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The impact of Lesson Study on the development of two primary student-teachers

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Abstract

This small-scale research project investigated the learning experiences of two student-teachers, enrolled on the primary School Direct Salaried course at the University of Hertfordshire, as they participated in Lesson Study (LS), a form of teacher-led professional development. Various data sources (interviews, audio recordings of meetings, field notes and reflective journal entries) were analysed and findings showed that although the individual learning outcomes were different for each of the student-teachers, both felt that they had learned about teaching and learning from their participation in the LS process. In addition, having been given the chance to demonstrate 'expertise' concerning pupils' learning, their confidence and participation in their community of practice was increased. This research concludes that participation in the LS process firstly provided the student-teachers with a way to piece-together their newly formed ideas about teaching and learning and, secondly, changed their self-identified position within their community of practice, which helped them to make 'moves' towards becoming a teacher.

Introduction

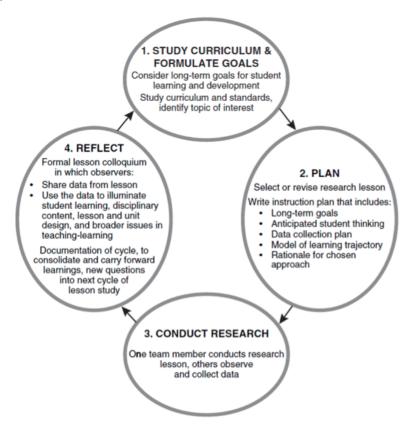
Since 2010, government policy in England has increasingly moved towards school-led Initial Teacher Education (ITE) with the introduction of employment-based ITE programmes such as Teach First and School Direct. Current policy (DfE, 2016:10) outlines that in the future, the government 'will do more to strengthen the school-led system' and so, it would appear that school-led ITE is going to play an increasing role in the way that teachers in England are trained. As the development of a pedagogy of employment-based learning is still relatively new, there have been calls to 'discuss, design and understand' work-based ITE curricula (van Velzen, Volman, Brekelmans and White, 2012). This small-scale research project aimed to add to this body of evidence by researching the learning experiences of two student-teachers as they participated in teacher-led professional development activities during their employment-based ITE.

In 2014, new to my role as tutor for primary School Direct Salaried (SDS) student-teachers, I was keen to find out more about how to support the development of student-teachers enrolled on school-led programmes. Having read concerns that teachers trained in employment-based settings will be 'fragile professionals' who can only teach well in one context (Hobby, 2011), who concentrate on hunter-gatherer approaches collecting tricks and tips from their teacher mentors (Loughran, 2006) and therefore find difficulties in moving beyond 'what works', I was keen to research approaches that might facilitate a holistic view of teaching, where student-teachers develop a sense of the value of the work of a teacher and how this influences student learning (Ure, 2010). I wanted to encourage student-teachers to examine their practice to help them to develop long-term strategies for answering the questions that will arise throughout their careers (Cochran-Smith and Lytle, 1999).

As Lesson Study, a form of teacher-led professional development, has been credited with '..promoting teacher growth and improving teacher quality in schools' (Gilmore and Hawkins, 2003: 13), I wondered whether this might be a useful learning experience for student-teachers enrolled on the primary SDS programme. Therefore, working in partnership with the headteacher of a primary school where two SDS student-teachers were undertaking their training, I completed a small-scale research project to investigate their learning experiences as they participated in the Lesson Study (LS) process alongside members of the school's teaching staff.

What is Lesson Study?

Originating in Japan, 'Lesson Study' is translated from the Japanese word *Jugyokenkyu – Jugyo* meaning lesson and *kenkyu* meaning study or research and is 'a systematic investigation of classroom pedagogy conducted collectively by a group of teachers rather than by individuals, with the aim of improving the quality of teaching and learning' (Tsui and Law, 2007: 1294).



