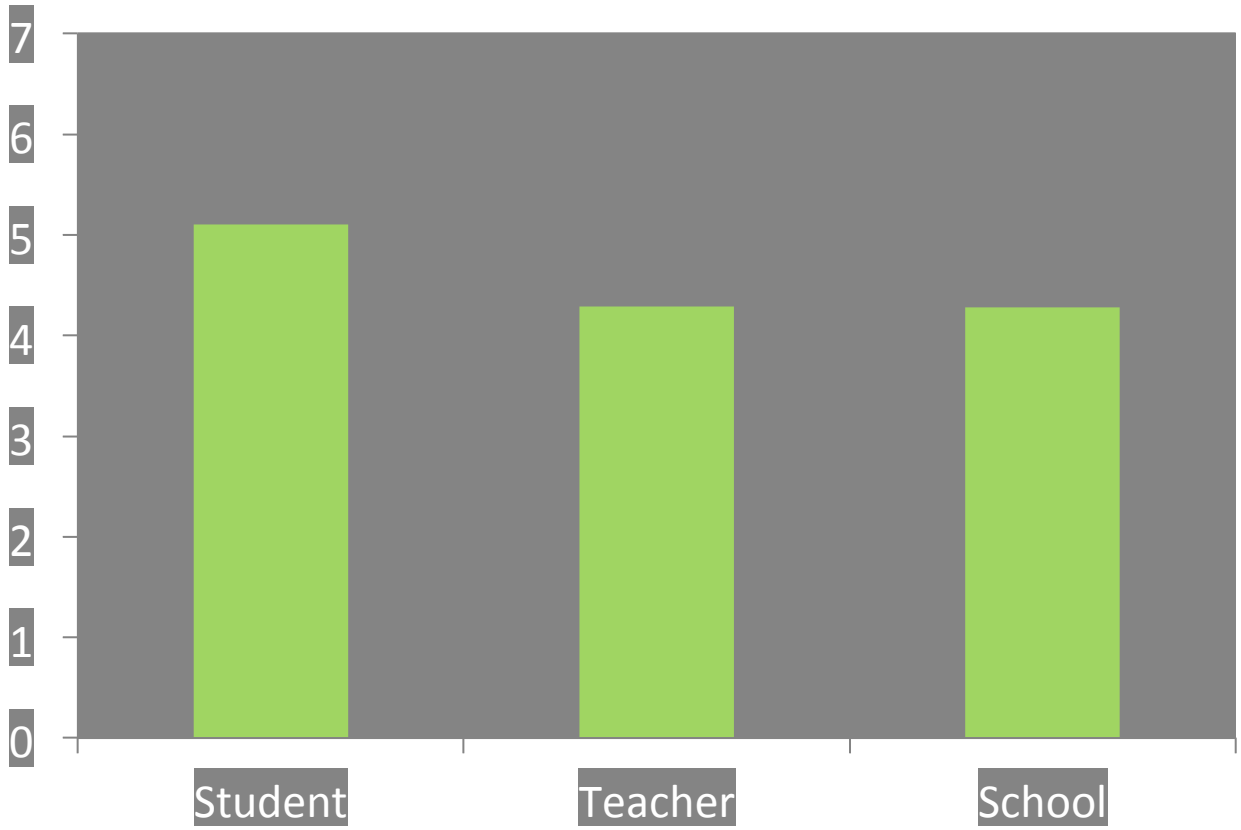
Overall satisfaction

14. In general, how satisfied are you with the spaces of your school? (all)

LEEP field trial:
Main findings

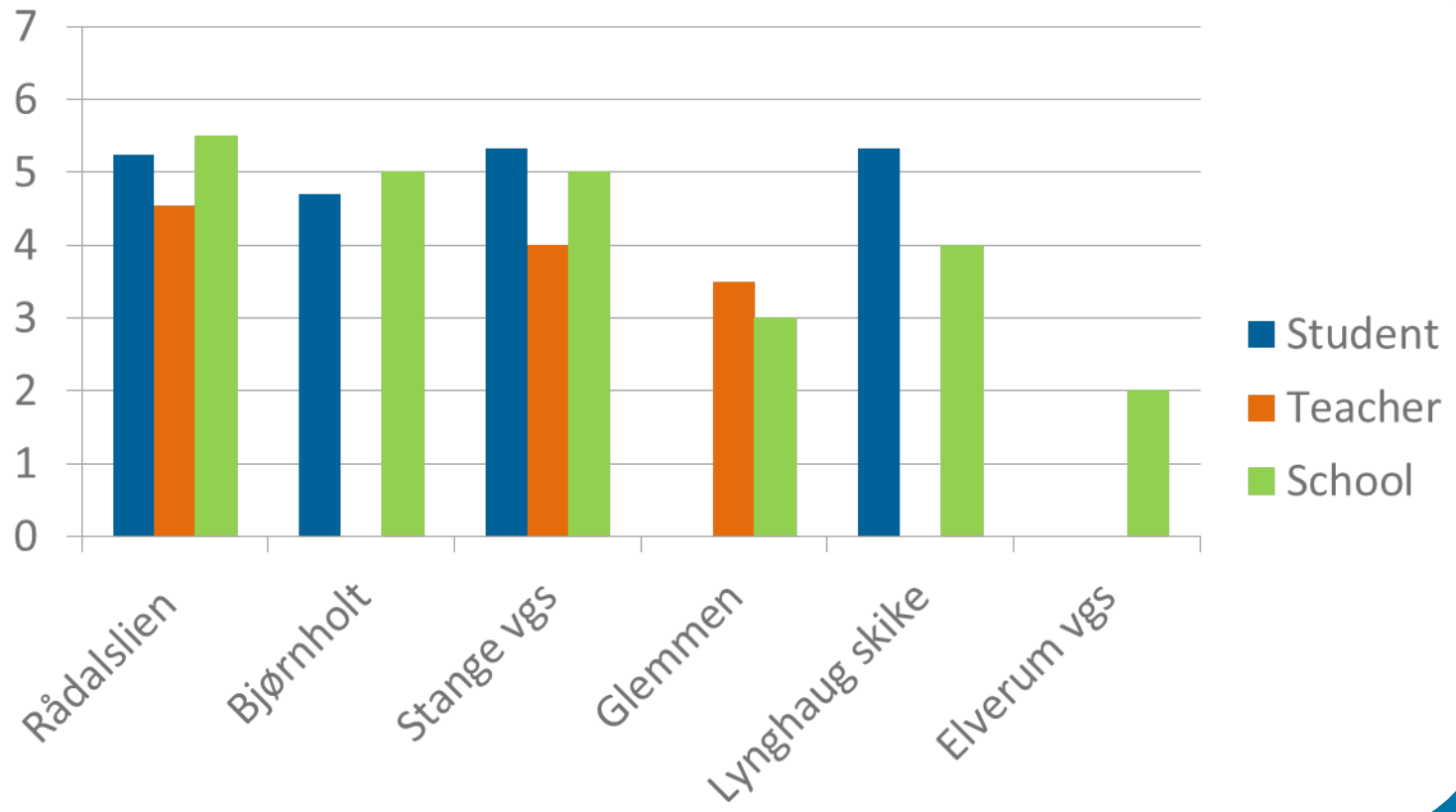
Norway Questionnaire results

Overall satisfaction



Norway Questionnaire results

Overall satisfaction per school



Teacher questionnaire

usability of space & spatial arrangements

