

# Designing Rich Play to Promote Executive Functioning in Early Childhood

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1<sup>st</sup> International Conference  
on Educational Sciences  
2-3 November 2017  
Bandung, Indonesia



## Sui Lin GOEI PhD

- Professor in Education and Special Needs
- VU Amsterdam and Windesheim University
- Research focus on professionalising teachers for 21st Inclusive Education.
- Academic Programme attached to Master of Educational Needs (M Ed) and to Master of Pedagogy and Psychology (MSc)
- Practice Based Design Research Master Students /PhD students



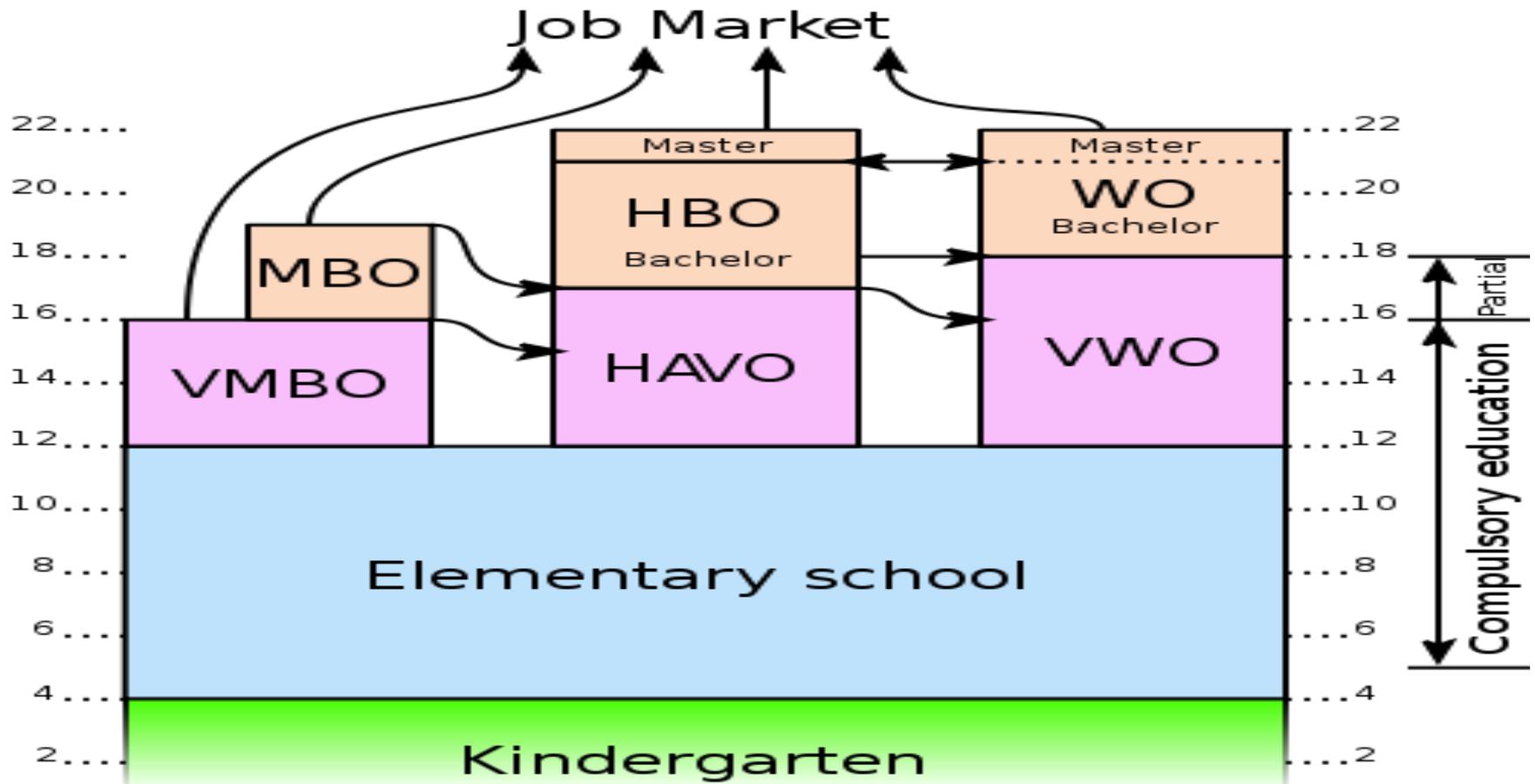
## The Netherlands / Europe



# The Netherlands



# Educational Infrastructure in the Netherlands



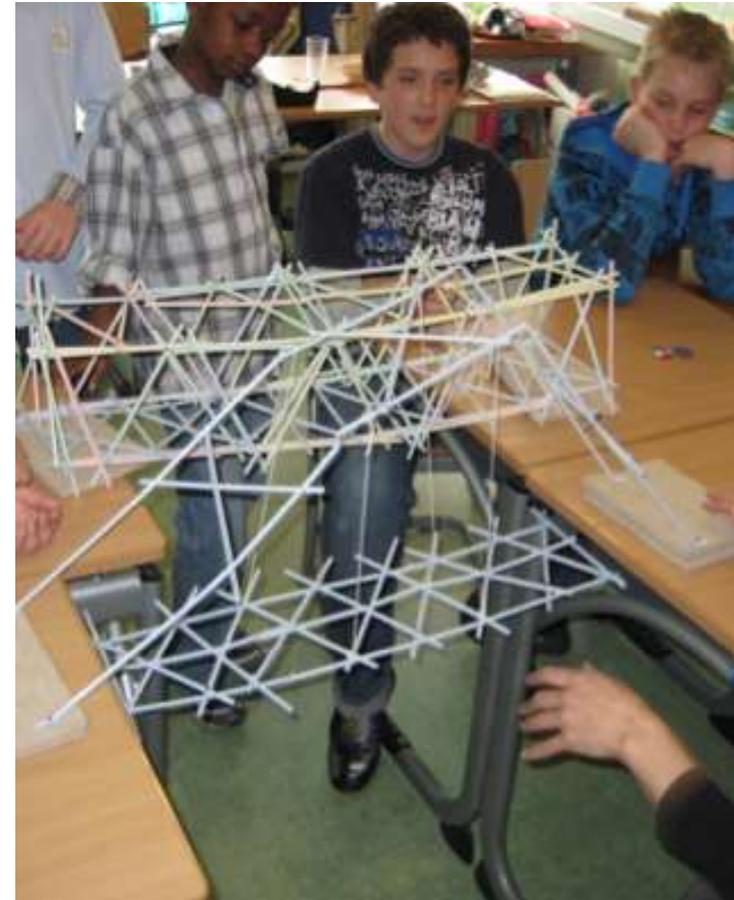
	Finland	9 years	7-16 years of age
	Hungary	10 years	6-16 years of age
	Turkey	8 years	6-14 years of age
	Portugal	9 years	6-15 years of age
	Netherlands	11 years	5-16* years of age

Untill age of 18, partly compulsory education

A starting qualification must be obtained at mbo level 2.

# Outline

- Current Issues in Education
- Early Childhood Education
- Play and Executive Functioning
- Design of Rich Play
- Learning from Play: Research Design
- Q&A



## Current Issues in 21<sup>st</sup> Educational Landscape: Your Take-Away for Today

- Urgent need for teachers to **adapt** to changing contexts and circumstances.
  - **System-wide focus** on teacher education:
    - whole-school collaborative development is beneficial for school outcomes.
  - Increasing agreement best teaching practice involves working with others; being reflective and engaging with others in school; and, experimenting through **collaboration** and sharing ideas.
  - **Teachers as learners** working in a team and in the community.
  - **Leaderful practice** (MacBeath & Townsend 2011).
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# Early Learning Matters



