PDST
Professional Development Service for Teachers | An tSeirbhís um Fhorbairt Ghairmiúil do Mhúinteoirí

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Lesson Study Project 2020

School: **St Laurence's National School**
Baldoyle, Dublin 13.

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Our School Context

St. Laurence's National School caters for boys and girls aged between 4 and 12. Formerly St. Peter and Paul's BNS and St. Mary's GNS, both schools amalgamated for the beginning of the 2013/2014 school year to become St. Laurence's National School. Junior Infants to 2nd class attend school in the Grange Road campus, while 3rd class to 6th class attend school in the Brookstone campus. Both buildings are within minutes of each other. The school's over-riding aim is to help the students in the school to achieve their full potential. The Principal of St. Laurence's National School is Clare Finnerty.

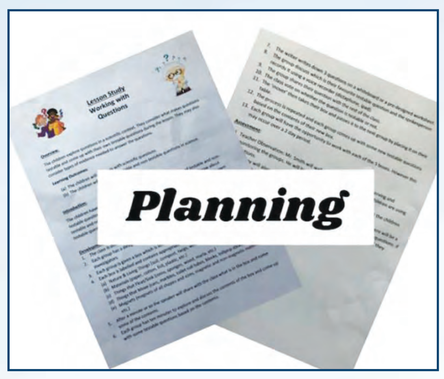
Our Goal

To develop the children's scientific literacy by developing their skills and their scientific language. To give the children opportunities to mirror the authentic practices of real scientists and to enable them to claim more autonomy in their learning.

Research Question

Can the explicit teaching of scientific questioning develop curiosity and science skills in junior classes?

Planning Process

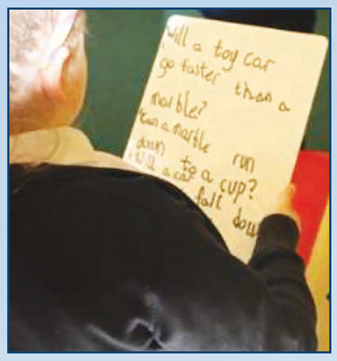


- The planning process started with rich conversations about the goals of science education, about the current teaching practices in the school and about a recent experience with a group of senior primary students who found it very difficult to formulate a science question for an Inquiry-based science initiative they were involved in.
- The teachers explored readings on Inquiry-Based Science Education (IBSE) online.
- Although areas such as; finding evidence, scientific language and investigating were explored as potential Lesson Study themes, the conversation came back to 'questioning' time and time again as the starting point for all child-led inquiries, and it was decided that explicitly teaching the skill of questioning to junior classes would be the focus of the Lesson Study.
- The teachers collaboratively planned the lesson and agreed on the following:
  - The structure of the lesson (Introduction, development of lesson, 'hands-on' activities and assessment)
  - The class (1st Class)
  - A language review and language development
  - The roles of the teachers during the lesson; teaching, recording, assessing and observing
  - The resources needed. The resources were chosen based the science strands/strand units eg. forces, materials etc..
  - The PowerPoint presentation
  - How the children would record and communicate their learning
  - Assessment methods
  - The summative assessment questions

Teachers' Reflections on the project

Key learning

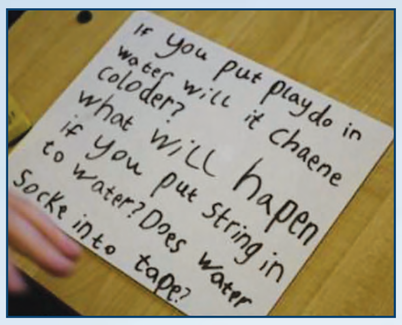
Explicitly addressing skills in science lessons can result in immediate, high impact learning.



A Lesson Study collaboration can result in well planned, high engagement, hands-on, minds-on, child-led, Inquiry based, enjoyable and textbook free lessons.

Inclusive lesson: All children could work at their level in this lesson; it was cognitively challenging and inclusive for all.

Lesson:



- Language: EAL children found some of the new language difficult
  Possible solution: SET/EAL teacher could revisit new scientific vocabulary. Provide informal 'top-up' opportunities for these children to practice their questioning (perhaps during play).
- Young children need the training to ask questions; they tend to give statements.
  Possible solution: Work on turning statements into questions, the question mark and question words; How? Can? What happens if?
- Time: The lesson plan proved ambitious in regards to the children getting to all of the science boxes
  Possible solution: Scale back and explore one scientific strand/ strand unit at a time
- Summative assessment: The children were giving answers to the questions instead of deciding if the questions could be tested?
  Possible solution: Model examples of how to think this through (whole class activity)

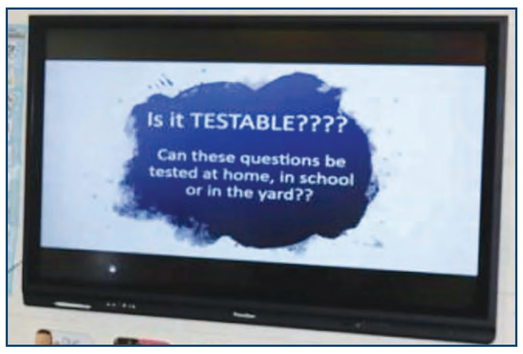
Implications of Lesson Study for whole school teaching of science

- Awareness of scientific skills (Teachers and students)
- Knowledge of how to initiate child-led inquiries in science
- Science CPD opportunities within the school
- Teachers are more comfortable with Inquiry as a teaching methodology
- A rich collaborative science education experience that can be repeated within the school

Opportunities

- To pick a focus relative to the school's context
- To dive into a topic with other teachers and explore ways to provide rich, challenging and enjoyable learning experiences for the children
- To experience a different classroom
- To observe learning with a focus, from a different perspective (observing teachers)
- To see the impact of a rich, collaborative, researched lesson on the children's learning
- To be enthused by new teaching methodologies

Challenges



- Time to meaningfully engage in Lesson Study
- Supervision of classes during Lesson Study

Possible solutions

- Google Doc Collaboration
- Assigned Croke Park hours
- Lesson Study Club/ Meitheal Machnaimh (those teachers who want to be involved)
- Management to facilitate lesson study supervision groups once a year/term