

## **“It’s not my place”: lesson observation in the professional development of mathematics teachers**

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Teacher collaboration, and teacher professional development within this context, has become an area of interest in recent years. In particular, mathematics teacher education has seen the rise of collaboration as an effective school-based professional development activity, where in-service teachers plan, observe and reflect on lessons together. This paper presents some of the findings from a year-long case study research project which investigated the professional development of mathematics teachers in cross-phase and cross-school collaborations. The findings show that although the teachers were encouraged to jointly plan lessons and peer observe, they were reluctant to do so. This paper explores their reasons for choosing to work alone and the implications this has for collaborative development.

**Keywords: lesson observation, professional development, collaboration, cross-phase**

### **Introduction**

Rempe-Gillen (2012) investigated the professional development of mathematics teachers in a cross-phase and cross-school collaborative setting as four teachers integrated technology in the teaching and learning of mathematics. The background and motivation for the research came from four sources. The National Centre for Excellence in the Teaching of Mathematics (NCETM), one of the research sponsors, identified cross-phase collaborative professional development as a context for further research (NCETM, 2009a) and a previous research project investigated teacher use of technology in mathematics cross-phase collaborations (NCETM, 2009b). A further influence on the research foci was the international practices of collaborative professional development for mathematics teachers, for example Lesson Study (Stigler & Hiebert, 2009) and Keli (Huang & Bao, 2006) and its implementation in the UK. In addition, the cross-phase, cross-school setting gave the potential for technology to play a major part in connecting teachers through technologies such as video conferencing, video recordings of lessons, and on-line workspaces and communication. The research investigated how technology supported teacher collaboration and process of professional development. This paper presents part of the PhD research project, focusing on how the teachers used collaborative lesson planning, peer observation and post-lesson discussions to support their development.

### **Methodology**

An eight-month search for existing cross-phase collaborations in England involving teachers planning lessons together, observing each other teach and engaging in post-lesson discussions proved unfruitful. A widespread call for participants resulted in 39

teachers from 21 local authorities expressing an interest in participating in the research project. Seven cross-phase and cross-school groups were generated and two of these were the focus for my PhD research. Each teacher pair consisted of one primary school key stage 2 teacher and one secondary school key stage 3 teacher. The four teachers who are the focus of this paper are, in one pair, KP and KS, and in the second pair, WP and WS.

The research was a longitudinal case study of these two cross-phase and cross-school teacher pairs as they integrated ICT into their mathematics teaching and they worked with me in a co-operative intervention (Krainer, 2003) over a period of one academic year. This type of intervention allowed for me to collect data relevant to my research aims while at the same time giving the teachers ownership of their own professional development, with each teaching pair choosing the technology, the mathematics topic and the groups of pupils to focus on.

A case study methodology was employed with data gathered in semi-structured interviews, teacher meetings and online communications. These were audio-recorded, transcribed and shared with the teachers. Data collection also included field notes and documents, and lessons were recorded so teachers could observe themselves and each other.

### ***Data analysis***

Cross-phase collaboration of mathematics teachers is not wide-spread and is an area for further research (NCETM, 2009a) so a grounded approach for the analysis was taken. NVivo was utilized to organise and analyse the data. Data analysis to address the research questions involved repeated readings of field notes, and interview and meeting transcripts. Initial data from the interviews and meetings at the start of the project were coded and categories emerged which were not mutually exclusive. To deal with this, further analysis required a multiple coding system, adapted from Bazeley (2007), to provide new insight into the data, leading to themes and codes that were not possible to isolate in previous iterations of coding, for example emotions and context. From the analysis emerged each group's and individual teacher's trajectory of professional development or "story" (Stake, 1995, p.127). The teachers' professional development journeys were then analysed utilising Evans's componential model of professional development (2011) and Clarke and Hollingsworth's Interconnected Model of Professional Growth (2002). It is the influences on planning lessons together, lesson observation and post-lesson discussions which are the subject of this paper.

