



ZOOMING OUT ON THE IMPLEMENTATION OF SRL: INSIGHTS FROM SCHOOL-LEVEL RESEARCH AND PROFESSIONAL DEVELOPMENT

Hilde Van Keer - April 17, 2024





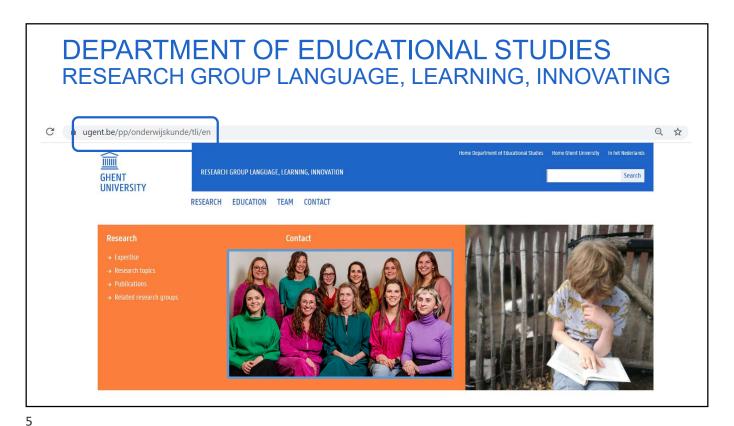
WHERE I COME FROM ...



GHENT – GHENT UNIVERSITY







RESEARCH AGENDA OF THE TEAM

Research lines

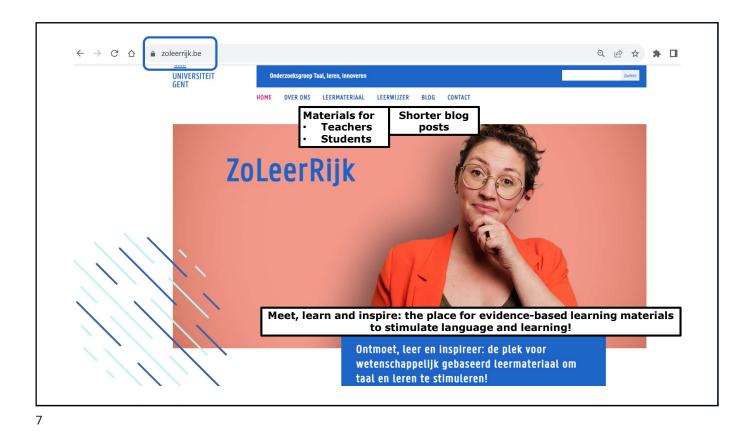
- Language & language education/didactics
 - Reading comprehension, text-based learning, writing, reading & writing motivation, interactive book reading, vocabulary development
- Self-regulated learning & SRL implementation (classes/schools)
 - Measuring & promoting
- Innovative, interactive learning environments (to foster the above) (peer learning)
 - Design, implementation, evaluation
 - Effect & process-oriented studies

Transversal themes & methodologies

- Intervention studies in authentic contexts
 - → professionalisation of teachers & schools
- Dominantly in compulsory education
- All students, with particular attention to vulnerable students







SRL: THE CONCEPT

SELF-REGULATED LEARNING

- Many concepts in circulation
- Different theoretical angles or perspectives

Panadero (2017) compared 5 well-cited SRL frameworks

- Zimmerman's cyclical phases model (2000)
- Pintrich's SRL model (2000)
- Winne & Hadwin's SRL model (1998)
- Boekaerts' dual processing model (Boekaerts, 1997)
- Efklides' Metacognive and Affective Model of SRL (Efklides, 2011)



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SELF-REGULATED LEARNING

- "SRL is an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment" (Pintrich, 2000, p. 453)
- SRL is a process by which students systematically organise their thoughts, feelings, and actions to achieve learning goals (Usher & Schunk, 2017).
- SRL includes the cognitive, metacognitive, behavioral, motivational, and emotional/affective aspects of learning (Panadero, 2017).
- It is a cyclical process involving several phases: forethought,
 performance, reflection (Winne & Hadwin, 2008; Zimmerman, 2002)



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SELF-REGULATED LEARNING

Complex, multifaced learning process, which involves the combination of three components, namely a metacognitive (e.g., planning, setting goals, organizing, self-monitoring, and self-evaluating), a cognitive (e.g., selection of learning strategies, environmental structuring), and a motivational component (e.g., self-efficacy, task interest, self-attributions). (Zimmerman, 2002)







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Educational learning = complex process

- Student level
- Teacher/class level
- School level







- →Opening the black box of the schooling process
- → Considering meaningful connections with the place where most school learning takes place, i.e., the class

Especially relevant for SRL, given that SRL is the product of years of experience and support (e.g., Muijs et al., 2014; Winne, 2005).

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WHAT WE KNOW ...

Educational learning = complex process

- Student level
- Teacher/class level
- School level

There is no research in primary education showing whether schools or teachers differ in the way they foster students' metacognitive knowledge and skills and no research has gone deeper in looking for factors at school and teacher level that are responsible for any differences

(Muijs et al., 2014)

- →Opening the black
- → Considering meani where most school learning

place, i.e., the class

Especially relevant for SRL, given that SRL is the product of years of experience and support (e.g., Muijs et al., 2014; Winne, 2005).

