Lesson Study – Our journey so far...

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Lesson Study at HBJS

- Why do we do it?
- How do we do it?
- What does it look like?
- What impact is it having?
- What are we learning?
- Following an inquiry
- Questions

Why we choose Lesson Study

- Our school makes decisions that are evidence-based and values-driven
- Teaching and Learning at the heart
- To increase the visibility of teaching and learning
- Teaching and Learning Communities
- Long term approach to CPD that encourages collaboration and autonomy

How we conduct Lesson Study

- Head Teacher support
- Use of staff mobilisation to enable LS to commence
- Role of the Lead Practitioner
- Ongoing research
- Twilight – Research theme co-constructed with staff; philosophy of L.S. shared
- Ongoing dialogue weaved into TLCs
- HBJS learning blog
- Evaluations used to re-shape and drive improvement
- Knowledge mobilisation

2015-16 Research theme

To increase the resilience of learners to enable them to learn from failure when tackling mathematical problems.

2017-19 Research Theme

By 2019, our learners will regularly use creativity to solve problems; recognise the value of working hard in order to achieve their potential, and be able to improve their learning by building on from their successes and failures.

Some of the inquiries conducted by our research teams

- How can peer teaching improve the resilience of Y4 mathematicians?
- How does identifying and discussing mistakes help to build resilience in maths?
- To what degree can bar modelling promote resilience and independence in learners when approaching difficult concepts in fractions?
- Can reading strategies be used to effectively scaffold worded problems in maths? If we take the numbers away, does it push children to really understand the problem?

Who influenced our thinking?

- Pete Dudley and Lessonstudy.co.uk
- Dr. Akihiko Takahashi and the CLR approach
- Chokshi and Fernandez
- TDT
- Sheffield Hallam University
- Online discourse

What we are feeding into Lesson Study for 2017

- Dr. Takahashi and the CLR approach
- Three year plan
- Dual themes of developing learning dispositions and solving authentic academic problems
- Detailed lesson study proposals
- Greater depth with more time for intellectual thought
- Blog used as a resource and tool for reflection and challenge
- Plans to incorporate 'knowledgeable others' to support and challenge research groups
- Address logistical obstacles that previously caused problems e.g. timetabling issues, communication and greater inclusion for the staff

The impact of Lesson Study

Challenges to overcome

- Staffing logistics
- Planning and reflection time limitations
- Fidelity to the Japanese model
- Impact on staff and learning
- Outcomes to learning are unclear in short term
- Teachers' unfamiliarity with research design is problematic

Positive

- Intellectual development
- Intense and valuable CPD – validated
- Collaborative ethos
- Feeds into T and L
- Research and evidence – ownership and critical development
- Seeing through the 'child lens'
- Increases the visibility of teaching and learning

The child lens

One Year 3 researcher referred to the “unpredictable nature of children” in that approximately 90% of learners didn’t react to learning opportunities presented as expected during the Lesson Study.

The child lens

- A Year 3 researcher reflected that it was easy to overestimate the ability and social skills of the HA peer coach.

- "The HA aren't always the best people to be a coach due to sometimes being ineffective communicators to other children." Year 5 teacher

Year 6 inquiry - March 2017

Twilight – February 2017

Engagement in the overarching theme:

- By 2019, our learners will regularly use **creativity to solve problems**; recognise the value of **working hard** in order to achieve their **potential**, and be able to improve their learning by building on from their **successes and failures**.

HBJS 2017-19 Lesson Study objectives

- Our students will demonstrate that they can push themselves to be **resilient** when being challenged and can articulate their ability to improve, identify and **learn from failures.**
- Children will be able to visualise and articulate **success** in order to achieve their potential.
- Learners will be able to visualise steps to success in their learning demonstrating a **growth mindset.**
- Learners will demonstrate that they can think **creatively** to solve problems and build on previous success.

Y6 inquiry question

Can reading strategies be used to effectively scaffold worded problems within Maths?

Proposal…Background to the problem and rationale

- “Pupils in Year 6 do not currently demonstrate the ability to solve complex word problems independently even though they have demonstrated that they have the number skills and understanding of the four main operations to do so. “

- “It has been identified that pupils have been doing one or more of the following things: skipping the question because they consider it to be too hard, using the numbers in the question in a random calculation, scanning the question for a key word e.g. ‘altogether’ without fully acknowledging each step required/involved.”

