NORCAN: A Network Striving for Achievement with integrity in Mathematics – in the Sea of Learnification

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NORCAN: An international partnership (2015-2018)

- Norway (Union of Education Norway), Alberta (Alberta Teachers’ Association), Ontario (Ontario Teachers’ Federation)
- Builds on earlier experiences of «professionalizing from within»
  - The FINAL partnership, Alberta
  - Teacher Learning and Leadership Program, Ontario
- A network of 9 schools
- School leaders, teachers and students as agents of change
- Action research, developing math instruction from «within»
  - Locally identified challenges
- Why math?
Theory of change

• **Thinking ahead:** Being bold, visionary and forward-thinking in aspiring to create a great school for all students.

• **Delivering within:** Materially supporting and committing to the goals one sets while avoiding the distractions of “doing business as usual.”

• **Leading across:** Principals, teachers and students cross school and jurisdictional boundaries to learn from each other.
Transformation Leader Framework

- Think Ahead
- Capabilities-driven strategies
- Lead Across
- Deliver Within

Education system's culture
Leader's imperatives
Overarching transformation leadership dimensions
Coherence between leader's imperatives
Drivers and inputs of culture
Research questions

«How can an international network of schools and educators committed to mindful leadership help to identify obstacles to student mathematics learning and develop strategies for attaining success?»

Schools develop their own research questions, e.g.:
- Is confidence a good predictor of success in math?
- What is success in math?
- How do we create intellectually safe environments for learning in math?
- How can we improve equity in student learning in math?
- How can we value and capture student voice to create equity in math?
Research questions for UEN

• How can we document and share our learning?
  – Across subjects? Across schools?
• How can we increase the profession’s ownership of its own knowledge base?
• What support do teachers and leaders need as participants in research and development projects?
• How can international partnerships and participation in research ensure the integrity of educational development?
• How can the goal of improving student outcomes in math be enriched by enhancing the broader goals of education?
Educational development by lateral networks of schools

• Supporting **principals as instructional leaders**

• Developing **teacher leadership**

• Encouraging **student leadership**
  – becoming active participants in their own learning

Collaborative opportunities for reflection and school development
• Logs from principals, teachers and students since 2015
  – Descriptions of status, expectations, change, and experiences
  – What have we learned?
  – What challenges do we face – how can we solve them?
• Logs from international network meetings
• Interviews of students and teachers
• Surveys at the schools
• Artefacts made by teachers and students
Learnification vs Education

• Learning as a neutral process?
• Learning as an individualistic term?
• Learning procedures?

• Learning in context?
• Learning together?
• Understanding?

Deep learning?
Development of mathematics…

• Sharing teaching materials and methods
• Practical and relevant tasks
• Confidence
• Growth mindset
• Math councils
Development of the school: Building cultures

- Building a culture of trust
- Relational work – how can we learn together?
- Risk taking and confidence as a goal for all
- From math councils to learning councils; including the student voice
"In the process of developing the school's mathematics education, focus was especially at the beginning of "getting the rest of the section to understand that exploratory tasks and problem solving are the way to go." Such an attitude is difficult to achieve good development from outside. I think that the reason why we see a collective change and that all teachers now want to try new methods and approaches is that the teachers themselves experience being part of the project".
"The changes I've felt most in my school are how we, as teachers, have involved students more in teaching. This is something that has come up more recently, where students get involved with how they like to work and how they learn."

"I have learned to take one step back and let the students try out a part themselves. I no longer present my algorithms to solve tasks before students have got a try and make their suggestions. I've had a lot of focus on this since my experience is that the moment I present an algorithm, that's the phase, regardless of whether that's the way students understand the best."

My voice matters
Variety + practical learning + community

True North
“So, after all, my conclusion is that we are surprisingly alike and think very much even though we live on two completely different sides of the globe. We both have a lot to learn from each other, but overall I am very pleased with the project because we have managed to locate our improvement potential. Something that is actually the first and most important step towards a better school system. A system that everyone thrives and has fun at school while learning in a productive and efficient way” (NORCAN student)
Expanding the understanding of school change

• Educational improvement is best enabled in systems that support local innovation

• International partnerships as a way of sustaining local innovation, while disseminating and scaling

• Building capacity at the school level, and developing powerful networks of school leaders, teachers, students, researchers and policy makers.
So what?

• What do we need to stop doing?

• What do we need to improve?

• What should we start doing?

• How can we better include the voices of students, teachers and school leaders in ECE and school development?