THE DATA TEAM® PROCEDURE

Datateams for professional development and school improvement:
Intertwining research and practice

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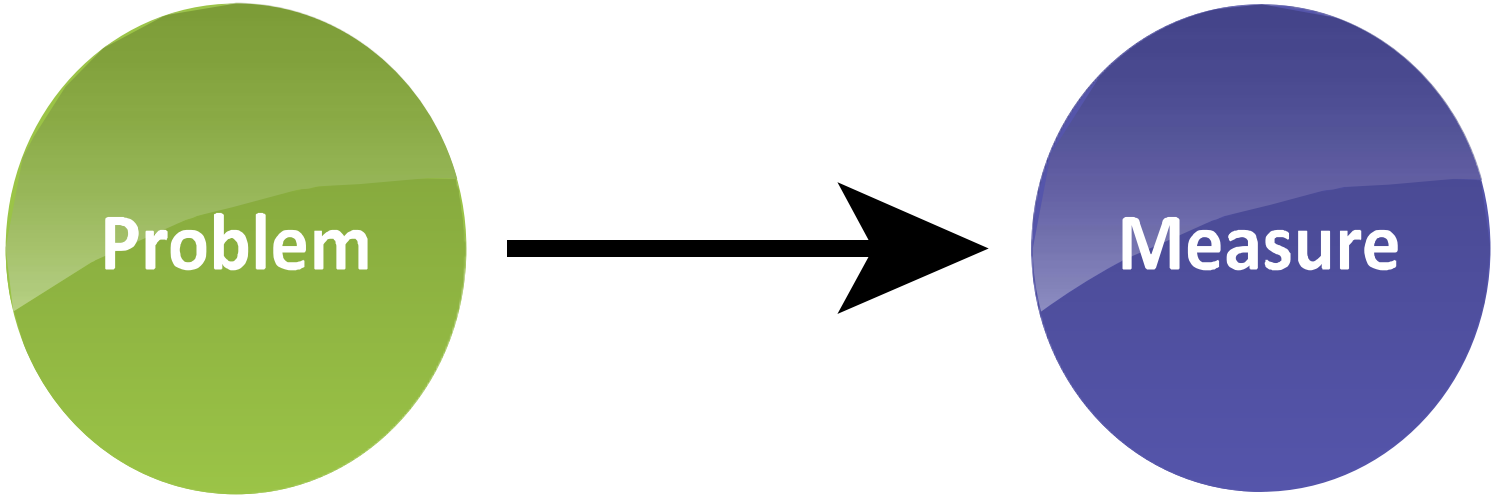
Today we would like to …

- Explain the Data team® procedure
- Present our latest research results
- Give an example of a data team in practice