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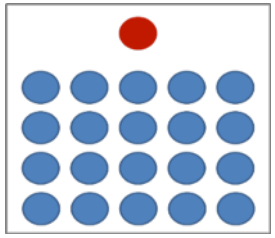

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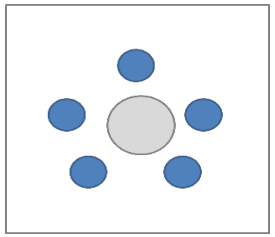

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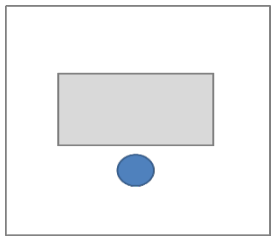

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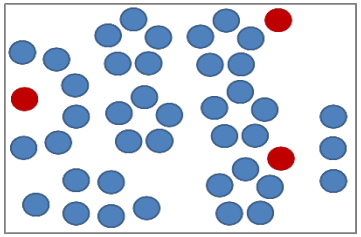
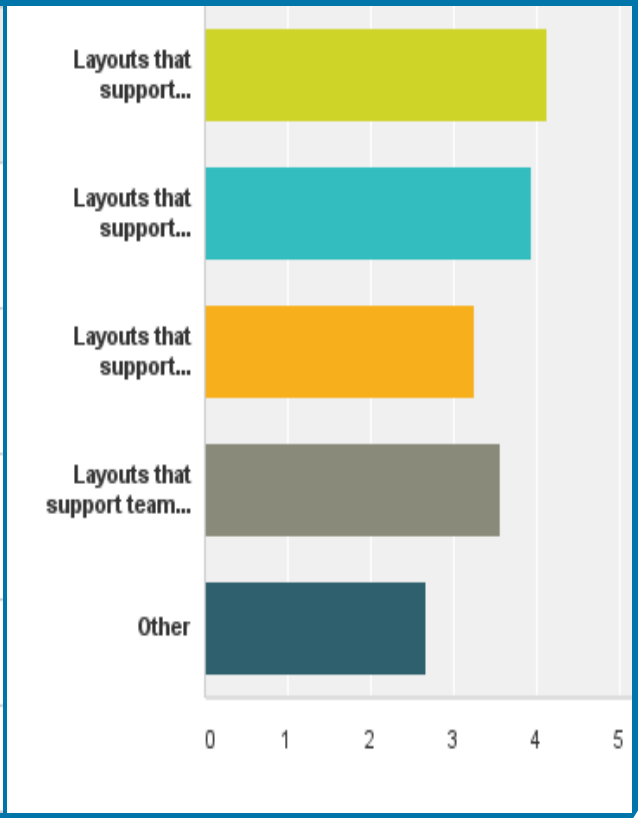


