Learning from each other: building relationships between primary and secondary D&T

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Thanks to: Rebecca Marriott, Jo Moroz and Heather Newborn

There is plenty of research about what primary D&T teachers can learn from secondary D&T teachers (Growney, 2013), but little about what secondary can learn from primary. Is there an underlying assumption that the expertise lies only with secondary teachers?

Our colleague Rebecca Marriott, a D&T teacher from The Bulwell Academy and alumni of Nottingham Trent University (NTU), did want to learn from her primary counterparts. She felt that Year 7 boys arrived from feeder primary schools enthusiastic about D&T but by the beginning of Year 9 this had waned, Ofsted had also identified the disparity between boys' and girls' achievement across the school. She was curious about whether anything was happening in primary D&T that might give her some ideas to address this.

NTU's School of Education runs small-scale research projects, providing grants for partnership schools to investigate a dilemma or curious situation supported by colleagues from NTU. Rebecca's situation fitted this project perfectly, and during 2014/15 we carried out our research. Here we will share what we found out, some points for secondary D&T teachers to think about and how it has affected the schools involved.

What did we do?

We interviewed Year 5 and 6 boys at two of The Bulwell Academy's feeder schools, Rufford Primary and Bulwell St Mary's. We were curious about how they worked in D&T, what materials they worked with, how they knew how they were doing in D&T and what they had to do to improve. Our questions focused on three areas: Ways of working, materials used in D&T, and assessment. We were particularly interested in what they liked in D&T and what helped them improve in D&T.

Using the children's responses we asked the primary D&T co-ordinators from the two primary schools to join Rebecca to talk about the same areas and about lessons in D&T more generally.

What did we find out?

Ways of working in D&T lessons

The most surprising comments came when we asked the boys about how they worked in D&T, and how they preferred to work in D&T.

The primary boys were given the opportunity in D&T lessons to work in a variety of ways, including individually, in pairs and in groups. Paired work received the most positive comments, a preference echoed by the Year 7 boys. However, this was at odds with the organisation of D&T in secondary as most of the Year 7 lessons involved them working on individual outcomes.

Working in groups in primary school was viewed neutrally, whilst the Year 7 boys were mostly negative about group work:

'Bit weird that I didn't have anything to take home to show my parents'

'Working in a team where only one person does the work'.

Materials

Some secondary teachers might be surprised by the wide range of materials used in primary D&T, including most of which the children could recall quite readily.

As with most secondary schools the material areas defined how the Year 7s talked about materials: resistant materials, food, textiles and product design. The Year 5 boys talked about making textile products, such as puppets, pillow cases and cushions, and were very positive about food. Mechanisms and electronics were also mentioned by the Year 5 boys, such as simple circuits and programming Lego Wedo, which was provided by an outside provider in one of the primary schools.

Primary colleagues seemed to suggest that a lack of facilities and equipment (e.g. cooking facilities, sewing machines, and hand tools) restricted their options about what the pupils could design and make.

How well are you doing? Formative and summative assessment

Here we wanted to see how the boys knew how they were doing in D&T. We know that D&T is not reported on in Key Stage 2 and that in secondary there is regular reporting but we wanted to know if the boys knew how well they were doing in D&T – what types of formative assessment were used?

In all settings the boys talked about knowing what they were doing in each lesson. This was done through the lesson's learning objectives being shared with the children through WALT/WILF, but only the secondary team were linking them to assessment criteria.

When asked about teacher feedback, the boys from both age groups gave examples of how they had received feedback.

'Teacher tells you'

'Gives you confidence to go on'

'The teacher says 'Next time you could…'

There was a shared understanding across the two age phases about how evaluating their work helped them improve their D&T work. Boys from both groups identified a range of different ways they evaluated their work but there were striking differences. In secondary the main evaluation of their work was quite formal: for example in Food they each wrote a weekly evaluation and in Resistant Materials it was written after they completed making their product. Whereas in primary it was more informal, with an emphasis on children sharing their work with their peers. This technique was used in the secondary school but was in addition to the written evaluation.