Lesson Study Cycle (Source: Lewis, Perry and Murata, 2006)

Using the model developed by Lewis, Perry and Murata (2006), a group of teachers, ideally 3 or 4 in number, initially identify an aspect of pupil learning that they would like to improve and research what has worked elsewhere. They then come together to plan a detailed 'research lesson' to address this need, which is subsequently taught by one of the group, whilst the others observe the reaction of pre-identified pupils. After the research lesson, the pupils are interviewed about their learning experiences and the teachers meet to discuss pupil learning, refine their ideas and re-plan a further research lesson which is re-taught to another group. Thus, LS is a cyclical process of planning, observation, reflection and revision. It is premised on the ideas that within a single lesson there are many of the critical components that teachers need to consider in order to improve their overall instruction (Sims & Walsh, 2009) and that the construction of the lesson can be a collaborative and developmental endeavour, where the tacit knowledge of teachers is made accessible to colleagues (Dudley, 2013).

Research Methods

To investigate student-teacher learning as a result of participation in their LS groups, my study aimed to find out what activities within the LS process the student-teachers learned from, whether there were any barriers to their learning and what the learning outcomes were for each student-teacher. To provide confidentiality to the participants, I have used Suzy and Anna as pseudonyms for the student-teachers. To understand a contemporary real world case involving important contextual conditions (Yin, 2014), I selected case study as my research strategy. Data were collected using a range of methods: field notes and audio recordings of planning and evaluation meetings were used to record interactions between LS participants and meeting transcripts were coded based on Dudley's (2013) interaction-level discourse analysis of LS groups, relating teacher-talk to Mercer's (1995) ways of talking and thinking. Coded data were then examined to determine whether participants engaged in *cumulative talk*, where speakers build positively but uncritically on what has been said; *disputational talk*, where there is disagreement and individualised decision-making; or *exploratory talk*, where partners offer suggestions for joint consideration and explain, discuss and justify positions held. A simple frequency analysis was performed on student-teachers' types of talk. In addition, semi-structured interviews with the student-teachers and headteacher (indicated with I in the extracts below), a group interview with the teachers (indicted with G) and student-teacher reflective journal entries (indicated with J) were used to record participants' perspectives on student-

teacher learning from the LS process. The analytical procedure used in this study followed Cresswell's (2009) 'basic qualitative analysis' where the qualitative data were organised and analysed for emergent themes.

Findings

In common with typical student-mentor interactions, at the start of the LS process the student-teachers felt that they learned from hearing the teachers 'think aloud' when planning the initial lesson and from watching them teach it. As Suzy said



I learnt as well as the children did... For that type of lesson, just watching the teacher was invaluable to me... It's stuff that I knew, but I didn't feel confident in teaching necessarily (I)



But despite encouragement to view the research lesson as a collaborative endeavour, like student-teachers in studies by Tsui and Law (2007) and Wood and Cajkler (2013), Suzy and Anna made limited contributions to the initial planning meeting. Analysis showed that the majority of their talk was cumulative (Mercer, 1995), agreeing with or accepting what the teachers had said or echoing back comments without elaborating or qualifying them:

Teacher: So, how are we going to start this lesson....we are going to start the lesson with something on the board that lights up. We can have a hook ... we could have something like a lighthouse.

Anna: Yeah

Teacher: Because that goes on and off

Anna: Yeah

Teacher: [Explaining what she might say to the class] "Tell me about your circuits. Now, how could you make your bulb go on and off like the lighthouse. Will that do?

Anna: Yes

The predominant cumulative nature of their talk during initial planning meetings suggests unequal relationships between the student-teachers and teachers. Anna explained this passive role:



being a trainee I let them take the lead a little bit ...and perhaps naturally, we fell into that order because they were the teachers and I was the trainee. (I)

Similarly, Suzy commented:



I think being a trainee teacher you do sit on the outside of it a little bit. You can put things across,

but ... my experience is very limited compared to theirs. (I)

Therefore, at the start of the LS process, although Suzy and Anna felt that they were learning from working alongside the more experienced teachers, viewing their relationship with the teachers as master-apprentice (Tsui and Law, 2007) and feeling that they had little to contribute, LS seemed to offer the student-teachers little beyond their usual experience of school based training. Analysis across all data sources did, however, reveal three subsequent LS activities that the participants felt contributed to student-teacher learning:focus on pupil learning, sharing 'expertise' that was new to the LS group and participating in an iterative cycle, which will be discussed in turn below.