## 4 trends in Early Childhood Education (ECE) to watch for

1. **Minimizing the achievement gap:** expect more ongoing education, formal assessments and technical help.
  1. **Technology as a resource in the classroom:** It is important to consider how children interact with the technology, ensuring the new tools are developing positive behavior. Consider that screen time can come in many forms from passive to active.
  1. **Classroom Pedagogies:** teachers are encouraged to learn young children to manage cognition and emotions to become confident, resilient, and understanding.
  2. **Professional development** of ECE teachers to keep improving the quality of all early childhood education.
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# ECE in the Netherlands

- **Strongly regulated mid-quality ECEC system** regarding structural aspects, with still considerable variation in process quality (Slot, Leseman, Verhagen, & Mulder, 2015).
  - **Process quality** refers to the child's day-to-day experiences in ECEC settings and encompasses the *social, emotional, physical, and instructional aspects of children's activities and interactions with teachers, peers, and materials*, that are seen as the proximal determinants of child development (Howes et al., 2008; Pianta et al., 2005; Thomason & La Paro, 2009).
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- Learning through Play (Free Play) vs. **Playful Learning**
  - Play and learning **in context** are strongly related.
  - **Developmental Education** Approach: **Play-Based Curriculum** (Van Oers, 2013; 2015)
    - Play concept in modern developmental theory
    - Children's development as a **cultural process of identity development** in which **education** has a significant role to play (Vygotsky, 1997).
    - Conceptualising play from a cultural–historical point of view as a **specialy formatted cultural activity**
      - Implicit or explicit rules (acknowledged by the actor);
      - a high level of involvement;
      - and at least some degrees of freedom for the actor.
    - Children are important **co-actors**.
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## Head – Toes- Knees – Shoulders (1)

### **Introduction:**

Now we are going to play a game. The game has two parts. First, copy what I do. Touch your head!

- Good, now touch your toes!
  
  - Touch your head.
  - Touch your toes
  - Touch your head
  - Touch your toes
-

## Head – Toes- Knees – Shoulders (2)

### Practice:

- Now we're going to be a little silly and do the OPPOSITE of what I say. When I say touch your HEAD, INSTEAD of touching your head, you touch your TOES. When I say touch your TOES, you touch your HEAD.
  - So you're doing something DIFFERENT from what I say. Good, now touch your toes!
  - Touch your head.
  - Touch your toes
  - Touch your head
  - Touch your toes
-

## Executive Functioning Skills

- Head – Toes – Knees – Shoulders Task of Self-Regulation (HTKS-task) (Cameron & McLelland, 2011).
    - Attentional or cognitive flexibility
    - Working Memory
    - Inhibitory Control
  - Children’s behavioral self-regulation and executive functioning (EF) skills are strong predictors of academic achievement, school readiness, and long term health.
  - EF well-known construct originating from cognitive psychology, which enables individuals to plan, organise, and problem solve as well as to manage their impulses (Best & Miller, 2010).
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# Designing and Setting Up Rich Play to Promote Executive Functioning Skills

## Characteristics

1. Play as a specially formatted cultural activity
  2. Dialogic Classroom Talk
  3. Affordances
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# 1. Setting Up Play-Based Curriculum to Promote Executive Functioning Skills



