

Mobilizing knowledge in professional learning networks

The importance of knowledge mobilization in professional learning networks

The collaborative learning of educators is receiving increasing attention from policymakers, researchers and schools (Brown, 2020; Darling-Hammond *et al.*, 2017; Datnow and Park, 2018; Vangrieken *et al.*, 2017). In this issue, we focus on collaborative learning in professional learning networks (PLNs). In other words, collaborative learning amongst groups of educators (e.g. teachers, school leaders and often researchers and policymakers) who are engaging outside of their everyday community of practice, with an intention to improve teaching and student learning (Brown and Poortman, 2018).

PLNs are expected to contribute not only to educators' professional development but also to that of their colleagues, their schools more generally and sometimes even the whole school system (Brown and Poortman, 2018; Dogan and Adams, 2018; European Commission, 2018). There is no guarantee PLNs will lead to positive impacts either for teachers or for students, however (Datnow and Park, 2018). The ways in which PLNs operate and facilitate change are complex and influenced by a myriad of 'enactment process variables' (DuFour, 2004; Lomos *et al.*, 2011; Rincón-Gallardo and Fullan, 2016; Poortman *et al.*, 2019; Stoll *et al.*, 2006; Vangrieken *et al.*, 2017), such as leadership (Brown, 2020), collaboration (Vangrieken *et al.*, 2017) and reflective professional inquiry (Brown and Poortman, 2018). Moreover, contextual factors such as the policy environment may support or hinder PLN work and outcomes. Even if PLN participants successfully collaborate and learn together within their group, to be able to achieve the ambitious goals of school and system improvement, they need to successfully share and further develop the knowledge developed within the PLN with other colleagues in their 'home' schools and other institutions outside the PLN. What is more, they need to do this in such a way that their colleagues and others can incorporate this knowledge in their educational practice as experts (Brown and Flood, 2019). In other words, they need to be able to modify and combine this knowledge to maximize the impact it has for students. This process of *creating, sharing and applying knowledge resulting from collaborative learning in PLNs* is called knowledge mobilization (KMb) (Cooper *et al.*, 2020; Finnigan *et al.*, 2013; Brown and Malin, 2020; Rodway, 2015).

Clearly then, effective knowledge mobilization is essential to sustained network-related school improvement (Hubers and Poortman, 2018). Recent work shows that passive dissemination is ineffectual, and that the most impactful forms of mobilization involve school staff: (1) actually engaging with innovations; (2) collaboratively testing out how new practices can be used to improve teaching and learning and (3) continuing to use and refine new practices in an ongoing way (Brown 2020). At the same time, teachers and school leaders still have much to learn in this area (Brown, 2020; Brown and Flood, 2019), and in this special issue, we bring together insights from a range of countries and continents, different stakeholders, theoretical frameworks and methodologies to help fill gaps in our understanding as to how to facilitate knowledge mobilization effectively, as well as the challenge of assessing impact of approaches to do so. As a result, we hope this special issue inspires researchers, practitioners and policymakers to further develop theory, practice and support for knowledge mobilization in PLNs.

The authors are indebted to the anonymous reviewers for their insightful and instructive feedback on the papers in this special issue. The authors would also like to thank Amanda Datnow for tying together the main insights of this issue in her excellent discussion of the papers.



Theories, methods and findings of studying knowledge mobilization in this special issue

