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What would you like to see different?

Aim: envisioning a future

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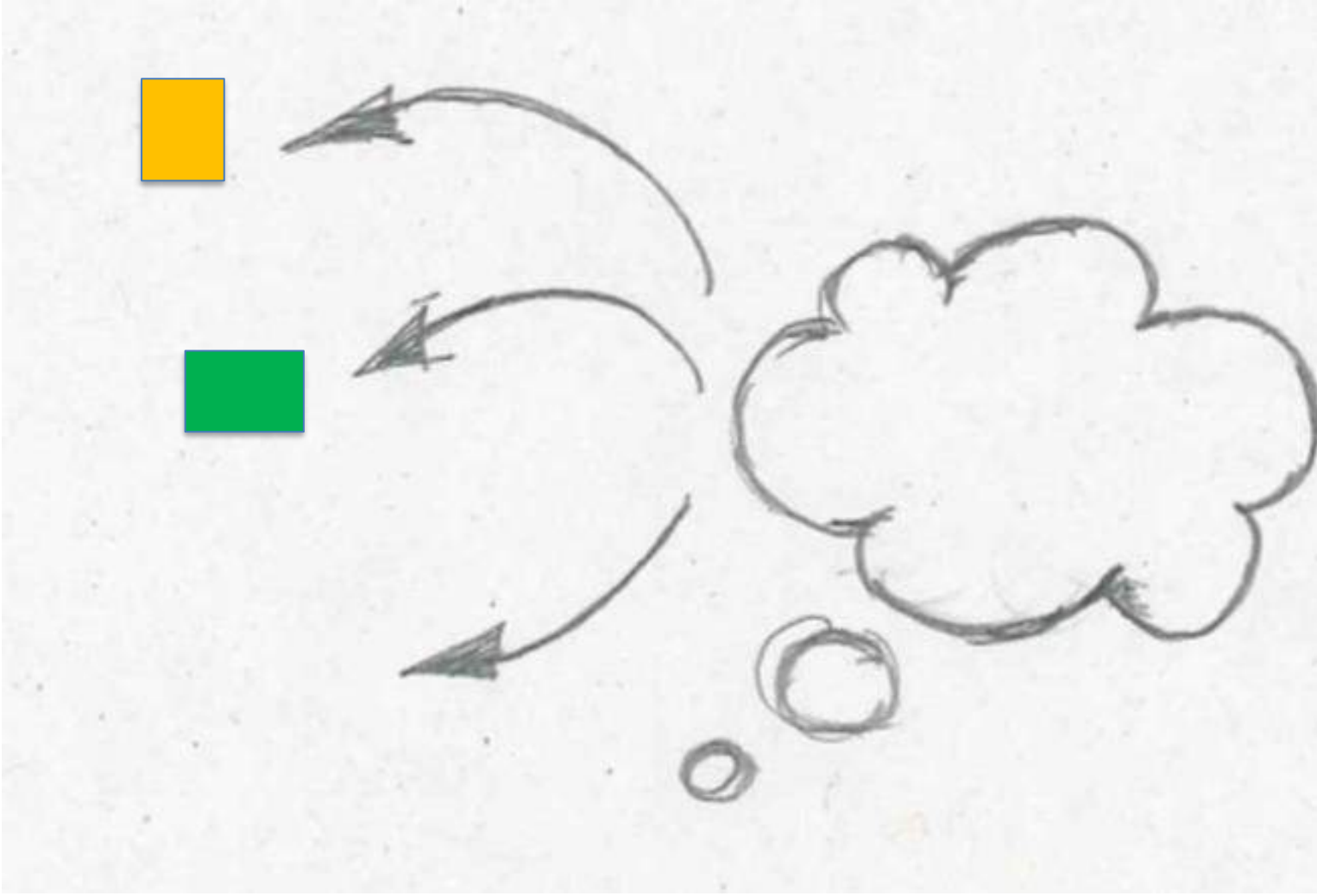
What are conditions to get there?



