UiO : **Faculty of Educational Sciences**
University of Oslo

**Teaching matters: Research on teaching qualities.**

**What do we know?**

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# The problem

- Understanding teaching qualities point to a long history in the educational sciences

- However – understanding / or measuring teaching qualities have proven difficult

Field suffering from fragmentation; theoretical / methodological wars; and the lack of common instruments

Hard to reach consensus

If consensus has been approved - trivial knowledge

# Analyzing teaching quality: teachers matters!

All studies trying to understand classroom teaching and learning underscore the role of teachers

Recent studies* suggest

Teachers represent the most important factor in student achivement, outside family and education

*Seidel & Shavelson, 2007; Timperley & Alton-Lee, 2008; Hattie, 2009; Baumert et al., 2010; Bryk et al., 2010, Konstantopoulos & Chung, 2011

# Different approaches/ traditions for analyzing teachers:

**WHO teachers are:**

their personalties, values and beliefs but also

competences/ qualifications and formal training

**WHAT teachers do:**

instructional strategies, content coverage; time

on task/ pacing, classroom management ,
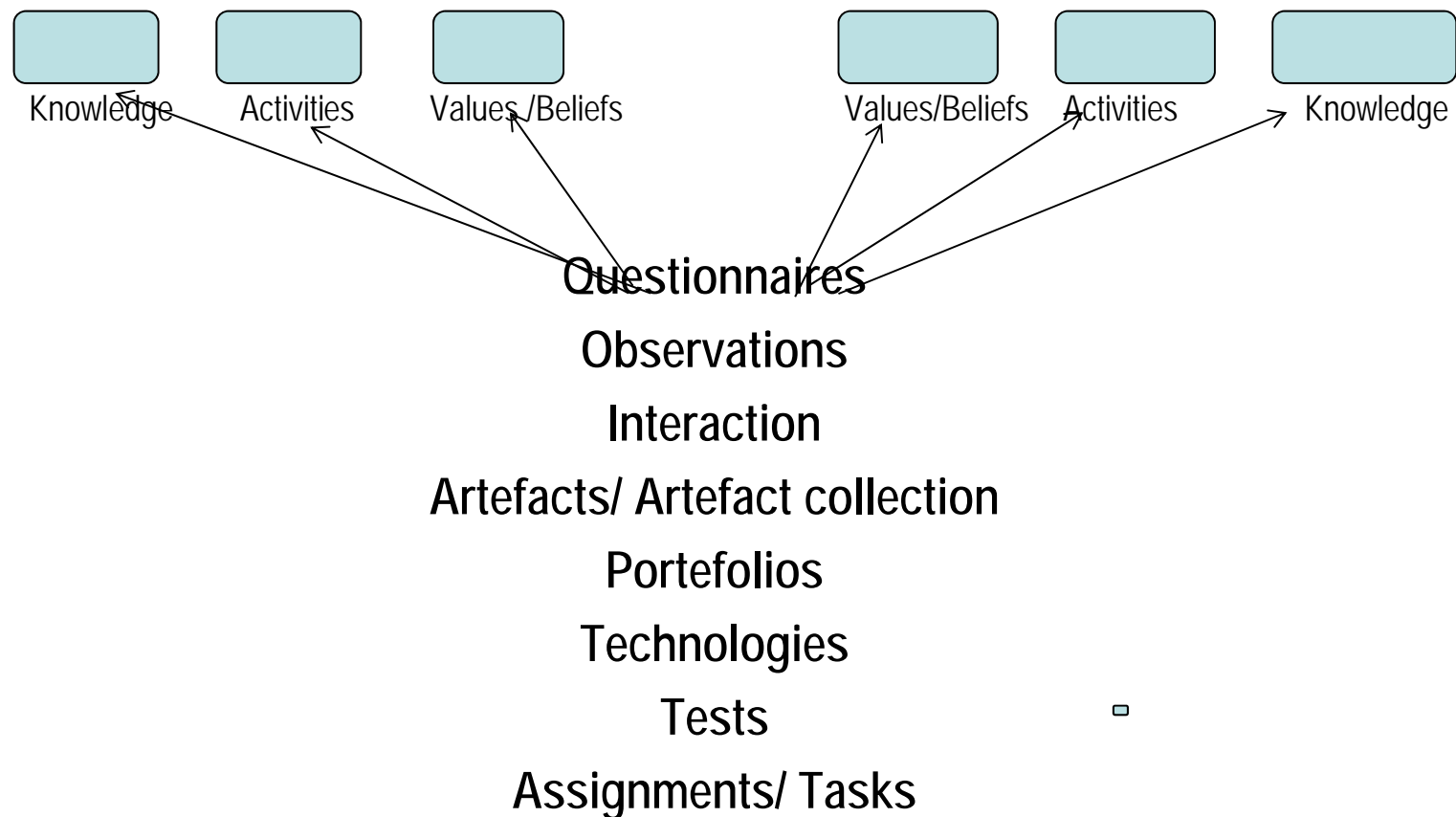
behavioural management, interaction patterns