The first paper, by Schnellert and Butler, considers collaborative, inquiry-based professional development as key to developing, exploring and integrating *situated* understandings and practice. Schnellert and Butler conceptualize knowledge mobilization *as a process by which educators actively interpret, adapt, and build from theory and research to inform efforts grounded in the unique contexts in which they are working* (Schnellert and Butler, this issue). In their study, learning resource teachers co-taught in dyads with teachers and these dyads participating in a cross-school PLN that was also cross-district. The study focuses on: (1) what conditions could educators identify that supported their co-construction of knowledge and practice development together and (2) how including *co-teaching partners* in the PLN helped participants to mobilize knowledge and/or practices in the contexts where they were working. Employing a case study methodology that draws on a range of qualitative data, Schnellert and Butler highlight how participants included amongst the conditions supporting their KM and practice development: a shared focus, a feeling of group accountability, collaborative testing of practices within the PLN, large group sharing and debriefing, sustained cycles of collaborative inquiry and drawing on expert “others” as a pedagogical resource. Analysis of these conditions enables Schnellert and Butler to draw some insightful practice recommendations. For example, group accountability can ensure PLN participants actively engage in planning, testing out new approaches in the classroom and the reporting of success (or failure) at each PLN meeting. In turn, these actions then supported actual practice change. Working with co-teaching partners was also considered specifically valuable. At the same time, not everyone worked together in the same way. The quality and growth of partners’ collaboration is described and visualized in-depth, including a discussion of their relationships. This microanalysis of collaborative inquiry shows how taking an inquiry stance within a co-teaching partnership makes activities more productive and learning richer, providing much insight into how deeper learning and practice outcomes can be achieved.

The second paper, by Mason and Galloway, also reiterates the value of focusing on the context, and of local teachers providing the professional development. The paper focuses on the impact of continuing professional development and learning (CPDL) with the aim of raising literacy attainment in the context of a severely impoverished country (Sierra Leone). CPDL was provided by local teachers from a network of successful schools run by an NGO, rather than external, foreign experts, to avoid language barriers, excessive costs and long-term dependency for participating schools. Mobilization of local knowledge to improve practice is considered key in this study. Working in collaborative PLNs was a key aspect of the CPDL, because, as Mason and Galloway explain, teachers in Sierra Leone normally work in relative isolation and with little support from head teachers. Using a quasi-experimental design, the impact of the CPDL on children’s literacy and attendance was examined. Although findings of the impact evaluation need to be considered as indicative rather than causal, they show the promise of locally provided collaborative PD; they also suggest that while evidence of student improvement can be the outcome of PLN participation, it can also act as a catalyst in development of PLNs.

Jesacher-Roessler’s paper, on the other hand, takes the idea of PLNs as catalysts for institutional change as a starting point by reconstructing the “travel of ideas”. To illustrate, she discusses a model, drawing on theoretical approaches to both KMB on an individual and an organizational level. The strengths and limitations of the model are subsequently explored using interviews with PLN participants and detailed log-books of two participants, to reconstruct experiences of KMB in the PLNs and the process of KMB among schools. The findings provide areas of refinement of the model, as well as highlight how knowledge mobilizers themselves see their role. In particular, Jesacher-Roessler’s paper shows that PLN participants only partially define themselves as knowledge mobilizers; with their identity as mobilizers and their willingness to engage in mobilization activity strongly affected by

organizational and individual beliefs. As a result, this paper provides clear food for thought in terms of how KMB should lead to institutional change.

How ideas travel is mapped using social network analysis methodology by Rodway, MacGregor, Daly and Liou in their network case of knowledge brokering. After offering a conceptual understanding of knowledge brokering from a sociometric point-of-view, they provide an empirical example of this conceptualization in an education context. Using social network analysis, they explore knowledge exchange patterns among a group of teachers, instructional coaches and administrators who are collectively seeking to build increased capacity for effective mathematics instruction. The concept of *network activity* is proposed to measure direct and indirect knowledge brokerage through the use of degree and betweenness centrality measures. The concept of *network utility* – measured by tie multiplexity – is a second key component of effective knowledge brokering. The study shows significant increases in both direct and indirect knowledge brokering activity across the network over time, with teachers, in particular, as key knowledge brokers. Importantly, there is also an increase in the number of resources exchanged through network relationships over time. The most active knowledge brokers in this social ecosystem are those individuals who are exchanging multiple forms of knowledge. The findings show the importance of both direct and indirect interactions for understanding knowledge brokerage, as well as the significance of tie multiplexity. The authors also emphasize the role of longitudinal research in mapping network interaction.