## Example of Play-Based Curriculum: setting up Productive Play (Janssen-Vos, 2008)

- **Orienting** – explore the situation and related activities with the children, focus their attention on specific aspects or actions. E.g., Role-play doctor's visit explore children's personal experiences and share them.
  - **Structuring and deepening** – offer open structures so the children get involved in role-play activities. E.g. develop a story (script) with the children that is played out or by opening the scene with a particular act, teacher enters the scene as a concerned mother with a sick child with a broken leg.
  - **Broadening** – connecting the role-play activity with other activities and capacities of the children. E.g., think about the doctor's waiting room and how to decorate it.
  - **Contributing** – introducing new tools into the play that answer specific needs of children. E.g., measuring the height of all children by the doctor.
  - **Reflecting** – little moments of discourse on the ongoing activity: how is it going? Can you do it otherwise? What does this mean?
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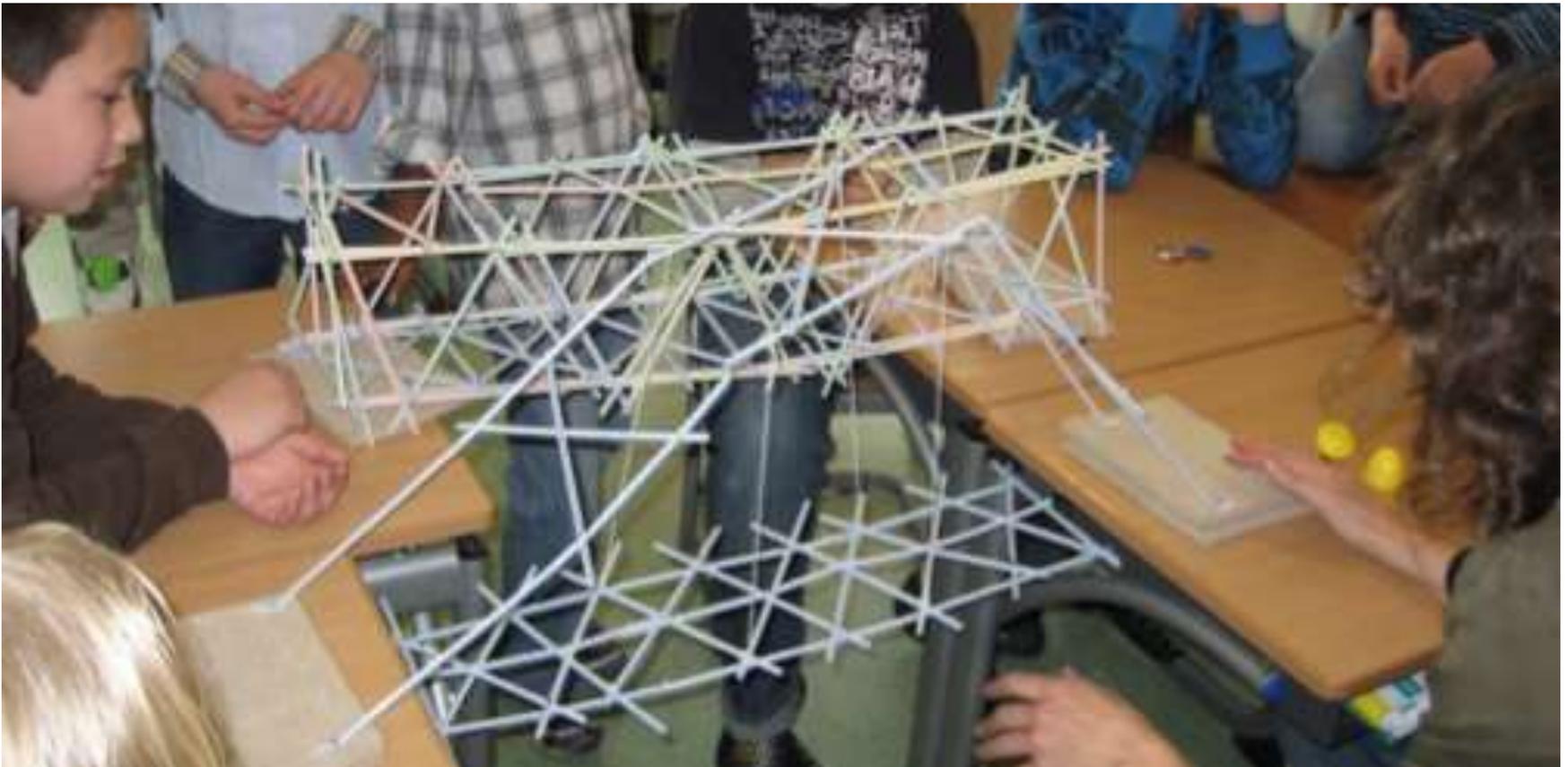
## 2. Dialogic Classroom Talk