Aim: envisioning a future

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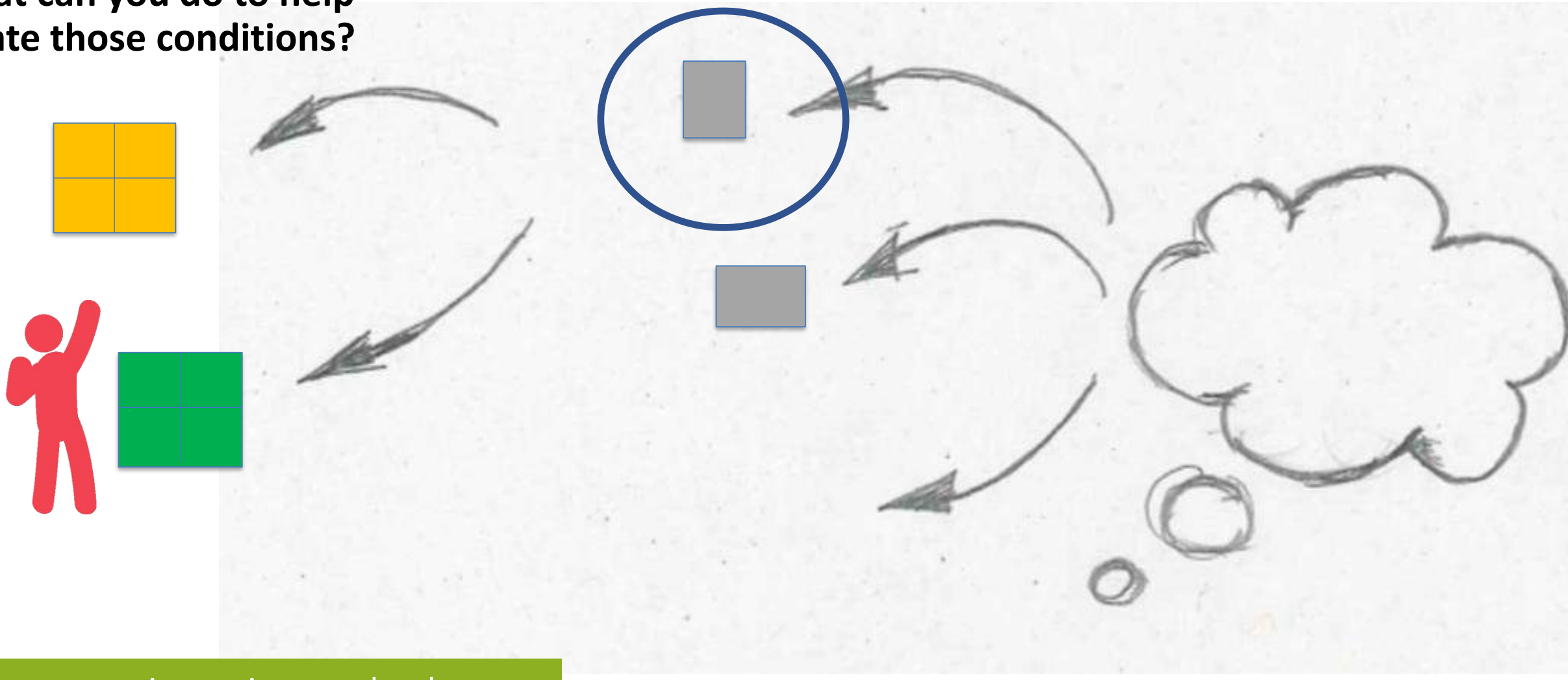
What can you do to help create those conditions?



Aim: connecting actions to the dream

Education for taking action on sustainability issues.
Questions asked and lessons learned.

Action-orientation
- Meaningful for children/students
- Contributes to solving (local) controversial issue
- Chosen by the one who acts

Pluralism
- Expliciting own opinions and viewpoints
- Activily seeking to understand and empatize with other opinions, viewpoints, emotions

Holism
- Critical reflection and inquiry
- System thinking
- SD dimensions (People, Planet, Profit)

Education for taking action on sustainability issues.
Questions asked and lessons learned.

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Primary school offering K-6 education
Suburban area in Flanders

- Teachers took part in VALIES (2018-2022)
- Designed and implemented own educational practice
- Supported by a VALIES coach
- Studied by VALIES researchers (proces & outcomes)

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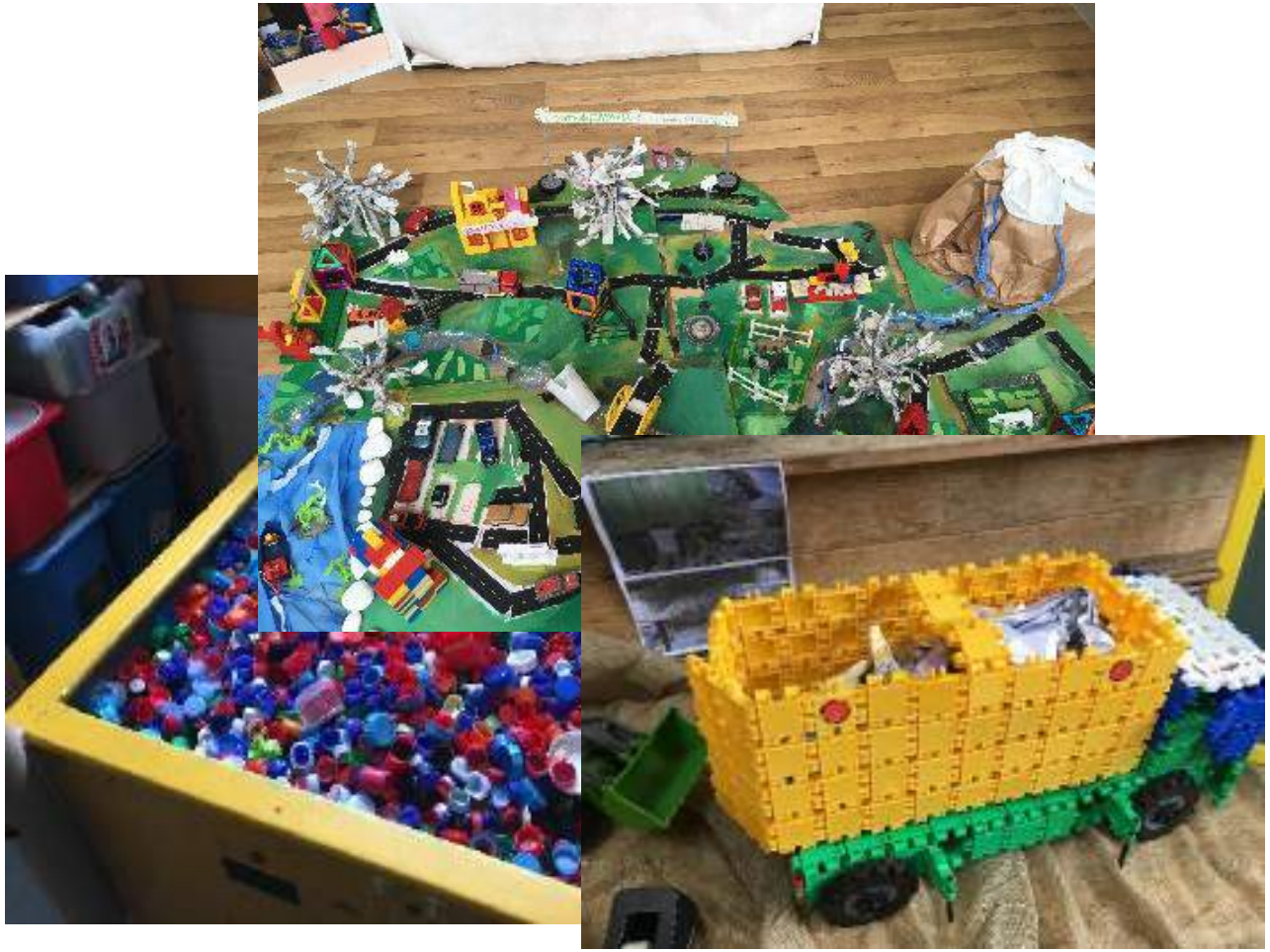
Kindergarten : Fun with bottles



