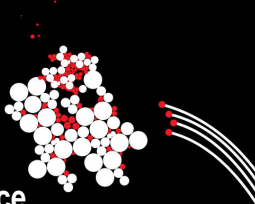

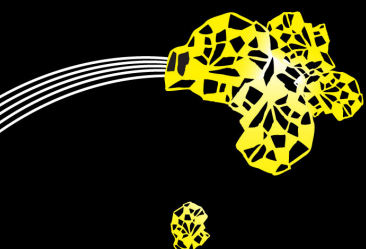


UNIVERSITY OF TWENTE.



Data-informed decision making: from compliance to improvement

Nutzung von Daten zur Qualitätsentwicklung im schulischen Bereich
10-12-2021
Kim Schildkamp: k.schildkamp@utwente.nl



1

In this presentation

- Theory of action and theory of learning
- Data use for accountability and improvement
- Data triangulation
- Data use as a collective effort including students

2



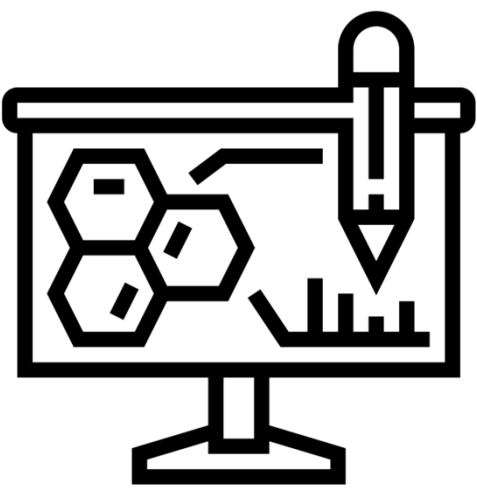
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Introduction

- Enormous volumes of data
- New tools and applications
- How to use data to improve the quality of human decision making?

3

Misconception 1: DBDM Interventions lack a theory of action

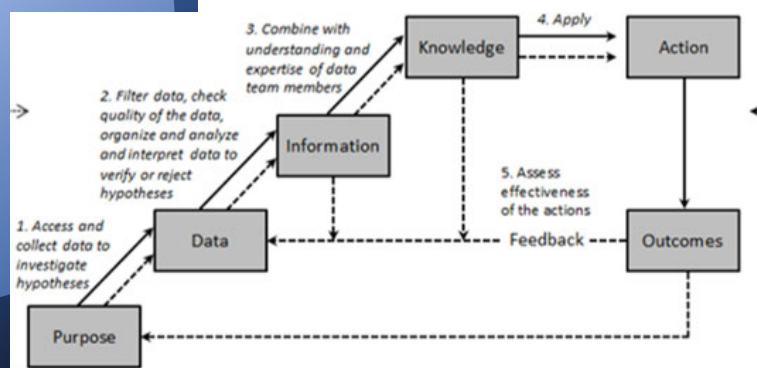


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Misconception 1: DBDM Interventions lack a theory of action

- Several theories of action, frameworks, and models of inquiry
- From goals to data to information to knowledge to action to outcomes



Schildkamp & Poortman, 2015

5

Misconception 1: DBDM Interventions lack a theory of action

Challenges

- Data use is:
 - not straightforward and linear
 - iterative
 - involves sensemaking
- Focus on student learning but what about teacher learning?
- How do we combine data with local knowledge and experience?
- A theory of learning?

6

Misconception 1: DBDM Interventions lack a theory of action

Research	• Theory of learning
Combine	• Data and local knowledge and experience
PLC	• Sensemaking in a PLC (data team)

7

The datateam[®] procedure

```

    graph TD
      1((1 problem definition)) --> 2((2 formulating hypotheses))
      2 --> 3((3 data collection))
      3 --> 4((4 data quality check))
      4 --> 5((5 data analysis))
      5 --> 6((6 Interpretation and conclusions))
      6 --> 7((7 implementing improvement measures))
      7 --> 8((8 evaluation))
      8 --> 1
      5 -.->|Hypothesis (partly) incorrect? Go back to step 2| 2
    
```

- 6-8 teachers and school leaders
- Start is educational problem and goal
- Goals: professional development and improvement
- Coaching
- 10 years
- 5 countries

