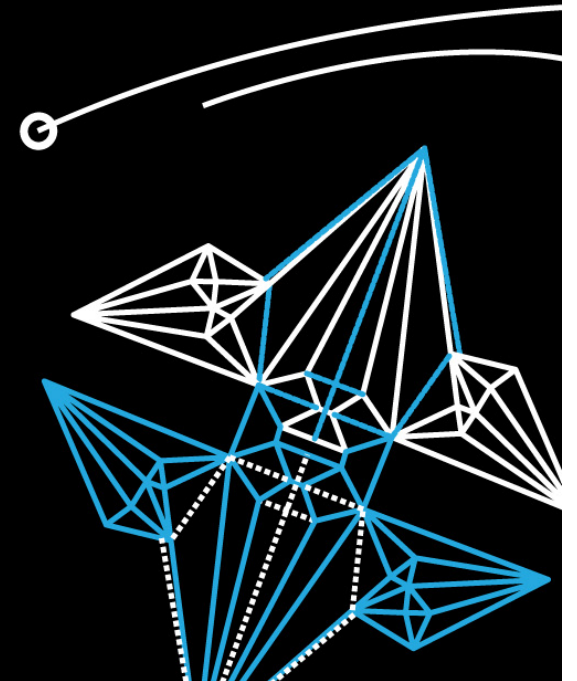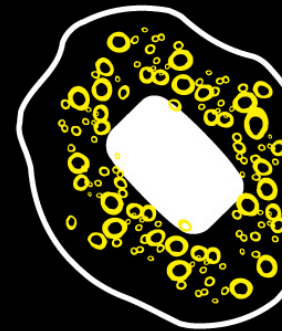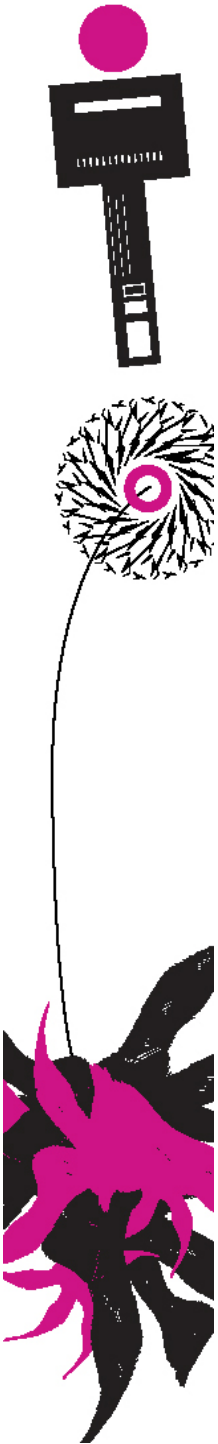# UNIVERSITY OF TWENTE.

SCHOOL LEADERSHIP AND SCHOOL EFFECTIVENESS
Review and Meta-Analysis of Empirical Studies
Presentation at the Conference on Educational Leadership in
Latin Countries. Rome, 5-7 December, 2013

Jaap Scheerens

J.Scheerens@utwente.nl

CONTENTS

Leadership as one of the factors identified in school effectiveness research

How strong is the leadership effect on student achievement?

Interpretations: reflections on leadership concepts and research methodology

Leadership among other effectiveness enhancing conditions

Effectiveness enhancing conditions identified in school effectiveness research

| Edmonds 1979	Reynolds et al. 2013
Strong educational leadership Emphasis on basic skills Orderly and safe climate High expectations Frequent assessment	Effective Leadership Academic focus A positive orderly climate High expectations Monitoring progress Parental involvement Effective teaching (time) Staff professional development Pupil involvement

Strength of the leadership effect

Multi variable meta-analyses (2008)

School level variables

	Scheerens et al., 2007	Hattie, 2009	Creemers & Kyriakides, 2008	> 50% significance in International Assessment Studies
Consensus & Cohesion	.02	-	.16	
Orderly climate	.13	.17	.12	X
Monitoring & evaluation	.06	.31	.18	X
Curriculum/OTL	.15	-	.15	X
Homework	.07	.15	-	
Effective Learning Time	.15	.19	-	X
Parental involvement	.09	.25	-	
Achievement orientation	.14	-	-	
Educational leadership	.05	.18	.07	
Differentiation	.02	.06	-	