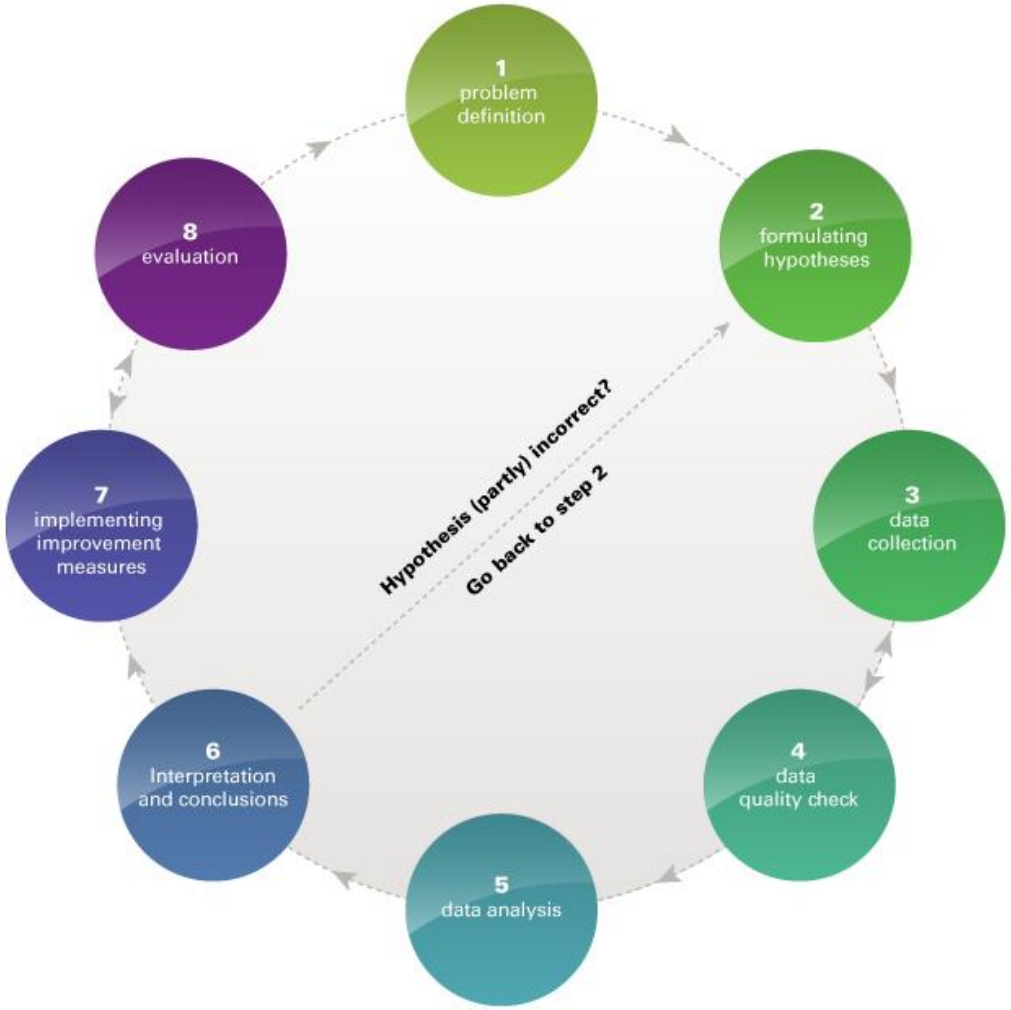
Need in the field for data use

- Schools need strategies for school improvement (e.g., increase final examination results, reduce failing)
- The use of data, such as assessment results, to improve education *(Schildkamp & Kuiper, 2010)*
- Examples of data: assessment results, classroom observations, student surveys
- Can lead to increase in student learning and achievement *(Campbell & Levin, 2009, Carlson, Borman, & Robinson, 2011; McNaughton, Lai, & Hsiao, 2012)*

How problems often are solved



The data team® procedure



- Teams 6-8 teachers and school leaders
- Educational problem: grade repetition, low student achievement
- Goals: professional development and school improvement
- Coach guides them through the eight steps (two years)

Combining research and practice

- Research and practice in a growing network:

Year	Development
2009	Small scale pilot with 5 schools (secondary education)
2011	From regional to national ▪ 24 schools for secondary education ▪ 1 school for higher education (teacher training college)
2013-2015	From national to international ▪ 25 schools for primary and secondary education ▪ 17 schools in **Sweden** (primary and secondary education) ▪ 1 school in **England** (secondary education)

- Practitioners and researchers work together in investigating and improving the data team procedure.

Research results: effects

- Professional development of teachers:
  - Teachers (very) satisfied about meetings, guidance and material
  - Significant increase in data use knowledge and skills (medium effect sizes)
  - Increase in awareness of and (collaboration in) data use in schools

- After implementing measures at schools: significant increases in student achievement (large effect sizes)

'Our gut feeling is often wrong'

'Learnt a lot with and from each other'

'We know more about facts and numbers now'

'Taking a look at the impact of our teaching'

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Datateam in practice







School: Marianum

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The start

- *'Data are important, but how to start using them school wide?'*

- Enthusiastic people:
  - School leader doing master educational leadership
  - Two teachers in new "research" role

- An important problem with examination results

→ **The data team was formed**

'We started without really knowing what we got ourselves into. Yes, something with data…'

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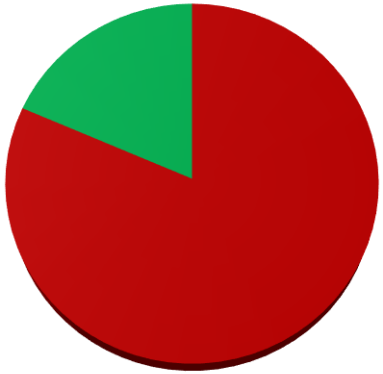
Step 1: The problem

- 2013: 20% of all students in grade 4 passed the compulsory arithmetic test.



- Goal:
  - 2015 → 60% of all students pass
  - 2016 → 80% of all students pass

'Normally, what we would do is give all students the same calculation classes, from grade 1 to 4. But this time, we decided to take a closer look at our problem first.'

Step 2: Hypotheses

Process:

- Brainstorming in the datateam
- Asking colleagues in the school

Assumptions:

- The 80% that did not pass the test are:
  - Students with “alpha/gamma” profile (society/ economy)
  - Students with low results on arithmetic in primary education

- Students perform the lowest on the content area “relations”

Step 3: Data collection and Step 4: Data quality

- Step 3: Data collection
  - What data do we need?
  - Where can we find these?
  - Who can access these?