8

Misconception 2: Data use is mostly there for accountability purposes



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9

Misconception 2: Data use is mostly there for accountability purposes

Challenges

- Shaming and blaming, deficit mindsets
- Narrow curricula
- Short-term goals, bubble kids
- Focus on test scores not on whole child
- “Accountability without improvement is empty rhetoric, and improvement without accountability is whimsical action without direction”
- Data in an accountability system can reveal aspects that need improvement
- Different stakeholders - different goals
- Goals: Deliberation, negotiation, debate

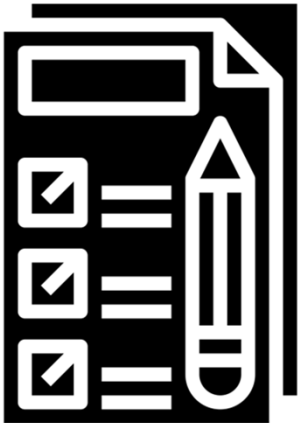
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Misconception 2: Data use is mostly there for accountability purposes

- Goals**
 - Start with goals not data
- Diversity**
 - Achievement, equity, wellbeing, safety, health etc.
- Research**
 - Balance accountability and improvement

11

Misconception 3: The most important source of data are test results



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12

**Misconception
3: The most
important
source of data
are test results**

Data

- Systematically collected
- Qualitative & quantitative
- Cognition, socio-emotional, attitudes, behavior etc.
- Socially constructed
- Goal displacement
- New goals require new data
- Triangulation
- Student voice data

13

**Misconception
3: The most
important
source of data
are test results**

Challenges

- Overreliance on assessment data and/or lack of access to other data
- Interim data show which students need help, understanding of misconceptions or next instructional steps is missing
- Look beyond traditional student performance indices
- Students are not numbers



14

Misconception 3: The most important source of data are test results

- Triangulate**
 - Use diverse data sources
- Research**
 - Support in the use of data
- Student voice data**
 - Include student voice data

15

Misconception 4: Data use is a rational process

16

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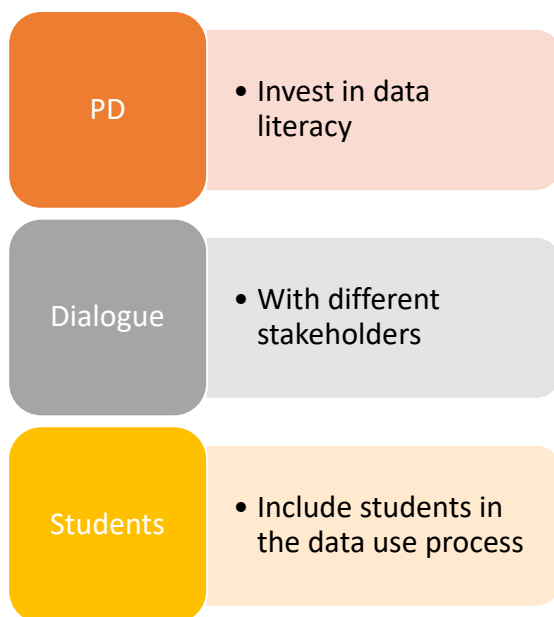
Misconception 4: Data use is a rational process

Challenges

- Data use is not straightforward or exclusively rational
- People filter data through lenses, experiences, intuition
- Confirmation bias
- Collective engagement
- Sensemaking and dialogue is crucial
- Requires data literacy

17

Misconception 4: Data use is a rational process



18

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ELSEVIER

Studies in Educational Evaluation

Misconceptions about data-based decision making in education: An exploration of the literature

