

# Can Schools Keep Up With The Digital Revolution? Insights About The Use Of ICT In Schools

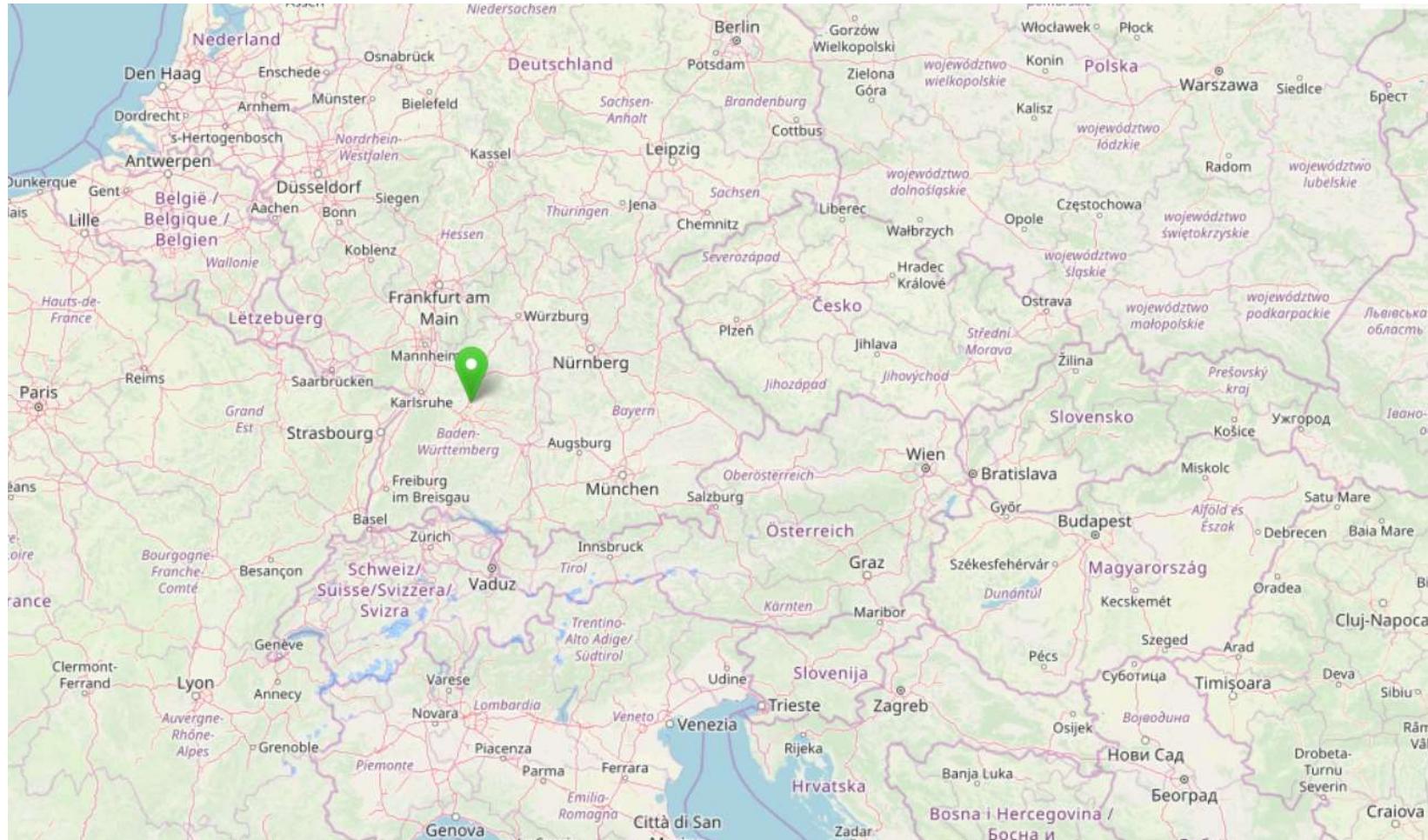
ENIRDELM 2019



Pierre Tulowitzki

[www.ph-ludwigsburg.de](http://www.ph-ludwigsburg.de)