- Step 4: Data quality
  - Are the data reliable?
  - Are the data valid?

'We discovered that we had given our students a series of arithmetic tests, but nobody had ever done anything with the data…'

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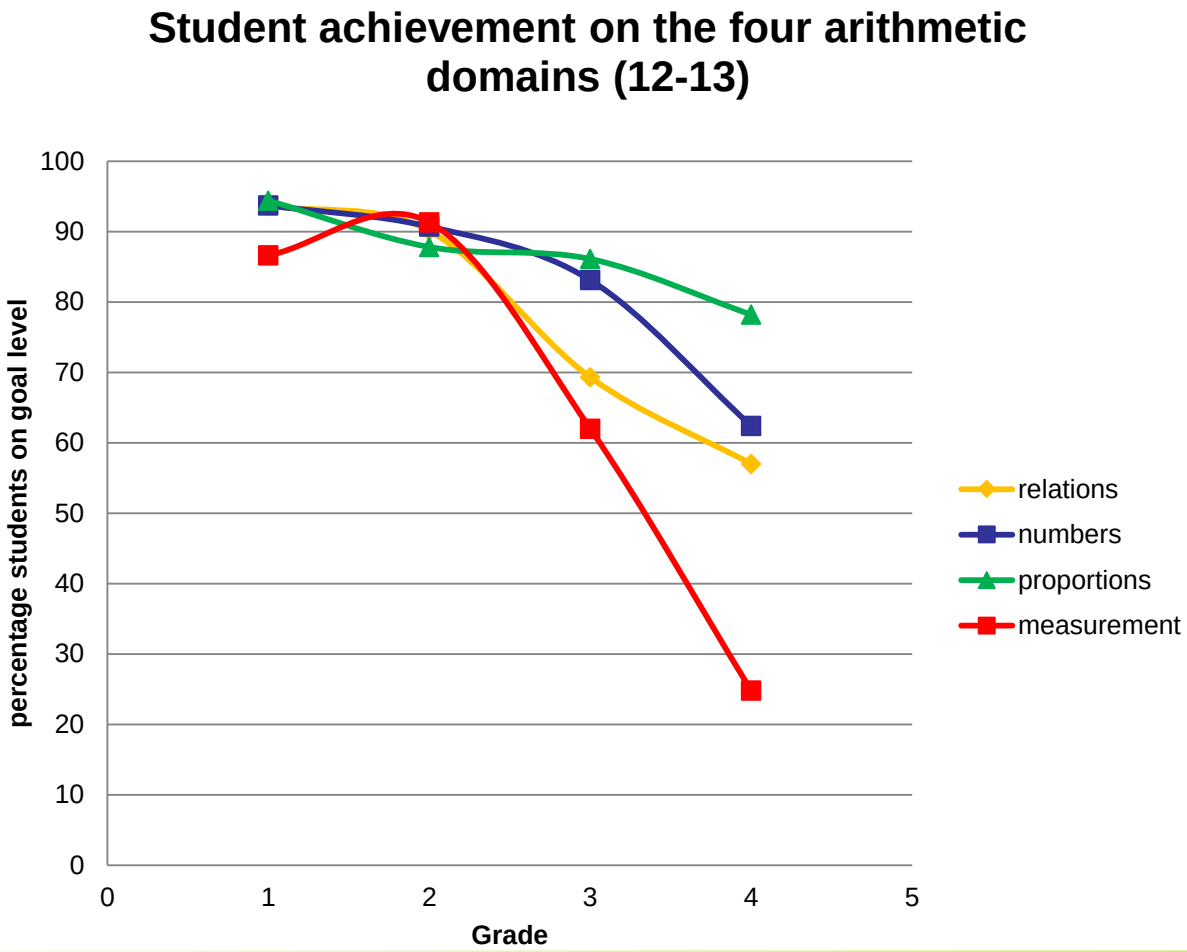
Step 5: Data analysis



'Those working sessions worked great. One teacher turned out to be an Excel expert and showed us how we could analyse the data. We learned by doing it together.'