Ellen B. Mandinach ^a ✉, Kim Schildkamp ^b ✉

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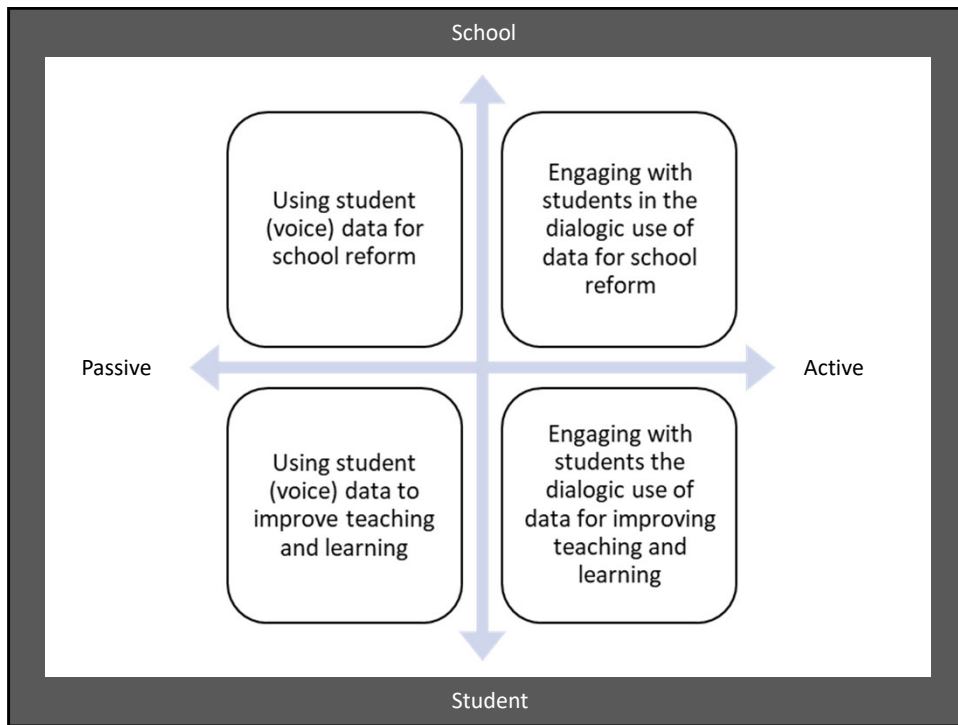
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Students in the data use process

