Implementing a New Mathematics Curriculum in England: District Research Lesson Study as a Driver for Student Learning, Teacher Learning and Professional Dialogue. Peter Dudley, Paul Warwick, Maria Vriikki, Jan D. Vermunt, Neil Mercer, Nicolette van Halem, and Anne Mette Færøyvik Karlsen

in


‘If anyone ever questioned the possibilities, the influence, or the global reach of lesson study, this volume quickly puts those questions to rest. In our judgment, no other phenomenon in education has so quickly spread to so many countries and reached so many teachers and researchers in so many different educational settings’.

These are the opening words of James Hiebert and Jim Stigler in the preface to this volume. At 38 Chapters and over 800 pages, the book certainly provides a tour de force of current theory and practice in mathematics lesson study as it develops around the world.

And most of this global growth in Lesson Study (LS) concerns the subject of mathematics reflected in this book. The chapter that I am describing here, that arose from a collaboration between the London Borough of Camden and the University of Cambridge, is no exception. It describes a development and research project that ran from 2013-16 aimed at using LS as a vehicle to help schools develop versions of the 2013 mathematics national curriculum that would work effectively for London (and specifically their own) London pupils.

Lesson Study is an approach to school, curriculum, teaching and learning development that involves teams of teachers developing their curriculum and teaching: by collaboratively and critically studying their current curricular approaches and materials and students’ responses; by researching evidenced innovations and then by jointly conducting ‘research lessons’ together. Many teachers describe the kind of learning they experience during LS to be unique and revelatory. This indeed was my experience when I first participated in a LS thirty years ago. So as well as developing the curriculum, we also undertook to find out whether the kinds of teacher learning experiences identified in a small pilot study (Dudley, 2013) would be replicated at scale across a project involving 96 schools.

Our chapter in the book begins by describing the variation of LS used in the project. This is ‘Research Lesson Study’ (RLS) which differs a little from its Japanese antecedent. RLS places (usually three) LS group member teachers together in a protected professional learning space where they need not fear criticism – but rather feel safe to take risks and build an enquiry community. They sequentially plan, teach
and analyse three (rather than just one) research lessons. They predict and track the learning of three ‘case pupils’ and also interview pupils after each research lesson to gain their perspectives. And they build their post-lesson analytical discussions around their observations of the pupils’ learning before even considering the teaching (which of course was jointly planned and experimental - so everyone’s responsibility).

RLS is thus highly dialogic and depends for its success on creating trust, reciprocity, safe spaces for risk taking and high social capital amongst participating teachers. This helps to create conditions for exploratory talk. In the project we also brought schools together at local meetings to explore the new mathematics curriculum in relation to their pupils and their own pedagogical strategies content knowledge as teachers. We met in this way prior to designing their lesson studies and again after they had conducted them, in order to share what they had found out about their pupils’ learning that would inform their curriculum designs and subsequent teaching.

The lesson study groups recorded and analysed their discussions and the Cambridge team analysed them in order to identify teacher ‘learning points’ in relation both to dialogic discourse moves and to the focus of the discussions at the time. The studies that have been published of this research (that are synthesised in this chapter) threw up a number of interesting findings, but most crucially they reveal that teachers were found to be engaging in ‘Meaning Oriented Teacher Learning’ in the lesson study discussions. This is a form of intensive problem-solving based teacher learning that changes subsequent practice. It is rare but in these lesson studies it was observed in higher concentrations than have been seen in other forms of CPD.

In fact, the engagement of LS seemed to have ‘opened their eyes’ to their pupils’ learning. This was enabling them to identify diagnose and solve learning problems in mathematics learning that they had not realised had existed in their classrooms.
Over the two years of the project, teacher’s confidence in teaching the ‘hard to teach and learn’ aspects of mathematics rose as did the student’s attainment in the project schools (in comparison to non-project schools where attainment fell in comparison). Schools developed ‘lesson study lesson’ exemplars in their their new mathematics schemes of learning that have served as guides for developing other areas of mathematics learning and have also proved useful in inducting new teachers to the curriculum.

Following the project, sixty of the schools continued to meet and develop their mathematics teaching by sharing their lesson studies in three self-organising London hubs. We ceased collecting data from them in 2017 but we know some are still running in some form.

The combination of the intensive meaning-oriented collaborative teacher learning with the changes they witnessed in their classrooms, may explain why so many of the LS groups continued to conduct lesson studies together after the project. It may also help to explain the dramatic, global ‘rise and rise’ of lesson study to which Hiebert and Stigler allude (above) at the start of this fascinating, world-encompassing book.

Pete Dudley

Conceptualisation of dialogic space for developing pedagogy within lesson study. (p. 304)