As expected, summative assessment differed between primary and secondary. The primary teachers wrote a brief comment on each child's annual report about their D&T work. Conversely (and unsurprisingly) summative assessment in the secondary school was more formal, with six assessment points in the year and a school policy that children's work would be marked with a grade every two weeks using a feedback stamp. Also each Year 7 boy had a 'Student Profile' they completed at the end of each project and were set a target for the next project by their teacher.

Lesson time

One of the greatest differences between primary and secondary practice was curriculum planning and this linked to the amount of D&T lesson time.

The secondary school allocated three hours per week to D&T in Year 7, with children rotating between the four material areas, and is common practice across most secondary schools. The variety between the two primary schools was significant: one primary had a long term D&T plan with allocated time, but in the other primary it was completely at the teachers' own discretion:

> 'We were meant to be making waterproof shelters last term, but it didn't happen as I ran out of time, what with a class trip, PPA and the Big Write,' explained one Year 5 class teacher.

What does this tell us?

- Year 5 boys like doing design and make activities in pairs but at the secondary school they don't do any paired projects.
- In primary D&T lessons boys use a wide range of materials, more than the secondary teacher expected. But they are restricted in ways of working with the materials by the equipment and tools available at the secondary school.
- The Year 5 boys benefit from the verbal evaluations they do and the teacher's feedback. The Year 7 boys told us they wrote their evaluations, their teacher told us each pupil set their own targets at the end of every project.
- Summative assessment was frequent in the secondary school but only annually in the primary school.

Points to think about

Other schools might find these questions a good starting point to open up a debate about what secondary D&T departments can learn from their primary colleagues.

We discussed these points and composed some questions Rebecca could ask of her own practice and discuss with her department.

The headline question was:

> *What small changes can we make to maintain the enthusiasm and interest the boys come with from primary D&T?*

Small step questions are:

- Can we do more paired work in D&T?
- What materials are the children using at primary school?
- How can we use and extend what they learnt in primary school about materials and processes?
- How can we share our equipment and facilities with the primary schools?
- Do the children need to write an evaluation every week or for every project?

A bigger question for her department and school were:

- Are we doing too much formal assessment?

What's happened in the schools since we finished the project?

Since finishing the research project last year Rebecca has begun a Masters in Education at Nottingham Trent University and made some changes to her practice:

> 'My practice has changed since the research, in my planning and every day lessons I try to incorporate more of the points highlighted as a result of our research such as paired/group work.'

As a direct consequence of this project Rufford Primary is planning to have some D&T lessons at the secondary school, using the specialist food room – facilities the primary school do not have on site after a fire last year.

Jo Moroz, who was new to her role as D&T leader at Rufford Primary School, said this had a big impact, including joining the D&T Association, attending D&T Association CPD training and purchasing and embedding the new Projects on a Page scheme of work through the long term D&T plan, which was created through staff collaboration.

She said 'It has enabled me to embrace the role of D&T leader and put lots of positive steps and good practice into action.'

Benefits of the project

This small-scale research project has brought together a group of teachers and teacher educators who had not previously had the resources or reason to meet up and share D&T teacher experiences.

Jo said: 'Small scale research projects are useful because it gives you the chance to put across your views and share ideas in a more conversational way, which isn't always possible in a big group'.

And Rebecca concurs with this: 'I enjoyed taking part in the small scale research. Taking part in the research widened my thinking and I felt much more of a pro-active teacher. I was starting to question why things were happening and how I could change it to see an improvement.'

Interested in getting involved in D&T research?

We are continuing with this research. If you are interested in being involved, or have an idea for another research project about D&T in your school, send us an email: **Suzanne.Gomersall@ntu.ac.uk** or **Alison.Hardy@ntu.ac.uk** or find Alison on twitter: **@hardy_alison**