- SRL is a key factor for
 - academic success
 - societal participation & innovation

Shared recognition of the potential of SRL **both by research and practice**: envisioning a future where ...

- → learners are empowered
- → lifelong learning is embraced





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WHAT WE KNOW ...

- However, significant number of students struggle
 - often persistently
 - large interpersonal differences in the quantity and quality of SRL
 - → Challenges at the level of learners



(e.g., Cleary & Chen, 2009; Gärtner et al. 2018; Heirweg et al., 2019; Malmberg et al., 2013; Perry et al., 2004; Pintrich, 2004; Vandevelde et al., 2012, 2013, 2015; Veenman et al., 2006; Winne, 2005; Zimmerman, 2002; ...)



Table 5
Means and standard deviations for the four cluster solutions on the CP-SRLI subscales.

	Hierarchical clus	stering		
Subscale	AHQN (n = 398; 19.65%)	AHQL (n = 297; 14.67%)	PLQN (n = 693; 34.22%)	PLQL (n = 637; 31.46%)
Surface-level learning strategies	4.18 (0.53)	3.91 (0.60)	3.14 (0.75)	3.72 (0.65)
Deep-level learning strategies	3.84 (0.50)	3.39 (0.49)	2.72 (0.54)	3.21 (0.52)
Task orientation	3.96 (0.52)	3.51 (0.57)	2.85 (0.63)	3.46 (0.55)
Planning	4.05 (0.56)	3.68 (0.59)	2.84 (0.69)	3.37 (0.65)
Monitoring	4.22 (0.44)	3.81 (0.47)	3.03 (0.58)	3.65 (0.49)
Self-evaluation product	4.46 (0.53)	4.29 (0.49)	3.30 (0.86)	3.91 (0.63)
Self-evaluation process	3.88 (0.68)	3.20 (0.80)	2.35 (0.76)	3.08 (0.76)
Persistence	4.63 (0.36)	4.39 (0.42)	3.62 (0.76)	4.11 (0.55)
Motivational strategies	4.40 (0.47)	3.82 (0.68)	2.85 (0.80)	3.62 (0.69)
Self-efficacy regulation	4.07 (0.48)	3.69 (0.44)	2.95 (0.58)	3.55 (0.47)
Self-efficacy motivation	4.59 (0.42)	4.27 (0.51)	3.40 (0.79)	4.02 (0.56)
External regulation	2.85 (1.16)	1.66 (0.69)	2.52 (0.96)	3.26 (0.89)
Introjected regulation	3.97 (0.72)	2.51 (0.73)	2.90 (0.91)	3.71 (0.68)
Identified regulation	4.75 (0.34)	4.62 (0.40)	3.80 (0.78)	4.22 (0.60)
Internal regulation	4.10 (0.70)	3.74 (0.83)	2.66 (1.02)	3.18 (0.85)





Heirweg, S., De Smul, M., Devos, G., & Van Keer, H. (2019). Profiling upper primary school students' self-regulated learning through self-report questionnaires and think-aloud protocol analysis. *Learning and Individual Differences*, 70, 155–168. https://doi:10.1016/j.lindif.2019.02.001



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WHAT WE KNOW ...

- Teachers and schools can turn the tide: via SRL promotion
- However, teachers and schools struggle
 - CK regarding SRL and PCK regarding SRL implementation limited & inadequate
 - Teacher beliefs: Thinking dominated by misconceptions or external attributions
 - Low self-efficacy regarding SRL implementation
 - SRL implementation often insufficient
 - → Challenges at the level of teachers' SRL competences



(e.g., Darmawan et al, 2020; De Smul et al., 2018; Dignath-van Ewijk, 2016; Dignath & Büttner, 2008; James & McCormick, 2009; Kistner et al., 2010; Peeters et al., 2016; Perry, 2013; Spruce & Bol, 2015; Steinbach & Stoeger, 2016; Veenman et al., 2006; Wigfield et al., 2011; ...)



E.g., misconceptions & external attributions, e.g.

- Not for young children
- Only relevant for high achievers



- Overcrowded curriculum, no time
- Increasing diversity between students, no time
- Teaching students study skills and techniques in isolated lessons is enough
- **–** ...



Last misconception I've heard: "Isn't it just hype?"



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Study	Time	Curriculum and assessment	Training	Teachers' belief	Resources	Student resistanc
Jayawardena et al. (2019)		х				
Fluckiger et al. (2010)			х			
Davis and Neitzel (2011)	x	x		x		
Klug et al. (2011)			x			x
Dignath-van Ewijk and van der Werf (2012)			X		x	
Clark (2012)		x	X			x
Michalsky (2012)			x	x		
Vandevelde et al. (2012)	x	x	x	х	x	x
Zimmerman and Schunk (2012)			x	x		
Heritage and Heritage (2013)		x	x			x
Peeters et al. (2014)		x		x	x	
Spruce and Bol (2015)	x	x	x	x		
Panadero (2017)	x	x	x	x		x
De Smul et al. (2018)			x	x		x
Cleary et al. (2022)			x	x		x