Kindergarten : Fun with bottles

Grades 1 & 2 : Water

Education for taking action on sustainability issues.
Questions asked and lessons learned.

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Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste

Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate

Group	Focus	Link to curriculum
A	Children's climate questions	Social science, science-technology, language, executive functions
B	Ecological footprint	Social science, science-technology, language, media
C	Climate Pact	Social science, science-technology, language, social skills
D	Climate Survey	Social science, science-technology, language, maths, ICT

Education for taking action on sustainability issues.
Questions asked and lessons learned.

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Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate

Group A : Children's climate questions

- Formulated their own questions about climate change
- Based on the news and in the current discourse
- Sought answers themselves
- Made moodboard as answers to each question : focus on holism & pluralism

Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate

Group B : Ecological footprint

- Studied and explained to eachother what the concept means
- Art projects to visualize own footprint & that of famous people
- Focus on possibilities to diminish own footprint : action possibilities

Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate

Group C : Climate Pact

- Studied climate change (systems thinking, holism)
- Designed awareness actions
- Local strike & march for the climate
- Designed key chains (earth) and handed them out to loitering cars
- Directed a climate short film

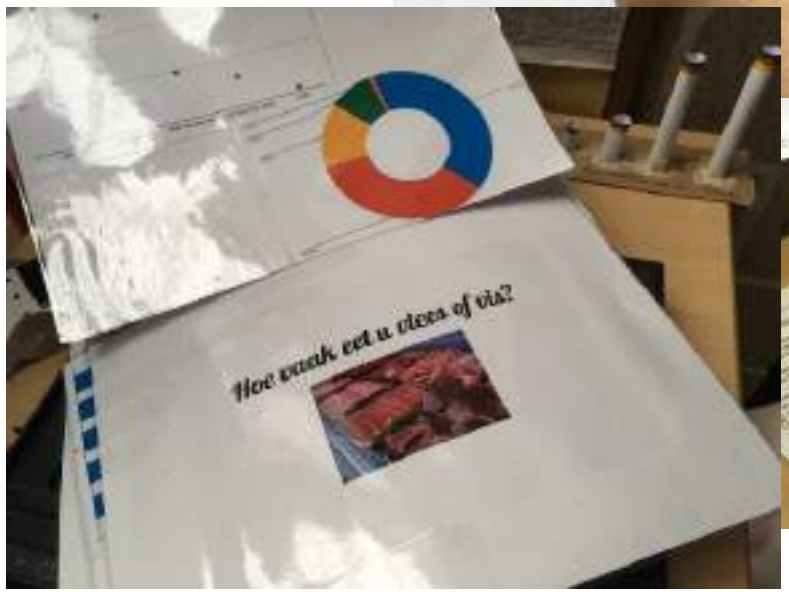
Education for taking action on sustainability issues.
Questions asked and lessons learned.

Utrecht University

Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate

Group D : Climate Survey

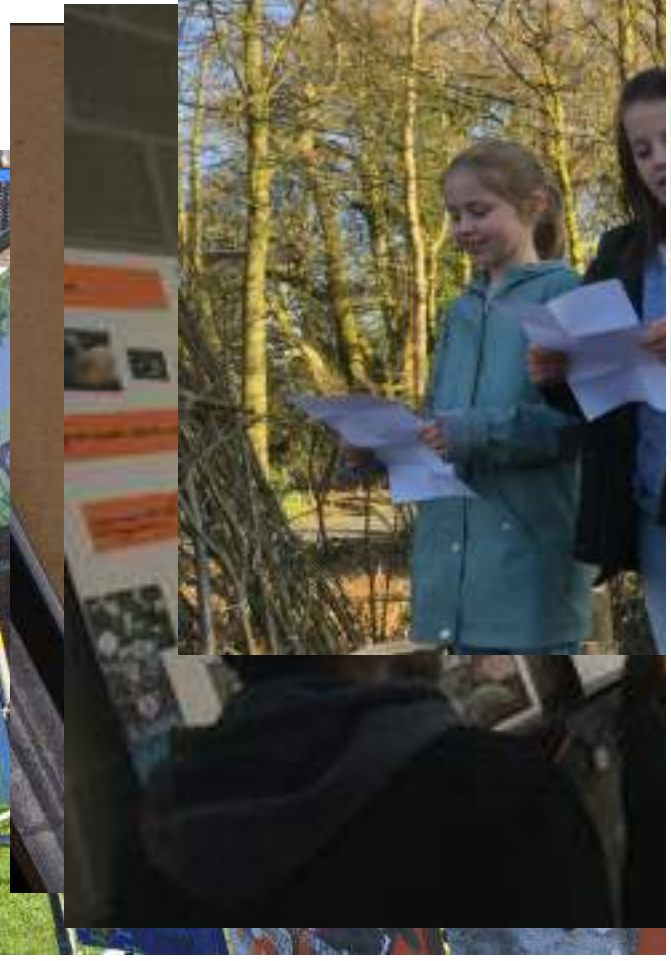
- Designed a survey on local people's climate opinions and behaviors
- Surveyed 347 residents around the school
- Data analyses and visualisations



Education for taking action on sustainability issues.
Questions asked and lessons learned.