Team teaching:
Layouts that support approaches where two or more teachers work collaboratively with groups of students sharing the same space.

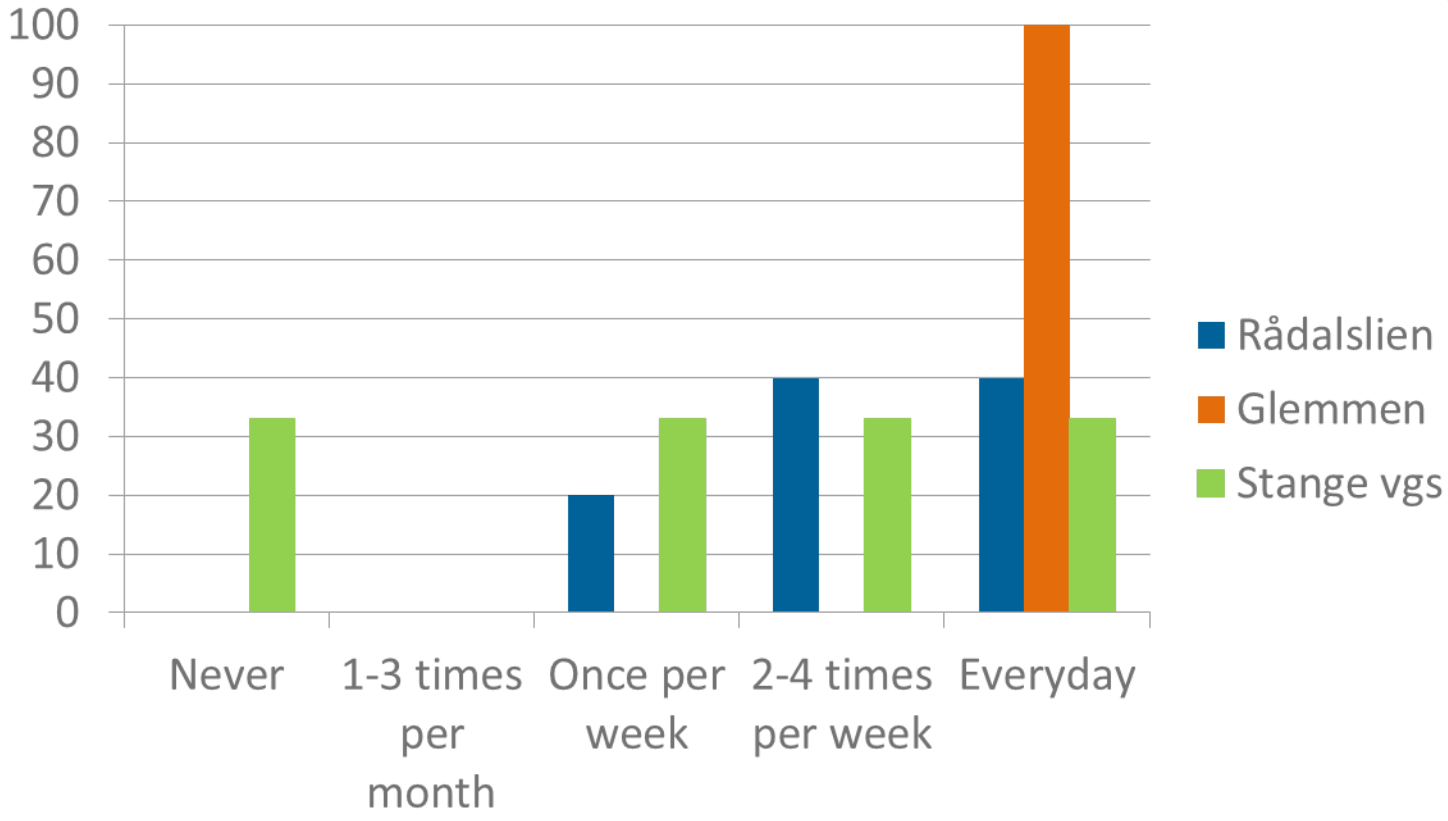
Q24: Thinking about your current teaching, how often do you use the following spatial arrangements?