SRL implementation: not only responsibility of individual teachers (e.g., De Smul et al., 2019, 2020; Heirweg et al., 2021; Peeters, 2015)

- Complex skill
- Entails long-term development, requiring
 - engagement of several teachers
 - continuous line throughout schooling
 - from early age to prevent developing negative and academically ineffective learning habits and beliefs
- → Challenges at the level of schools?
- → Starting point of our studies at that level to open the black box





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SCHOOL-LEVEL STUDIES



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WHAT WE LEARNED ABOUT SRL IMPLEMENTATION IN (PRIMARY) SCHOOLS FROM A QUANTITATIVE APPROACH



De Smul, M., Heirweg, dr. S., Devos, G., & Van Keer, H. (2019). School and teacher determinants underlying teachers' implementation of self-regulated learning in primary education. RESEARCH PAPERS IN EDUCATION, 34(6), 701–724. https://doi.org/10.1080/02671522.2018.1536888

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RESEARCH AIM

Study reasons for lack of SRL implementation by considering determinants on different levels

- SRL implementation considered
 - educational innovation
 - demanding professional learning from teachers

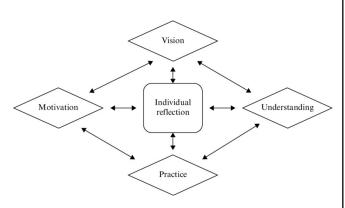


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SRLAS EDUCATIONAL INNOVATION

Innovation < attributes: teachers should

- develop new vision on teaching and learning
- be motivated to learn about this new way of teaching
- develop necessary knowledge and skills
- · implement and try in practice
- reflect on all the above



(Shulman & Shulman, 2004)



School conditions can facilitate these attributes

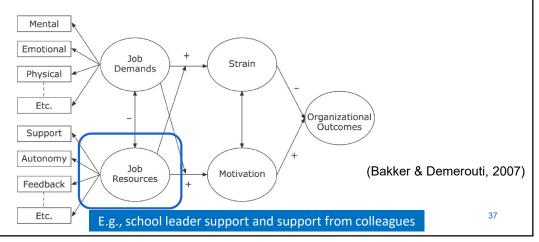
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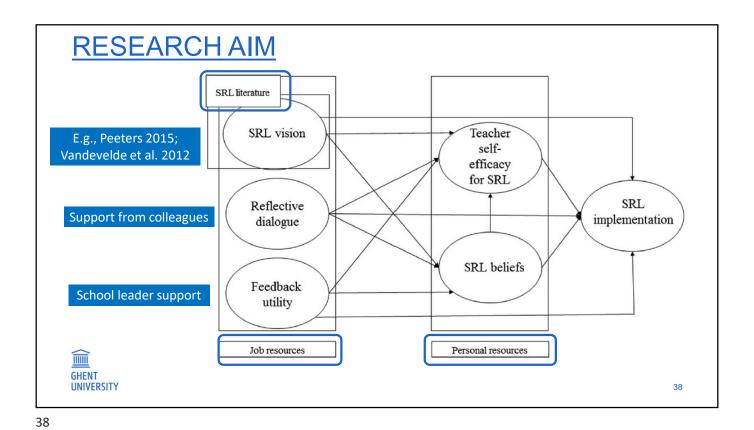
RESEARCH AIM

Study reasons for lack of SRL implementation by considering determinants on different levels

- Frame of reference: Job Demands-Resources model



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PARTICIPANTS & INSTRUMENTS



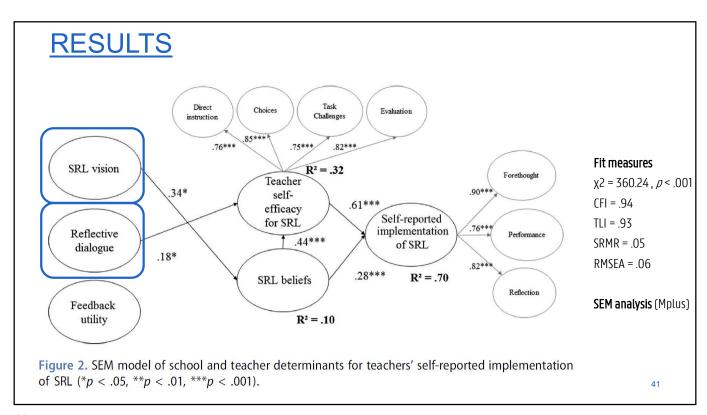




Table 1. Overview of the instruments used in the teacher survey.

