Curriculum Evidence

Probe 1 Report

Assessment and Curriculum Development

in association with:

UNIVERSITY OF WOLVERHAMPTON

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Contents

Introduction

The research reported here was designed to explore the nature of classroom teachers' assessment practices in schools considered to be innovative in relation to the curriculum *and* successful in achieving high attainment at Key Stage 2. The aim of the research was to provide evidence of the ways in which teachers' understandings about learning and assessment shaped their pedagogy and approaches to the curriculum and in doing so help others to consider how they could develop their own practice. A case study approach was adopted so that detailed descriptions of current successful practice could be supported and rationalised by clearly articulated practitioner beliefs.

The report is divided into three parts. The first section provides a brief outline of the methodological approach taken. The second section contains details of three case studies, each focusing on a single lesson in each of the schools involved in the project. Three schools in three different contexts were selected to illustrate how they were addressing the challenge of managing the tension between attainment demands and curriculum innovation in different ways. The final section describes the common features of effective practice that appeared to characterise the ways in which teachers integrated assessment into their innovative curricular practices. These characteristics are drawn from varied forms of evidence gathered whilst visiting the schools.

The three primary schools involved in the project were of about the same size, approximately 450 pupils, and were selected from varied locations; Bishops Stortford, Hertfordshire; Stockport, Cheshire and Doncaster, Yorkshire. The Yorkshire school contrasted strongly with the other two in that it was located in a socially and economically disadvantaged area, had a significant proportion of pupils, 25%, for whom English was a second language (ESL) and a high proportion of pupils receiving free school meals

Each school has achieved consistently high KS2 SATs over the last four years. The average core subject aggregate ranged from 230 to 281, with the Hertfordshire school achieving a score of 292 last year. All the teachers in each school have been recognised as at least 'good' by OFSTED, and the Yorkshire school was described as 'outstanding' with 'no significant weaknesses and the school's robust monitoring procedures ensure any concerns, no matter how minor, are quickly addressed' (OFSTED, 2007). All three schools were described by OFSTED as 'creative', offering 'enriched' and 'varied' curriculum experiences.

Considering the role of assessment in curriculum innovation

Innovation can be defined as the act of introducing something new, implementing a new idea, method or approach. It may be a change that creates new dimensions of performance (Stevens, 2007[i]) or even the process of making improvements by introducing something new. The case studies presented here contain examples of imaginative translations of the National Curriculum; creative approaches to support pupil thinking; and varied modes of communication devised to inform pupils about, of and during successful learning. Each illustrates innovative pedagogical practice.

The primary schools investigated held clear collegiate visions of the integrated nature and inter-connectivity of learners, learning and assessment. When appointing new staff, their long-established headteachers purposely sought people who approached teaching creatively. They selected staff with an understanding of learners' perspectives and a commitment to offering pupils more effective learning experiences. The lessons observed confirmed that, wherever possible, cross-curricular connections were promoted in all

schools to link active learning and integrated assessment with relevant and authentic contexts to which pupils could relate.

External pressures to communicate, judge and use SATs results (to inform others of school and individual achievement) have encouraged teachers to move from merely ensuring pupils master certain skills or knowledge through a 'can do' approach which celebrates end 'performances' to supporting more explicit recognition of 'how to get there' and 'what needs doing to get there'. This in turn has encouraged teachers to consider how to involve pupils in both *understanding* learning intentions, goals and objectives and *how* to achieve them. Thinking and talking about their learning, taking ownership of it and drawing on self and peer reflections, as well as teachers' perspectives to suggest ways, to improve have become important facets of assessment.

The case studies

The three case studies described here illustrate key issues through the lens of a numeracy, literacy and creativity (learning skills focused) lesson. These case reports are all structured to describe aspects of teachers' innovative classroom practice and illuminate how assessment was core to their approach.