Focus on pupil learning: observing and interviewing pupils

Having planned their research lessons, one member of each LS group was nominated to teach the lesson, whilst the others observed and then interviewed pupils about their learning. Both of the student-teachers adopted the role of observer/interviewer. Suzy found focusing on pupils rather than the teacher a novel experience, frequently referring to it as 'fascinating':



Being able to focus on that one child...actually being able to watch children learn, as opposed to how it is being taught... it allowed me to see [the lesson] from a different perspective. (I)



Suzy's key learning from this experience seemed to be centred around appreciating the perspective of a pupil who found the planned activities very challenging. This prompted Suzy to reflect on the importance of really knowing pupils when organising activities, the learning environment and deciding how to deploy support staff, which demonstrated a shift in her thinking about the lesson from the teacher's to the learner's point of view.

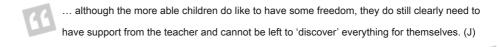
Anna was equally as enthusiastic about the experience:

It was really interesting. Just focusing on the children... was such a different way of observing a lesson...The minutest little things they do: how they are sitting, how they are holding their pencil, how they are looking at the resources, and you wouldn't see that otherwise. It was a real privilege to have that opportunity, to actually observe the children in such an intense way...you can learn an awful lot by observing how the children react. (I)

Anna's learning seemed to have been the result of firstly observing pupils behave in a way that she was not expecting:

I found it interesting that children who we assumed would react in one way, actually didn't. I would have assumed that they would have found certain things easy, and clearly they didn't and actually it makes you wonder in other lessons, are they doing things that we don't realise as well? (J)

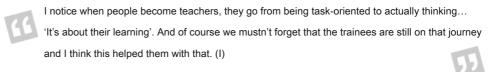
Having her beliefs disconfirmed was a powerful experience and one which Carrier (2011) refers to as a feeling of 'disequilibrium' where former beliefs are challenged leading to new learning for Anna:



Secondly, for Anna, seeing pupils in the science lesson enact her recently formed ideas about teaching and learning and then hearing them explained by the pupils, helped her to crystallise her recently formed view that teaching is an activity that is more than just 'telling':

So I said 'So why did you like it? Why don't you just want me to just tell you what to do and you do it' and they said 'Because we like it, we get to try lots of different things, and we get it wrong and then we get to try it again' and obviously they don't mind getting it wrong... they learn from it. That has secured it for me...having those three children independently say it has made me think that it is really clear – enquiry-based learning is key. (I)

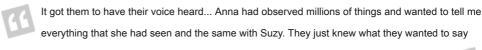
The teachers also felt that observing and interviewing pupils had been a very important learning experience for Suzy and Anna as it enabled them to focus on learning, a view that was summarised by the headteacher:



All participants, therefore, identified that being an observer/interviewer provided a mechanism for the trainees to reflect on and start to refine their ideas about teaching and to develop a learner-centred view of the lesson.

Sharing 'expertise' that was new to the group

Having observed and then interviewed pupils, the student-teachers were asked to report their findings to the rest of the group at a de-briefing meeting and as one of the teachers commented:



about that child ... and realised that their opinions were valued. (G)

This view was confirmed by analysis of the meeting transcript where, in contrast to the initial planning meetings, the dominant voices belonged to the student-teachers. This, the headteacher felt, was as a result of gaining a sense of legitimacy and authority to speak within their groups which resulted in an increase in their confidence, describing this as their empowerment. Indeed, Suzy commented that she had demonstrated to the teachers:



That I do know my children. What I thought might happen [in the lesson], happened. That view was seen by others.... So I felt more confident. (I)

In addition, when the more experienced staff were surprised at some of the student-teachers' findings, Suzy and Anna realised that they possessed 'expertise' which the teachers did not have, which helped them to view the teachers on more equal terms. Finally, reporting new knowledge to the teachers demonstrated to the student-teachers that the other staff were all enjoying learning new things through the process of LS and it could be argued that this provided a model of teaching as a career of life-long learning. As the headteacher observed, this experience:



...made the students realise that there are no experts in this. We are all learning new things and that's what teaching is all about, we're all learners. (I)

Thus, involvement in this aspect of the LS process modelled to the student-teachers that 'the professional teacher is one who learns from teaching rather than one who has finished learning how to teach' (Darling-Hammond, 2007, cited in Carrier, 2011: 159).

