



Improvement through Lesson Study

Sarah Seleznyov explores the Lesson Study approach to professional development. She explains how much can be gained from schools engaging with the authentic Japanese model when shaping their own programmes.

'Lesson study is like air'
(Fuji, 2014)

Lesson study is a collaborative approach to professional development that originated in Japan. Since 1999, when Stigler and Hiebert first wrote about lesson study as a model for improvement of classroom practice in the US, lesson study has enjoyed an enduring fascination for teachers



around the world. US and Japanese researchers have written extensively about the challenges of adopting the lesson study model in a US context. But very few researchers have focused on the nature of implementation in an English context. What does this mean for English schools wanting to implement a lesson study approach?

Over the last four years, as part of their broader work with schools in supporting a research approach to professional learning and leadership, the London Centre for Leadership in Learning have supported over fifty schools to explore lesson study. To bolster this work, I participated in a two-week visit to Japan to gain deeper understanding of lesson study in its original context and carried out an extensive review of the lesson study literature. This process has led us to believe that there is a need to explore the degree of fidelity with which the Japanese model of lesson study can be implemented in an English context. It has also prompted us to make rational and pragmatic decisions about necessary adaptations, based on the realities of school leadership in England.

■■■ The importance of cultural context

Japanese authors recognise the appeal and power of lesson study for countries beyond Japan, but are well aware of the potential pitfalls. Isoda (2007) states that:

...moving outside of its own historical and cultural context may entail the loss of some of the powerful influences that shape and give direction to lesson study in Japan.

He also recognises that in moving beyond Japan, lesson study may undergo '*creative transformation*' as it is adapted to a different culture. In other words, there is a recognition that the Japanese model of lesson study will not be so easy to translate into another cultural context and some kind of adaptation might be necessary to its successful translation.

Lewis et al (2006) describe the emergence of lesson study in the US as a '*local proof route*': practitioners have adapted and spread the approach in the absence of funding, direction or research findings because they perceive it to be valuable. In the last ten years, lesson study has also begun to gain momentum in England through a similar '*local proof route*'. This means that the implementation of the lesson study approach is very much a trial and error approach for many schools, and adaptations are likely to occur to meet local and national educational contexts.

Complexities have been identified as lesson study has been implemented in US schools. Chokshi and Fernandez (2004) state that ‘*Lesson study is easy to learn, but difficult to master.*’ They highlight that US educators do not have a deep knowledge of lesson study which potentially leads them to:

...*focus on structural aspects of the process...or...mimic its superficial features, while ignoring the underlying rationale for them.*

That this situation has arisen is not a surprise to anyone who has reviewed the literature on lesson study. There is a dearth of material about lesson study by Japanese authors that is accessible to the English language reader. Even Japanese authors admit that there is a need for a more explicit articulation of lesson study (Fujii, 2014). For the Japanese, ‘lesson study is like air’ (eg Fuji, 2014): it is so much a part of the fabric of their educational system that there has never been a need to articulate what it is.

How can schools ensure that their models of lesson study remain true to the spirit of the approach and do not lose their power in the process of ‘creative transformation’?

What is Japanese lesson study?

At its simplest, we can describe lesson study as *a joint practice development approach where teachers collaboratively plan a lesson, observe it being taught and then discuss what they have learnt about teaching and learning.* The details of its process however are less simple to identify and frequently contested in the literature.

Taking a research stance

The literature on lesson study helps to illuminate what these elements of the approach entails. Fernandez (2002, 2005) describes how schools begin by identifying a research theme. The research theme emerges from a comparison of the ‘ideal’ and ‘actual’ qualities of their students and will often last for a year or more.

Teachers then work in collaborative groups to plan a lesson to address the research theme (usually only

one lesson per group, per year). Fujii (2014) describes how teachers initially carry out a close examination of material relevant to the research theme (called *kyozai kenkyu*): curricular material, manipulatives, relevant research material. This *kyozai kenkyu* stage is curiously absent from much lesson study literature in the US and England. Several authors stress the importance in the lesson plan of teachers attempting to anticipate student responses so that difficulties or misconceptions can be tackled with confidence by the teacher.

One teacher teaches the lesson and all teachers in the school observe the students’ reactions to the lesson and participate in a post-lesson discussion. Saito (2012) has stressed the need for observers to take a ‘*research stance*’: focus on the goals of the research lesson; pay attention to children’s learning and collect data in relation to the goals; consider affective as well as cognitive responses. The teachers meet immediately after the lesson, and then the focus of the post-lesson discussion is an analysis of student thinking. The teachers explore problematic areas of the lesson, and explore more general learning in relation to the research theme.