Instrument	Author(s)	Sample item	Range	Items	ρ*
SRLIT ^a	Lombaerts, Engels, and Athanasou 2007	Students determine the order in which they complete their tasks.	Never (0) – Always (5)	20	.91
SRLTB ^b	Lombaerts et al., 2009	Self-regulated learning provides students with a more thorough preparation for their transition to secondary education.	Strongly disagree (1) – Strongly agree (5)	9	.76
TSES-SRL ^c	De Smul et al. 2018	How well can you provide your students just enough support so they can work independently?	Cannot do at all (1) – Highly certain can do (5)	21	.91
SRL vision	(based on) Vanderlinde and van Braak 2010	The schools' vision on the place of self-regulated learning in education is acknowledged by all colleagues.	Strongly disagree (1) – Strongly agree (5)	5	.86
Feedback utility	(based on) Heneman and Milanowski 2003	I have a clearer idea of what the school expects of me regarding self-regulated learning because of the supervisor feedback.	Strongly disagree (1) – Strongly agree (5)	4	.96
Teachers' Professional Community Index: Reflective dialogue	Wahlstrom and Louis 2008	How often in this school year have you had conversations with colleagues about the goals of this school?	Never (1) – Very often (5)	5	.75

Notes. *Reliability analyses were performed to evaluate the model-based internal consistency using Bentlers' ρ (Bentler 2009); ^aSelf-Regulated Learning Inventory for Teachers; ^bSelf-Regulated Learning Teacher Belief Scale; ^cTeacher Self-Efficacy Scale to implement Self-Regulated Learning.





School differences in successful SRL implementation?





WHAT WE LEARNED ABOUT SRL IMPLEMENTATION IN (PRIMARY) SCHOOLS FROM A QUALITATIVE APPROACH



De Smul, M., Heirweg, S., Devos, G., & Van Keer, H. (2020). It's not only about the teacher! A qualitative study into the role of school climate in primary schools' implementation of self-regulated learning. SCHOOL EFFECTIVENESS AND SCHOOL IMPROVEMENT, 31(3), 381–404. https://doi.org/10.1080/09243453.2019.1672758

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PROCEDURE AND PARTICIPANTS

Step 1: online survey on promotion of SRL







Step 2: multiple case study design







RESEARCH QUESTIONS

- 1. To what extend do teachers implement SRL and what are differences between high and low SRL schools?
- 2. How do school conditions foster SRL implementation?
- 3. What is the role of SRL implementation history?
- 4. How is school leadership related to SRL implementation?



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INSTRUMENTS

Semi-structured interviews



- SRL classroom practice
- Implementation history (in retrospect)
- School leadership
- Vision and policy
- Collaboration
- Professional development





Data-analysis via Nvivo 11:

- Transcription
- Coding scheme
- Intercoder-reliability: 86%



RESULTS

1. To what extend do teachers implement SRL and what are differences between high and low SRL schools?

School A	School B	School C	School D
Continuous student development over	Continuous student development over	Depending on individual teacher	Depending on individual teacher
all grades	all grades		



"I think every teacher does her own thing, there are no general agreements about who does what. **Continuity? I don't think there is.**" (Teacher, School D).

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RESULTS

2. How do school conditions foster SRL implementation?
School vision

School A	School B	School C	School D
Well-known and shared	Well-known and shared vision	No clear vision Not shared	No clear vision Not shared
government-			
prescribed			
curriculum			



"The vision is the **results of a conference we organised ourselves**. How will we tackle it [i.e., SRL]? What is the theoretical background? What will we do with this? [...] What can we do in the classroom practice to promote SRL?" (School leader, School B).

RESULTS

2. How do school conditions foster SRL implementation?

Professional development

	School A		School B		School C		School D
•	Focused on SRL	•	Focused on SRL	•	Not focused	•	Not focused
•	Tool to ensure commonly agreed line in the school Obligatory commitment of the whole school team	•	Tool to ensure commonly agreed line in the school Obligatory commitment of the whole school team	•	Depending on individual teacher, with guiding from the school leader	•	Depending on individual teacher

"We **intentionally** provide professional development on SRL or social sciences, which are the school's foci for this year." (School leader, School A).

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RESULTS

2. How do school conditions foster SRL implementation?

Professional learning community

School A	School B	School C	School D
 Strong sense of collective responsibility for SRL implementation 	 Strong sense of collective responsibility for SRL implementation 	Moderate sense of collective responsibility for SRL	Sense of individualism regarding SRL implementation
 Formal and informal reflective dialogue regarding SRL 	 Formal and informal reflective dialogue regarding SRL 	implementation: mostly in higher grades	



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RESULTS

3. What is the role of SRL implementation history?

School A	School B	School C	School D
Recent history. School-wide SRL implementation	Long history. Started school-wide SRL implementation	No history. No gradual and structural school-	No history. No gradual and structural school-
structurally started after a negative evaluation from school inspection.	from the start of the implementation of the cross-curricular targets 'learning to learn' in 1997.	wide SRL implementation. Individual initiatives of teachers.	wide SRL implementation. Individual initiatives of teachers.



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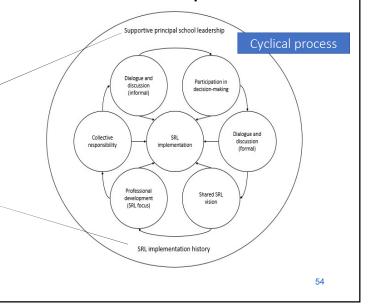
RESULTS

4. How is school leadership related to SRL implementation?

In high SRL schools

- Goal-oriented
- Designing effective learning environments for teachers: active learning, collective participation, indepth discussion
- Motivating teachers for educational change through school climate.
- Long-term process of change of beliefs
- "A way of thinking and being" in the school, not an individual process.