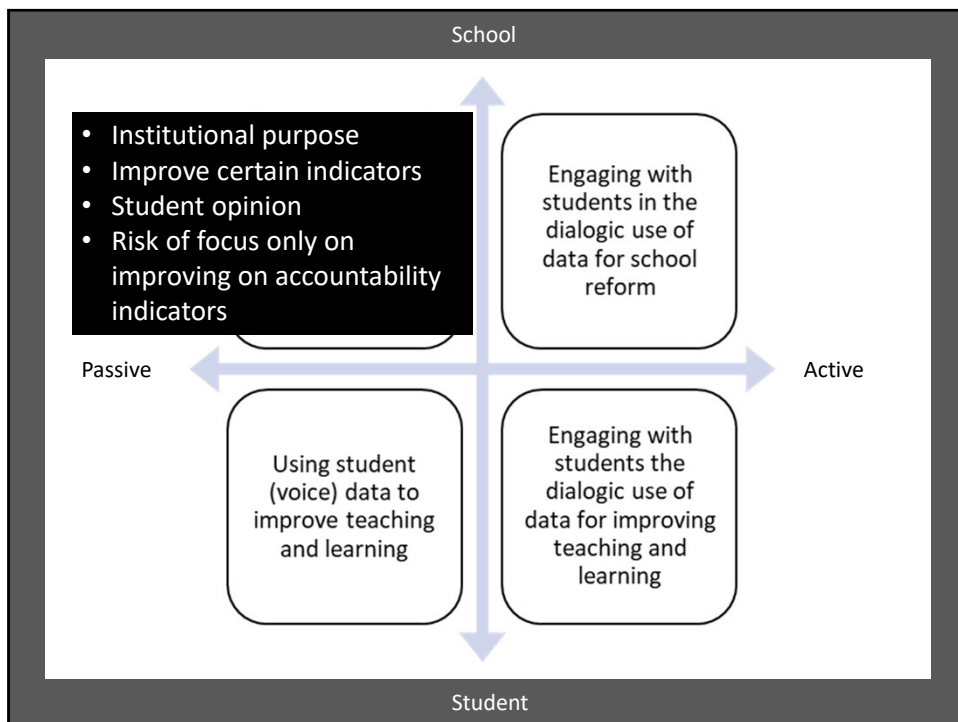
GET INVOLVED

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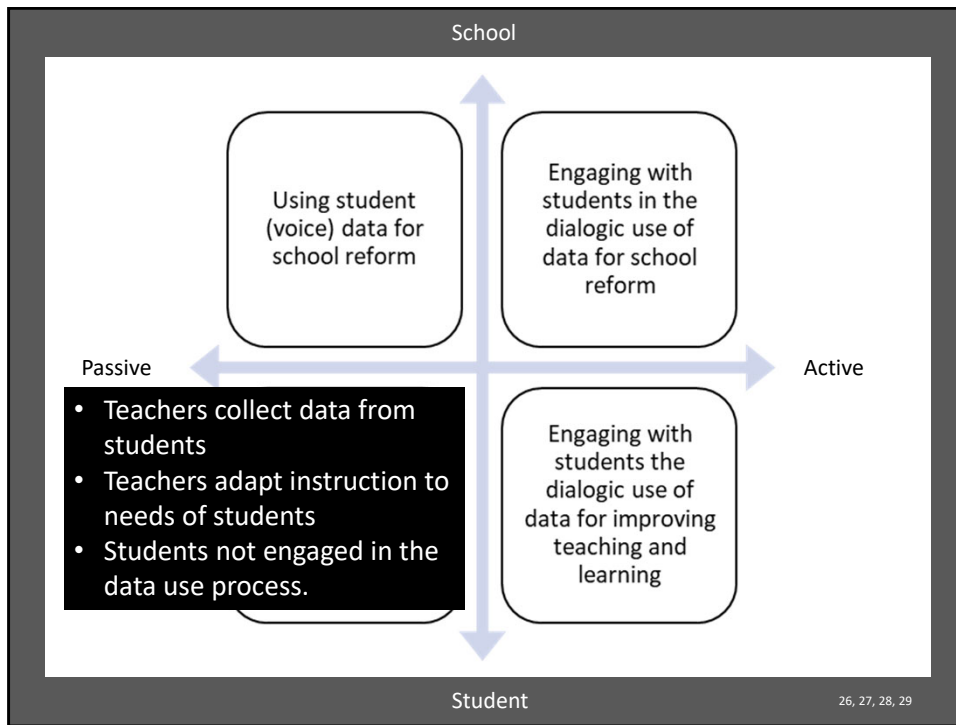
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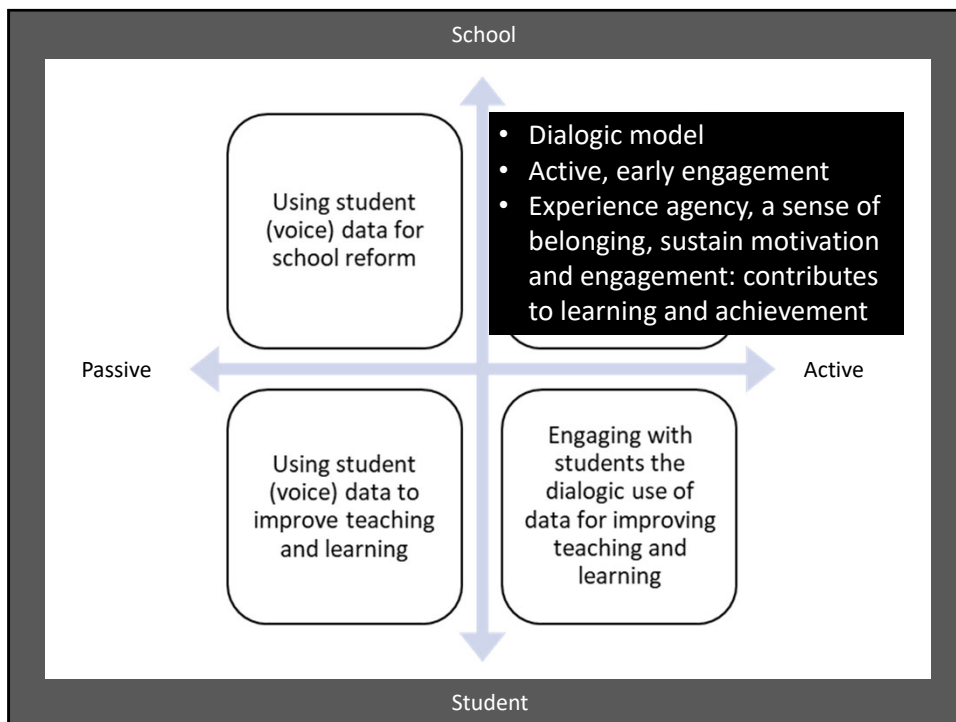