Tulowitzki's paper presents the findings of a study into transfer of learning as an outcome of an International Education Management (INEMA) Program. In this blended learning program, creating a global community of peers sharing knowledge and improving education (both their own and their educational settings) is central. The PLNs consist of international groups of students coming together both online and in person. Levers and barriers to establishing viable networks were identified by semi-structured interviews. Examples of learning transfer – the knowledge learnt during the program being mobilized to participants' home context – were investigated using both interviews and content analysis of masters theses. This paper offers interesting insights into how 'blended' PLNs develop and how connections between PLN participants can be further promoted; as well as promising examples of how knowledge is mobilized to the context of the participants. The role of informal interaction between participants for PLN development is also emphasized.

Finally, MacGregor's umbrella review discusses quantitative tools for measuring impact in fields of co-production – one specific approach to knowledge mobilization. As MacGregor (this issue) describes, co-production is the situation in which *multiple stakeholders aim to shift the research paradigm from one in which the researcher is the sole expert to one in which researchers and stakeholders co-lead research activities and collectively apply their expertise, knowledge and skills within a team*. After having explained systematically the approach to the review, MacGregor's paper describes the contexts, main constructs and content themes and psychometric and pragmatic qualities of measurement tools and instruments he uncovered as part of his review. Although tools with strong measurement properties are available as starting points for scholars and practitioners engaging in partnered approaches to research, MacGregor concludes that future studies should engage more openly and critically with psychometric and pragmatic considerations when designing, implementing and reporting on measurement tools in order that the impact of co-production can be fully understood.

The papers in this special issue show what role PLN participants (i.e. teachers, school leaders and other stakeholders) can play in KMB, even unconsciously, and how this is influenced by local conditions. While several cases are discussed either from a more conceptual (Jesacher-Roessler) or a more empirical perspective (Schnellert and Butler; Tulowitzki; Galloway and Mason), we also point to the importance of further work in measuring impact, i.e. the methodological perspective (Rodway *et al.*; MacGregor).

Figure 1.
Overview of the special issue papers in terms of emphasis, approach and context

Emphasis \ Approach	Theoretical	Methodological	Empirical
Qualitative	Jesacher-Roessler <i>The travel of ideas: The dual structure of mobilized knowledge in the context of Professional Learning Networks - Austria</i>		Schnellert & Butler <i>The potential of collaborative teaching nested within PLNs in Canada</i>
Mixed			Tulowitzki <i>Cultivating a global professional learning network through a blended-learning program - International</i>
Quantitative		Rodway et al. <i>A network case of knowledge brokering - U.S.</i> MacGregor <i>Quantitative instruments and measures for impact in co-production - International</i>	Mason & Galloway <i>Impact of CPDL for literacy attainment in Sierra Leone</i>

The papers also show the interaction of the cross-local PLN with teachers' own context and what works in this respect. The contribution of these papers is outlined in [Figure 1](#).

Conclusion

With this special issue, we have sought to advance the understanding of knowledge mobilization in PLNs across a range of contexts, from the theoretical to the empirical, as well as seeking to incorporate a range of methodological approaches that can help us understand and measure KMB more effectively. Yet as you will see as you read through the papers, this is simply the start of the journey. Despite the promise of PLNs, achieving school and even system improvement with PLNs is an ambitious goal. Knowledge mobilization is complex and there is still a lot to learn in this area. In this special issue, a range of approaches, contexts and in-depth discussions of both theory and what KMB looks like *in situ* are presented and discussed to support and inspire educators in contributing to this ambitious goal.

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References

- Brown, C. (2020), *The Networked School Leader: How to Improve Teaching and Student Outcomes using Learning Networks*, Emerald Group Publishing.
- Brown, C. and Flood, J. (2019), *Formalise, Prioritise and Mobilise: How School Leaders Secure the Benefits of Professional Learning Networks*, Emerald, London.

