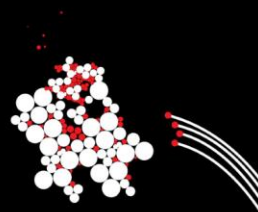
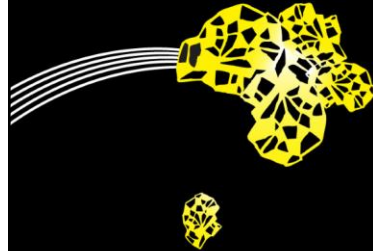



UNIVERSITEIT TWENTE.



**DATA-BASED DECISION MAKING FOR
INSTRUCTIONAL IMPROVEMENT**



ICSEI 2017
GERT GELDERBLOM
KIM SCHILDKAMP

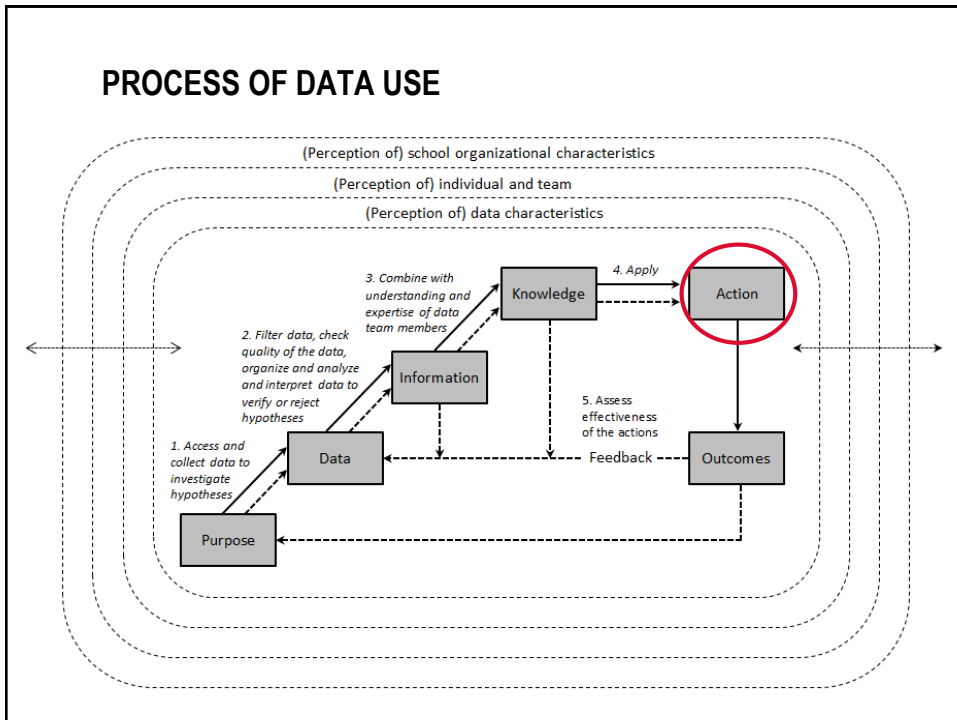


INTRODUCTION

Instruction has a strong impact on student achievement (Darling-Hammond, 2010; Hattie, 2009).

Data-based decision making can help teachers improve their instruction and can lead to increased student achievement (McNaughton, Lai, & Hsiao, 2012; Walsh, 2003; Young, 2006).

PROCESS OF DATA USE



ACTION: IMPROVEMENT OF INSTRUCTION

- Purposeful teaching
- Adaptive instruction
- Feedback
- Learning time

INFLUENTIAL FACTORS

- Data literacy
- Attitude: data use for instructional improvement
- Leadership
- Collaboration
- Shared vision and clear goals
- Support and training
- Data characteristics (e.g., quality of data)

RESEARCH QUESTIONS

1. What data do teachers use to adapt their instruction?
2. How do teachers use data for instructional improvements?
3. Which factors influence data use for instructional improvement by teachers?

METHOD

Context: 116 schools for primary education in the Netherlands

Instruments:

- Reliable and valid survey 'data use for instructional improvement' (n=318 teachers)
- Interviews (n=18 teachers)

Analysis: Descriptives, regression analysis, and qualitative analyses

1. WHAT DATA?

- 96% use data with the intention of improving instruction:
 - Classroom assessments, the pupil monitoring system and classroom observations
- Data directly related to students in own grade
- Data use when learning outcomes are disappointing
- Less interested in data further away from their daily practice

2. HOW DO TEACHERS USE DATA?

- **Data use leads to more awareness, not always to actions**

'As a teacher, you do become more aware of things going wrong. I do value that, but I cannot say whether it directly leads to improved instruction.'

- **Teachers mainly use data for adaptive instruction**

'When I discover that students have learning problems, then I will adjust my instruction in the next lessons. I will help these students in a small group.'

- **Teacher skip important steps in the data use process**

'Collecting data is not difficult. But data use goes further. What is the reason that learning outcomes are not good? How to dig deeper?'

3. INFLUENCING FACTORS (I)

- **Positive attitude to data use for instructional improvement, but**

- Worry about pressure from the government, strategic policy school boards, and one-sided view of child development
- Pressure on teachers can lead to resistance to data use.

'We experience data use as a top-down process, arising from a culture of fear. We think our government will punish our school when the outcomes of mathematics or reading are disappointing.'

3. INFLUENCING FACTORS (II)

- **Support and training by coaches**
 - Data expert/instructional coaches as educational leader, support data use for instructional improvement.
- **No direct influence of school leader**
 - School leaders use data on school level
 - The influence of the school leader is indirect, through the instructional coach, who works with the teachers.

CONCLUSIONS (I)

- Awareness of the importance of data use
- Data use for adaptive instruction, when learning outcomes of students are disappointing.
- More attention needed to data use for average and high performing students, and multiple facets of instruction (i.e., also purposeful teaching, feedback and learning time)
- Data use for instructional improvement is superficial. Teachers do not use all available data, fail to carry out all relevant analyses, and skip important steps in the data use process.

CONCLUSIONS (II)

- Teachers have a positive attitude to data use for instructional improvement, but pressure on teachers can hinder data use.
- Support and training has a positive effect on data use for instructional improvement.
- Support from an instructional coach/data expert can help teachers improve their instruction. They are the link between the school leader and teachers
- Teachers indicate that they have sufficient data literacy, but perhaps they overestimate themselves?

UNIVERSITEIT TWENTE.

13

UNIVERSITEIT TWENTE.

THANK YOU FOR YOUR ATTENTION

GERT GELDERBLOM

GGELDERBLOM@SOLCON.NL

KIM SCHILDKAMP

K.SCHILDKAMP@UTWENTE.NL