# Where the hell is Ludwigsburg?!



Source

<https://www.openstreetmap.org/#map=6/48.886/6.438>

# Ludwigsburg University of Education





INEMA - International  
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# SHAPES OF THE DIGITAL REVOLUTION

A TALE OF TWO SCHOOLS



Pierre Tulowitzki

[www.ph-ludwigsburg.de](http://www.ph-ludwigsburg.de)

# THE DIGITAL REVOLUTION

FROM MECHANICAL TO DIGITAL IN UNDER 100 YEARS



Pierre Tulowitzki

[www.ph-ludwigsburg.de](http://www.ph-ludwigsburg.de)

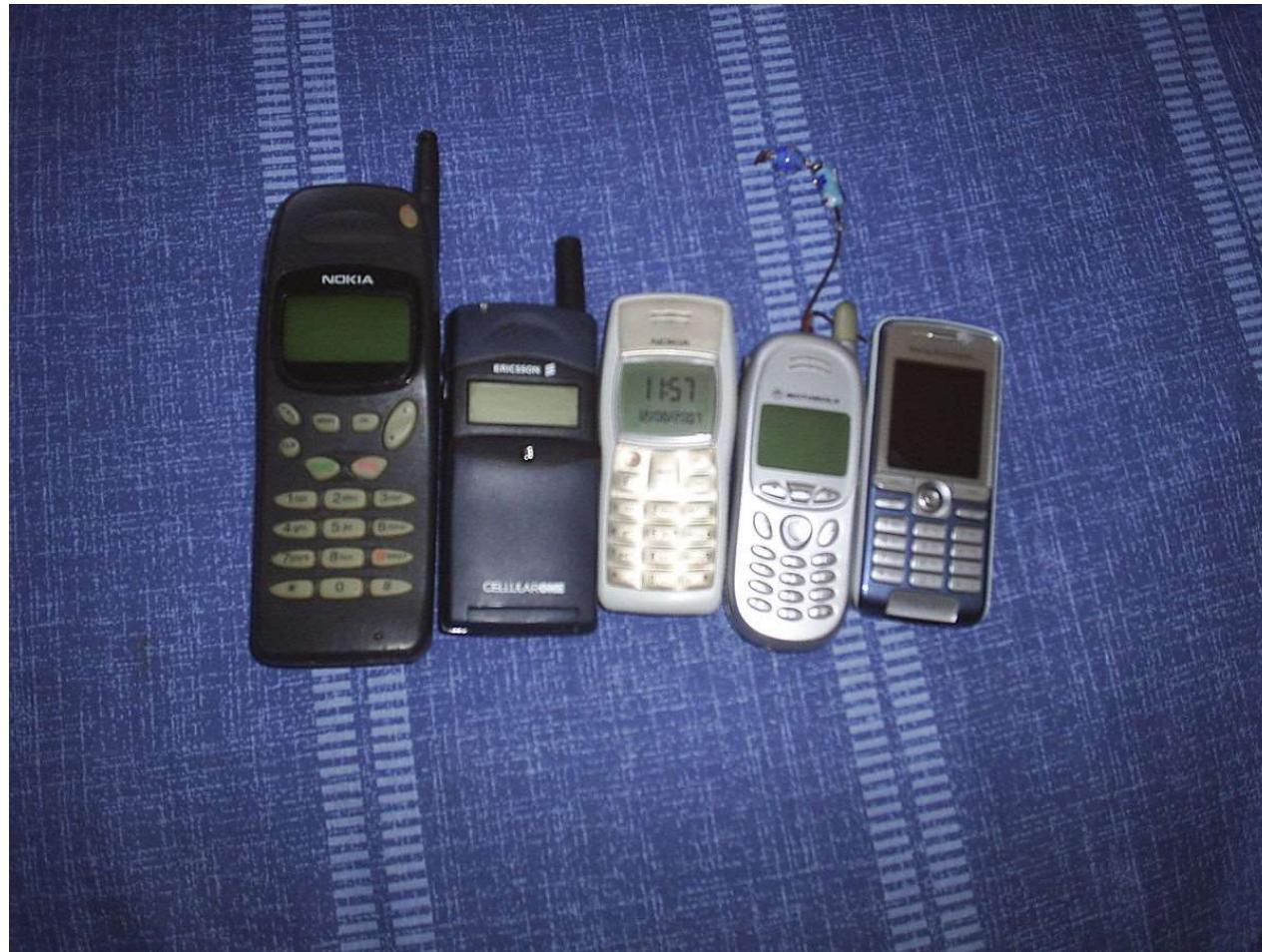
# 1950s



# 1969

29 OCT 69	2100	LOADED OP. PROGRAM (SK) EDITOR BEN BARKER BBN
22:30		talked to SRI CSE host to host
		left op. program (SLE running after sending a host dead message to imp.)

# 1990s



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# 2001

**Wikipedia: HomePage**  
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# 2006



The screenshot shows the original Facebook profile interface from 2006. At the top, it says "[thefacebook]". Below the header are links for home, search, global, social