Meta-analyses compared and averaged

	Marzano, 2003	Scheerens et al., 2007	Hattie, 2009	Average effect size
Opportunity to learn	.88	.30	.39*	.523
Instruction time	.39	.30	.38	.357
Monitoring	.30	.12	.64	.353
Achievement pressure	.27	.28	.43**	.327
Parental involvement	.26	.18	.50	.313
School climate	.22	.26	.34	.273
School leadership	.10	.10	.36	.187
Cooperation	.06	.04	.18***	.093
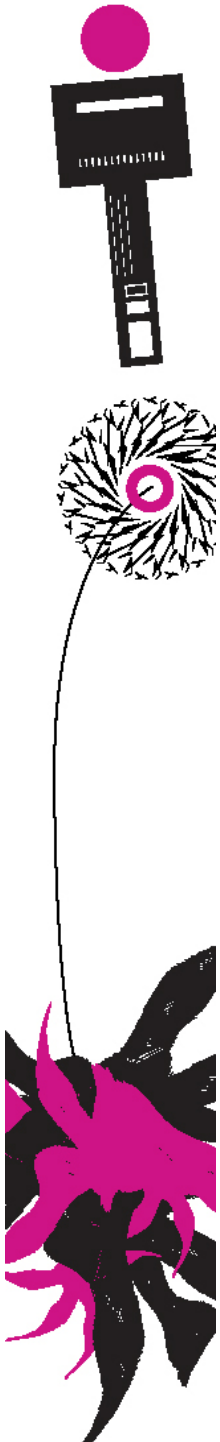
META-ANALYSES (Table 2.6: *Summary of results from meta-analyses on school leadership; effect sizes are rendered as correlations between school leadership and student achievement*

Meta-analysis by:	Leadership concept	Effect size (correlation)
Witziers, Bosker and Krüger, 2003	School leadership	r = .02
Marzano, Waters and McNulty, 2005	Generalized school leadership	r = .25
Chin, 2007	Transformational leadership	r = .49
Robinson, Lloyd and Rowe, 2008 (1)	Instructional leadership	r = .21
Robinson, Lloyd and Rowe, 2008 (2)	Transformational leadership	r = .06
Creemers and Kyriakides, 2008	School leadership	r = .03
Hattie, 2009	School leadership	r = .18

Gemiddelde .18, zonder Chin r = .125.

META-ANALYSES

NEW META-ANALYSIS ON STUDIES FROM 2005-2010

VOTE COUNT 11 DIRECTE EFFECT STUDIES

(Table 4.3: *Vote counts direct effect studies based on replications (2005-2010)*

	Negative	Not significant	Positive
Anderson (2008)	2	1	5
Borden (2010)	0	2	0
Horng et al. (2010)	0	9	1
Kythreotis et al. (2010)	0	6	2
Leithwood & Jantzi (2006)	0	1	1
Louis et al. (2010)	1	1	0
Martin et al. (2008)	0	2	1
Miller & Rowan (2006)	1	15	2
O'Donnell & White (2005) Pearson correlations	0	6	6
O'Donnell & Whilte (2005) Regression	0	10	2
Opdenakker & Van Damme (2006)	0	1	0
Shin & Slater (2010)	0	16	0
Totals	4	70	20
%	4%	74%	21%

UNIVERSITY OF TWENTE.

Note: significant at .05

RESULTS OF 15 INDIRECT EFFECT STUDIES, 31 REPLICATIES

Author & Year	Leadership measure	Achievement measure	Total effect
Day et al. (2010)	Integrated leadership (primary level)	Change in pupil outcomes over three years	.001
	Integrated leadership (secondary level)	Idem	.04
Heck & Hallinger (2009)	Initial distributed leadership	Growth Rate Math	.03
	Change in leadership	idem	.09
Heck & Hallinger (2010a)	Distributed leadership	Initial Reading scores (year 2)	.02
	idem	Initial Math scores (year 2)	.02
	Change in leadership	Growth Rate Reading	.10
	idem	Growth Rate Math	.10
Heck & Moriyama (2010)	Collaborative leadership	Added Year Effect Reading	.16
	idem	Added Year Effect Math	.14
Leithwood & Jantzi (2008)	Integrated leadership: School leadership	Proportion of students reading or exceeding the state's proficient level	.24
Leithwood, Jantzi & McElherton-Hopkins (2006)	School leadership	2 year mean achievement score	.11
	idem	2 year mean achievement gain	-.06