WHAT WE LEARNED ABOUT SRL IMPLEMENTATION IN (PRIMARY) SCHOOLS FROM A SCHOOL-WIDE PD APPROACH



De Smul, M. (2019). It's not only about the teacher! Mapping and fostering the school-wide implementation of self-regulated learning in primary education.

Heirweg, S., De Smul, M., Merchie, E., Devos, G., & Van Keer, H. (2022). The long road from teacher professional development to student improvement: a school-wide professionalization on self-regulated learning in primary education. RESEARCH PAPERS IN EDUCATION, 37(6), 929–953. https://doi.org/10.1080/02671522.2021.1905703

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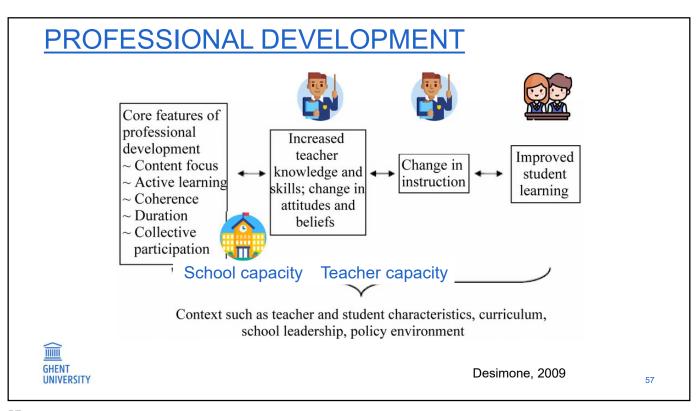
PD FOR SCHOOL TEAMS

Considering

- Our prior studies on SRL implementation
- Research literature on professional learning, with increasing attention to
 - role of schools and school teams as suitable PD contexts
 - teachers as collegial professionals (Hargreaves, 2000; Verbiest, 2008).



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SCHOOL CAPACITY

The collective power of the full staff to improve student achievement schoolwide (Newmann et al., 2000, p. 261)



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MEASURES



Students: use of SRL strategies, performance scores



 Teachers: SRL knowledge, SRL beliefs, selfefficacy for SRL, SRL implementation



 Schools: reflective dialogue, collective responsibility, deprivitized practice, SRL school vision



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PROFESSIONAL DEVELOPMENT - DESIGN 10 experimental school teams 10 control school teams N=142 teachers N=138 teachers September - October June 2018 October 2017 - May 2017 2018 Posttest teacher + Pretest teacher + 6 coaching sessions students students 1-year school-wide professional development programme **GHENT** UNIVERSITY 61

PROFESSIONAL DEVELOPMENT - CONTENT

Session	Content
Across schools	General session on SRL
Within schools	Implicit and explicit direct instruction
Within schools	Indirect instruction
Within schools	Motivation
Within schools	Evaluation
Across schools	Sharing good practices on SRL between schools

+ Responding to questions and challenges from own school practice (Perry, et ql<, 2015)



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RESULTS



- Students: use of SRL strategies, performance scores
- Teacher capacity
 - SRL knowledge
 - SRL beliefs

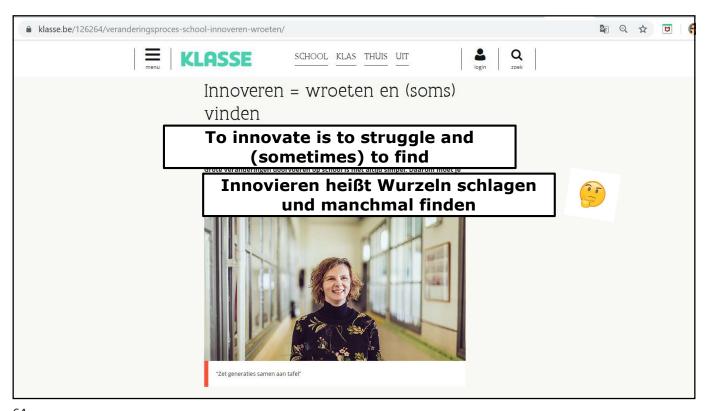


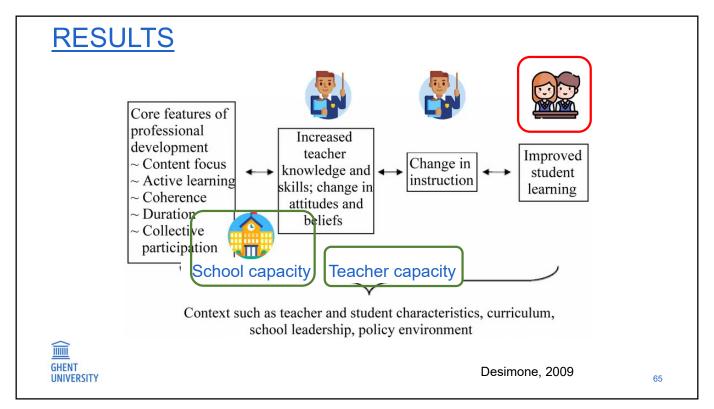
- Self-efficacy for SRL: higher for direct instruction, for providing challenges and complex tasks, and for building in SRL-related types of evaluation
- SRL implementation: more in the performance control and evaluation phase of the learning process
- School capacity