Each case starts with a brief discussion of the school's overall approach to the curriculum and assessment. Then there is a brief description of the observed lesson and the final sections focus in on the core assessment processes identified:

1. Individualising learning objectives by negotiating success criteria
2. Structuring group and paired working to support assessment
3. Linking self, peer, and teacher assessment in and across lessons
4. Assessing and supporting learning using walls and whiteboards
5. Using thematic learning as a basis for assessing authentic learning
6. Engaging learners in formative critical reflection
7. Structuring more summative critical reflection

At the end of each of these core elements are a series of practical propositions around assessment and its role in supporting curriculum innovation and pupils' learning. These propositions, derived from the teachers' reflections on their lessons, are intended to encourage and challenge other practitioners to draw comparisons with their own practice. Teachers' names have been changed throughout to preserve their anonymity.

At the end of the report we have drawn together 6 cross case themes about linking curriculum innovation and assessment. These key features were common across all three classrooms and we have grouped the teachers' practical propositions under each.

Case Study 1: Innovation in a Year 6 Numeracy lesson

The school's overall approach to the curriculum and assessment

This Cheshire school is a large primary school with 462 pupils located in a fairly affluent area of Stockport with little social or economic deprivation. The numbers of pupils receiving free school meals or with a home language other than English are lower than the national average. Its results at Key Stages 1 and 2 are well above both local authority and national averages and it was rated 'outstanding' for many aspects of its practice in its last Ofsted inspection in 2005. It has been a beacon school for over six years.

The school had developed highly structured approaches to monitoring and assessing pupil progress which had created space for professional dialogue and creative autonomy (Priestley & Sime, 2005) among staff. In turn this supported innovation and independent learning among both learners and teachers. The headteacher had been in place for 22 years and, having developed a culture of disciplined innovation, actively recruited staff who reflected the school's philosophy of creativity within a structured curricular framework. The teachers took a consultative approach to learning, they regarded the pupils' voice as key in shaping and designing the curricular experiences for their children. The school celebrated creativity, cooperative learning and collaboration, which was exemplified in its varied use of team working, peer review and self-reflection in learning. It had also developed a culture of innovative and imaginative approaches to learning tasks, all of which were intended to support development of independent, problem-solving, learners in varied contexts. The school emphasised the importance of fostering moral, caring and ethical behaviour and held in high esteem the development of the cognitive and practical skills, such as problem-solving and collaboration, that support lifelong learning. As the observed Year 6 numeracy lesson illustrated, these values were embodied in the ways in which the teacher encouraged and acknowledged the learners to use thinking skills to support verbal and mathematical performance. The school provided teachers with clear learning outlines, informed by National Curriculum guidance, within which cross-curricular potential was highlighted. The teachers worked in year teams and met weekly to plan ahead, develop and share thematic innovations and the kinds of assessment practices, such as peer and group assessment, which were observed.

Summary of an innovative Numeracy lesson

The lesson observed reflected the school's commitment to cross-curricular approaches in its use of Maths to explore the topic of blood and the heart. The lesson began with a quick mental starter, the arithmetic problems were presented in rapid succession on the interactive whiteboard (IWB), the pupils scribed their responses onto individual, small, wipeable boards. They held up their solutions providing Jemma, the teacher, with instant feedback on their capability. They were then given factual information about blood and the human heart. This contrasted children's and adults' hearts and included data on their relative masses, the volume of blood pumped, the number of beats per minute, effects of exercise and the composition of blood.

Given real-world problems to solve, the children had to engage in a range of activities including reading and understanding the problem; extracting the relevant information; deciding which elements they needed to answer the question; and finally do the calculations. The teacher's emphasis was on encouraging and enabling the children to regard and use mathematics as a problem-solving tool. Learning tasks were scaffolded to ensure progression and increase mathematical understanding as the lesson progressed e.g. The plenary class discussion at the end of the heart activity asked children to reflect on the correct answers given and alternative plausible answers. Team scores were calculated and the class was invited to report on the best approaches adopted.