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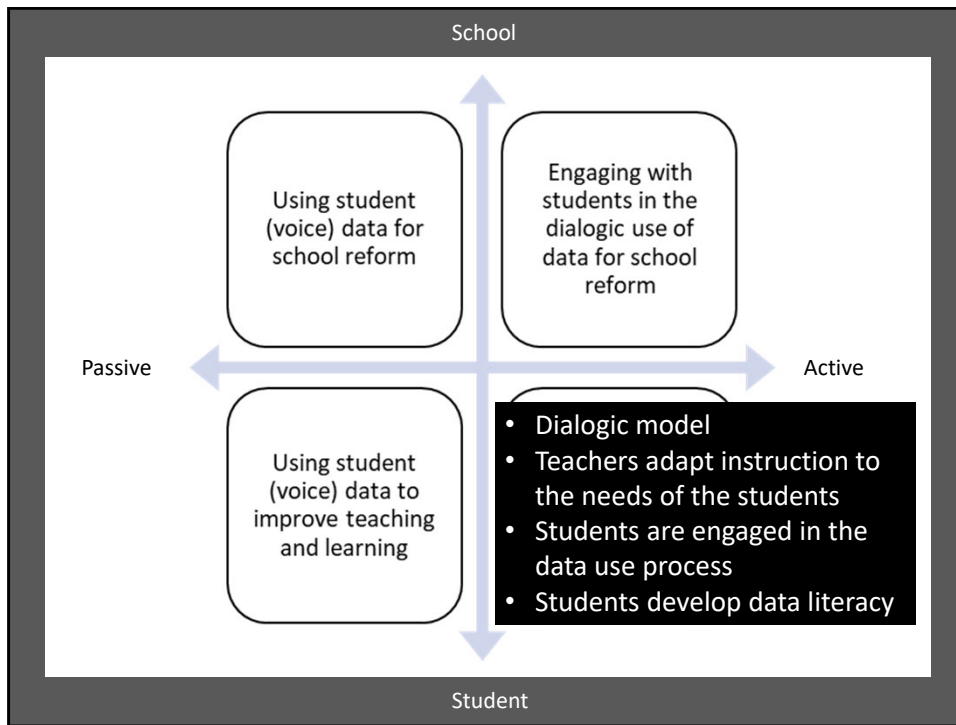
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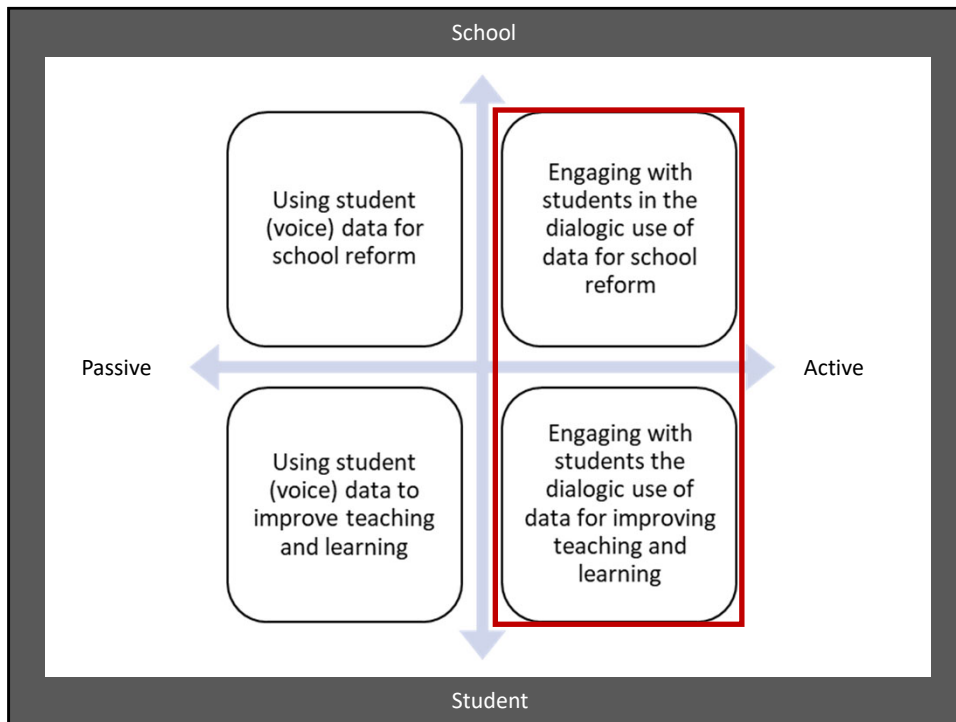
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Recommendations