- Reflective dialogue
- Feeling more collectively responsible
- More open regarding deprivitized practice
- Better establishment of an SRL school vision







FOLLOW-UP STUDY

Aim: Opening the black box of the schooling process

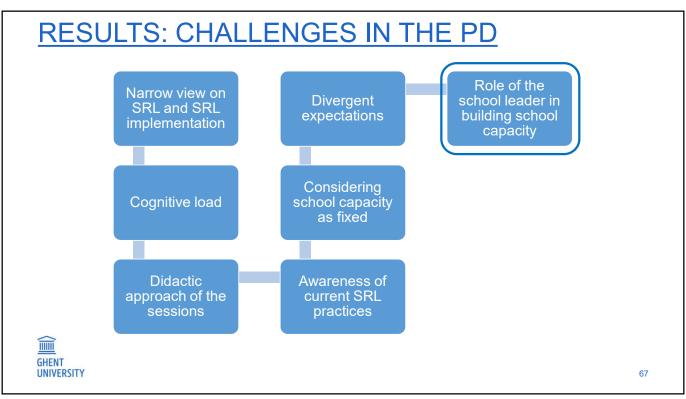
Thematic vertical and horizontal analysis of

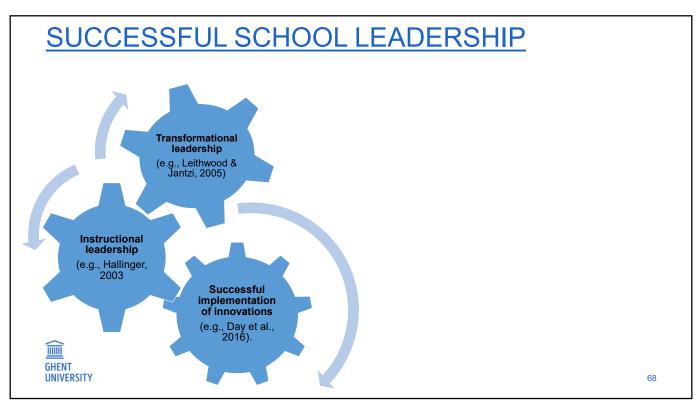
- field notes of PD coaches of 38 individual in-school training sessions and two plenary sessions with all participating schools
- 160 individual feedback forms from teachers

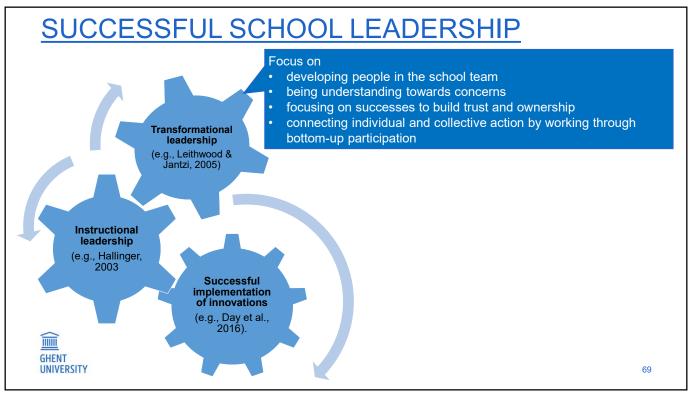


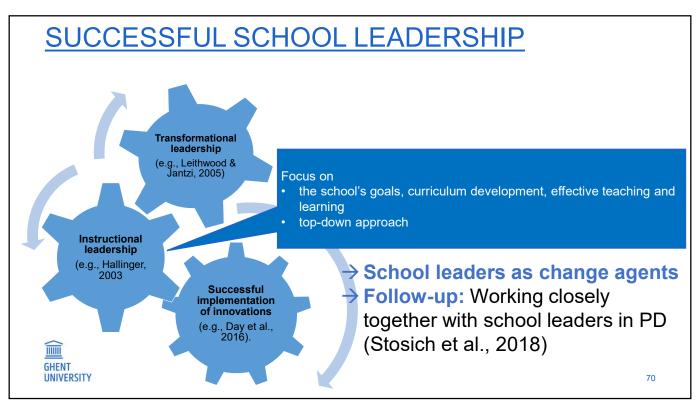
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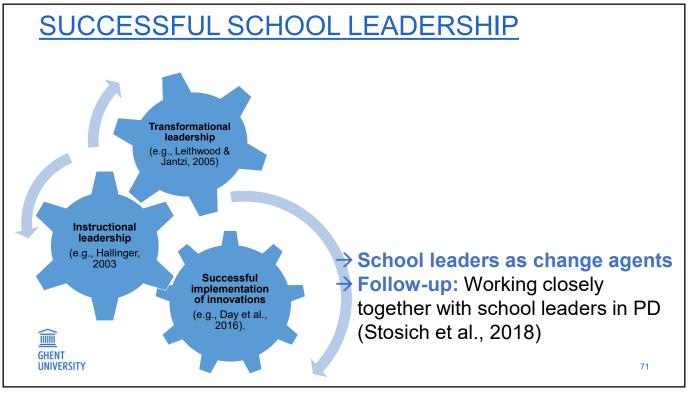
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Ongoing PhD Lies Backers