net, invite, flag, and logout. The main content area has a blue header "Profile (This is you)". On the left, there's a sidebar with "quick search" and links for My Profile, My Groups, My Friends, My Messages, My Away Message, My Mobile Info, My Account, and My Privacy. The main content area shows a profile picture of three people and a status message "Stranion". The right side contains two columns of account information:

Information	
Account Info:	
Name:	[edit]
Member Since:	January 13, 2005
Last Update:	February 3, 2005
Basic Info:	[edit]
Email:	
Status:	Mumhus/Alumna
Sex:	Male
Year:	2004
Concentration:	Computing Sciences Mathematics
Phone:	
High School:	
Extended Info:	
Screenname:	[edit]
Looking For:	Friendship Dating Relationship Random play Whatever I am get
Interested In:	Women
Relationship Status:	Single
Political Views:	Liberal
Interests:	Drawing, Football, Basketball, Tennis, Solving puzzles like that

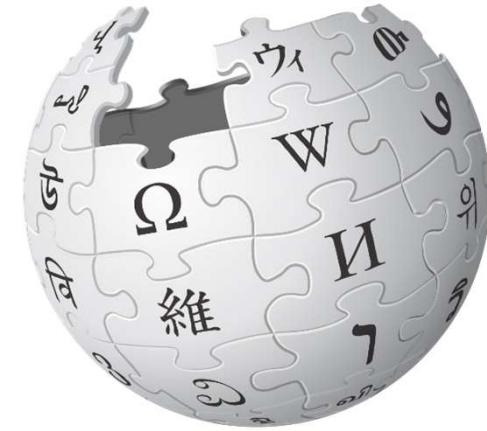
By Source, Fair  
use,  
<https://en.wikipedia.org/w/index.php?curid=23681159>