Kindergarten : Fun with bottles
Grades 1 & 2 : Water
Grades 3 & 4 : Waste
Grades 5 & 6 : SOS Climate





HLN

NIEUWS SPORT SHOWBIZZ NINA IN DE BUURT VIDEO FUN

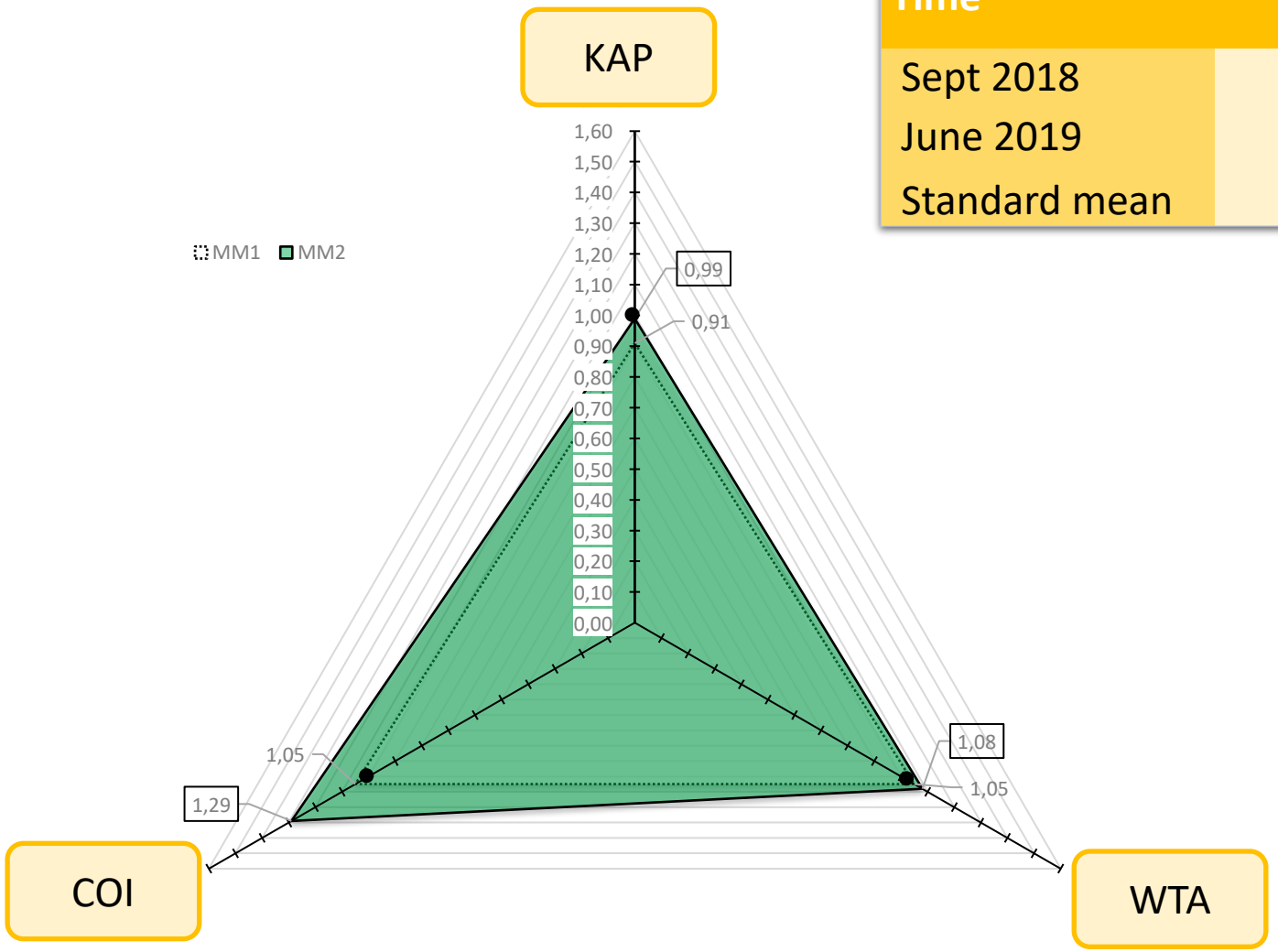
POPULAIR IN DE BUURT KIES UW GEMEENTE

De kinderen maakten een affiche in hun strijd tegen ballonnen. De gemeente zal die verspreiden in het gemeentelijk infoblad. © Joeri Seymortier

Opvallende oproep kinderen Taborschool Bellem: "Stop met ballonnen oplaten!"

De kinderen van de Taborschool in Bellem binden de strijd aan met heliumballonnen. Ze hebben een affiche ontworpen om iedereen af te raden om nog ballonnen op te laten.

Education for taking action on sustainability issues.
Questions asked and lessons learned.



Time	Knowledge of action possibilities	Wilingness to act	Confidence in own influence
Sept 2018	0,91	1,05	1,05
June 2019	0,99	1,08	1,29
Standard mean	1	1	1

Feedbackreport for each school

- How do these results connect to your educational practice?
- What is unexpected?
- What have you learned as a team?
- How will you move forward?