Figure 8: Quiz Quiz Trade

Finally, a 'Quiz quiz trade' activity (Figure 8) was used to consolidate and embed the children's learning. Children had been given a question card on the subject of the heart and blood which they posed to a partner. When the partner answered correctly, they traded cards and quizzed someone else. Then the class was asked to reflect on the learning objectives they had been given and to assess their understanding using the assessment for learning criteria displayed on the classroom wall (see Figure 9 below). Worksheets were then collected in as recorded evidence of the children's learning

Core element 1: Learning objectives and negotiating success criteria

At the beginning of the lesson, following the mental maths starter, Jemma used the interactive whiteboard to present the learning objective for the lesson which focused on using mathematical operations to solve real life word problems (Figure 9).
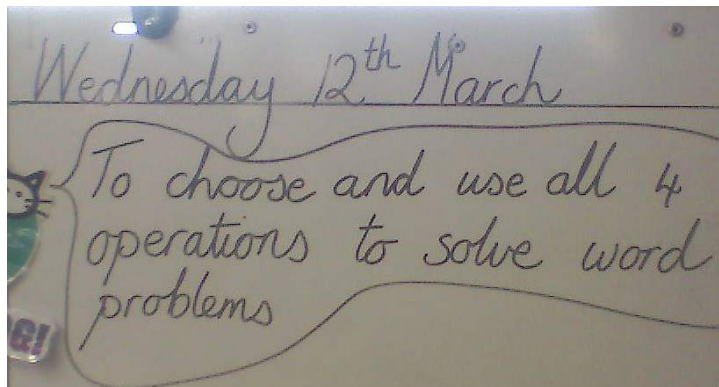

Figure 9: Learning objective

The learning objective also headed the worksheet given to learners. Jemma was explicit that it was problem-solving skills that were being developed (although many mathematical operations would be used to solve scientific problems) and used a "Pearl and Dean" introduction on the whiteboard to engage the children's attention. She then negotiated the success criteria for the lesson with the pupils. The children were encouraged to discuss and define success criteria for problem-solving in pairs (see below) and then offer suggestions to the teacher. Their readiness to contribute to the discussion suggested that they were used to being consulted in this way. The children continued to work together in these groups to resolve the mathematical problems of a scientific nature.

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Teacher's reflection
Reflecting on the way in which she had approached clarifying the lesson's success criteria, Jemma emphasised that her approach varied according to the activity and the lesson that she was introducing. However, even where success criteria were pre-determined, the school's strategy was always to ensure that they were introduced through dialogue rather than imposition: '*The normal [approach] is that we will discuss the success criteria with them, whether it is us have already written it as teachers and are communicating that to them or as a class they're coming up with it or as individuals*'.

Jemma had also carefully considered the effect of negotiating success criteria on children's attitude to assessment in general. Pupil voice questionnaires and reflective discussions revealed that the children had differing attitudes to success criteria which underlined the importance of tackling them sensitively. Some children liked clarity about success criteria because they preferred knowing where they were in their learning and what the next step was. Others, notably lower achieving children, "*have fed back and say they feel pressured by it, there are too many things to remember*". However, on balance, she felt that discussing and negotiating success criteria increased the engagement and commitment of the children to the activity or the lesson.

Propositions
- The classroom environment needs to play an active part in establishing a positive assessment culture which supports children to own their learning.

- Group negotiation of success criteria supports individual pupil's 'ownership' of their learning within a lesson.

Core element 2: Structuring group and paired working to support assessment

It was striking that the children were adept not only at working in cooperative learning groups but also at changing the ways in which they worked within the groups quickly and repeatedly. This had been carefully planned by their teacher and appeared to increase the understanding of their tasks and engagement with their learning, rather than distract them. At the beginning of the lesson children used individual wipeable whiteboards in the mathematical agility starter assessment. After this they worked in groups of four, both as whole groups and with shoulder and face partners where children are seated strategically, with higher and higher middle achieving children and lower middle and lower achieving children working as pairs. Working as 'Numbered Heads' together in teams of four allowed children to work independently and in pairs before coming together to share their approaches to problem solve such questions as 'how long it takes blood to travel around the body'.

