Transforming Teacher and Pupil Learning through Lesson Study.

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Developing Great Teaching

Cardiff, 21 June 2016

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Learning is....

Social – we learn by joining in

‘Situated’ – linked to specific content in specific contexts

Mediated by tools - TALK
We learn by ‘joining in’

...with each other ..... 

...and...

...with each others’ thinking and ideas...
But teacher practice knowledge is a special case!
Challenge 1. *Conscious* teacher knowledge

Children/students as learners (general)

The specific pupils in front of you
- Cognitive
- Affective

Subject

Pedagogy

The wider curriculum

PCK
Tacit ‘unconscious’ knowledge

The swiftly flowing river of the classroom
Speed
Complexity
Working memory (conscious thought) is overwhelmed
So instead we rely on tacit knowledge systems to store most of our practice knowledge
Q. What do we know about ‘Tacit Knowledge’?
A. Not enough…!!

- TK is stored and retrieved very differently from propositional ‘conscious’ knowledge
- TK is normally invisible to conscious thought
- TK is best accessed through face to face group interactions
- Trust, reciprocity, enjoyment, social capital are keys to accessing TK. Formal rewards deter.
- When accessed, TK can be highly generative of innovation – new ideas, new approaches.
Tacit knowledge - in summary.

In order to cope with complexity and speed of the classroom new teachers filter out seemingly non ‘vital’ information about what happens in their lessons – what students do and what teacher does. The filtered out information is captured in tacit knowledge storage and retrieval systems. Therefore most teacher practice-knowledge exists in tacit form and is invisible to the teacher. Those who quickly learn to use these filters survive as teachers. Those who don’t leave.
http://www.youtube.com/watch?feature=player_embedded&v=aaY3gz5tJSk
Traditional obstacles to teacher learning

Most teachers teach alone so get little professional feedback. When another professional is with them watching a lesson it is usually ‘inspection’ or performance monitoring, but not ‘learning’. Neither promotes risk taking, innovation or self awareness – pre-requisites for teacher learning or development of new practice knowledge.
Professional Learning that changes practice happens when:

• It takes place over months (not days)
• The classroom is the central location of the professional learning activity
• Experimentation or enquiry features in the teacher learning process
• There is collaboration with one or more professional(s) as part of that process

(Dudley 2011)
Examples

- Coaching
- Lesson Study
- Classroom action enquiry
- *NOT*
- Demonstration
- Modeling
The case of Lesson Study

- 140 year history of development
- Within school
- School to school
- Drives policy
- Lifelong ‘JPD’
- Practiced in leading edge countries
Lesson Study process

First Cycle of Lesson Study

Initial meeting of LS group to determine what it is that you want to improve and I.D. case pupils.

Joint planning of first research lesson

Teach / observe first research lesson

Interview pupils

Post RL1 discussion and initial plans for RL2

Second Cycle of Lesson Study

Post RL2 discussion and initial plans for RL3

Interview pupils

Teach / observe RL2

Joint planning of second research lesson

Third Cycle of Lesson Study

Joint planning of 3rd research lesson

Teach / observe RL3

Interview pupils

Post RL3 discussion and agree overall findings

Write up/present what you have discovered. Conduct a public research lesson.

N.B. You can have more than 3 cycles

Teacher research methods proven to work or seek out additional content knowledge

© Peter Dudley, 2011
Lesson Study process 2

Student learning to be improved/developed.

Jointly plan, teach/observe, analyse, share

Curricular content to be taught

Curricular or pedagogical approach to be developed, refined or innovated

Focus on students’ learning (not teachers’ teaching)

Case students’ needs

?? Plus
• Subject expertise
• Deeper assessment through initial research lesson

?? Plus
• Subject expertise
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# Research Lesson Plan

**Research lesson planning, observation and discussion sheet**

| What this research lesson is aiming to teach (it may be a section of a longer teaching sequence) |
| What teaching technique is the research lesson aiming to develop? We are improving… |
| Subject | Learning Focus | Teacher/observer |
| Current attainment and success criteria | Case pupil A …………………… Success criterion for this focus | Case pupil B …………………… Success criterion for this focus | Case pupil C …………………… Success criterion for this focus |

<table>
<thead>
<tr>
<th>Stage of lesson sequence</th>
<th>How you hope case pupil(s) A will respond</th>
<th>How they are observed to respond</th>
<th>How you hope case pupil(s) B will respond</th>
<th>How they are observed to respond</th>
<th>How you hope case pupil(s) C will respond</th>
<th>How they are observed to respond</th>
<th>Patterns / issues</th>
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**What were they able to do? (What progress have they made and how do you know?)**

**Initial thoughts**
Post Study Lesson Discussion flow – from learning to teaching

Observations of case students in study lesson → Questions and discussions about the way other students learned → Questions and discussion about the data on the teaching

Source: Dudley, P (2011) Lessons for learning: how teachers learn in contexts of Lesson Study
Teachers imagine learning and observe learning in great detail – ‘It’s an eye opener’

They discover that their assessments of <30% of pupils are inaccurate – often very inaccurate
They discover new aspects of their pupils’ learning
They are happy to take risks because the focus is on the learning and the research lesson is shared
They improve and refine micro teaching strategies
They ‘get inside the heads’ of their students making their learning visible
Exploratory Talk

- Propose
- Summarise
- Hypothesise
- Reflect
- Rehearse
- Develop
- Observe
- Challenge
- Justify
- Suggest
- Reason