RESULTS OF 15 INDIRECT EFFECT STUDIES, 31 REPLICATIES(CONTINUED)

Author & Year	Leadership measure	Achievement measure	▪ Total effect
Leithwood & Mascall (2008)	Collective leadership	Percentage of students meeting or exceeding the proficiency level on language and math tests	.24
Leithwood, Patten & Jantzi (2010)	Distributed leadership	Percentage of students per school achieving level 3 or higher at math and literacy test	.11
	idem	Idem	.15
Louis et al. (2010)	Instructional leadership	Percentage of students at school level meeting or exceeding the proficiency level 2005 math tests	.05
	Shared leadership	Idem	.03
Mayer et al. (2007)	Integrated leadership	Reading	-.02
	idem	Math	-.16
Opdenakker & Van Damme (2007)	Participative professionally oriented leadership	Math	.006
Ross & Gray (2006)	Transformational leadership	Composite school score	.22
Supovitz (2010)	Principal leadership	English Language & Arts	.03
	idem	Math	-.009

RESULTS OF 15 INDIRECT EFFECT STUDIES, 31 REPLICATIES(CONTINUED)

Author & Year	Leadership measure	Achievement measure	Total effect
Ten Bruggencate (2009)	Leadership style: Rational goals (teacher perceptions)	Average exam mark	-.16
	Leadership style: Internal Process (teacher perceptions)	idem	.003
	Leadership style: Human relations (teacher perceptions)	idem	.004
	Leadership style: Open systems (teacher perceptions)	idem	-.18
	Leadership style: Rational goals (principal perceptions)	idem	.002
	Leadership style: Open systems (principal perceptions)	idem	-.31
Ten Bruggencate et al. (2010)	Time spent on instructional leadership	Math (TIMSS)	.02
	Time spent on administrative duties	idem	-.09
	Time spent on supervising teachers	idem	.09
	Time spent on public relations	idem	.04
Mean	15 publications; 34 effect measures		**.031**
SE mean			(.020)
without Ten Bruggencate (2009)			
Mean	14 publications; 28 effect measures		**0.060**
SE mean			(.018)

SUMMARY OF RESULTS META-ANALYSES

(Table 5.2: *Summary of mean effect sizes from meta-analyses discussed in this report*

Source	Average effect size (correlation coefficients)
Meta-analysis Scheerens et al (1985- 2005)	.05
Summary of 7 meta-analyses	.18
Studies 2005- 2010, this report	.06

THE MOST PROMISING INTERMEDIARY VARIABLES

- "organizational capacity" (improvement focus, standard setting, quality of student support, professional capacity of the staff, systematic evaluation)

- "teachers' commitment and cooperation"

- "academic climate"

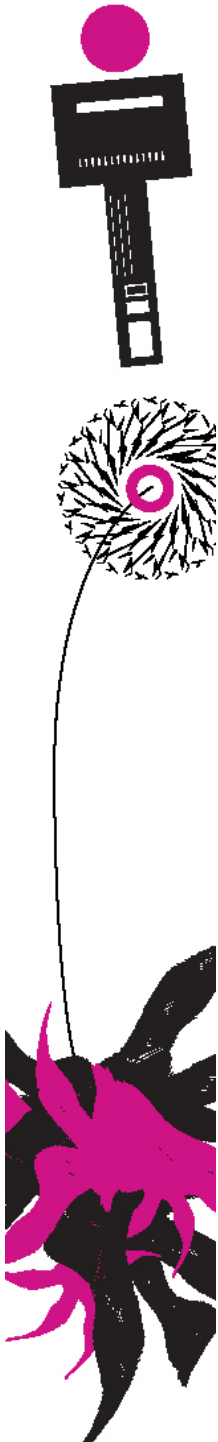- "instructional conditions"

INTERPRETATION AND DISCUSSION

DEVELOPMENT IN CONCEPTUALISATION

- Personality traits

- Leadership Styles

- Leadership behavior

(Figure 1.3: *Concepts of leadership at school*)

|	
Instructional leadership	Curriculum and instruction
Extended instructional leadership	School mission Managing the curriculum Providing learning climate
Transformational leadership	Models organisational values Develops shared mission Provides intellectual stimulation Builds consensus Redesigns organizational structure
Integrated leadership	Conditions supporting school improvement Instructional leadership
Competing values model	Productivity Stability, continuity Cohesion, commitment Adaptation