Teacher's reflection
Jemma was keen to emphasise that she had encountered groupwork techniques such as 'Rally Robin' and 'Round Robin' through whole-school Kagan training before adapting them for her class. The use of cooperative groups of four had proved particularly valuable: "*Four is a good number because of the percentage of time you're engaged, actively involved […] In a four you're involved 25% of the time. Any more than four you lose them, it doesn't work as well*". In these fours, children working in pairs with a partner slightly above or below them in ability '*helps to raise everyone's game really*'. The benefits of this informal coaching did not only apply to the lower ability child in the pair: "*Having to explain and verbalise to a peer makes [the higher ability child's] learning deeper than them just going though it and just doing it independently*". Shifts between working with shoulder and face partners helped to keep the children engaged. The school had just had a brain awareness week which had

given Jemma up to date information about children's preferred approaches to learning and an awareness of the need to balance groupwork with independent learning opportunities for children who liked to work alone. However, she linked the varied group approaches to improved team-working in the class and developments in the children's thinking skills: "*It's the speech and the talking about [the activity] that helps them develop their thoughts […] It's another way of mind-mapping but verbally*".

Propositions
- Developing pupils' ability to work in a range of interactive cooperative group settings is a key early stage in developing peer assessment.

- Paired informal peer coaching will deepen the learning of both children and their ability to self assess if it supports them to articulate their own learning.

Core Element 3: Linking self, peer, and teacher assessment in and across lessons
Jemma used a range of formative assessment strategies throughout the lesson. These began with the snap answers to the starter task written on the children's small whiteboards:"*I use that as a way of seeing their answers immediately. At other times it's a choral response*". Feedback from paired and small group discussions in which children reflected on their learning together (such as rally robin; heads together) and peer questioning were also used along with the immediate feedback of 'Quiz quiz trade' and pupil presentations to the class before the final self-assessment by children against their learning objectives.
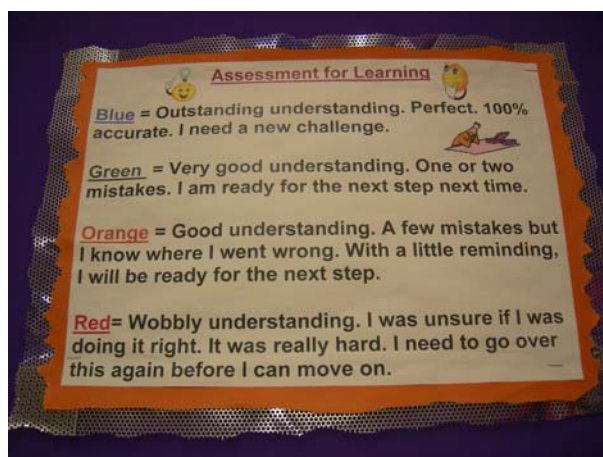

Figure 10: Assessment for learning poster

The children's self assessment used four colours to convey their perceived level of understanding as illustrated in Figure 10. Pupil voice work with the children had revealed that a variety of approaches to assessment appealed to the children. Thus they were left to be creative in the ways in which they combined the colours in their self-assessments (Figure 11).
In the numeracy lesson they underlined their work on the worksheet using the AfL colours to convey their levels of understanding. The worksheet was carefully structured with a clear framework in which pupils could record their calculations for each question posed in the main learning activity, before assessing their progress at the end of the lesson.

Such assessments fed into the school's insistence on regular reviews – weekly, termly and annually – of children's progress.

Teacher's reflection
The tight assessment strategy that had pupil voice activities, self assessment, and peer assessment at its centre allowed Jemma to both cover and adapt the curriculum and at the same time introduce creativity and challenge to the children's classroom experience.

The best form of evaluation I think is using pupil voice - talking to the children – because often my perception of how things have gone is not how they see things at all. They're the ones who are receiving this teaching and learning.

The framework enabled children's progress to be tracked through a detailed, complex and personalised approach to objective-setting and performance against targets.

It also gave Jemma the confidence to move away from a prescriptive approach to the curriculum towards a more exploratory pedagogy in which children were challenged to solve problems and take risks:

If I give them an open-ended task in which I have less idea of how they're going to approach it, I give them less structure and I can learn a lot about that child […] I want to know about a child's ability to explore ideas, interpret, apply texture or change things.