VALIES

Data from
- 50+ schools
- 2000+ students (ages 10-14)
- 650+ teachers
- 1000+ parents

>> at multiple points in time

Data about
- Students' action competence for SD
- Teachers' ESD beliefs and practices
- ESD at school organisatonal level
- Sustainability in the family

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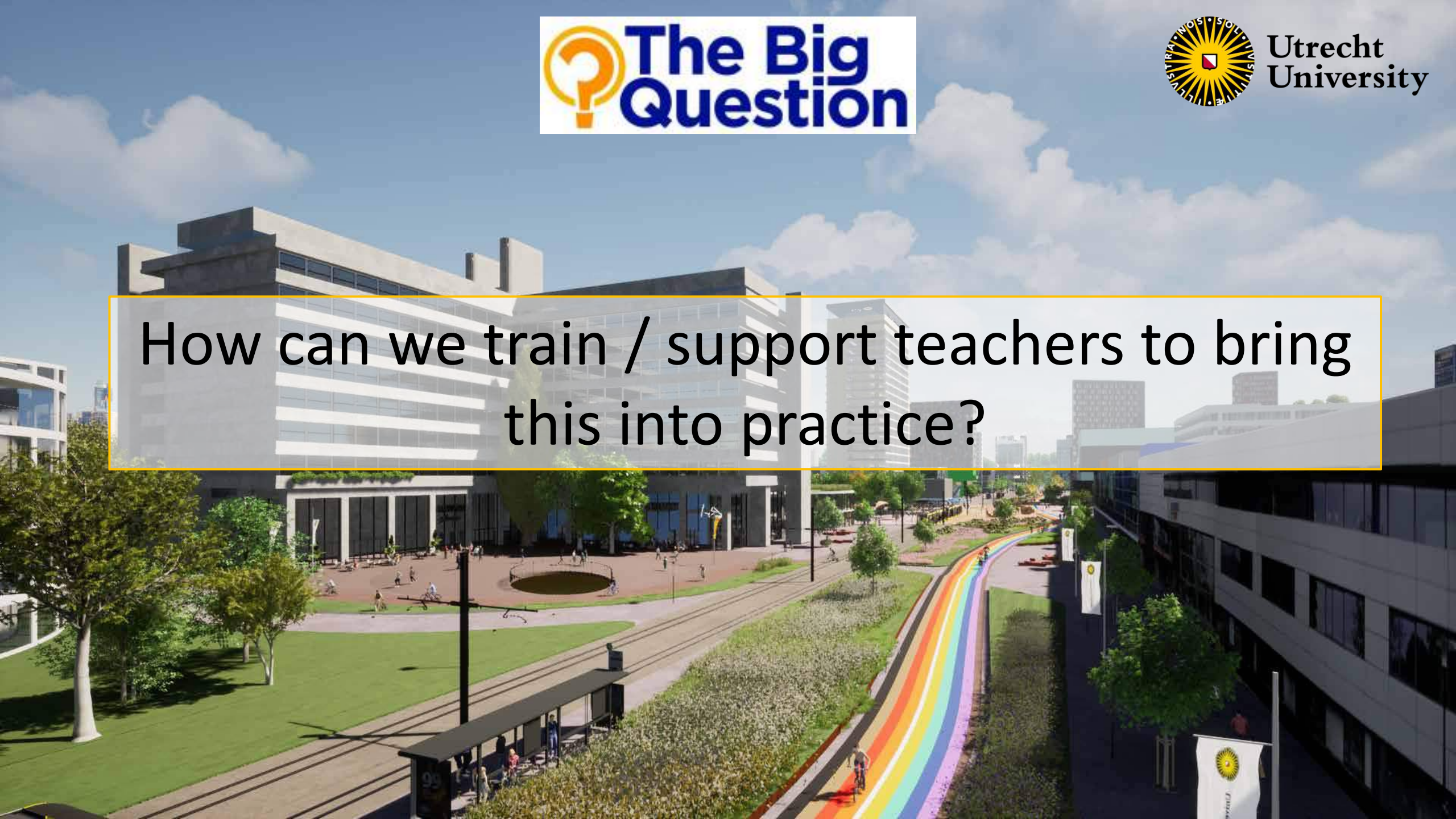
VALIES

50+ schools were in the project. Analyses are ongoing.

Some key insights from (ongoing) studies using VALIES frameworks, instruments and data

- Action competence of students in VALIES schools increases across a school year (Sass et al., 2023a).
- Meaningfull differences exist between VALIES schools : what the school does/is matters for student's evolution in action competence (Sass et al., 2023a, Olsson et al., 2022).
- Students in VALIES schools that report action orientation (++), holism (+) and pluralism (+) show a larger evolution in action competence across a school year (Sass et al., 2023b).
- Students in schools in which teachers report more sustainable leadership, pluralistic communication and democratic decission making, report higher levels of action competence (Verhelst et al., 2023).


The Big Question
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How can we train / support teachers to bring this into practice?

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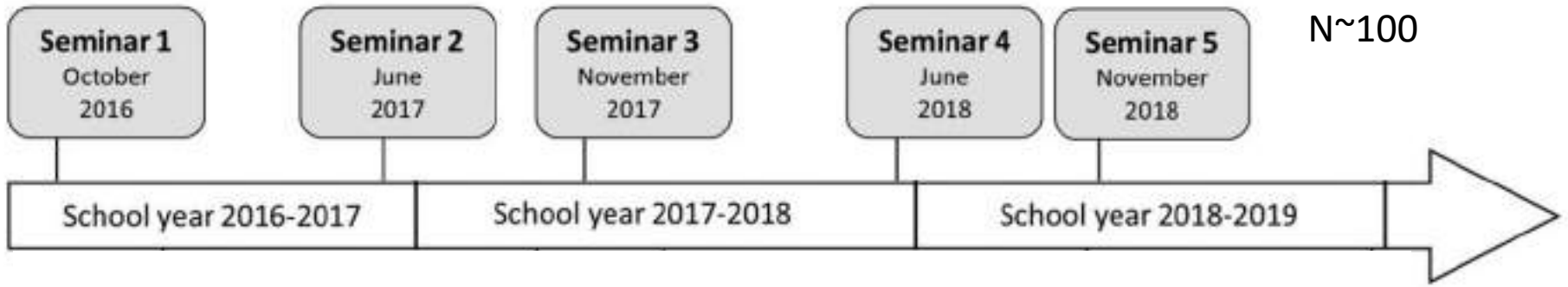
KARLSTADS KOMMUN

KARLSTAD UNIVERSITY

Development, implementation and evaluation of a pilot program for school wide teacher professional development on Education for Sustainable Development.