Participating in an iterative cycle

Having discussed pupil learning at the feedback meeting, each of the LS groups met to re-plan and then re-teach the lesson in light of what they had learned; analysis of the student-teachers' contributions in the second planning meeting showed a change in their participation. Although Suzy mostly engaged in *cumulative* talk, the number of *exploratory* contributions that she made slightly increased, suggesting a moderate increase in her participation. Anna's participation, however, changed more markedly. She contributed to the discussion more frequently and her *exploratory* talk increased from six incidents in the first meeting to 16 in the second. Speaking more frequently and engaging in more *exploratory* forms of talk, where partners build, challenge and critique ideas, could be said to indicate an increase in confidence and a move away from the role of passive listener to one of critical collaborator.

Comments from the student-teachers also showed that as their participation in the iterative LS cycle increased, so they felt greater 'ownership' of the learning outcomes produced by the group. Both Anna and Suzy referred to our lesson after the second planning meeting, rather than the lesson, as they did after the first. It is also interesting to note that although both student-teachers commented on aspects of the first lesson that they would have changed 'if I had taught the lesson', there was no such critique made of the second lesson, suggesting perhaps that having a voice in the second planning meeting, they felt jointly responsible for the lesson, indicating the development of more equal relationships within the group.

Being given time to return to a lesson and to discuss with colleagues what did and didn't work, was seen by Suzy as a valuable addition to her training as it was something that she felt she rarely had time for:



It's like 'Right, I've got that lesson done, now when's the next one?' It's hard to have that reflection time, to actually take things in... And as much as you want that, you don't have very

much time for that. Whereas this allowed for that... that works well for me, being able to just reflect for a little bit, then it sticks in my head a bit more. (I)

Engaging in analysis of lessons was identified as an important learning experience by both the student-teachers - the more it is discussed, the better that is for me to teach it [Suzy, I] - and by the teachers. By identifying changes, implementing them and then seeing the impact of those changes the student-teachers were able to connect visible changes in pupils' learning to changes in teaching practice:



... what we had changed and improved had worked ...the way that we had re-taught it, what we had learned from the mistakes that we had made first time around did have an impact [Suzy, I]



Making these changes, they were able to appreciate the practices, knowledge and skills necessary to foster pupils' understanding, (Fernandez, 2010).

Barriers to student-teacher learning

Despite overwhelmingly positive comments about their involvement in the LS process, participants identified two challenging issues associated with the LS process: time and the 'uncomfortable feelings' of some participants. Despite my efforts to reduce the impact on participants' time by conducting LS meetings in designated staff meeting time, such are the current demands on school staff, all participants in the process commented on the difficulties of allocating the time needed to plan, discuss and reflect on lessons.

The 'uncomfortable feelings' of some participants were cited as another potential barrier to student-teacher learning. Suzy suggested that the preparedness of staff to take risks and teach in a different way had an impact on the success of some planning meetings. One of the teachers noted that fear of teaching the lesson in front of colleagues could be barrier to its successful implementation and the headteacher commented that teachers needed to be experienced collaborators to make the most of the LS process. Successful implementation of the LS process was therefore seen to be linked to the quality of pedagogic thinking and practice of mentors who are open to change and new ideas, (Wood and Cajkler, 2013: 29).

Learning Outcomes

All of the participants agreed that LS had been a worthwhile activity for the student-teachers and a range of learning outcomes were recognised as resulting from their focus on pupil learning, sharing 'expertise' that was new to the group and participation in an iterative cycle. These learning outcomes may be categorised as: learning about teaching, learning about learning and using learning to 'change location' in their community of practice, as discussed below.