# Digital Revolution in Education

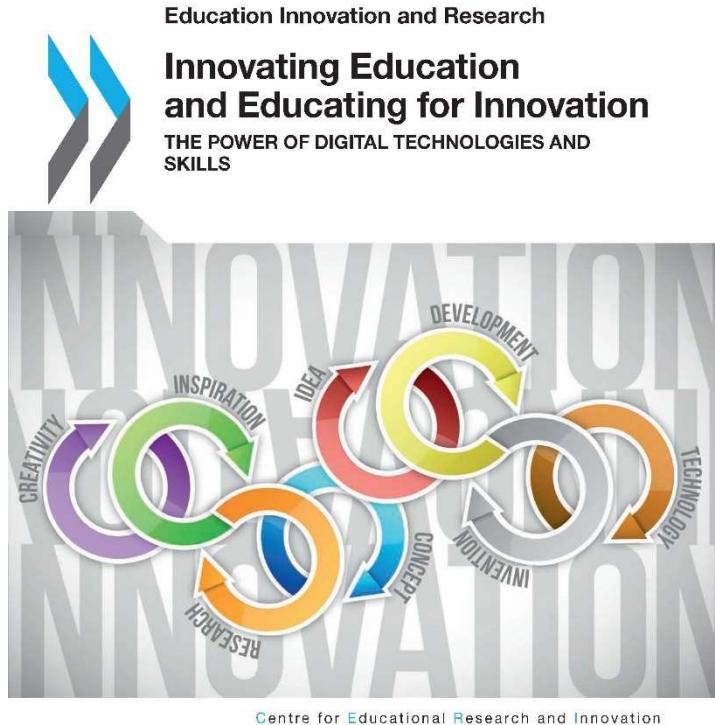


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YouTube

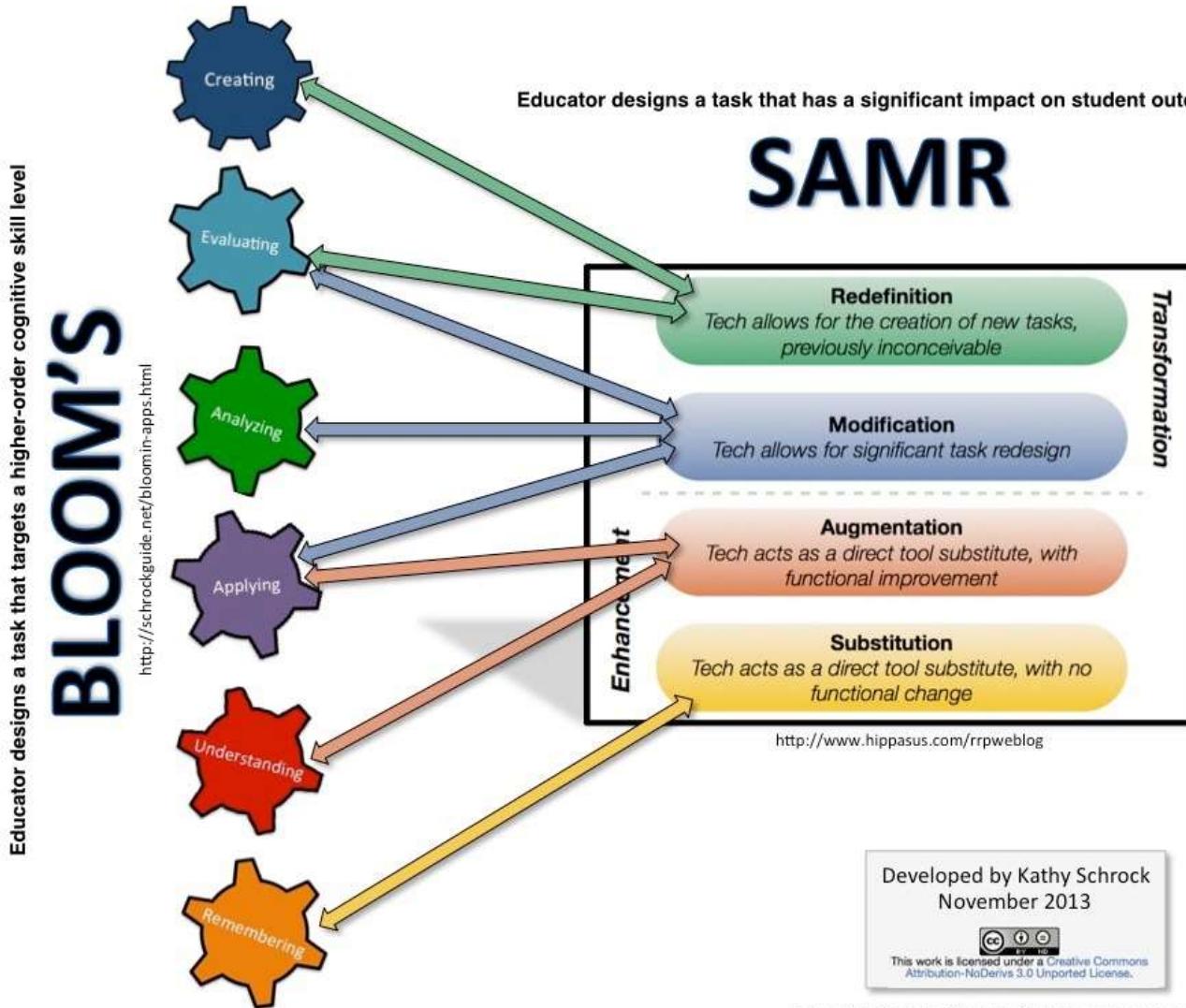


# Digital Revolution in Schools?



(OECD, 2016)

- “Islands of Innovation” (Forkosh-Baruch, Nachmias, Mioduser, & Tubin, 2005)
- Whole-school and whole-system perspective missing
- Technology often used in a substitutionary manner



By Kathy Schrock -

<http://essd40pd.weebly.com/samr.html> [http://www.schrockguide.net/uploads/3/9/2/2/392267/2797403\\_orig.jpg](http://www.schrockguide.net/uploads/3/9/2/2/392267/2797403_orig.jpg), CC BY-SA 3.0,  
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# 2nd Survey of Schools: ICT in Education (2019)



- 6 out of 10 European students are taught by teachers that engage in professional development activities about ICT in their spare time
- Compulsory ICT training rather uncommon
- EU offers various tools and programs, but usage is rather low

(European Commission, 2019)

# EDUCATIONAL LEADERSHIP

THE MISSING LINK?