Kyozaikenkyu (The research of materials):

- Role of the Lead Practitioner
- Blog used as a portal and source for academic materials and related discourse e.g. EBTN, EEF, specific research papers, John Hattie…

Specific and measurable learning goals of the Lesson – Y6

Pupils will...

- Look at a challenging word problem and **use the reading strategies** known to them, to enable them to attempt it.
- **participate** in the activities and **explain their own approaches** to solve the problem.
- discuss and share their own ideas and opinions with each other.
- **(cognitive change) realize and understand** that the numbers within a word problem are required to solve it but that the majority of the thinking can take place without the use of the numbers.
- **(disposition)** feel **motivated** to study the next lesson.

How this Lesson study is linked to the progression within the National Curriculum:

- Y3: For addition & subtraction solve problems involving missing numbers and use materials eg arrays, to solve multiplication & division problems.
- Y4: To solve addition & subtraction 2 step problems in context deciding which operations and methods to use and why.
- Y5: To solve addition, subtraction multiplication & division multi-step problems in context.
- Y6: To solve problems involving addition, subtraction, multiplication & division.

Selection of three ‘case pupils’ per class that typify a particular learner

Signed protocol agreement between the research team based on:

respect
observation etiquette
joint ownership of the lesson
non-judgemental feedback

Lesson design – aims

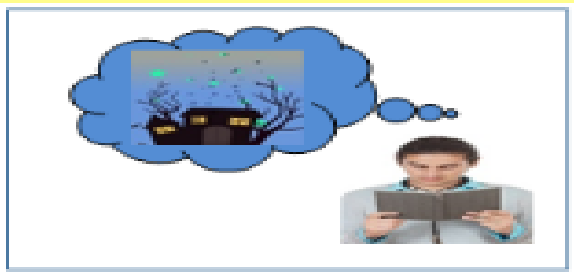
- Focus on clear learning goals
- Create opportunities for learners to change their thinking/ develop desirable dispositions
- Make the learning visible (talk, written outcomes, exit tickets, teacher conferences)
- Anticipate responses for each case pupil
- Use evidence based methods (algebra and contextualisation of the problem)

Big Problem

A group of science students went on a field trip. They took ▭ vans and ▭ buses. There were ▯ children in each van and ▭ children in each bus. Each vehicle also needs ▯ driver and the bus also needs ▭ extra adult as well. How many people went on the field trip?

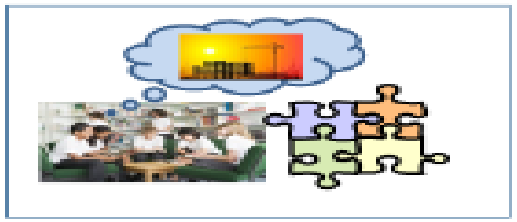
Recognise when you don't understand and word and fix it.

Use our background knowledge and connect to text



Visualise

Watch out for VIP words/ phrases/ideas



...**and** put together to build GIST

Observation protocol

- Explain to class about Lesson study
- Cold observation
- ‘Zooming in’
- ‘Panning out’
- Capture the responses at key part so the lesson. Compare them to what was expected.
- Note any common misconceptions

Tweaks to the lesson design (after lesson 1 and 2)

Based on outcomes and observations…

- Less teacher talk
- No numbers used in any of the problems
- No answers required in the lesson
- More clarity given to learners about the reasons behind the research lesson
- Drilling down to algebraic interpretation
- Emphasis on changing the way they think and approach a problem

The post research lesson discussion

Roles

- Commentator – distils thinking and discussion onto new plan
- Moderator – guides the discussion

Analysis flow

- 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

Final evaluations
HBJS learning blog

- Link your evaluation to your inquiry question, your set learning goals and the whole school theme.
- Positive effects
- What did you learn about the way children think? (Pupil lens)
- What else did the lesson study make you consider?
- What challenges did you discover when implementing your Lesson study?
- In what ways could your findings support children's learning across the school? (Curriculum lens)

Y6 lesson study impact

- Improved understanding of how reading strategies can help to understand reasoning tasks
- Majority of children articulated their change in thinking regarding context and algebra rather than pure calculations
- A large proportion of the low attaining learners lacked drive and motivation to apply themselves in a new way.
- Longer term plan for Y3 – Y6 progression

Phew...Any questions?