WHAT WE ARE LEARNING ABOUT SRL
IMPLEMENTATION IN SCHOOLS FROM AN
APPROACH BEYOND THE SCHOOL LEVEL



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STARTING POINTS



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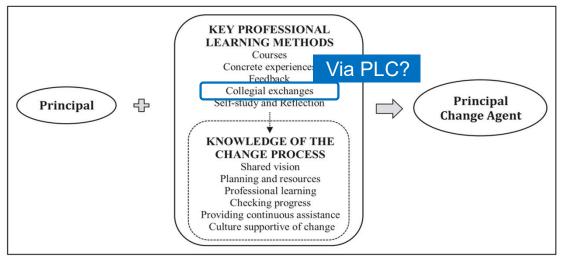
SUCCESSFUL SCHOOL LEADERSHIP

- can be trained,
- but requires PD (e.g., Grissom et al., 2019; Ni et al., 2019)
 - that focusses on mentoring, coaching, and developing collaborative skills (Muijs & Harris, 2007)

Vekeman, E., Devos, G., & Tuytens, M. (2023). Wetenschappelijk rapport. Wetenschappelijke opvolging van professionaliseringtrajecten met het oog op het versterken van leiderschap voor herstel en veerkracht in het onderwijs [Scientific Report. Scientific monitoring of professionalization processes for strengthening leadership for recovery and resilience in education]. https://dataonderwijs.vlaanderen.be/onderwijsonderzoek/project/1701.

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TOWARDS SCHOOL LEADERS AS CHANGE **AGENTS**



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(Acton, 2021)₇₅

TOWARDS SCHOOL LEADERS AS CHANGE AGENTS

Via PLC

- frequently applied professional learning tool in education
- often limited to learning of (a) teachers and (b) withinschools

(Coenen et al., 2021)

→Adopting a principal perspective contributes to emerging research on between-schools PLCs for school leader professional learning



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PLC

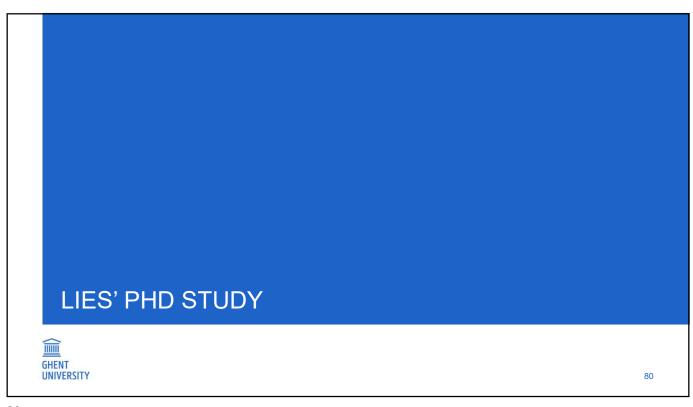
"A group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way; operating as a collective enterprise"

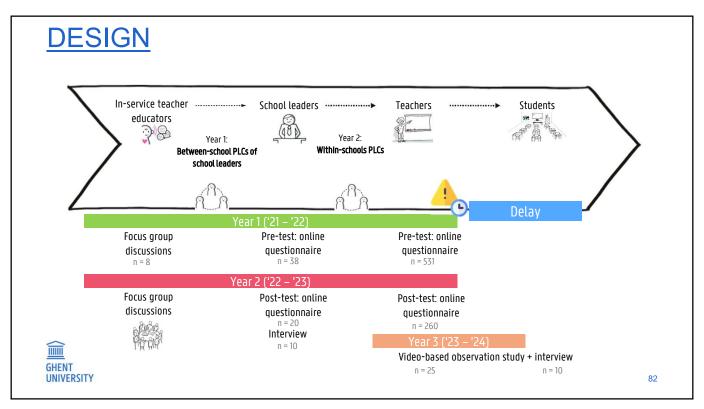
(Stoll et al., 2006, p. 223)

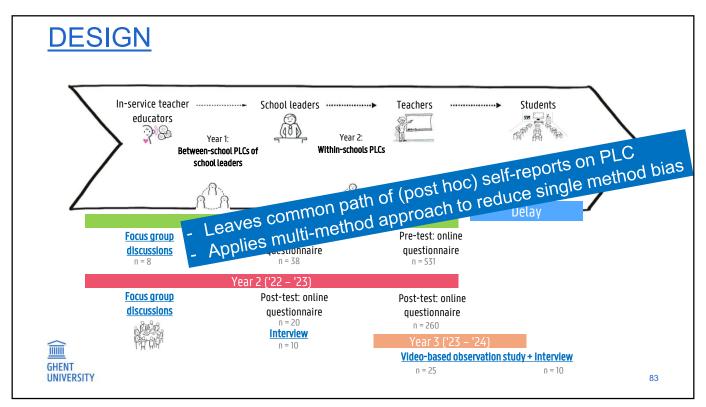
- Reflective dialogue
- Deprivatized practice
- Collective responsibility
- Shared values and vision
- Collective focus on student learning