Most associated with Learning Points

Second most associated with Learning Points

Source: Dudley, P (2013)
Knowledge of the child

Knowledge of pedagogy

Motivation

Learning opportunities

Feedback

Knowledge of curriculum

Optimum student and teacher learning
LS groups share what they have learned. Sharing is also important for teacher learning

- By writing short ‘lesson study reports’
- By holding ‘open house’ lessons
- By staging ‘public research lessons’ where an invited audience watches the new teaching in action and discusses it with the lesson study group teachers and the students involved

This sharing ‘fixes’ or ‘cements’ the new knowledge more permanently. Without this step teachers often revert to former habits of practice.
LS enables teachers to control how they deal with classroom complexity in subsequent teaching

They are able to switch off the filters developed as coping mechanisms in their early teaching career (and switch them back on again at will)

They see a new learning behaviour in a case pupil and can then immediately see it in several others - without being overwhelmed complexity
Practice transfer
Risks

Groupthink
Recycling mediocrity

Solutions

• Expert LS group members
• ‘Knowledgeable others’
• Access to the knowledge base
• Kyouzaikenkyu
Good teachers become outstanding
Outstanding become expert coaches
System - self-sustaining excellence
© Peter Dudley, 2011
Implications for teachers, leaders and schools systems

• Teachers who help each other, who ask for help, who collaborate and coach *McKinsey 2010*

• Making *practice visible and public* is common to the worlds most improving, high performing school systems *McKinsey 2010*

• Promoting and participating in professional learning about teaching and learning is the *most effective thing school leaders can do*, to have the *greatest impact* on pupils’ learning, progress and attainment. *Robinson et al 2009*
School leaders and system leaders re-engineering the System

Terms 1 & 4 Lesson Study Cycle

Terms 2 & 5 Lesson Study Cycle

Terms 3 & 6 Lesson Study Cycle

Formative analysis

Feed Forward

Master class open house research lessons and web resources

Extra energy HERE

Specialist mathematics consultancy and materials development

Mathematics Leading Practitioners
School to school lesson study ‘shares’ practice because...

‘....our professional knowledge is almost beyond our description, let alone open to serious internal challenge....We need the informed help of professionals beyond our [school] to achieve this transformation effectively because they share our goal, understand our context but are not blinkered by our assumptions about our immediate settings.’

Desforges, 2004
Impact
`Closing the gap Test and Learn’ National College study, January 2016, – tested 7 interventions in TSAs

- 1stClass@Number (1stClass)
- Achievement for All (AfA)
- Growth mindsets
- Inference training
- Numicon intervention programme (NIP)
- Research lesson study (RLS)
- Response to intervention: breakthroughs in literacy (RTI)
Positive impact of Lesson Study – 3rd largest increase in pupil Lit and Ma scores overall.

Figure 6.9.1: SAS points reduction in attainment gaps for the year 1 trials and RLS (trialled for the first time in year 2 of the programme) – control and intervention
LS also had third biggest combined effect size.

One meets Hattie’s 3.5 test
What might have been the results of Growth Mindset or Numicon + LS???

- The LS trial teachers did not use a particular curricular or pedagogical intervention.
- So the study was not judging like with like because LS is an intervention at teacher not pupil level - LS teachers identified disaffected pupils and chose from a range of interventions.
- I argued that the trial should test the curricular/pedagogical interventions when their effect was known test them in use with and without LS.
- So looking back at these results what might have been the effect on pupil outcomes of:
  - Growth Mindset + Lesson Study? Or
  - Numicon + Lesson Study?
Camden New Curriculum Mathematics LS project (LSEF) – teacher confidence

Mean scores from pre to post LS in the new maths NC (Year 1 schools)

Mean scores from pre to post LS in general maths confidence (Year 1 schools)

Mean scores from pre to post LS in new maths NC (Year 2 schools)

Mean scores from pre to post LS in general maths confidence (Year 2 schools)
Lesson Study as a global tool for professional learning and improvement.
Spread of LS through JICA: 20 developing countries

Source: JICA reports & Naomi Takayama
Spread of LS Through WALS: 30+ countries

- Canada
- US
- China
- Hong Kong
- Canada
- Hungary
- France
- Slovakia
- UK
- Sweden
- Korea
- Japan
- Philippines
- Vietnam
- Thailand
- Malaysia
- Indonesia
- Taiwan
- Singapore
- Brunei
- Macau
- Australia
- Brazil
- Ireland
- Norway
- Holland
- Switzerland
- Palestine
- Kazakhstan
- Israel
It’s growing

- Japan – 140+ years
- China – 60+ years
- US - 15 years
- Hong Kong - 14 years
- UK, Singapore, Sweden, Brunei - 12 years
- Vietnam, Australia, Iran - 9+ years
- Thailand, Uganda, Spain <7 years
- Philippines, Korea, Indonesia, Malaysia, Kenya, Uganda <6 years
- Palestine, Kazakhstan – 2 years
- Philippines, Switzerland, UAE,
Transforming Learning and Teaching in Professional Learning Communities
Thank you

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@WALessonStudy
LS encouraged me to be much more reflective in my teaching and to appreciate how useful it is to involve students in their own learning.

Our fuel for teaching has been re-ignited!

We feel more confident to be innovative and take more risks within our lessons.

Learning from each other is an organic process which feels natural, supportive, safe, challenging and unique.

We learned what they learned!

LS encourages teachers to know their students; planning becomes personalised and learning meaningful.

It’s rewarding..

...and it’s fun!!!
Thank you

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