# Three distinct traditions when analyzing qualities of teaching

i) process- product tradition

ii) education- production tradition

iii) teachers knowledge (expertise in teaching)

# Methodological- Instruments available:

## Teacher properties
## Student properties

| Knowledge | Activities | Values /Beliefs | | Values/Beliefs | Activities | Knowledge |

Questionnaires

Observations

Interaction

Artefacts/ Artefact collection

Portefolios

Technologies

Tests

Assignments/ Tasks

# The problem

- Weak communication between the theoretical approaches/traditions
- Weak discussion between how the different methodological approaches support  analyses and enable findings

- Endless, repetitive discussions about the interpretations of results

- Weak  consensus on indicators and conceptual categories

- The problem (lack) of relevance

- Highly influenced by ideological discussio

# Recent developments

- Technological developments in video design (easy storage, on-line streaming; miniaturized / portable equipment, that can be remotely controlled, analytical tools)

- Methodological developments (integrated research design; nested design/ combining qualitative and quantitative analyses)

- Coding manuals as ways of measuring teaching qualities (commonalities across these protocols when it comes to examining features of teaching)

**Video studies has proven especially valuable in this respect:**

 - Provide a much richer portrayal of classroom pratices than would be possible for any single analyses

-   Able to decompose qualities of teaching

since it captures teachers and students behaviours at the same time ('one package')

-   Video allows one to enter the world of classrooms without having to be in the position in the moment

# Coding manuals and Coding protocols: The role of codification

A number of current observation protocols have been designed to focus upon elements of classroom instruction that may be consistent across different grade levels and content area, examining a series of features that could be considered generic elements of teaching
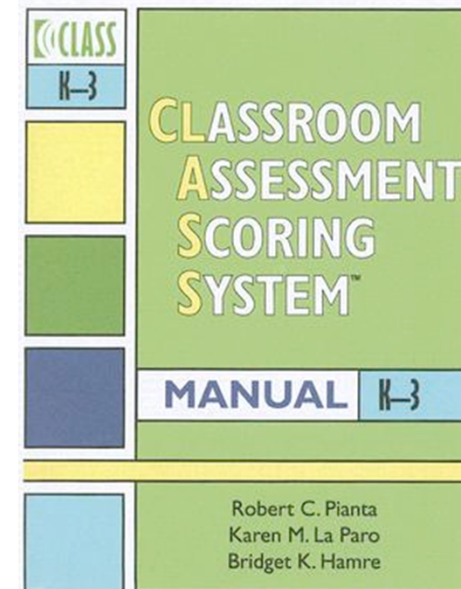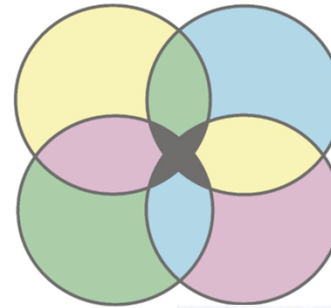
# Examples of such protocols

- CLASS (Classroom Assessing Scoring System, Pianta et al. 2006)
- FFT (*Framework For Teaching*, Danielsson, 2009)
- PLATO-manual, Grossman et al., 2010
- Mathematical Quality of Instruction (Hill, 2010)
- IPN Video study scoring manuals (Seidel & Prenzel)
- LPS study (Clark et al., 2006)
- Pythagoras Study (Lipovsky et al.2009)
- CPV Video study scoring manuals (Janik et al.2009)
- PISA+ manuals, (Klette et al., 2005; Ødegaard 2007)