Answered: 16 Skipped: 9

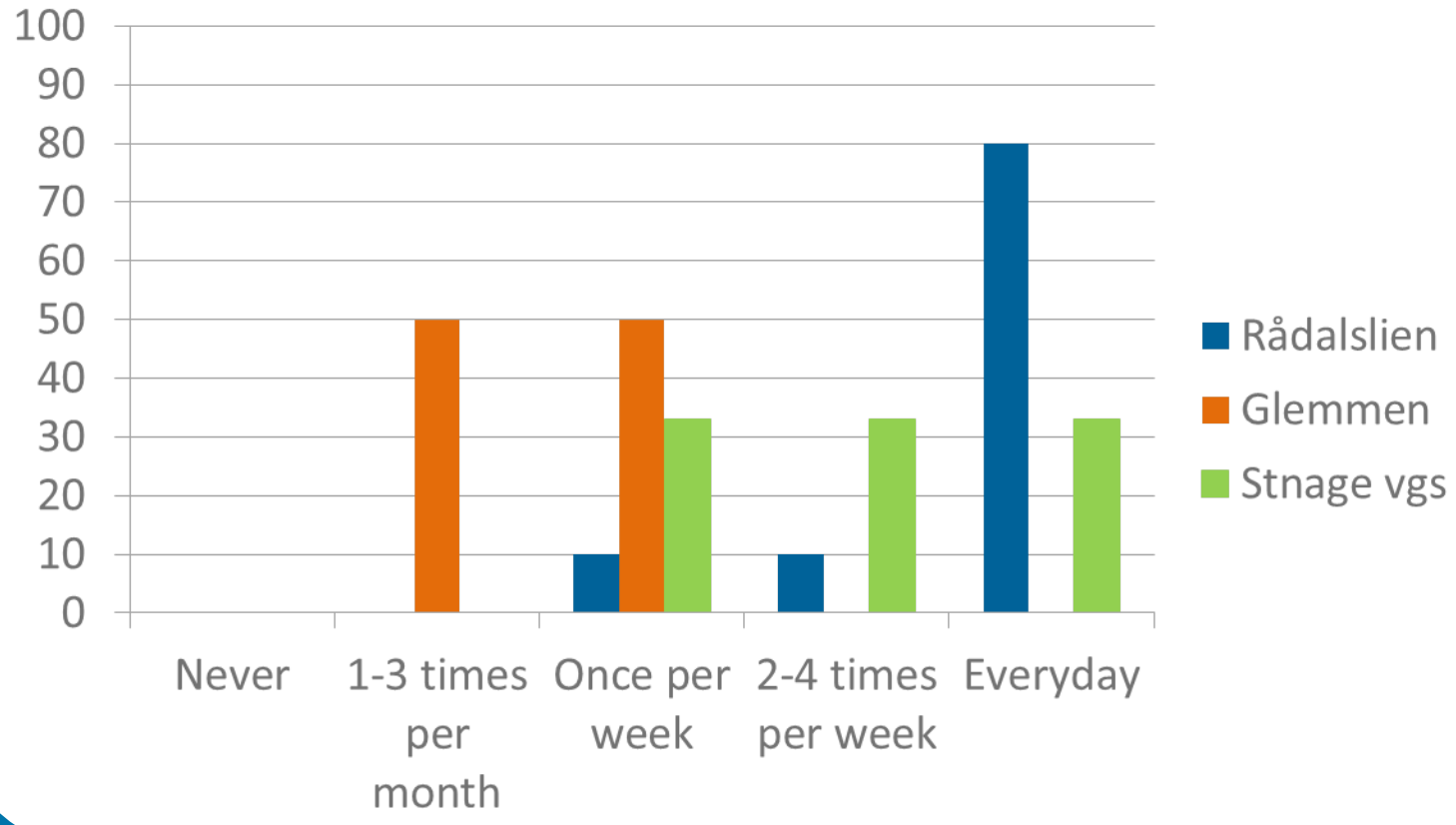
	Never or hardly ever	1 to 3 times a month	Once a week	2 to 4 times a week	Everyday	Total	Weighted Average
Layouts that support explicit instruction/ presentation	0.00% 0	6.25% 1	18.75% 3	31.25% 5	43.75% 7	16	4.13
Layouts that support students working in small groups	6.25% 1	6.25% 1	25.00% 4	12.50% 2	50.00% 8	16	3.94
Layouts that support students working independently	6.25% 1	18.75% 3	31.25% 5	31.25% 5	12.50% 2	16	3.25
Layouts that support team teaching	18.75% 3	0.00% 0	18.75% 3	31.25% 5	31.25% 5	16	3.56
Other	22.22% 2	11.11% 1	44.44% 4	22.22% 2	0.00% 0	9	2.67