(Van der Veen, 2017; Van der Veen, de Mey, Van Kruistum, & Van Oers, 2017)

- **Move beyond Initiation-Response-Evaluation (IRE) sequence** (teacher poses a closed question, one student (or multiple students in chorus) gives a short response, and the teacher evaluates the correctness of this response).
  - Development of young children's oral communicative competence in **whole-class settings** → given space to say more, carefully listen to one another, reason, and think together (Michaels & O'Connor, 2012).
  - **Talk moves** as tools, strongly related to children's academic learning
  - Pre-test intervention-post-test design → significant and moderate to large effect on the development of children's oral communicative competence.
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Teacher talk moves	Description	Example
<b>1. Share, expand, clarify</b>	<b>Encourage children to share, expand and clarify their initial ideas or utterances</b>	
1.1 Time to think	Verbally encourage children to take some time to think	<i>"Let's all take a minute to think about it"</i>
1.2 Say more	Encourage children to say more about their initial idea or press them to clarify their thoughts	<i>"Can you say more about what you mean with shield?"</i>
1.3 Revoicing	Rephrasing or restating (parts) of a child's utterance, in order to verify, rebroadcast or position the initial utterance and to create a space for the child to agree/disagree, say more, negotiate, etc.	<i>"So you are saying that the red part, that's his shield?"</i>
<b>2. Listen to one another</b>	<b>Encourage children to listen to one another</b>	
2.1 Repeat or rephrase	Encourage children to repeat or rephrase another's child contribution in order to stimulate children to listen to one another and taking other's ideas seriously	<i>"Who can repeat what Dana just said?"</i>
<b>3. Reasoning</b>	<b>Ask children for evidence and stimulate them to deepen their reasoning</b>	
3.1 Why	Press children for reasoning or ask them to come up with the rationale behind their initial idea	<i>"Why do you think the ladybug needs a shield?"</i>
3.2 Challenge or counterexample	Encourage children to come up with a counterexample or challenge an initial claim	<i>"Does it always work that way?"</i>
<b>4. Think with others</b>	<b>Encourage children to think with each other and build on each other's ideas</b>	
4.1 Agree or disagree	Encourage other children to agree or disagree with one child's initial idea	<i>"Jurre, do you agree with Sara's idea? Why?"</i>
4.2 Add on	Encourage children to add on or respond to someone else's idea	<i>"Who can add on Sanne's idea about the shield of the ladybug?"</i>
4.3 Explaining someone else	Ask children to explain what someone else means	<i>"Who can explain what Douwe means when he says that?"</i>
<b>5. Metacommunication</b>	<b>Encourage children to reflect on their communicative performance and the understandability of their oral messages</b>	
5.1 Metacognitive guidance	Explicitly indicating a problem of non-comprehension and encourage children to rephrase their initial message	<i>"I don't know/understand what you mean"</i>
5.2 Conversational ground rules	Explicitly pointing at conversational ground rules that apply to the group, negotiate new rules and stimulate children to reflect on their communicative performance	<i>"Why is it important that we listen carefully to one another?" "What talk rules did we agree upon?"</i>