### **Findings**

Each teacher pair chose a technology to learn and use in their mathematics teaching and each teacher integrated this into their teaching of mathematics during the academic year. Each pair had the opportunity to plan lessons together and discuss these lessons, and each teacher had the opportunity to observe her own and her paired teacher's lessons. One pair (WS and WP) taught eight lessons between them and the other pair (KS and KP) taught two lessons, with all four teachers teaching at least one lesson. The teachers preferred to plan their lessons alone and only the primary school key stage 2 teachers (WP and KP) observed the secondary school key stage 3 teachers (WS and KS), on DVD recordings. This section presents the teachers' views on planning lessons, and observing and discussing another teacher's lesson.

### ***Collaborative lesson planning***

All four teachers taught their own pupils, with little, if any, requested or offered input from the other teacher. KS chose a mathematics topic to focus on and asked KP for her input in their online community:

It'll probably be a year 7 lesson, about a level 4/5. I'm thinking about something to do with angles in a triangle if anyone's got any ideas?! [KS]

KP did not respond, stating in her final interview that she would always refuse to collaboratively plan lessons with another teacher:

No, I work alone. I always do. I always do. If there was an opportunity to team plan with anybody ever, I wouldn't take it. [KP]

Similarly, although she did initiate collaborative planning with KP, KS later stated that she also preferred to teach lessons which she had planned entirely by herself:

I don't like teaching other people's ideas. I don't like it. [KS]

Both pairs of teachers referred to a teacher's style of teaching and considered how another teacher's style may or may not be different to their own. The perceived similarity in styles was seen to be both a reason *for* collaboratively planning a lesson - because they worked in a similar way - and a reason *against* collaboratively planning - because they trusted each other to teach in a similar way to how they would teach themselves:

It might not be your style or there's so many different ways people teach. [KS]

I just totally trust ... totally trusted [WP] ... so I knew she wouldn't do anything totally- kind of totally in a different direction to me. We kind of both kind of sing off the same hymn sheet, I think. [WS]

Furthermore, subject knowledge was given as a reason by one teacher for choosing to plan alone. Even though both pairs chose mathematics topics which were on key stage 2 and key stage 3 national curriculums and taught in both the primary school and secondary school, KP believed that she would not be able to engage in a conversation about teaching and learning mathematics because she did not teach mathematics to the same level as KS:

Knowing that she [KS] obviously has a specialism in maths as well, I was really reluctant to talk about anything mathematical in those meetings at all because I actually thought if I say something wrong here, try and join in and say something wrong, you're both gonna know and be too polite to say. So I just thought I'm just going to say nothing mathematical, or as limited as I can, and I was really on the back foot with it. [KP]

### ***Peer observation***

Lesson observation is common practice in UK schools and is used for a number of reasons. Most commonly, it is an element of performance management and school inspections, where senior members of staff or external inspectors appraise teachers by observing lessons and then assign a grade to the lesson (O'Leary, 2012). Lesson observations can also be utilised as an aspect of mentoring and coaching. For all these situations there involves a perceived 'expert' and a perceived 'novice' working together in order to enhance the novice's practice. Either the novice observes the expert model 'good practice' or the expert observes the novice and gives feedback on areas for improvement. Rarely do peers observe each other - WP had participated in peer observation fifteen years previously - and all four teachers in the study recalled

only ever participating in lesson observations where there was an ‘expert’ and ‘novice’. The concept of lesson observation being a judgement and the grading of lessons was deeply ingrained, particularly the use of the Office for Standards in Education’s (Ofsted) grading, and the teachers talked about not wanting to be seen teaching ‘unsatisfactory’ lessons:

You still want to do well though. You still want your class to be awesome. You do ... It’s human nature, isn’t it? You’re never going to want to be observed doing an unsatisfactory lesson. Ever. [KP]