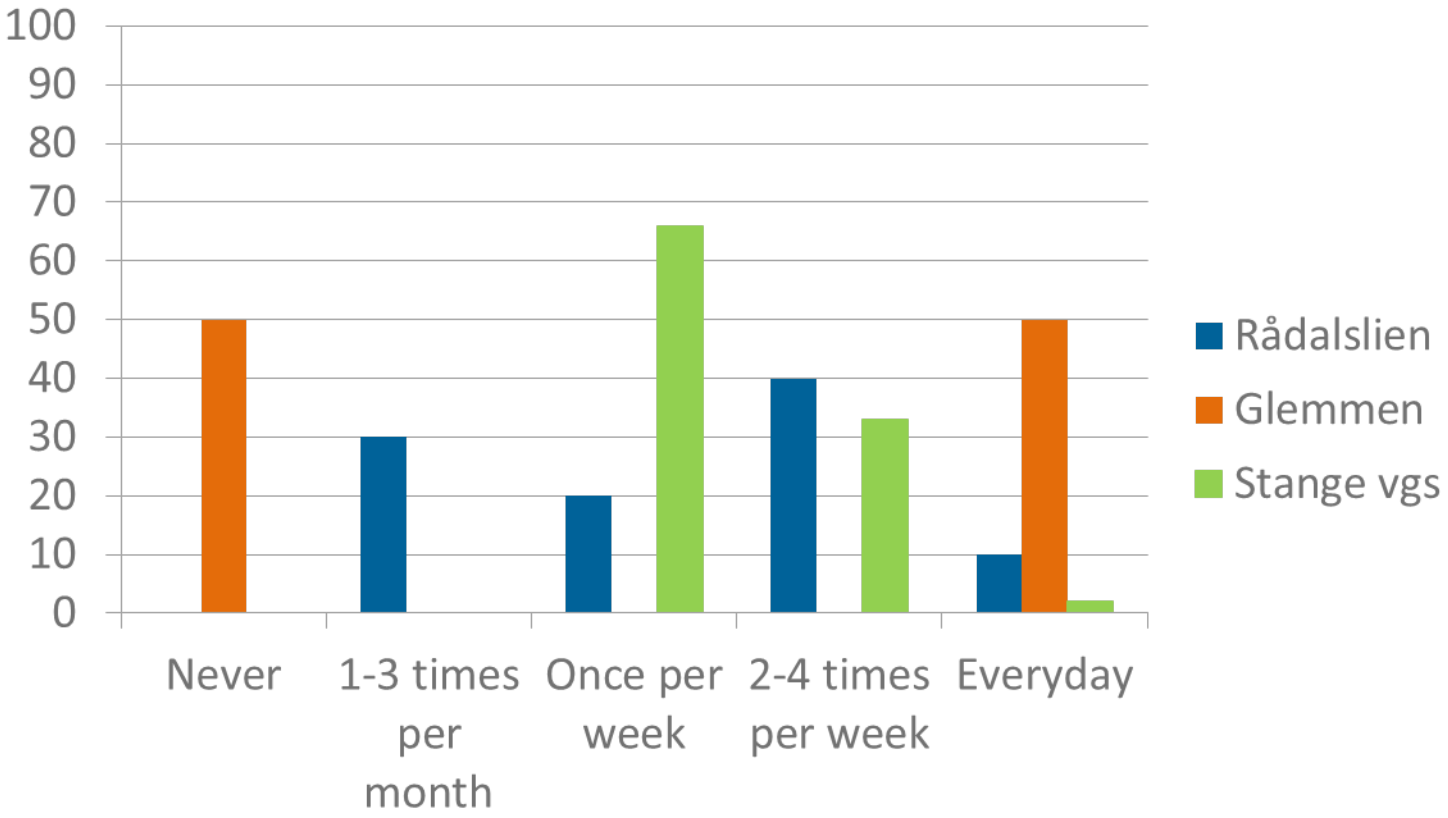
Use of classroom layouts for explicit instruction/ presentation