### 3. Rich Play using Resources to Promote Executive Functioning Skills



# Affordance theory (Chemero, 2003): use of materials



## Design of Rich Play via Lesson Study Teams

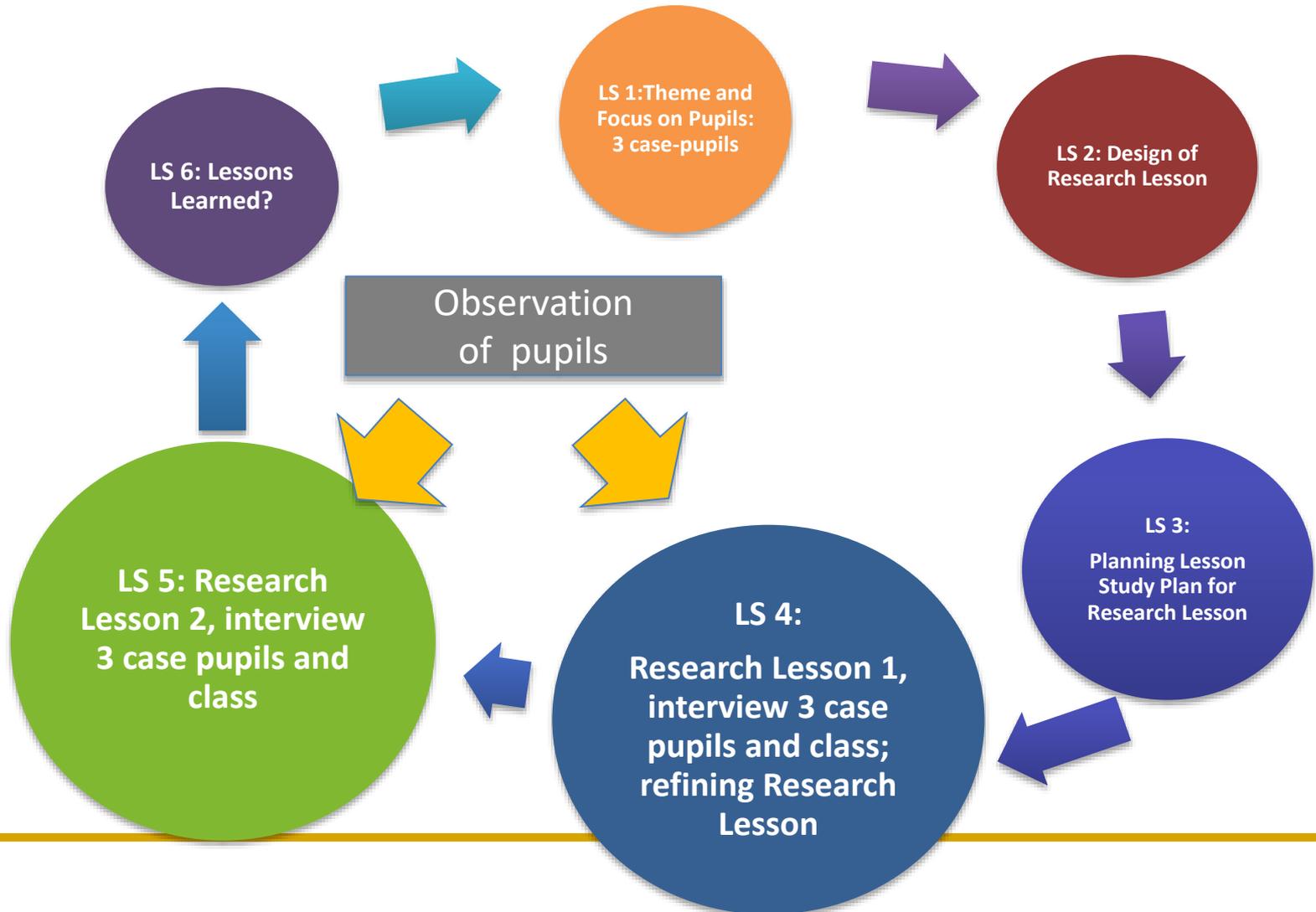
In a Lesson Study team teachers collaborate on:

- Preparing, designing, observing, delivering a ‘live’ research lesson, evaluating and reflecting on the delivered research lesson(s)
- *‘knowledgeable others’* facilitate the whole process.

