ICSEI data use network symposium
A policy and practice perspective on the use of research evidence for improving teaching and learning

Chair: Kristin Vanlommel, University of Antwerp
Discussant: Carol Campbell, University of Toronto

Introductory abstract
More and more schools are interested in using research evidence to improve their (teaching) practice. Studies show that the use of research evidence can contribute to effective teaching and learning in schools (See et al., 2016; Walker, 2017). This symposium focuses on the use of (research) evidence in schools from a research and policy practice. The first two papers (England and Switzerland) describe the results of two studies focused on supporting schools in the use of research results to improve education. Both studies show that support and feedback are crucial here, and that policy also influences the way research is used in schools. The other two papers focus on how local and national policy can support the use of evidence in schools, in a Canadian and Norwegian context. The symposium will be introduced by the chair. After the four presentations our discussant will reflect on the papers. After this, there will be time for questions from and a discussion with the audience. This symposium contributes to conference strand V “Converging pathways for policy, research, and practice”, as it is focused on (policy with regard to) the use of research results in practice.

Paper 1: Using theories of action to help teachers develop research-informed practices: the case of Chestnut Learning federation

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Objective
Research informed teaching practice (RITP) is the process of teachers accessing, evaluating and applying the findings of research evidence in order to improve their teaching practice (Walker, 2017). RITP is regarded by many as a prerequisite for effective teaching and learning (See et al., 2016; Walker, 2017). A common approach to realising RITP is to provide an accessible research base on effective educational interventions. Examples of such efforts include the syntheses of extant research findings undertaken by Hattie (2011) and the What Works Clearing House. Underpinning the work of these initiatives is that effective practices identified by research both can and should be replicated (i.e. scaled up) by teachers and school leaders. Yet while research evidence on effective strategies may well be available, teachers do not always know how to translate it into practice.

Key ideas
One mooted way to aid teachers’ engagement with research evidence is through the use of theories of action (ToA). Described by Earl and Timperley (2015) as the reasoning organizations use to describe how they will make change in the world, theories of action represent a journey guide for impact: i.e. ToAs provide the route map that steers educators towards their intended long term outcomes, or the difference an innovation is designed to make. Correspondingly, to help educators reach this long-term vision ToAs provide the steps that need to occur along the way. Establishing theories of action results from the deconstruction of successful approaches to teaching and learning: in other words, when we explore in detail why innovations are thought to work (Bryk, 2015). But ToAs can also be used to guide thinking when developing new interventions and why it is believed they will make a difference.

Approach
The research underpinning this paper explores the use of theories of action to help teachers scale up research informed interventions. The research setting is the Chestnut CE Learning federation, a family of three small Church Infant Schools based in Hampshire. The first author of the paper was asked to support the Federation become research engaged and did so by facilitating four workshops over the course of 2016/17. Included in the approach was the use of theories of action and knowledge creation activity to help teaching staff engage with research as well as use it to develop new approaches to teaching and learning. Simultaneously research was undertaken into the approaches employed and its impact. A total of 15 in-depth semi-structured interviews used to collect data. Interviews were recorded and recordings transcribed. Data were analysed thematically (inductively).

Findings and conclusions
The study suggest that the activities undertaken: 1) aid teachers to engage with educational research on effective feedback; and 2) help teachers use this research to develop feedback-related, research-informed interventions for their classrooms with clearly defined pathways for change and impact. Findings also suggest the approach has changed teachers’ understanding of how to engage in RITP to improve teaching and learning. The use of ToAs has positive implications for RITP.

Paper 2: The use of research results to improve student participation
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Study question
The local education laws in Switzerland (amended in 2005) prescribe the implementation of the ‘Rights of the Child’ (UN Convention 1989) mandating that students participate. A new Swiss study (Rieker et al, 2016) however indicates that schools still have difficulties implementing the law and students often perceive participation as tokenism. That laws or reforms do not work in an expected way is a well-known situation in school improvement research. The aims of the present study are twofold: the first is to achieve a better understanding of how participation can be put into practice and the ‘Rights of the Child’ implementation can “result in revised
policies and practices being implemented in schools” (Lundy, 2007 p. 939). The second aim – building the main focus of the paper - is to systematically collect information on school members perceived fed back research results, and what kind of influence it had on school improvement processes.

**Conceptual approach**

Student participation is a central aspect of school and classroom life because it considers “the norms of social interaction [...] teacher and student roles in the classroom, patterns of teacher and student talk, and the manner in which teachers and students treat one another” (Coburn, 2003 p. 5). Norms of social interaction are strongly anchored in teacher beliefs, which are “underlying assumptions” (p. 4) about how students are and what capabilities they have. Altering attitudes towards student participation requires a deep change in beliefs. (Coburn, 2003).

We assume that sustainable change is possible, if the topic is embedded in a thorough school improvement process, where teams collectively construct meaningful ways of students participating (Spillane et al. 2002; Coburn, 2004). School improvement can be understood as a collective learning process where situations are seen from a new perspective allowing new solutions (Zala-Mezö & Hameyer, 2015). Irritations produced through boundary crossing (Akkermann & Bakker, 2011) can be very useful instruments to stimulate learning. In this study research results are fed back into schools and so the border between school research and school practice is crossed.