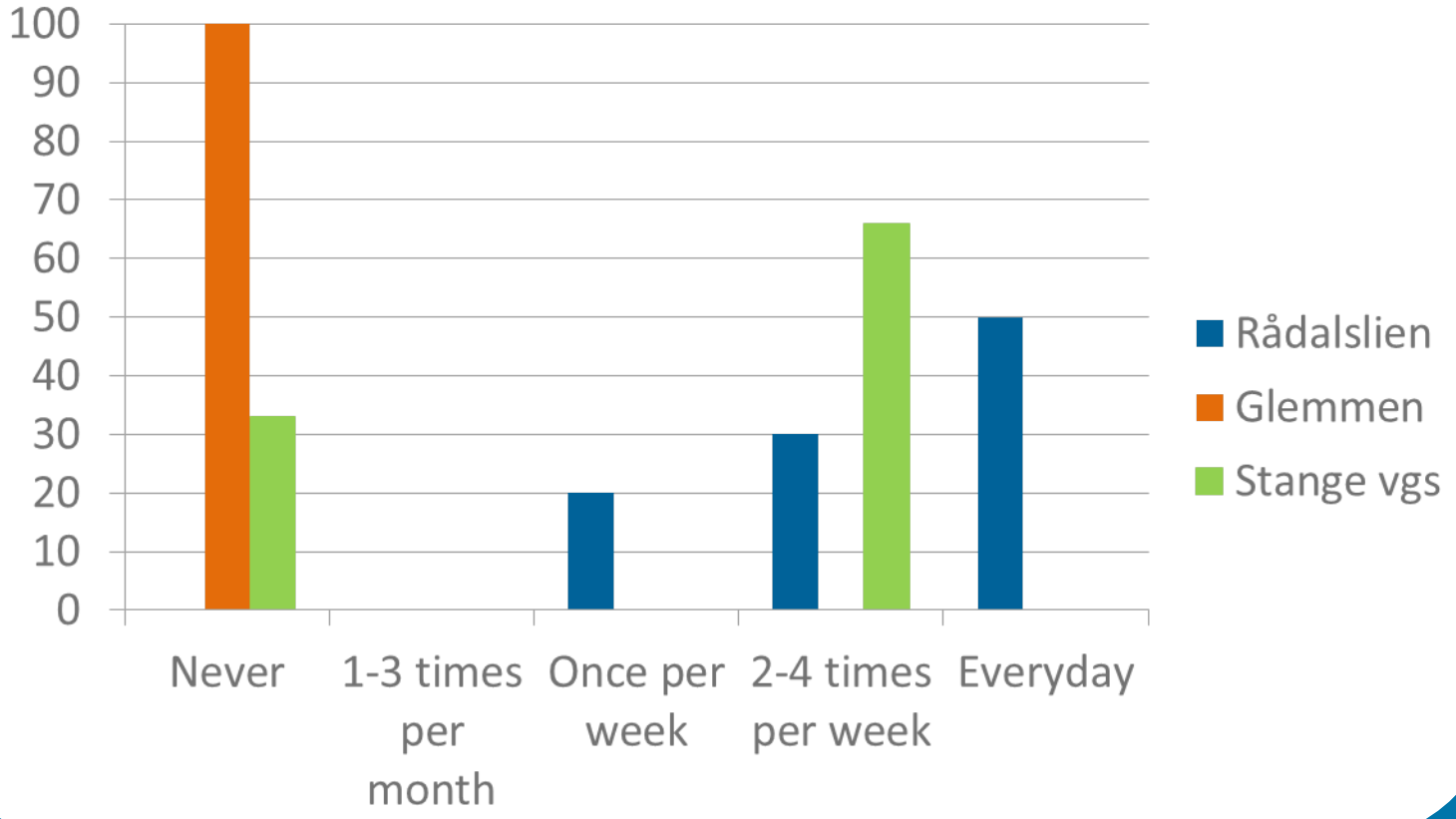
Use of classroom layouts for group instruction (students working in small groups)



Use of classroom layouts for individual instruction (students working independently)



Use of classroom layouts for team teaching



Main findings : LEEP module field trial

The questionnaires were answered by 217 students, 24 teachers and 9 school principals or relevant. The main findings are:

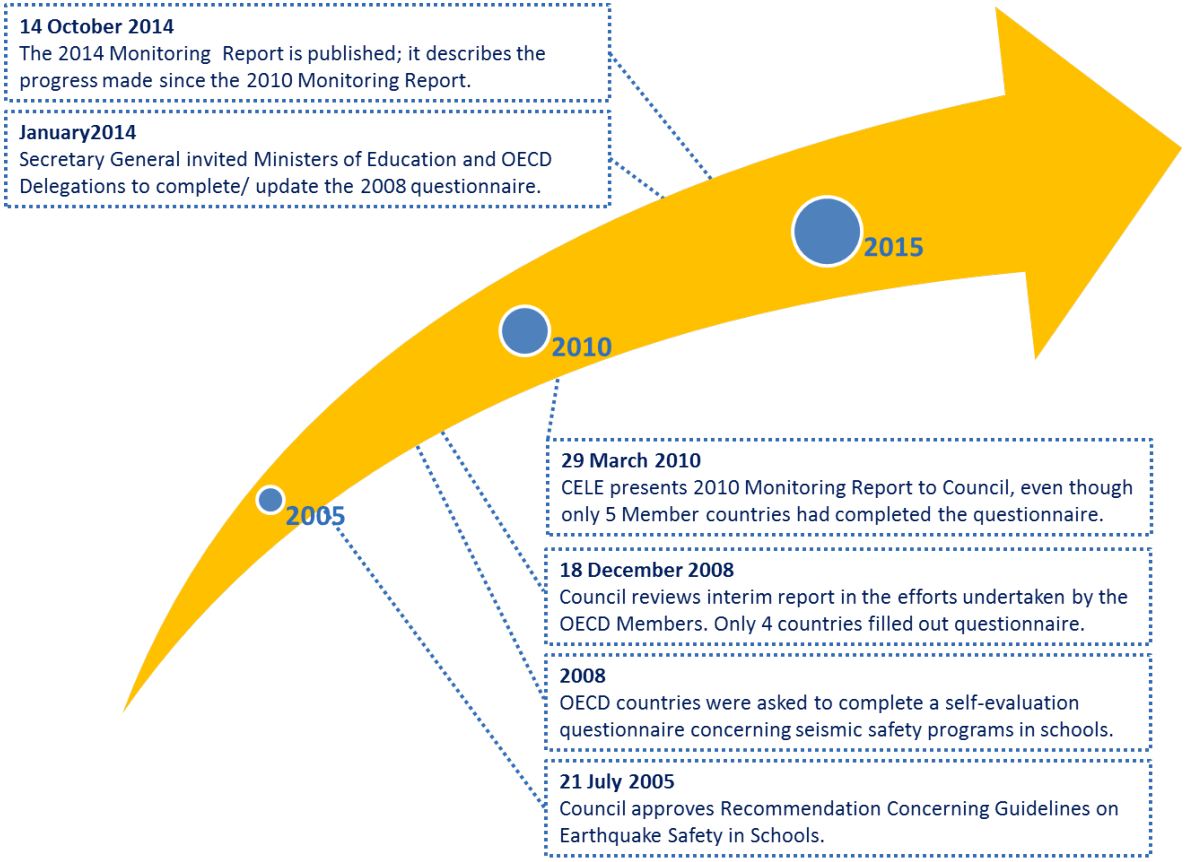
- The girls feel less safe than the boys by almost 15%.
- The teachers mostly use more than one classroom, but very rarely do they change the layout.
- The teachers believe there is not enough time to change the layout of a classroom (even if they wanted to).
- A variety of classroom layouts were used.
- The students are more satisfied by the school facilities than their teachers.
- Both students and teachers were rather satisfied by temperature, quality of air, light and acoustics in the classrooms.

Main findings : LEEP module field trial, p.2

- The classrooms and the school canteens were the spaces mostly used by students, while the classrooms and the hall/auditoriums were the spaces mostly used by teachers.
- The teachers believe that the buildings and facilities of the school have an effect to some extent on making teachers inclined to stay at school, making it easier to attract new teachers, to retain teachers and to attract parents.
- The school principals believe that the buildings and facilities of the school have an effect to some extent on making teachers inclined to stay at school, making it easier to attract new teachers and to attract parents.
- The majority of the classrooms have wireless internet access.
- Teachers prefer layouts that support explicit instruction/presentation and students working in small groups.