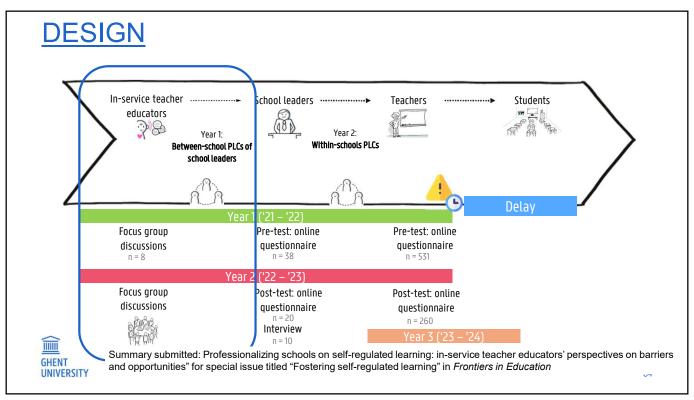


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FOCUS GROUPS WITH IN-SERVICE EDUCATORS

Research aim

- Insights in barriers and opportunities related to PD implementation
- Understanding of the role of process coaches/moderators (i.e., the inservice educators) in supporting and facilitating group learning

Focus group discussions with in-service teacher educators

- Bi-montly (9 in total)
- Average duration per focus group: 1h55
- Total hours: 17h
- Total number of transcription pages: 251

Qualitative inductive thematic analysis (Nvivo)

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ROLE OF PROCES COACHES

Expert

UNIVERSITY

Information and answers to content-specific questions

Coach

- Stimulating reflection and learning among group members
- Team facilitator & group development

Coordinator

- Structuring meetings according predefined goals
- Keeping track of logistical arrangements
- Avoiding standstill (of merely sharing personal anecdotes and/or frustrations) without moving towards in-depth reflection and co-creation
- Stimulating equal contribution

(Coenen et al., 2021)



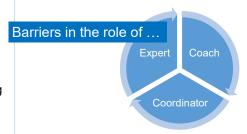
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PRELIMINARY RESULTS

As a facilitator, I find it difficult to stimulate the participants while I am still learning and searching myself."

- · High turnover
- Misconceptions on SRL and SRL implementation
- · Limited self-efficacy in working with SRL
- Tension in transmission of (P)CK regarding SRL and SRL implementation from researchers to in-service educators and from in-service educators to school leaders
- Learning curve





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PRELIMINARY RESULTS

'As a facilitator, I find it difficult to stimulate the participants while I am still learning and searching myself."

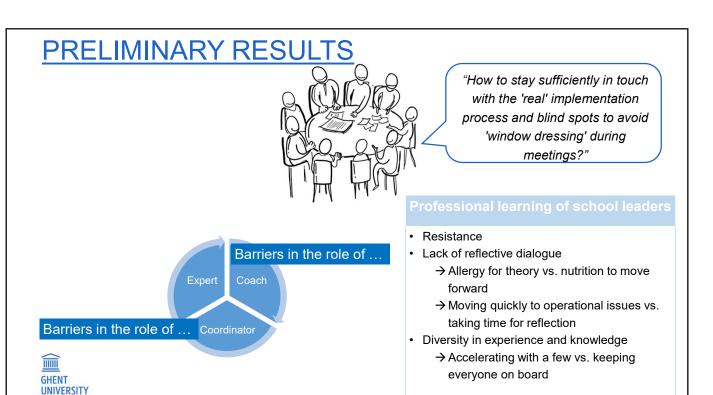
- · High turnover
- Emblematic for professional learning on other educational levels (i.e., school leaders, school teams, teachers)

SKL Implementation from researchers to in-service educators and from in-service educators to school leaders

· Learning curve

"How to stay sufficiently in touch with the 'real' implementation process and blind spots to avoid 'window dressing' during meetings?"

- Resistance
- · Lack of reflective dialogue
 - → Allergy for theory vs. nutrition to move forward
 - → Moving quickly to operational issues vs. taking time for reflection
- · Diversity in experience and knowledge
 - → Accelerating with a few vs. keeping everyone on board



FURTHER THINKING

Link with effective characteristics of professional development of school leaders (Crow & Whiteman, 2016; Goldring et al., 2012; Ni et al., 2017; Orr & Barber, 2009; Orr & Orphanos, 2011)

- Content characteristics
 - explicating a clear theory of leadership
 - ensuring a coherent curriculum
 - considering prior knowledge and individual development needs
- Structural characteristics
 - activating learning strategies
 - providing opportunities to apply knowledge and skills
 - investing in mentoring and/or coaching
 - working with cohorts or peer networks
 - using evaluation and feedback
 - providing sufficient time for implementation in practice
- Organisation characteristics
 - qualitative trainers
 - partnerships in view of shared vision and goals

Vekeman, E., Devos, G., & Tuytens, M. (2023). Wetenschappelijk rapport. Wetenschappelijke opvolging van professionaliseringtrajecten met het oog op het versterken van leiderschap voor herstel en veerkracht in het onderwijs [Scientific Report. Scientific monitoring of professionalization processes for strengthening leadership for recovery and resilience in education]. https://data-onderwijs.vlaanderen.be/onderwijsonderzoek/project/1701.