# Leveraging Observation Instruments for Instructional Improvement

- Observation Instruments:
  - Provide a common technical vocabulary for describing instruction

  - Decompose teaching into different components

  - Develop instruments that can travel (SIT)

  - Allow for comparison of quality of instruction across classrooms

The Framework for Teaching
Evaluation Instrument
2011 Edition

by Charlotte Danielson

CLASS
K–3

CLASSROOM
ASSESSMENT
SCORING
SYSTEM

MANUAL K–3

Robert C. Pianta
Karen M. La Paro
Bridget K. Hamre

# Looking across the protocols:

There are serious commonalities across these protocols when it comes to examining features that are considered to be generic elements of teaching, such as:

- instructional clarity
- cognitive challenge
- teacher-student interaction
- classroom environment/climate

# Reflect a shared understanding of key features of qualities in teaching

- Instructional clarity
- Cognitive challenge
- Discourse features
- Supportive climate

# We also know:

- No privilegedmethod
- Teachers systematic and deliberate use of *different* instructional activities crucial, and which provides a balance between:
- acquisition settings
- consolidation settings
- consultation settings (support metacognitive awareness such as reflect, plan, evaluate, and monitor, taking stock etc.)

# Illustration: PISA + Video Study
A video Based Classroom Study in Mathematics, Science and Language Arts

We developed coding manuals focusing on:

- instructional format

- instructional activities

- discourse features

# PISA+ Study

A Video Based Classroom Study in
Mathematics, Science & Language Arts (Grade 9)

**Data:**

- Videorecordings/ (ca 150 lessons)
  - Three camera solution: teacher; class; students
- Video Recorded Student Interviews
  mathematics/ science (75 interviews)
- Copies of students' work
- Teacher Interviews (17 teacher interviews)

Three weeks in each classrooms;

# PISA+ - video analyses

- The videos were analysed in three perspectives:
  - Common analyses – comparing the three subjects
  - Analyses of lessons in each subject to describe typical pedagogic prosesses.
  - Detailed analyses of sequences of lessons, single lessons, or special phenomenons, further illuminated through interviews

- Video data was analysed in the software program Videograph from theory-based codes developed in PISA+
- Transcription – not transcribed
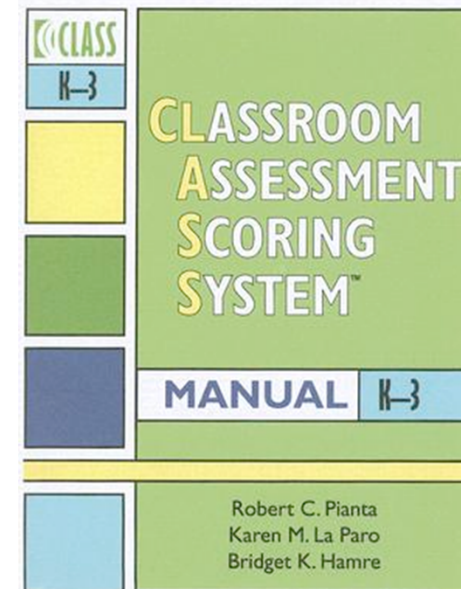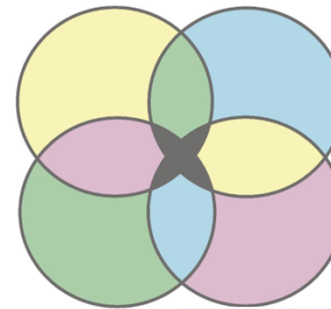
# Instructional activities

# Implications

- Benefits from focusing deeply on particular elements
  - Decompose teaching – identify key features
  - Focusing on key elements can help teachers make changes in other elements
  - Provide a common technical vocabulary for describing instruction
- Observational protocols can be leveraged as effective professional development tools
  - Developing professional vision
  - Developing a common language of practice

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# Thank you!

## Any Comments?