Education for taking action on sustainability issues.
Questions asked and lessons learned.



N~100

Seminar 1 : What is ESD? Rich examples from practice

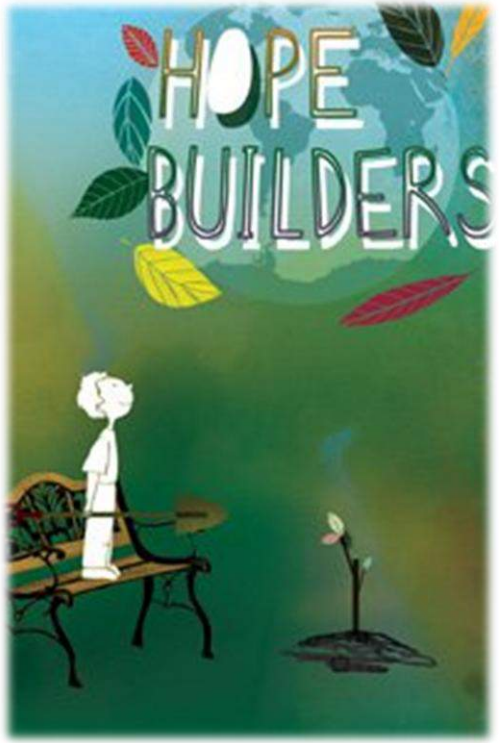
Seminar 2 : Interdisciplinarity in ESD, holism, pluralism and action

Seminar 3 : Concrete sustainability issues in education

Seminar 4 : Cross-curricular collaboration and your own school

Seminar 5 : Action planning for ESD at your own school

- Teacher-facilitator 20% in each school
- Weekly meetings within the schools
- Two-monthly meeting of facilitators
- School leaders' involvement



Education for taking action on sustainability issues.
Questions asked and lessons learned.

- Documentary of a teacher (Dominique Leduc) and his students in Quebec.
- Implementation of the model of ‘Action Research for the Community Problem Solving’ (Poudrier, 2017).
- Students identify & analyse a problem of concern to them in their community. They identify potential solutions and develop and implement an action plan.

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Embed within / connect to curriculum.

Education for taking action on sustainability issues.
Questions asked and lessons learned.

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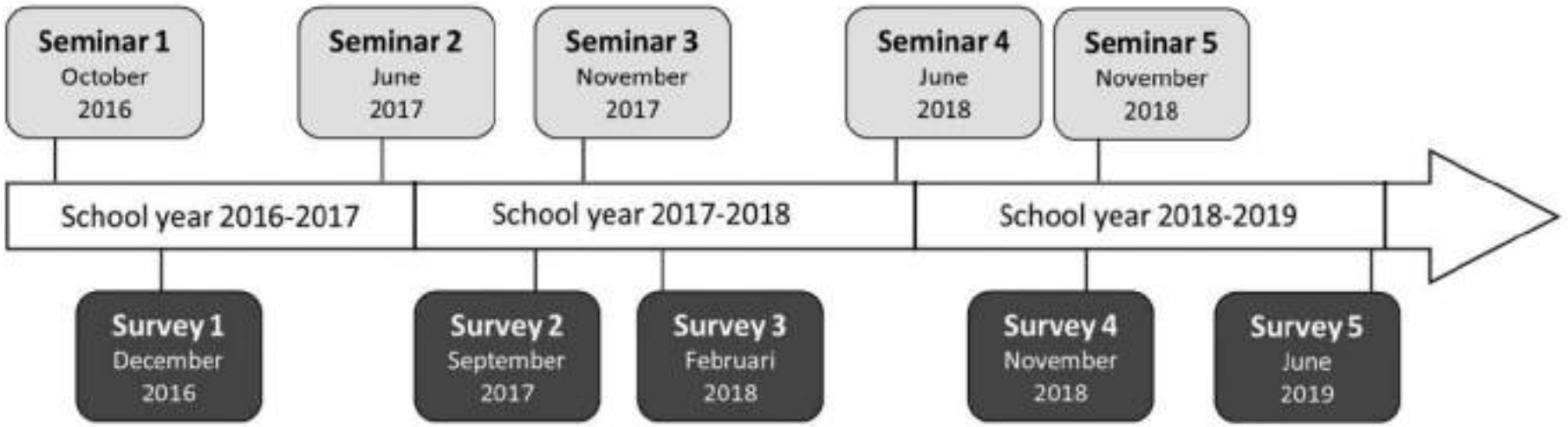
Education for taking action on sustainability issues.
Questions asked and lessons learned.



Self-efficacy (α=0.919) by Malandrakis et al. (2019)

12 statements, 5-point Likert Scale,

e.g. I feel confident that I can currently…

… determine educational objectives in relation to sustainable development

… deal with economic aspects of issues related to sustainable development

… evaluate an ESD project that I / we have implemented

Self-reported ESD practices (α=0.846) by Boeve-de Pauw et al. (2015)

10 statements, 5-point Likert Scale, e.g.

… In my lessons, there are often conversations in which different views are presented and discussed

… In school, I let my students work with local and global issues and how they fit together

… In school, I let my students work with the economic, social and environmental problems linked

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Bandura (1977) defines **self-efficacy** as the

'*belief in one's capabilities to organize and execute the courses of action required to produce given attainments*' (p. 3).