- Involving students
 - Effective school reform
- Involving students
 - Improvement of teaching & learning in the classroom
- Involving students
 - Increased data literacy

27

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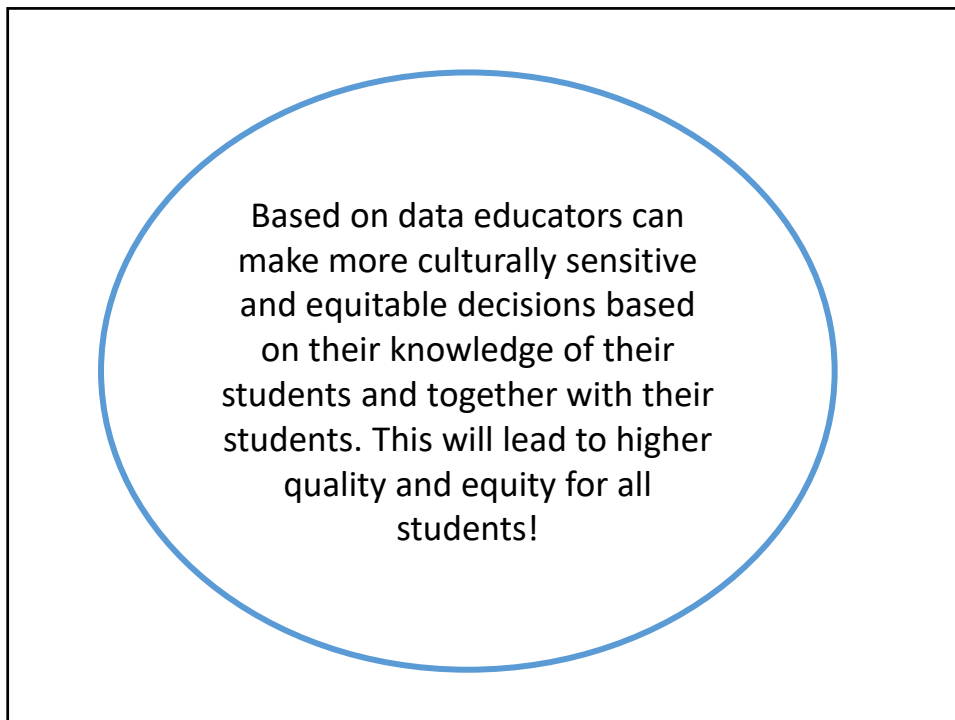


Conclusion

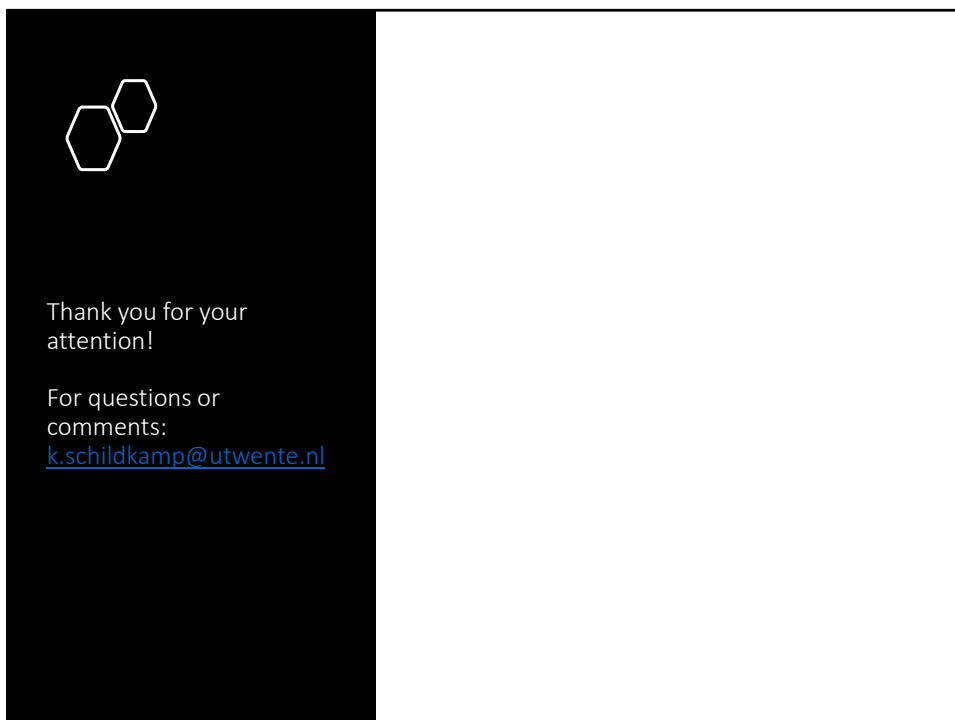
- Data use not rational and technical, it involves human aspects
- For studying data use a theory of action and theory of learning is needed
- Data can be used for accountability and improvement
- Triangulate data
- Effective data use requires a collective effort including students

28

28



29



30

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