**Study design and results**

We analyzed data from students and teachers comparing five schools within a mixed-methods-design (interviews, group discussions, participant observations, and questionnaires).

In this paper we show

- the data feedback concept: a condensed, and visualized written report combined with a workshop set inside the school;
- results of the analyses of questionnaire and interview data from participants assessing those two feedback forms.

Initial results indicate that all schools found the report understandable and containing relevant information. The school which received the most critical feedback expressed the greatest skepticism towards the reliability of the results. The research project including the feedback of the research results generated a high consciousness for the topic in all schools.

**Conclusion**

Feedback of research results is one factor influencing the school improvement process. Other factors like leadership can have countering effects (e.g. not working systematically on certain aims) and can dampen even an enthusiastic team and slow down school improvement.
The Ontario Ministry of Education’s Research and Evaluation Strategy is designed to engage partners in connecting research and evaluation to policies, programs and practices. The Strategy supports student learning and well-being through six components: leading the ministry’s research agenda; applying research and evaluation to policy, program and practice; building individual/system capacity for research/data use; fostering research collaborations; mobilizing quality evidence; and contributing to the body of education research knowledge. From the ministry’s vision document Achieving Excellence: “policy decisions and the allocation of resources have to be guided by evidence and research … these principles will continue to guide us in the future as we develop more rigorous, relevant and innovative approaches to learning.”

However, we know that financial constraints, time, and sociopolitical realities can impact research rigour. The ministry’s Evidence Framework was designed as a capacity-building tool and resource to mitigate these impacts by supporting staff use of data and evidence in their day-to-day work. As part of the ministry’s plan to move its work forward, collaboration and networking with stakeholders is essential.

Ontario is committed to supporting professional learning and capacity building in school systems. Initiatives such as the Knowledge Network for Applied Education Research and Managing Information for Student Achievement catalyze and mobilize knowledge that educators can use to advance learning and teaching goals. The New Teacher Induction Program (NTIP) supports new teachers through individualized professional learning opportunities and mentorship. Streamlined, multi-method data collection tools, including ongoing ministry engagement with school boards, longitudinal research, and accessible survey tools, are used to refine NTIP design, as well as to measure impact. School boards collaborate with the ministry and other networks to promote a culture of inquiry for reviewing data and systemically evaluating key initiatives.

The ministry’s 21st Century innovation program engages school boards in locally-determined inquiries that shift teachers’ practice and foster “Deeper Learning” (US National Research Council, 2012), while meaningfully incorporating digital technology. Monitoring of districts’ projects shows their impacts on students, teachers and systems, and informs program design. Findings are mobilized back to districts and publicly shared. These findings, alongside international research, have informed the development of the ministry’s draft set of global competencies, which have informed the development of the CMEC Pan-Canadian Global Competencies (2016). The 21st Century innovation study demonstrates how local school
innovations can connect with a systemic approach and central support to contribute to improved learning outcomes at scale, with impacts evident in improved student outcomes, teacher practice, and system transformation.

Although ministry frameworks help to connect research and evaluation to programs and practices designed to improve education at the school, classroom, and student levels, challenges continue, particularly for disadvantaged students. The ministry recognizes that, to tackle complex issues, innovative approaches are needed. From building systems that can collect large volumes of data to using a range of research methods to obtain insights, the ministry is interested in a dialogue on how data and knowledge can best be used to respond creatively to complex challenges and opportunities for improving education.

**Paper 4: Middle leaders in schools – a case of research use in the development of a national program**

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This session presents findings from a systematic review on middle leaders in school, answering the research question: **What characterises middle leaders' work and what are their knowledge needs?** The review was conducted on request from the Norwegian municipalities' interest organization, KS, and research findings are used to inform the development of a national training program for middle leaders. A systematic search conducted fall 2016, identified 926 studies (search period 2010-2016). After quality and relevance assessment, 37 studies were included for analysis in the review and categorised according to four broad, overarching themes:

<table>
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<tr>
<th>About middle leaders (job characteristics, job motivation, learning needs)</th>
<th>Distributed leadership, leadership as a practice</th>
<th>Mentoring/coaching communities in schools</th>
<th>Professional learning communities in schools</th>
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<td>18 studies</td>
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The presentation will show how the systematic review informs the design of the national training program for middle leaders. A consistent finding across the studies is that middle leaders' jobs are quite mundane and trivial, and researchers argue that they instead should be instructional leaders. This raises questions about middle leaders' competence and training needs. In the synthesis, Karl Weick's concept of loose coupling (Weick, 1976, 1982; 1998; Orton & Weick, 1990) is used to shed light on paradoxes and problems revealed in the studies. Inspired by how Estabrooks et al. (2008) argue for a renegotiation of the social contract between science and society, with society as a more active partner in the knowledge creation process, researchers from the Norwegian Knowledge Centre for Education have interacted with representatives from KS in the process of conducting the review. During the meetings, KS
representatives gradually have improved their understanding of how systematic reviewing is conducted, what research can and cannot say, what they can do with the findings and how findings from research may be combined which other knowledge sources. Feedback from KS representatives on drafts has made the systematic review more user-friendly.

References