- one of the most powerful motives of behavior
- strong relationship with the decision to perform a task, the amount of effort invested and the level of persistence (Gardner and Pierce 1998).
- teaching self-efficacy = a self-judgment of teachers' capabilities to bring about desired educational outcomes or a capacity to influence students' learning (Klassen et al. 2011)
- Teachers with high teaching self-efficacy have been documented to explore more alternative methods of instruction and to experiment more with new and innovative instructional materials (Bray-Clark and Bates 2003).

In the study we focus on the learning of teachers from **four compulsory schools** in **Sweden**, as they collectively participate in a long-term professional development program built specifically to support them to implement ESD into their own educational practice.

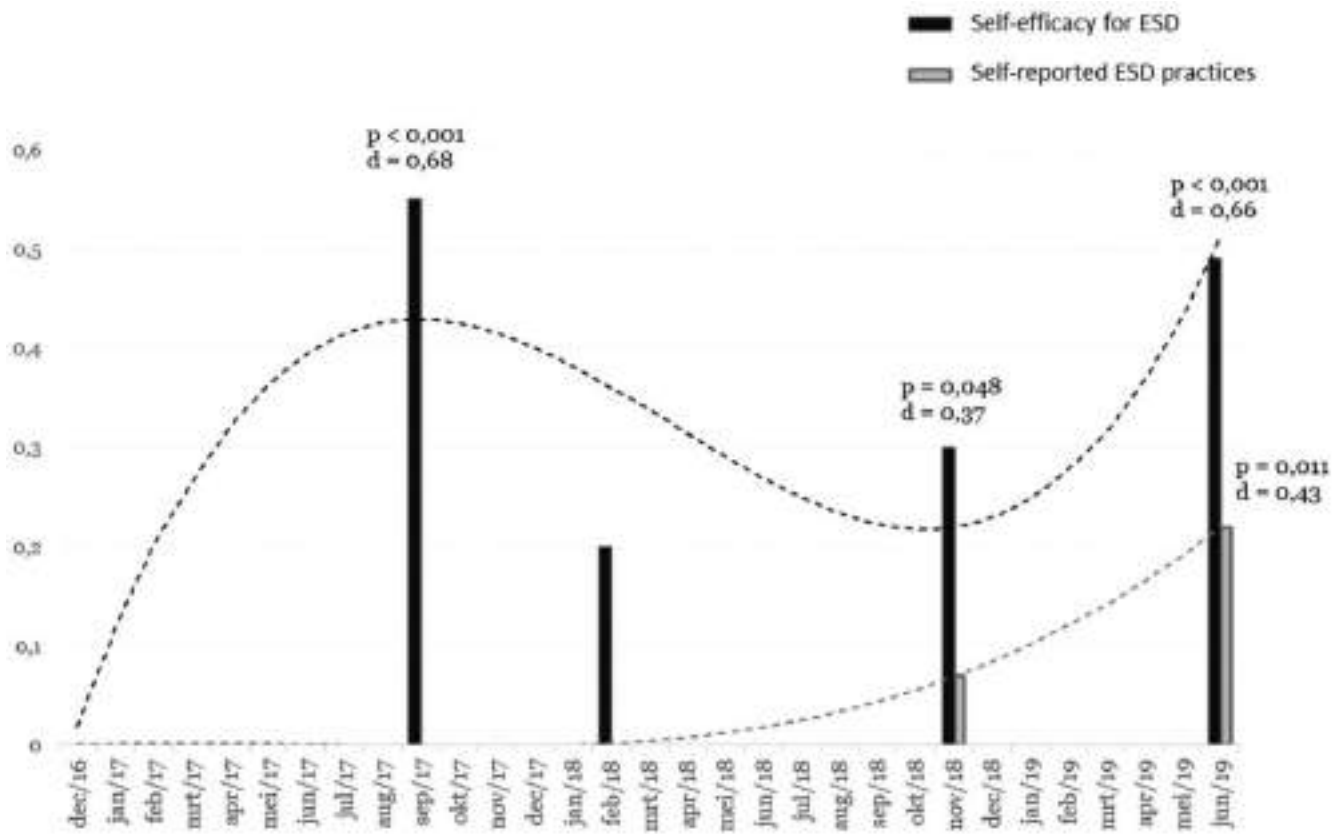
We pose two questions:

RQ1. How does teachers' self-efficacy for ESD and self-reported ESD practices evolve during the program?

RQ2. How does the relation between self-efficacy and teaching practices in ESD evolve?

Education for taking action on sustainability issues.
Questions asked and lessons learned.

Estimate	Dec ‘16	Sep ‘17	Feb ‘18	Nov ‘18	Jun ‘19
SEFF M ± SD	3.19 ± 0.82	3.74 ± 0.78*	3.39 ± 0.84	3.49 ± 0.79*	3.63 ± 0.66*
Effect size (d)		0.68		0.37	0.66
PRAC M ± SD	3.64 ± 0.64	3.63 ± 0.67	3.61 ± 0.77	3.70 ± 0.67	3.85 ± 0.57*
Effect size (d)					0.43
r (SEFF-PRAC)	0.436*	0.508*	0.572*	0.690*	0.791*



Boeve-de Pauw et al., 2022

Two main qualities of our current approach deserve to be highlighted.

- First, the immersive, long term, collaborative nature of the PD program, connecting ESD to the teachers' own educational reality *in their own school*, supporting them to make meaning of ESD *for their own students* and to translate the principles of ESD into educational practices that *fit their own needs*.