The role of the ‘outside expert’ (*kochi*) is also noted in this discussion (Stigler and Hiebert, 1999). In Japan, the *kochi* observes the lesson, pulls together ideas, and ties the discussion to larger subject-matter and pedagogical issues (eg Murata, 2011). Despite extensive literature on the importance of the *kochi*, this feature is absent from many studies.

Product or process?

In terms of revising or re-teaching the lesson, the literature diverges. Some sources claim that revising and re-teaching the lesson to a different class is a standard part of the process; others declare it as optional and still others declare it is not part of the process. This links to a focus in the literature on lesson study as process, not product. Chokshi and Fernandez (2004) state that lesson study is about ‘*intellectual process*’ rather than ‘*isolated products*’ which might lead us to conclude that perfecting one lesson should not be the focus of a lesson study process.

Stigler and Hiebert (1999) describe how lesson study groups write a report to describe the lesson study process

and the learning outcomes for teachers, and often publish these reports. Some schools also invite teachers from other schools to observe research lessons developed in their school, generally after the school has explored a research theme for some time (Fernandez and Yoshida, 2012). This is called ‘open house’ lesson study.

Essential features of lesson study

Based on our analysis of the literature, and drawing largely on a model developed by Lewis (2000) we have attempted to identify the critical components of lesson study (see Figure 1):