- Brown, C. and Malin, J.R. (2020), "Joining worlds: knowledge mobilization and evidence-informed practice", in Malin, J. and Brown, C. (Eds), *The Role of Knowledge Brokerage in Education: Connecting the Dots between Research and Practice*, Routledge, pp. 1-12.
- Brown, C. and Poortman, C.L. (2018), "Introduction", in Brown, C. and Poortman, C.L. (Eds), *Networks For Learning: Effective Collaboration for Teacher, School and System Improvement*, Routledge, pp. 1-9.
- Cooper, A., Rodway, J., MacGregor, S., Shewchuk, S. and Searle, M. (2020), "Knowledge brokering: not a place for novices or new conscripts", in Malin, J. and Brown, C. (Eds), *The Role of Knowledge Brokerage in Education: Connecting the Dots between Research and Practice*, Routledge, pp. 90-107.
- Darling-Hammond, L., Hyler, M.E. and Gardner, M. (2017), *Effective Teacher Professional Development*, Learning Policy Institute, Palo Alto, CA.
- Datnow, A. and Park, V. (2018), *Professional Collaboration with Purpose: Teacher Learning towards Equitable and Excellent Schools*, Routledge, New York, NY.
- Doğan, S. and Adams, A. (2018), "Effect of professional learning communities on teachers and students: reporting updated results and raising questions about research design", *School Effectiveness and School Improvement*, Vol. 29 No. 4, pp. 634-659.
- DuFour, R. (2004), "What is a 'professional learning community'?", *Educational Leadership*, Vol. 61 No. 8, pp. 6-11.
- European Commission (2018), *Networks for Learning and Development across School Education*, European Commission, Brussel.
- Finnigan, K.S., Daly, A.J. and Che, J. (2013), "Systemwide reform in districts under pressure: the role of social networks in defining, acquiring, using, and diffusing research evidence", *Journal of Educational Administration*, Vol. 51 No. 4, pp. 476-497.
- Lomos, C., Hofman, R.H. and Bosker, R.J. (2011), "Professional communities and student achievement—a meta-analysis", *School Effectiveness and School Improvement*, Vol. 22 No. 2, pp. 121-148.
- Poortman, C.L., Brown, C. and Schildkamp, K. (2019), "Professional learning network processes and the link to student outcomes: a conceptual model of impact and research opportunities", Presented at ICSEI 2020, Marrakech, Morocco.
- Rincón-Gallardo, S. and Fullan, M. (2016), "Essential features of effective networks in education", *Journal of Professional Capital and Community*, Vol. 1 No. 1, pp. 5-22.
- Rodway, J. (2015), "Connecting the dots: understanding the flow of research knowledge within a research brokering network", *Education Policy Analysis Archives*, Vol. 23, p. 123.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M. and Thomas, S. (2006), "Professional learning communities: a review of the literature", *Journal of Educational Change*, Vol. 7 No. 4, pp. 221-258.
- Vangrieken, K., Meredith, C., Packer, T. and Kyndt, E. (2017), "Teacher communities as a context for professional development: a systematic review", *Teaching and Teacher Education*, Vol. 61, pp. 47-59.

Further reading

- Lortie-Forgues, H. and Inglis, M. (2019), "Rigorous large-scale educational RCTs are often uninformative: should we be concerned?", *Educational Researcher*, 0013189X19832850.
- MacGregor, S. (2021), "An Overview of quantitative instruments and measures for impact in Co-production", *Journal of Professional Capital and Community*, Vol. 6 No. 2.
- Mason, M. and Galloway, D. (2021), "Knowledge Mobilisation in Sub-Saharan Africa: an impact evaluation of CPDL in improving children's performance", *Journal of Professional Capital and Community*, Vol. 6 No. 2.

- Rodway, J., MacGregor, S., Daly, A. and Liou, Y. (2021), "A network case of knowledge brokering", *Journal of Professional Capital and Community*, Vol. 6 No. 2.
- Schnellert, L. and Butler, D. (2021), "Exploring the potential of collaborative teaching nested within professional learning networks", *Journal of Professional Capital and Community*, Vol. 6 No. 2.
- Tulowitzki, P. (2021), "Cultivating a global professional learning network through a blended-learning program – levers and barriers to success", *Journal of Professional Capital and Community*, Vol. 6 No. 2.