- Second, the long-term perspective of the research. We have collected data on the teacher outcomes on five different occasions, over a timeframe of 2.5 years, as they became acquainted with ESD, started experimenting and sharing experiences, and finally implemented it into their educational practice.

What is challenging for teachers?

Consistently, across time points :

- Economic, international and political aspects of ESD
- Evaluating student learning in ESD
- Collaboration with societal actors in ESD
- Using the (natural) outdoor environment in ESD

Where are we going?

Education for taking action on sustainability issues.
Questions asked and lessons learned.

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IMPACT

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U-TALENT

University of Antwerp

DUURZAAM EDUCATIE PUNT

KARLSTAD UNIVERSITY

KEEP SWEDEN TIDY

Universität Vechta
University of Vechta

DG HOCH N
Deutsche Gesellschaft für Nachhaltigkeit an Hochschulen e.V.

MUNI Masaryk University

SKAUTSKÝ INSTITUT

INVALSI
Istituto nazionale per la valutazione del sistema educativo di istruzione e di formazione

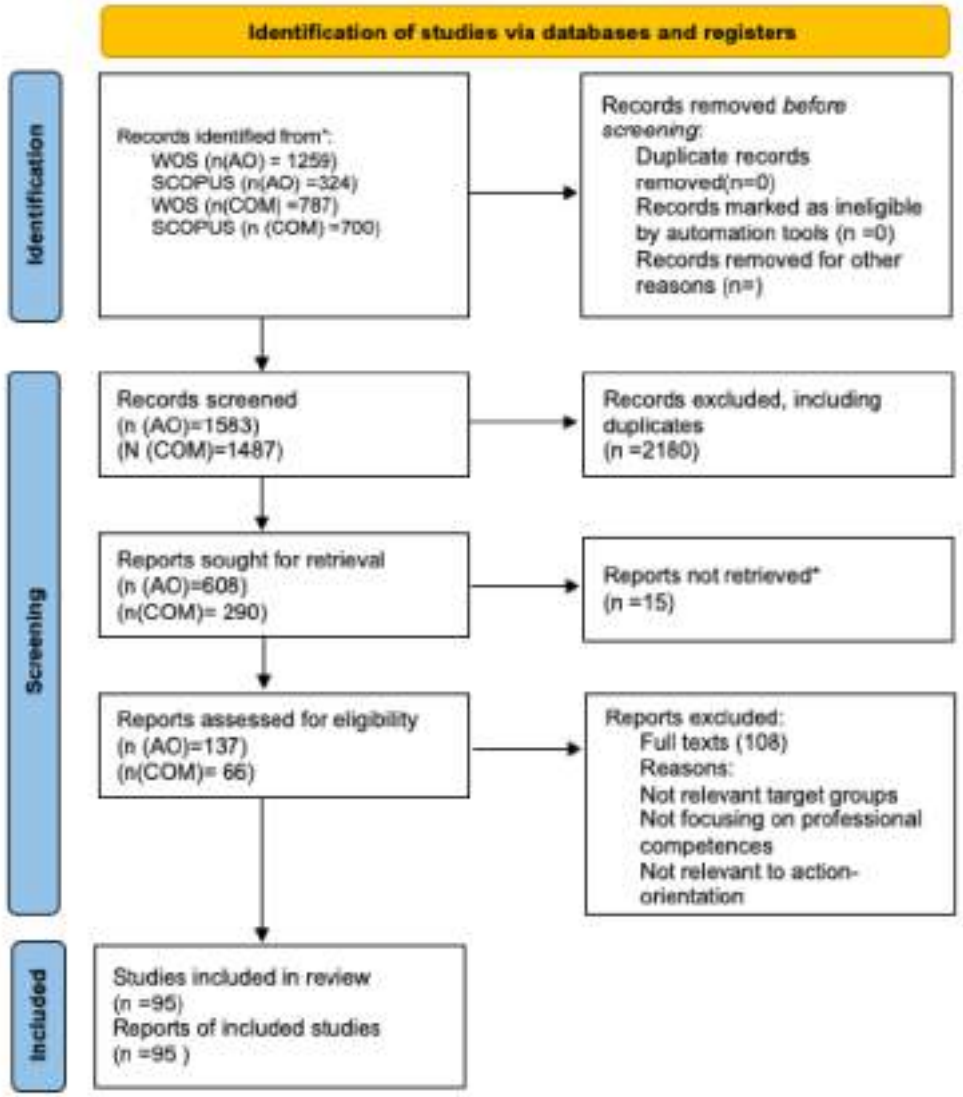
CENTER FOR THE PROMOTION OF SCIENCE

Education for taking action on sustainability issues.
Questions asked and lessons learned.

Utrecht University

IMPACT

What do we mean when we say action-oriented education?



Education for taking action on sustainability issues.
Questions asked and lessons learned.

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IMPACT

Lessons learned

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4.7
By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development

- System knowledge is not enough and ‘mere’ behavior is not be what we’re after.
- Applied knowledge is important : knowledge that helps learners to see the impact of their own (potential) actions.
- Nature connectedness is important, greening schools can help us in that direction.

- It is inspiring to think of action rather than behavior as the learning outcome of ESD.
  - Action implies deliberation and problem solving and is decided upon by learners themselves.
  - Action competence includes (1) having knowledge of action possibilities, (2) feeling confident in your own influence, and (3) being willing/driven to engage in action.

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4.7
By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development

- Putting action competence up front as a learnig goal shapes education
  - This brings action-oriented education in the picture
  - If we aim for action competence, action should always be part of the learning proces

- Teachers find all of this very difficult. It requires profound changes to ways they are used to teach.
- They tend to either stay away from action, of jump it to it too quickly.
- TPD needs to take into account the reality of the teachers and their schools, and go for a deep and long engagement (years).
- Good examples and inspiring materials can help.

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