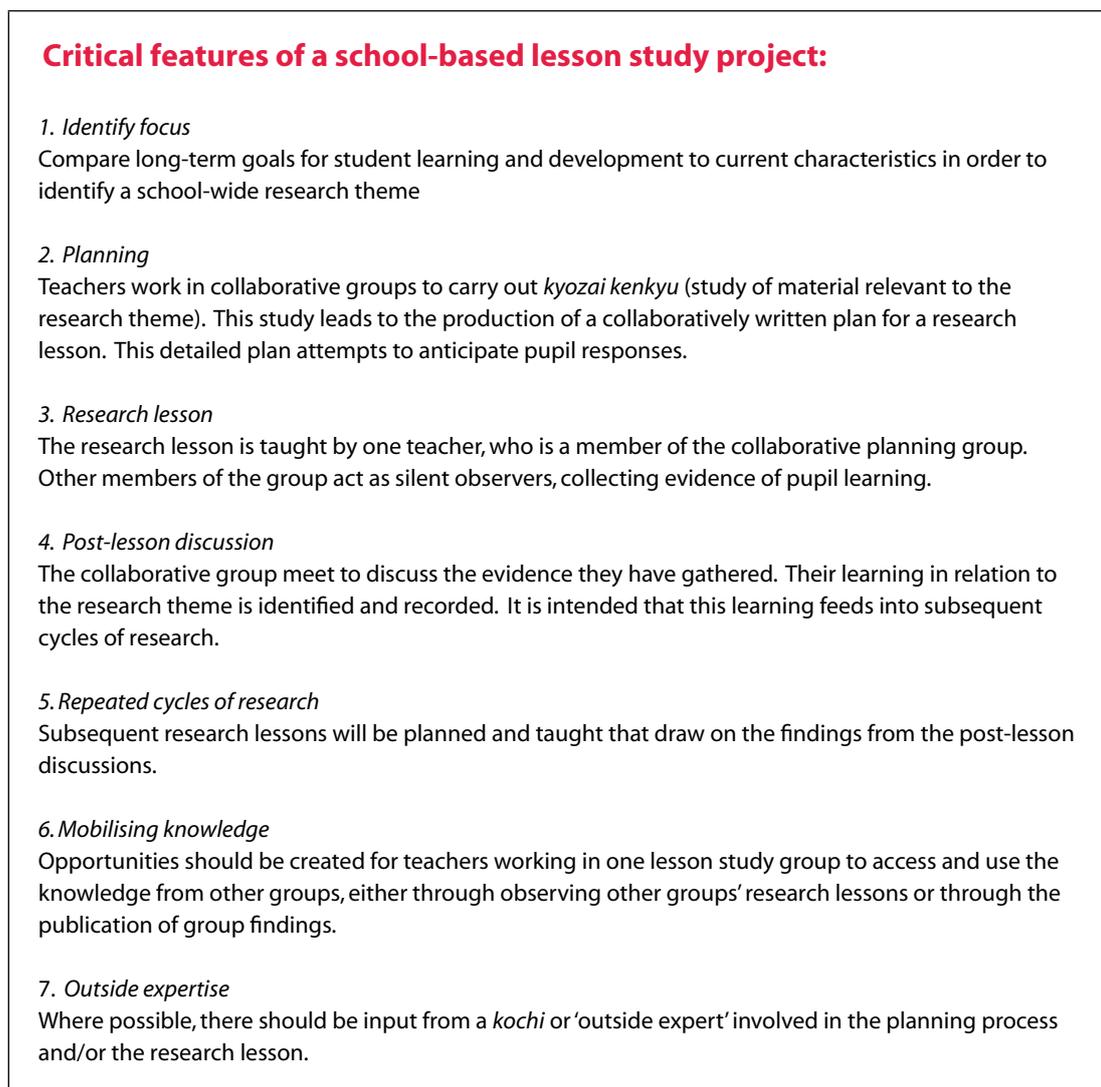


Figure 1: Critical components of lesson study

■■■ Translating from Japan to England

What do schools need to know about the Japanese education system in order to understand the need for ‘creative transformation’ of the approach in England? We believe there are five important aspects of difference between the two systems and cultures that need to be considered by schools wanting to implement lesson study.

1. Teacher learning and development

Progressive levels of development

As a profession, teaching has a higher status than in England and is a job for life. Takahashi (2016) describes three levels of teacher (this one is a mathematics model):

Level 1: The teacher can tell students the important basic ideas of mathematics such as facts, concepts and procedures;

Level 2: The teacher can explain the meanings and reasons behind the important basic ideas of mathematics in order for students to understand them;

Level 3: The teacher can provide students with opportunities to understand these basic ideas, and support their learning so that the students become independent learners.

A Level 1 teacher could feasibly be replaced by a computer programme and the main intention is to enable all teachers to work at Level 3. However, this is seen as a ten year journey, and lesson study is seen as a key tool to enable this progression. As Figure 2 demonstrates, no practical experience of classroom learning is required to become a Level 1 teacher. However, to become a Level 2 teacher, engagement in lesson study is important, and once working at Level 3, lesson study is the main vehicle for professional learning.

In England, in contrast, a teacher who has successfully passed their NQT year is expected to teach with the same skill and confidence as a teacher who has spent 20 years in the classroom. Indeed, that teacher with 20 years experience, is often considered to be ‘over the hill’ or at the very least ‘stuck in their ways’.

The pressure to show impact

In England, there is overwhelming pressure on schools and school leaders to provide evidence of the impact of any intervention that is intended to improve outcomes for pupils, and to demonstrate value-for-money. This evidence of impact is expected to be within what is in research terms a very short time frame: a year, or two years at the most, and to be evidenced in pupil tracking outcomes. However, Lewis, Perry and Murata (2006) describe lesson study as a focus on the development of expertise over decades, not months, and Chokshi and Fernandez (2004) argue that teachers learn more by analysing the qualitative evidence gleaned through lesson study than by focusing on pupil attainment as the sole indicator of success.

In line with lesson study’s clear focus on the long term development of teacher expertise, we advise teachers not to expect to see an impact on pupil learning after one, two or even three research lesson cycles. Our own research (Godfrey et al., 2016) has shown an impact

Figure 2: The role of lesson study in teacher progression

	For becoming level 1 Teacher	For becoming level 2 Teacher	For becoming Level 3 Teacher
Phase 1 Professional Development	Reviewing the contents for teaching <ul style="list-style-type: none"> • Workbooks • Online courses • Developing lesson plans 	Undergraduate courses for prospective teachers <ul style="list-style-type: none"> • Books/resources • Classroom videos • Classroom observation 	Undergraduate courses for prospective teachers <ul style="list-style-type: none"> • Books/resources • Classroom videos • Classroom observation
Phase 2 Professional Development		Find effective ways of presenting ideas and procedure through Lesson Study	Lesson Study Design, Teach, Observe, and Reflect Establishing shared knowledge for Level 3 teaching

over three cycles in terms of teacher confidence and pedagogic content knowledge but we imagine that a significant impact on pupil learning may take longer to show fruit in terms of assessment information. This would align with other literature on the development of teacher expertise, such as Hattie (2003), who advises caution in judging ‘expert teachers’ using simplistic assessment measures such as tests, which can only measure improvements in shallow learning.

2. Teacher accountability

Collective responsibility

In Japan, there is not a strong performance management or accountability framework for teachers at primary level. There is a nationally administered test of ‘academic skills’ that pupils at the beginning of grade six which does provide some pressure on teachers to teach well. This compares to England, where there are high stakes statutory tests at Year One, plus the Key Stage 1 and 2 SATs and an associated pressure on teachers in all year groups to demonstrate ‘good progress’.