INDIRECTE MODELLEN

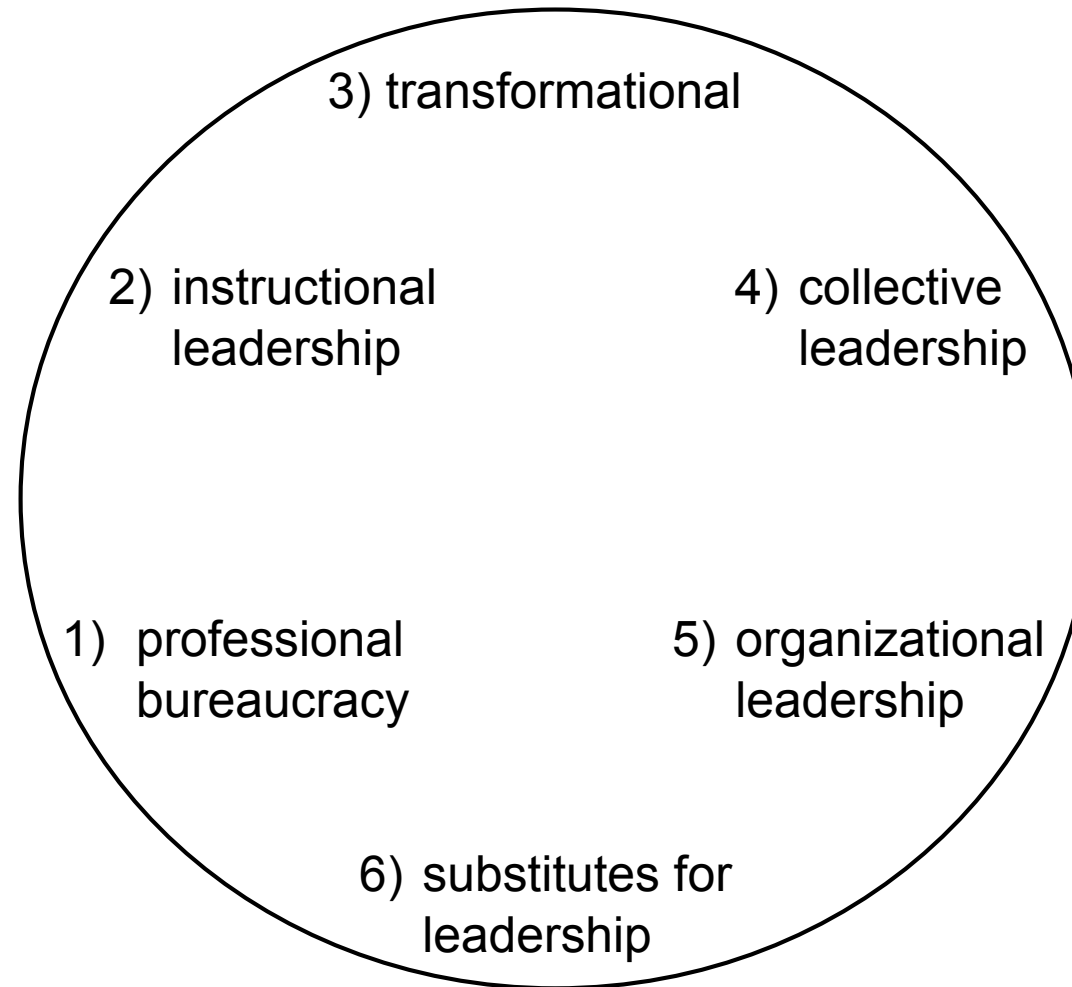(Figure 1.4: *Intermediary causal structure of leadership at school*)