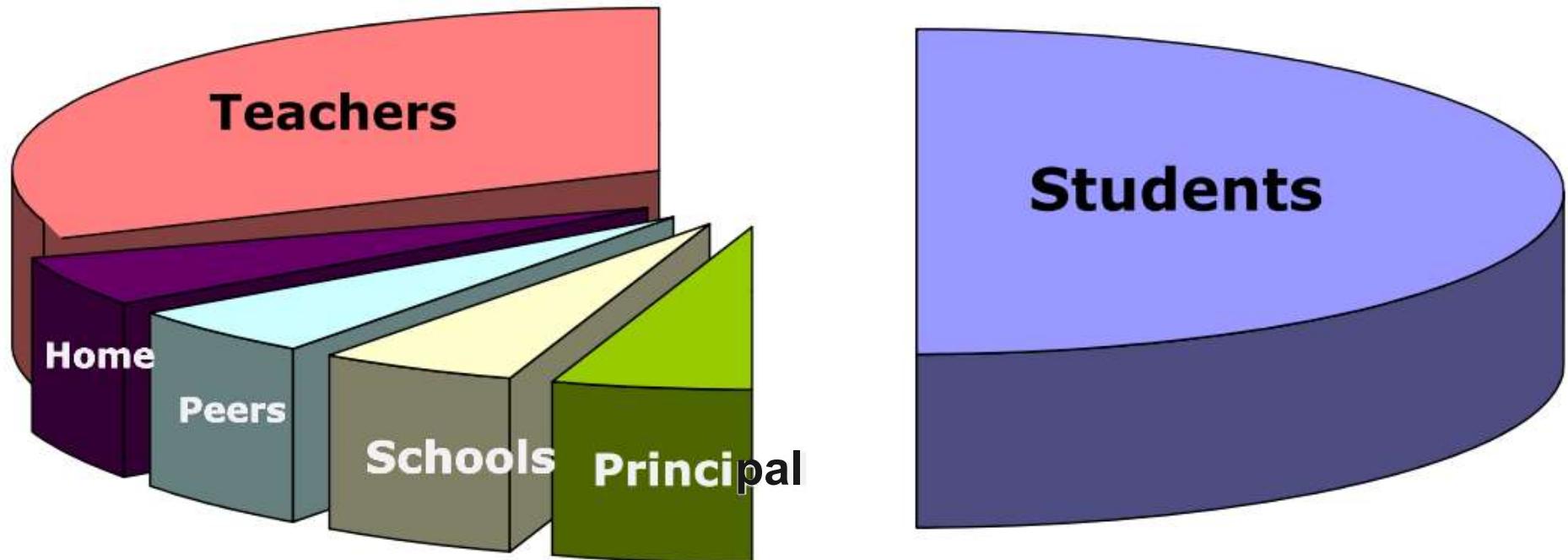


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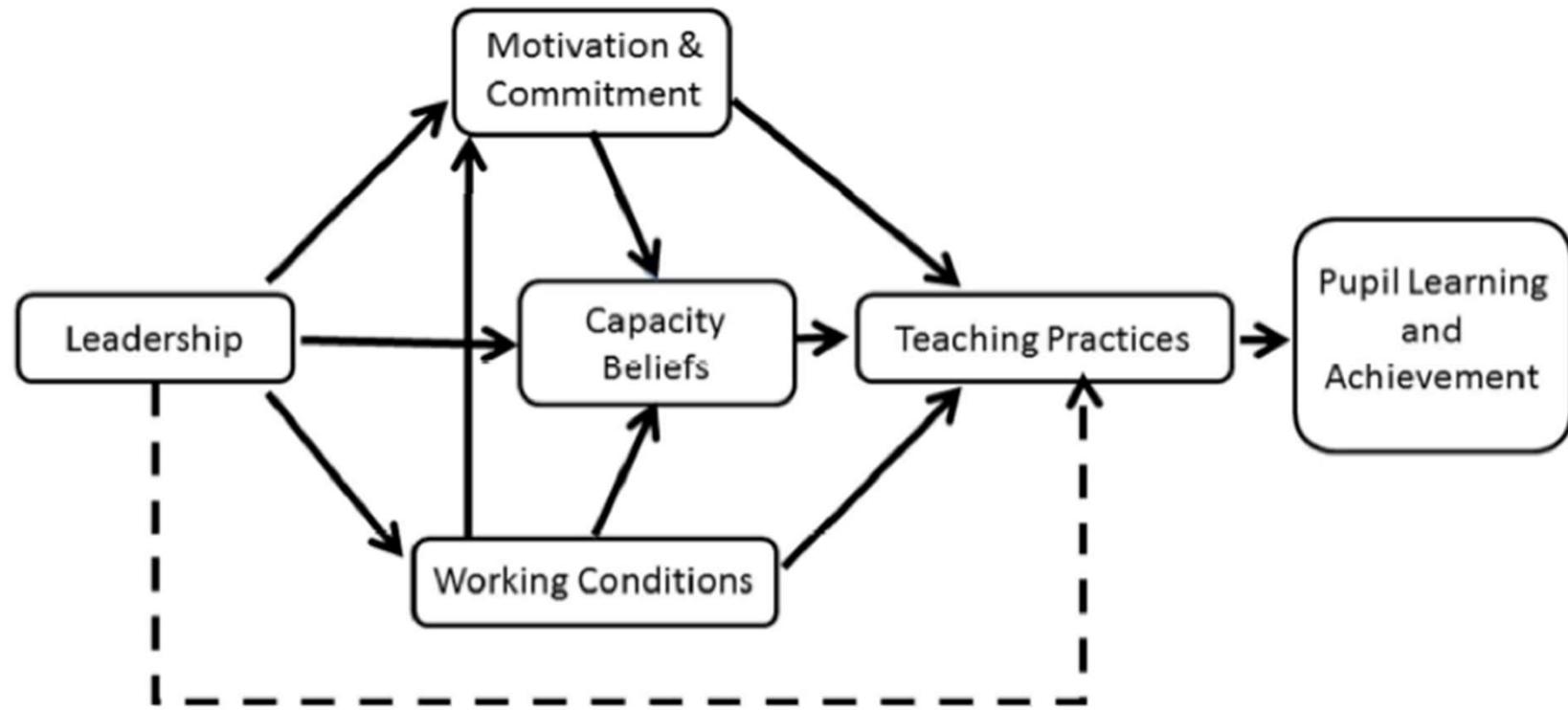
# Relevance of school leaders