Learning about teaching

The student-teachers reported a deepening understanding of science subject matter and pedagogical content knowledge as a result of their involvement in collaborative planning meetings. Observing other teachers teach lessons, having been a party to their 'thinking aloud', was felt by Suzy to help with structuring and pacing of her own lessons. Evidence revealed that a combination of previous experiences with those encountered during the LS process developed their individual philosophies of teaching: Anna experienced a 'disequilibrium' (Carrier, 2011) in her ideas which helped to develop her theories of how best to support pupils and working through the iterative LS cycle developed Suzy's understanding of teaching as a continuous process.

Learning about learning

Pupil learning

Evidence showed that by switching their focus from the teacher to the pupils during the research lessons, the student-teachers' observations developed a learner-centred focus to their practice and their reflections on the use of this knowledge demonstrated a long-term and 'holistic' view of pupil learning.

Teacher learning

During de-briefing meetings the student-teachers were able to see how their 'expertise' informed their more experienced colleagues and that this acquisition of new knowledge was an accepted and welcomed part of teachers' work. Reflecting on experiences during the LS process made them aware of the need for teachers to be open to change and they saw how researching their own practice could develop their learning and that of their pupils. Participating in the LS process therefore drew the student-teachers' attention to the idea of teaching as a career of continual learning (Hiebert, Morris and Glass, 2003) rather than a number of activities to be 'ticked-off' to meet a standard.

Using learning to 'change location' in their community of practice

Having gained new 'expertise' about pupils during the LS process, the relationships between the student-teachers and teachers were changed, enabling the student-teachers to feel confident enough to increase their participation in joint enterprise with other teachers. As Wenger (2000) describes, they became *mutually engaged* in the practice of developing, using a *shared repertoire* of resources, and this changed their location from the periphery, towards the centre of their community of practice.

Conclusions

Learning from LS may therefore be seen to have contributed to the student-teachers' progress or 'movement' on their journey from student-teacher to teacher. In terms of Conway & Clark's (2003) 'Janus-faced' model of student-teacher development, the student-teachers journeyed both 'outwards' and 'inwards' as a result of learning from LS. Their 'outwards' progress, towards the needs of learners, included developing knowledge of what and how pupils learned and their comments revealed an increasing learner-centred focus to their practice. Reflecting on their practice, the student-teachers also journeyed 'inwards'. They considered what more they could have done to support pupils and reflected on how their practice had improved due to engagement with collaborative analysis and discussion, demonstrating increasing self-knowledge. In addition, participation in LS also facilitated the 'movement' of student-teachers within their community of practice. Developing new 'expertise' as a result of observing and interviewing pupils raised their confidence and self-esteem. In turn, this resulted in increased participation in joint activities and so could be seen to change the power and status relationships within their workplace, allowing them to 'move' from the periphery of their community of practice towards a more central position.

Clearly, any progress that the student-teachers made cannot be attributed solely to participation in LS as it was just one of many learning experiences that the student-teachers encountered during their training. But, as Calderhead & Shorrock (1997) suggest, student-teacher learning involves piecing-together and connecting several experiences, observations and beliefs to arrive at a new way of thinking and I would suggest that involvement in LS activities facilitated these connections. It helped the student-teachers to connect their existing ideas in new ways to develop their understanding of teaching and learning and it promoted a holistic view of teaching where teachers value inquiry into practice and strive for a career of continuous learning.

As a result of this small-scale research study, which demonstrated the potential of LS to impact on the development of student-teachers on an employment-based ITE programme, I am keen to incorporate an adapted LS activity into school-based training for our School Direct primary student-teachers. I would very much like to work with colleagues in our Partner Schools to create and pilot activities based on those described above and so if you would like to participate in this project, please email Julia Mackintosh (School Direct Primary Lead Tutor) j.mackintosh@herts.ac.uk

--- Read 'Student-staff partnership...'

Read 'Inspiring school design...' --->

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