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Step 6: Conclusions

- Profile (alpha/gamma/beta) does not influence arithmetic achievement
- Students with low results in primary education are at risk
- Students performed lowest on content area ‘measurement’
- Significant drop in scores for ‘measurement’ in grades 3 and 4

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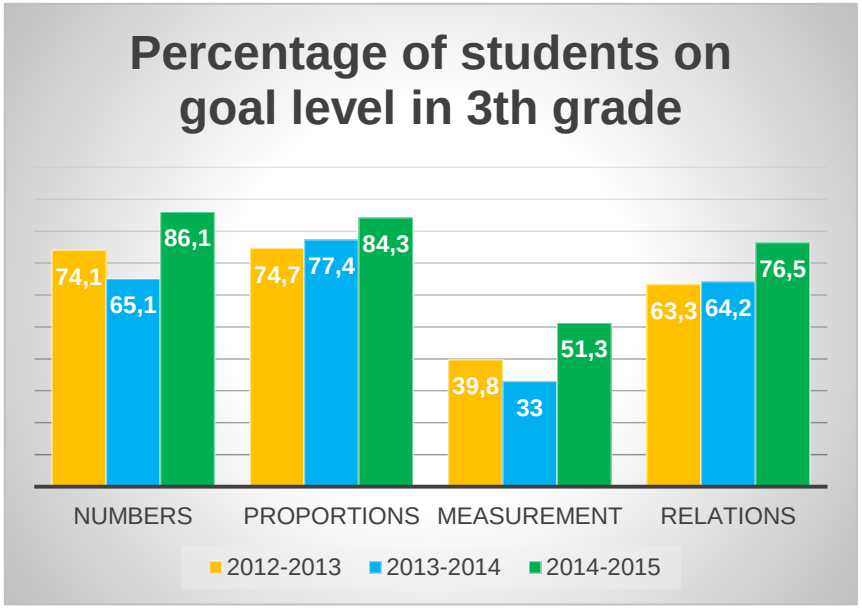
Step 7: Improvement measures

- Presentation in the whole school - hot debate!

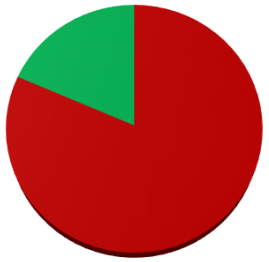
- Measures:
  - Structural arithmetic classes in 3rd grade – special attention to measurements
  - Remedial arithmetic classes in 4th grade
  - Remedial arithmetic classes in 1st and 2nd grade
  - Working on quality of arithmetic classes & curriculum coherence
  - More formative assessments

Step 8: Evaluation

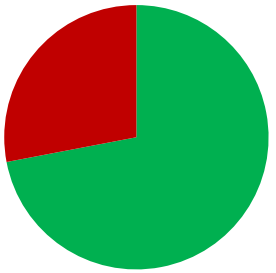


- 2015: Student achievement in arithmetic increased after one year in grade 3.

- 2015: 72% (instead of 20%) of all the students in grade 4 passed the arithmetic test!



2013: 20%



2015: 72%

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The students…….

‘I don’t like arithmetic, but I am improving and that’s fun!’

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Process

- Results:
  - Decisions based on data
  - Tailored instruction for students

- Dilemma's:
  - Data collection and analysis takes time
  - Involvement (colleagues and students)

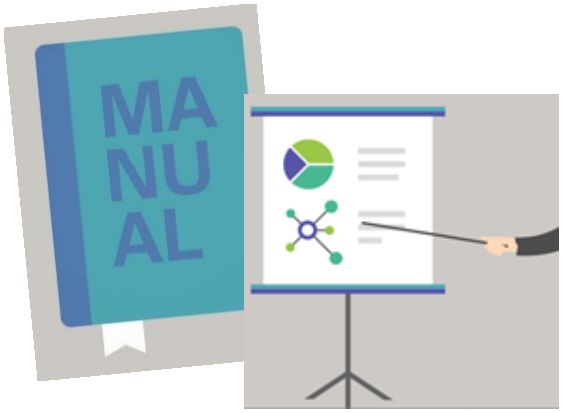
- Towards a culture of data use
  - New data teams formed
  - More data use in the classroom

'Data-based decision making is now in our DNA!'

Products and sustainability

- Products and publications:
  - Data team book, soon Swedish version; English planned; (scientific) publications
  - Website (Dutch and English): www.datateams.nl; videos, talk show, workshops and keynotes
  - Manual, data analysis course and licensed partners training more schools (internationally)

- Sustainability
  - Most teams continue
  - New positions, e.g. ‘data use team leader’ created



Lessons learnt

- Research should not only take place in schools, but also *with* schools (partnerships)
- Long term research in cooperation with policy and practice is crucial for effective and sustainable school improvement
- Data use does not start with data, but with educators' shared problems and goals

Why vote for us?

Data teams as ultimate form of practitioner research!

Thank you for your attention!

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www.datateams.nl