**Teams of pedagogical professionals and teachers of pre-school collaborate in a Lesson Study team and are coached by a ‘knowledgeable other from university.**

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# Lesson Study Cycle (Goei, 2013)



## Research Team



- Prof. Hanno van Keulen PhD
- Prof. Sui Lin Goei PhD
- Prof. Ieneke Oenema PhD
- Prof. Cathy van Tuijl PhD
- Margreet van Oudheusden MSc
- Conny Boendermaker MSc
- Ingrid Zijlstra PhD
- Margo Lambers MSc
- Coby Leijten B Ed
- Henriette van Ameijde MSc
- Mariska Venema MLI
- Hinke Slot- Kroeze

## Kindergarten + class 1/2

Almere (2 locations)  
Lelystad (3 locations)  
Steenwijk (1 location)  
Enschede (1 location)  
Leeuwarden (3 locations)  
Westerhaar (2 locations)

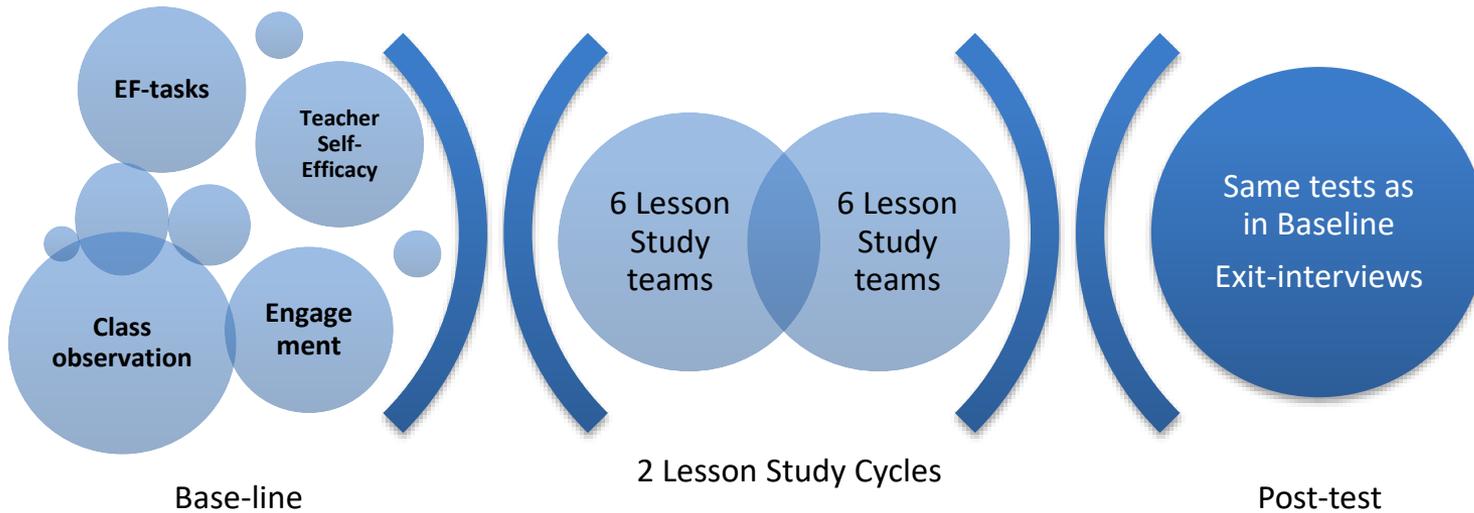
600 children  
60 pedagogical professionals and  
teachers

**Funded by 'Nationaal Regieorgaan Praktijkgericht Onderzoek SIA'**

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# Research Design



## Current Issues in 21<sup>st</sup> Educational Landscape: Your Take-Away for Today?

- **Teachers' 21<sup>st</sup> CS:** Being reflective, engaging with others in school, , experimenting through **collaboration** and sharing ideas.
  - **Teachers as learners** working in a team and in the community.
  - **Leaderful practice** (MacBeath & Townsend 2011).
  - Early Learning Matters in Promoting Executive Functioning
  - **Use of Play as an Activity, Use of Classroom Talk, and Use of Materials when Designing Rich Play**
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