When we asked the professors from Tokyo Gakugei

University what would happen if a teacher was identified as struggling they gave us an example:

‘If a Year 3 teacher was identified as struggling, it would be the responsibility of all Year 3 teachers to ensure the effective learning of all pupils in Year 3. This would mean the other teachers would support the struggling teacher until such time as their teaching had sufficiently improved.’

This contrasts sharply with the rigorous performance management systems in operation in many English primary schools and the perceived need to ‘move teachers on’ should their performance be perceived to be below par and not improving. This accountability and performance management framework in England has created what Chris Watkins (2010) has depicted (Figure 3) as a tension between lesson observation as a tool to improve learning and lesson study as a means of proving one’s performance:

Owning the lesson

What does this mean for lesson study? Below is a quote from

Figure 3: Tension between learning and performance (Watkins, 2010)



a Japanese teacher, reflecting on her experience of teaching a research lesson, which we often share with teachers:

I remember one time I did an awful [study] lesson... As a result, I got a lot of severe criticism from the other teachers... I got so upset I started to cry in front of the other teachers. I still remember the event and every time I recall it, I still feel shivers down my spine. I guess I started to cry because I was disgusted with myself and embarrassed about my teaching ability. I thought I was a good teacher, but my confidence and pride was destroyed... Later on that day, some of the teachers took me out for a drink. And they told me that they were hard on me because I was a tough person and had the potential for becoming a good teacher... I took the event as my own medicine and now I am very seriously thinking about improving my teaching... (Fernandez & Yoshida, 2012)

Many English teachers' response to this quote is to say that this experience would have been highly demotivating for them, the opposite response to that of the Japanese teacher. My own experiences of observing lesson study in Japan corroborate the fact that the teacher who taught the lesson does feel (s)he 'owns' it and is responsible for its success or failure, despite the collaborative planning. It is also clear that the discussion of the lesson feels like 'feedback' to the teacher who taught the lesson and is considered crucial to his or her own personal learning as a teacher.

Focus on pupil learning

Chokshi and Fernandez (2004) argue that this focus on observation as performance management could put US teachers off the lesson study model or divert its focus to the showcasing of 'excellent' teachers. Both US and English authors have identified the risk of teachers failing to engage in rich conversations about learning due to the perceived need to be polite and supportive towards other practitioners.

As a result of this tension, our guidance on lesson study significantly shifts the focus away from individual responsibility for the lesson and towards collective responsibility. Protocols for chairing post-lesson discussions encourage the use of 'we' rather than 'you'

or 'I' and clamp down on any judgemental comments, either positive or negative. The protocols frame the discussion as a sharing of observational evidence of pupil learning (not teaching) and the collective lessons that can be drawn from this evidence.

3. Curriculum and pedagogy

Freedom?

The Japanese curriculum is much less content-heavy than the English National Curriculum, meaning teachers can focus on quality rather than quantity and develop deep learning, not just basic skills. In one lesson we observed, the pupils spent the whole entire hour debating whether it would be possible to divide by a decimal: not actually doing the division, but considering whether it was conceptually possible.

However this 'freedom' is deceptive as there are nationally sanctioned sets of textbooks at teacher and pupil level, that broadly follow the same teaching sequences and which every school is expected to use. This means that when teachers engage in planning meetings or visit research lessons in other schools, they are all speaking the same language in terms of their knowledge of individual lessons and the broader sequence of learning. Lewis (2006) noted that without textbooks and teachers' manuals, US teachers relied on a study of procedural materials when planning which sometimes led to lower quality discussions.

Challenging beliefs

For us, the role of *kyozai kenkyu* is crucial here because engaging with materials that may challenge teachers' beliefs about education and their embedded practices can significantly raise the quality of teacher discussion in lesson study. And again, the role of the *kochi* or 'outside expert' has been integral to the success of *kyozai kenkyu*. UCL Institute of Education consultants were able to locate material that would challenge teachers' thinking, a key feature of powerful professional learning (Stoll, Harris and Handscomb, 2012), and to present this material to teachers in ways that made it accessible and engaging. Our lesson study protocols draw teachers back to the findings from their own *kyozai kenkyu* sessions frequently to ensure that the quality of dialogue remains high.