| Relevant personality traits and competencies	Leadership style	Leadership behaviour	Effectiveness enhancing factors
Extraversion social appraisal skills		External contacts Buffering	Enhanced teaching time
intelligence motivation internal locus of control domain specific knowledge conscientiousness	Task-related →	Direction setting (goals, standards **Monitors curriculum and instruction (managing the instructional program)**	Clear goals and standards Opportunity to learn Student monitoring & feedback Structured teaching Active teaching Active learning
Extraversion Social appraisal skills Self confidence	Person-related →	HRM & HRD Coaches teachers Recruits teachers Builds consensus	Cohesion among teachers Professionalization Teacher competency Teachers' sense of self efficacy
Basic human values General moral beliefs Role responsibility		Sets values Creates climate	Shared sense of purpose among teachers High expectations Disciplinary climate Supportive climate
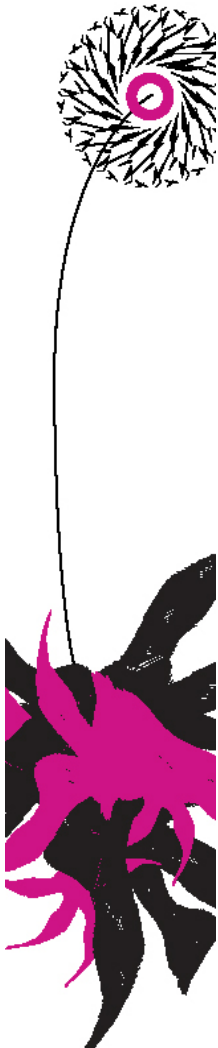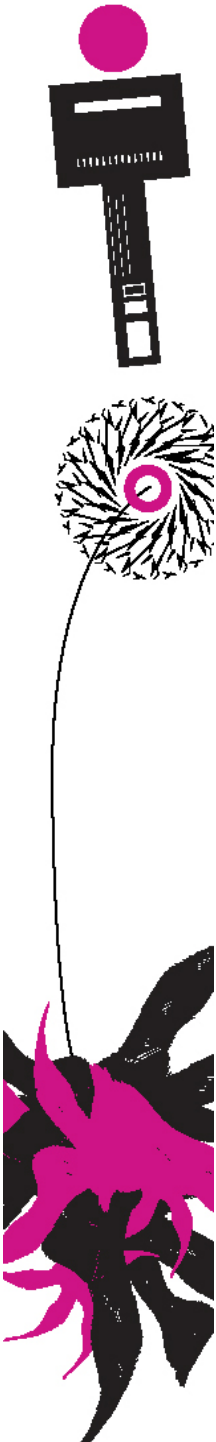
SUMMARY OF CONCEPTUAL DEVELOPMENT
(The full circle of concept development on school leadership)

3) transformational

2) instructional
leadership

4) collective
leadership

1) professional
bureaucracy

5) organizational
leadership

6) substitutes for
leadership

Questions about methodology

- How to attribute "good" school functioning to school leaders?
- The balance between facilitating improvement and buffering against disturbances
- Different contexts, e.g.incremental improvement of average schools versus turning around failing schools
- How to accumulate knowledge from case study research
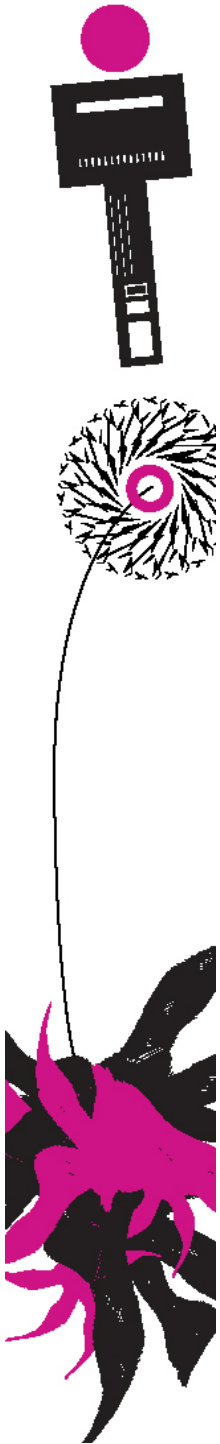
POINTS FOR DISCUSSION

- The idea of distributed leadership leads back to the characteristics of the school as a professional bureaucracy, and might explain small indirect and direct leadership effects

- Actuality of "old" question, ratio of administrative and pedagogical in leadership; application of idea of subsidiarity

- Idea of "lean leadership", meta-control

- Specific role of leadership for very weak schools

- Discusson about importance and content of "professionalization" of school leaders