Earthquake Safety for Schools:
Protecting Students from Risk

Earthquake Safety for Schools: Protecting Students from Risk

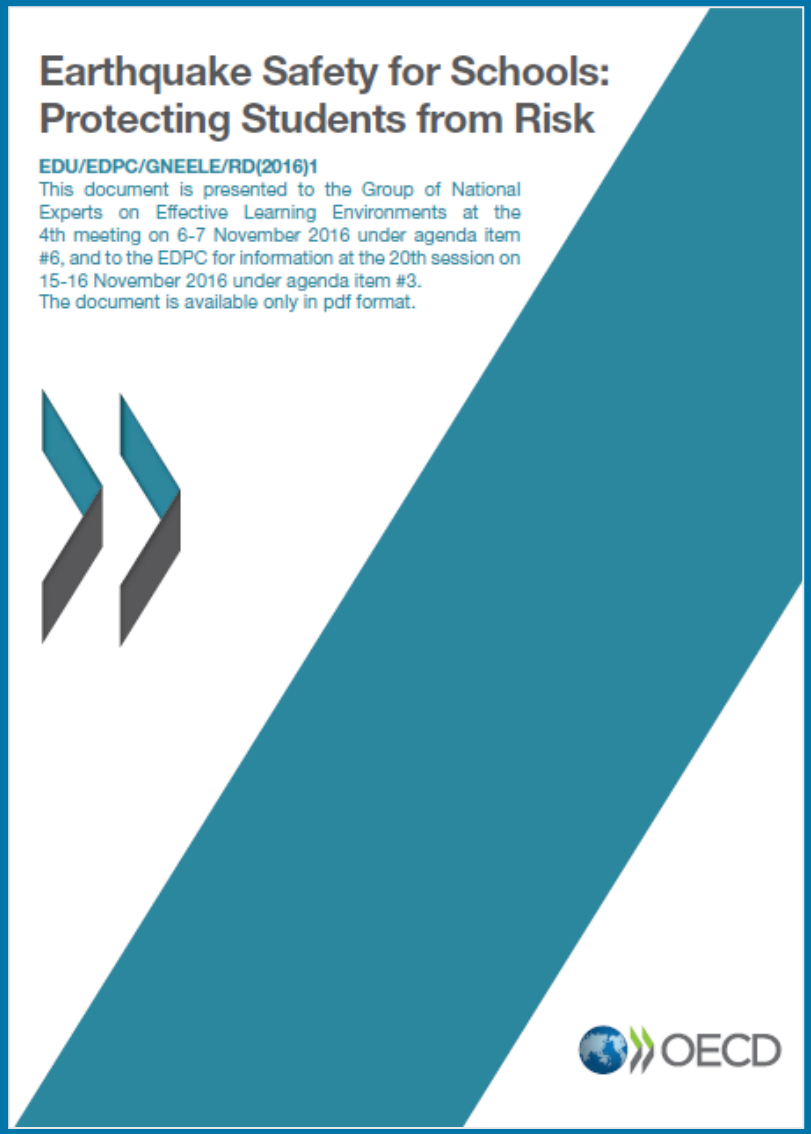


OECD Recommendation: The 7 principles of a school seismic safety programme

The 7 Principles of the Recommendation

1	Seismic safety policy
2	Accountability
3	Building codes and enforcement
4	Training and qualification
5	Preparedness and planning
6	Community awareness and participation
7	Risk reduction in new and existing schools

Earthquake Safety For Schools: Protecting Students from Risk



2014 Monitoring Report
Earthquake safety in schools

5 countries reporting in 2010 resubmitted self-evaluation questionnaires


Greece


Japan


Mexico


New Zealand

United States (California)

10 additional countries submitted self-evaluation questionnaires for the first time


Australia


Belgium (French Community)


Chile


France


Hungary


Portugal


Slovak Republic


Slovenia


Spain


Turkey

Austria, Denmark and Sweden also responded and did not fill out the self-evaluation questionnaire (their country was located in an area with low seismic risk).

United Nations
Sustainable Development Goals

United Nations SDGs: Who, what, how?

Who has developed them:

- The Sustainable Development Goals are developed by the United Nations. They were approved in September 2015

What are the SDGs?

- The Sustainable Development Goals [SDGs] are the transition from the MDGs = Millennium Development Goals

How will they be implemented/monitored?

- There is a monitoring process, with 2030 as the final milestone. Each goal has specific Key Performance Indicators [KPIs].

United Nations SDGs: Who, what, how?

A look at the Sustainable Development Goals

https://www.youtube.com/watch?v=5G0ndS3uRdo

Development Goals: MDGs and SDGs

MDGs

- vertical
- 8 goals
- 60 indicators
- established in 2000
- aimed to reduce poverty and improve health, access to education, clean water and sanitation

SDGs

- horizontal
- 17 goals
- 168 indicators
- accepted by the UN in 2015
- designed to end all forms of poverty everywhere and build a better planet

SDG 4: about Education

"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"

Target 4a

Build and upgrade education facilities that are

child,

disability and gender sensitive

and provide safe,

non-violent,

inclusive

and effective learning environments

for all

Target 4a: Key Performance Indicators

Global number: 4.a.1 | Thematic numbers: 31, 32, 30

Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)

Global number: 4.a.2 | Thematic numbers: 33

Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse

Global number: 4.a.3 | Thematic numbers: 34

Number of attacks on students, personnel and institutions

Long term vision and strategy of LEEP

Long term vision and strategy

To produce instruments and analyses

To develop the evidence base for how the physical learning environment impacts on learning

To create best practice guidelines supported by toolkits to assist countries

To link and monitor the SDG 4 goal and to link with other OECD projects (PISA, TALIS, E2030)

To monitor the earthquake safety recommendations and to expand into other natural disasters

To expand into higher education

To remain relevant to GNEELE members' needs & OECD values

Thank you!

Any questions?

Stay in touch!

e-mail: Julie.Velissaratou@OECD.org
website: www.oecd.org/edu www.oecd.org/edu/facilities

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Best Practices in Educational Facilities Investments

EducationGPS

Our team at the OECD Centre for Effective Learning Environments (CELE, www.oecd.org/edu/facilities) works with school leaders, researchers and policy makers to explore how investments in the learning environment, including the physical learning environment and technologies, translate into improved education, health, social and well-being outcomes.