Shared language

Similarly, lesson study has enabled Japanese teachers to develop a shared language for pedagogy and an agreed lesson structure for lessons. For example, in mathematics, the lesson begins with *hatsumon*, a brief introduction to the problem solving activity. Pupils are then asked to tackle the activity independently. While pupils do this, the teacher engages in *kikanshidou*, observing pupil responses, deciding which will be shared as examples in and which order. Then comes *neriage*, or whole class social construction of ideas. The entire lesson is recorded on a long blackboard or wipeboard, including what the teacher has said and pupil responses or questions. This is called *bansho*. The lesson ends with *matome*, where the teacher summarises the learning from the lesson, by following the development of thinking as recorded in the *bansho*.

Whereas lesson study groups in Japanese schools largely have a subject specialism and focus on a specific subject concept or theme, our experience in England has been that lesson study groups can gain successful learning by focusing on a specific area of pedagogy and its application into different subject areas. It has been our experience that there is considerable scope in England to debate and explore pedagogy as well as to develop subject knowledge.

4. Teaching time

Fujii (2014) describes the process of designing a research lesson as sometimes taking more than half a year and Fernandez (2002) talks about 10-15 hours of time over a 3 to 4 week period. In Japan, schools are closed for one afternoon a week and this time can be given over to lesson study.

Our own research identified the reasonable allocation of teacher time as integral to the success of the lesson study project. In the Lambeth Connecting Knowledge project (<http://www.connectingknowledge.org.uk/connecting-knowledge-14-15.php>), senior leaders allocating sufficient time for quality interaction between teachers was identified as one of the key enablers to success at individual school level.

Schools we have supported to successfully scale up lesson study have redeployed professional learning

time, rather than increasing it. Several after-school staff meetings have been given over to the identification of a research theme, *kyozai kenkyu* and planning the lesson, meaning the only release time required is for research lessons.

5. The role of the expert or *kochi**Developing a research skill set*

As mentioned above, the *kochi* plays a key role in shaping any impact analysis, linking the lesson study to the broader research and good practice literature and developing lesson study protocols to ensure deep learning for teachers.

In addition, the US lesson study literature highlights teachers' unfamiliarity with research as problematic. Murata (2011) describes how US teachers found it difficult to develop a research hypothesis, to design an appropriate classroom experiment to test the hypothesis, to gather and use appropriate evidence, and to generalize the findings. In our projects, we have been able to support teachers through this process and develop in them a research skillset and understanding that goes beyond lesson study. This is important as it enables teachers to become 'proponents of evidence informed expert judgment rather than evidence-based, topdown instruction' (Brown, 2016)

Knowledge mobilisation

In addition, the *kochi* plays a key role in enabling knowledge mobilisation across schools. Chokshi and Fernandez (2004) describe how Japanese lesson study groups operate within networks that can share findings and pool professional knowledge. Such networks are not accessible to all schools in the US or England. Pedder (2015) sees the development of lesson study networks as key to the success of English lesson study. The UCL Institute of Education consultants have been able to share learning across the many lesson study networks they have supported in terms of teaching and learning and the successful implementation of lesson study.

Conclusions – developing school specific models

It is vital that schools wishing to implement lesson

study operate from a position of knowledge in terms of what Japanese lesson study actually looks like, and the educational and cultural system in which it is embedded. In this way, schools can make rational and informed choices about the ways in which they adapt lesson study to their own context. Our advice to schools is not to invest in an ‘off the peg’ model of lesson study, but to take the time to develop a school-specific model that remains true to its critical components, whilst meeting the learning needs of English teachers.

The following questions may help you in finding your own way with lesson study:

1. To what extent has your school invested in a long-term approach to professional learning and does your proposed cost-impact analysis for lesson study take this into account?
2. Do teachers in your school tend towards an improving/learning or performance/proving attitude to lesson observation and how might this affect their engagement with lesson study?
3. Are you more interested in developing subject and/or pedagogical content knowledge or pedagogies with potential cross-curricular applications?
4. How can professional learning time be redistributed to accommodate the critical stages of lesson study?
5. Which ‘outside experts’ can support you with your lesson study project: the lesson study research process, obtaining relevant research and/or good practice material, learning from other schools, impact analysis?
6. What protocols for lesson study can you develop or obtain, in order to ensure that lesson study has the highest quality of talk leading to deep learning?
7. Do all senior leaders in your school understand what lesson study is and how best to support teachers engaging in the approach?

For more information on lesson study or to purchase the UCL Institute of Education Lesson Study Handbook, contact: Sarah Seleznyov, s.seleznyov@ucl.ac.uk

To find out about our lesson study leadership programmes, visit: <http://www.ucl.ac.uk/lifelearning/courses/leading-lesson-study-across-schools>

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