**Percentage of Achievement Variance**



(Hattie, 2009)

# Leadership Impact



(Seashore Louis, Leithwood, Wahlstrom, & Anderson, 2010, S. 26)

# Core Leadership Responsibilities (OECD, 2008)



- Supporting, evaluating and developing teacher quality
  - -Managing the curriculum and teaching programme
  - -Teacher monitoring and evaluation
  - -Supporting teacher professional development
  - -Supporting collaborative work cultures
- Goal-setting, assessment and accountability
- Strategic resource management
  - -Financial Resources
  - -Human Resources
- Leading beyond the school borders (representation and collaboration)

# Selected research results

- Personal habits regarding individual ICT use influence collective ICT use in schools (Prasse, 2012)
- Digital competencies and attitudes of school leaders influence degree of digitization in schools (Abdullah, DeWitt, & Alias, 2013; Anderson & Dexter, 2005)
- ICT resources and competencies vary, but overall lacking in many European countries (ICILS 2013, European Commission, 2019)

# EXPLORING EDUCATIONAL LEADERSHIP AND ICT

INSIGHTS FROM GERMANY



Pierre Tulowitzki

[www.ph-ludwigsburg.de](http://www.ph-ludwigsburg.de)

# Explorative study

- Study in northern Germany
- How do school leaders use ICT for school leadership, management and school improvement?
- What are challenges and constraints around the use of ICT in schools?
- How can school leaders support an effective use of ICT in schools?



Co-investigator Prof.  
Dr. Julia Gerick,  
University of Hamburg

# Selected Results

- ICT in all domains of school leadership
- Work has changed in part
- Potential for connection(s)
- Being competent is a matter of coincidence
- Information “flooding” problematic
- Issues around data privacy and security

(Gerick & Tulowitzki, 2019)

# Competencies of school leaders



- School leaders with ICT competencies so far a matter of coincidence
- Training and professional development offers often inadequate
- Matter seems to take a “back seat” vis-à-vis ICT in the classroom.

(Krüger, 2016)

# Present and Future



- Grades available for various groups at any time
- Certificates available online as well as on paper
- Parent-teacher conferences online
- Planning of room uses and staff
- Managing absences of students, teachers and parents including communication
- Generating statistical data and making it accessible

# Fields of Tension

- School principals as ICT leaders vs. School principals as ICT users
- ICT as medium of school improvement vs. ICT as subject of school improvement
- Reaching everyone (technically) vs. Reaching everyone (on a human level)
- Speed of ICT-induced change vs. Standard speed of school improvement efforts
- Integration of technology vs. Dependency on technology

(Gerick & Tulowitzki, 2018)

# CONCLUSION



# Questions

- Where to situate competencies and responsibilities?
- How much qualification and professional development is appropriate?
- Individual or big solutions?
- How to overcome “generational gap” of digital literacy?

# From Digital to Scholastic Revolution?



- Purpose of classroom instruction age where information is widely available?
- Key competencies in a digital age?
- Should school aim to be a representation of life or a separate world?
- Doing nothing could lead to becoming obsolete



tulowitzki@ph-ludwigsburg.de

Thank you for your  
attention

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