It was also difficult to observe teachers without thinking about Ofsted criteria because it was so commonplace in school:

You observe critically because you can’t help it ... I really can’t and I do judgements in my head and I do the Ofsted tick sheet when I’m watching somebody else teaching from a different school [KP]

### ***Post-lesson discussions***

The two primary teachers (WP and KP) observed their paired secondary teacher’s lessons (WS and KS respectively) however the teachers did not consider teacher feedback to be as important as pupil feedback:

For me to get [the] best feedback, I think, [is] from the kids, isn’t it? Not another teacher. [WS]

Similar to the teachers’ views on different teaching styles, observation is subjective and it cannot be assumed that there is a shared understanding of how one would grade a lesson even when given detailed descriptors (Wragg, 2012). The concept of lesson observation as a judgement was evident again in the teachers’ views of post-lesson discussions. For example, KP, having observed KS teach, chose not to engage in a post-lesson discussion because she felt that her opinions were a judgement of KS’s teaching and that it was the role of KS’s line manager to comment on her teaching:

It’s not my place. [KP]

It was very difficult for the teachers to view observation as anything other than a judgement because of their experience. KS commented that before the research project all the post-lesson discussions she had engaged in felt judgemental. She had been teaching mathematics for five years:

Usually when I’m observed it’s- it’s as a judgement and normally it’s performance management, it’s mentoring, it’s whatever it is. But it’s judgemental and I think probably this is the only one, the only observation that I’ve ever [had] that hasn’t felt judgemental in some way. ... It’s the only lesson that has felt like the feedback has been constructive all the time and it’s not been ‘you need to do this, you need to do this, you need to do this’ or ‘you need to not do that’ as the case may be. [KS]

### **Conclusions and implications**

This paper has presented some illustrative findings from two teacher cross-phase and cross-school collaborations. The teachers chose not to actively engage in collaborative planning, lesson observation and post-lesson discussions, associating these practices with trainee and inexperienced teachers, where one teacher is learning from the other teacher. In the typical expert and novice observation scenarios - which they had previously experienced - the novice learnt from the expert, however in this situation the pairs viewed themselves as two experts so there was no novice whose practice

needed to be adjusted and, therefore, no need for lessons to be observed and discussed for teacher development. These views can be explained by the UK teaching culture where experienced teachers are expected to plan lessons individually and lesson observation is considered a means of performance management. For these practices to be viewed as development tools, as opposed to judgement tools, the concept of that it means to be a teacher needs to fundamentally change, so teaching is not viewed predominantly as a solo activity to be checked and monitored by senior colleagues.

A second implication of these findings relates to the Japanese practice of Lesson Study where teachers plan, observe and review lessons together as a form of professional development. It has been encouraged in England, for example, the Williams Review (Department for Children, Schools and Families, 2008) proposes Lesson Study as CPD for primary school teachers of mathematics. However, this has been introduced in the United States where researchers have found that the difference in cultures between the Japanese and American teachers affected its implementation (Stigler & Hiebert, 2009). It appears that the teaching culture in England would affect the successful implementation of Lesson Study here as well. If it is to be supported and implemented, then consideration must be paid to teachers' cultures and the fact that these practices are currently associated with the grading and judgement of a teacher. Furthermore, the teachers' self-efficacy must be considered, as in the case of KP.

Finally, the four teachers in the study were experienced teachers, with between five and over twenty years teaching experience, yet their overriding view of lesson observation was one of expert/novice. They all shared similar views on these practices and yet they worked in different schools and had not trained at the same time. This leads to the question of how initial teacher education (ITE) can support a cultural change that would result in teachers engaging in these activities without feeling that they were being judged. Given that ITE involves lesson observation as a tool to monitor the progress of a trainee, and therefore is a judgement tool, this needs to be offset with the use of lesson observation in the context of peer observation so teachers are introduced to both concepts from an early stage in their careers.

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