

## **Joining the dots: using less on study to develop metacognitive teaching**

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‘Metacognition and self-regulation’ and ‘collaborative learning’ remain high in the EEF Teachers’ Toolkit of effective teaching approaches, and with good reasons. These reasons can be framed through the following hypotheses. Firstly; that to become metacognitive and self-regulating learners need to experience learning situations, activities and content that can best be resolved, understood and applied through opportunities to engage in dialogue with others. Secondly; that through engaging with collaborative learning learners become more adept at grappling with the complexities and challenges that they encounter through the curriculum and in life. And finally; that to teach for metacognition and self-regulation teachers need to experience both for themselves in their own learning to teach. These three hypotheses form the basis of this case study, focusing on a PGCE module through which student teachers use an adapted lesson study approach to develop a repertoire for teaching thinking skills.

### **A brief and incomplete history**

Teaching for metacognition has a strong history which illustrates the potential relationship between pedagogic practices and research as an upwardly expanding spiral, meaning we do not just revisit ideas but build on them, make them more nuanced and more impactful. As Wood (1998) explains both Vygotsky and Bruner propose that language and communication are at the heart of intellectual and personal development. Their work influenced a range of curricular and pedagogic approaches which share objectives to teaching thinking skills, including Dialogic Teaching (Alexander, 2017). Note the inclusion of ‘teaching’, which emphasises an active instructional and facilitative role of the teacher. Teaching for metacognition and self-regulation is a tight and skilled process, not a *laisse faire* pedagogy.

Twenty years ago Newcastle University PGCE tutors began working with secondary and primary teachers to refine professional practices and understanding in ‘Thinking through...’

networks, to create a subject-based infused approach to teaching thinking skills (e.g. Baumfield, 2002). These differ from many current interventions because they promote the teacher design and application of a repertoire of Powerful Pedagogic Strategies (Leat and Higgins, 2002), such as Odd One Out, Mysteries and Living Graphs. **Critically, these are not deployed out of context, but are infused within schemes of work, and develop thinking skills attuned to subject knowledge and skills.** For example, teachers can adapt the 'living graph' approach to a range of contexts in science, geography, history and sport science, as well as data handling and statistics. Developing the **professional** skills to design bespoke lessons using Powerful Pedagogic Strategies can make a huge difference to teaching and learning, often by making learning more visible. **This was well evidenced by Leat and Nicholls (1999) who showed how students' thinking became visually articulated as they put their 'brains on the table' using Mysteries, allowing teachers' real time insight into their understanding and misconceptions.**

### **Learning through lesson study**

One of the legacies of this work at Newcastle University is the desire to bring the knowledge of Powerful Pedagogic Strategies into current teacher education. The resulting Masters level module enables student teachers to develop their practice in teaching thinking skills using a modified form of Lesson Study. This is based on collaborative planning, observing and reflecting on lessons with specific attention being paid to a selected group of pupils and their learning (Dudley, 2014 & 2015). The process helps student teachers to develop a critical perspective on the teaching thinking skills in a 'safe' and supportive, but challenging environment, as highlighted by student teachers in the 2017-18 cohort;

*'Working with peers gave a different level of feedback than that from mentors – it felt more honest – it was easier to use it as a starting point for changing my practice.'*

*'It was great working with someone outside my subject, I learnt so much that I can apply in my practice to enable me to engage my students.'*

It is significant that lesson study is driven by the participants and is characterised by the reciprocal sharing of ideas and strategies in their own classrooms. This allows for authentic

professional learning as student teachers start to integrate evidence from practice, theory and research. This can change their understanding of the significance of developing a wide subject teaching repertoire, to which teaching for metacognition contributes. Their assignments provide evidence that they start to apply criticality to their own practice and to understand how they can improve the learning experience for their pupils.

*'It is not enough to do a series of activities in class we need to understand the impact on our students thinking of what we are doing and consider alternative approaches.'*

*'The pupils were consulted in the planning of the lessons which I believe gave them a sense of pride and ownership.... Student's engagement and enthusiasm was evident throughout the lesson... I will certainly do this in my future practice'.*

### **Looking beyond the toolkit: Powerful Pedagogic Strategies**

When Leat and Higgins coined the term Powerful Pedagogic Strategies (PPS) they did so deliberately, demonstrating that;

- ▶ PPS represent manageable unit of change for teachers aiming to innovate;
- ▶ PPS are flexible across subjects, ages and curriculum contexts;
- ▶ PPS have no single correct answer so they encourage engagement with ideas;
- ▶ PPS extend our understanding of subject knowledge from something to be mastered to become the stimulus to reasoning;
- ▶ PPS encourage exploratory talk between pupils and provide rich learning experience suitable for metacognitive plenary (debrief).

As such the power of PPS is that they can transform both the acts of teaching and learning, as well as the self-efficacy of both the teacher and learner.

Lesson Study can have a profound effect on how student teachers see themselves as classroom practitioners and how they move forward. It can change their idea of themselves and move them from technician / apprentice to professional.

*'It wasn't just the pupils who were learning how to think, working with my partner really made me think about my practice.'*

*'All teachers should have the opportunity to engage in Lesson Study. If necessary, I would trial it and then take my case to the Headteacher.'*

It could be argued that lesson study is itself a powerful professional learning strategy because it creates an environment in which teachers themselves work and learn collaboratively to become more metacognitive and self-regulating. **More productive collaboration may also start to ease the workload crisis, while promoting the creative and intellectual basis of teaching.**

## References

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## Authors

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I was a senior leader in schools because I passionately believe that education can provide the experience, growth and richness that enables young people and adults, to blossom and develop the intellectual and emotional resilience that they need to thrive in the 21st Century. I am driven by the desire to nurture effective leaders of learning who are supported by networks of strong passionate professionals, from a variety of backgrounds. Such professionals include colleagues from universities for their intellectual rigour and entrepreneurs for their ability to think creatively and challenge the status quo. I now work in university, in initial teacher education, in the hope that I can have an impact on new teachers

giving them the confidence to be effective and inspirational teachers and leaders who can play an important role within schools and the wider communities of which they are a part.



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