In this way she felt she was able to value the process of learning, rather than its products.
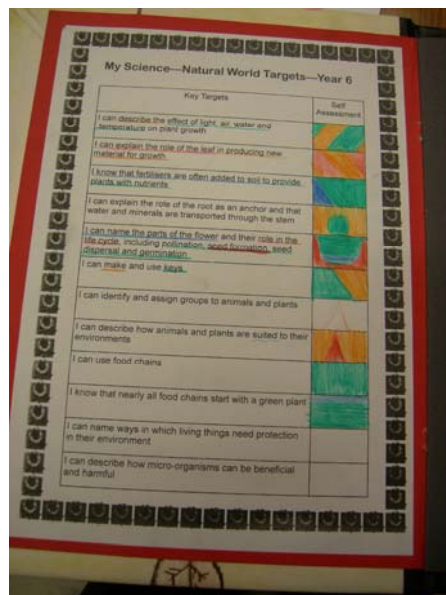

Figure 11: Example of a key targets and self-assessment worksheet

The school's emphasis on self-assessment was also felt to increase the children's ownership of their learning and allow them to progress without restricting them to preparing for their Key Stage 2 tests.

Proposition

- An effective assessment framework will support teachers to take risks and develop pupils confidence in their abilities as learners

Case study 2: Innovation in a Year 6 Literacy lesson

The school's overall approach to the curriculum and assessment

This school is in Hertfordshire, situated in a pleasant residential area, and has about 480 pupils, aged 3 to 11 years, on roll. The proportion of pupils eligible for free school lunches is well below average, as is the proportion of pupils from minority ethnic groups. Pupils' attainment on entry is generally above average. The proportion who have learning difficulties or disabilities is well below average.

The school had developed a strong ethos of curriculum development over many years in which staff were given freedom to follow their own passions and stimulate children's engagement and ownership of their learning. A core of senior staff, including a dedicated Coordinator overseeing all creative activity, took a quality assurance role which provided a formalised structure in which innovation was monitored to ensure curriculum coverage, progression and attainment needs were met. All staff interviewed believed that learning should be experiential, exciting and fun and that all activities (including extracurricular) should support the development of decision-making and independent learning skills. They had high expectations, and good quality performances (particularly in music, arts and social skills) are celebrated. The teachers generally demonstrated or modelled good performance. The emphasis on creativity was supported by an enriched and diverse curriculum. The development of a creative arts week, underpinned many of the teachers' passions and belief that "learning is through creativity". Other numerous special events have included 'writers week'; 'business week'; and dedicated days focused on topics such as 'rocks'; 'musicians'; or 'the third dimension'. The school also offered many cross-curricular projects including 'Chinese New Year'; 'Christian Wedding'; 'Aztecs'; and 'Tudors'; as well as and a range of visits to places including West End shows in London; the Isle of Wright; and Burwell. External experts were regularly invited into school to provide fresh approaches and act as catalysts for learning. The school adopted a reflective approach to assessing and monitoring learning by regularly asking pupils to think about what they did well and how could they improve their performance, not just verbally in lessons but also through regular, termly audits.

Summary of an innovative literacy lesson

At the beginning of the session the teacher asked the pupils to reflect on a previous lesson that was focussed on developing persuasive writing about a potential holiday visit to India. This led into the consideration of a different genre of writing: fictional narratives, concentrating on a fable with a moral. Pupils were given cards with synopses of different stories on them (that had hidden meanings or ethical messages), in pairs. They read them to each other and then challenged their peers to figure out the veiled meanings. This activity provided practice in speaking, listening and comprehension skills and introduced the notion of 'inference'. The teacher asked them to reflect on their stories and consider how easy it was to infer their moral messages.

The pupils then actively listened to a story, 'The lion that comes to life', read by the teacher. They were guided to note, on an individual wipeable whiteboard, the main characters; how the tale began; and how the main story developed and ended. The story involved four friends, three of whom were well educated and a fourth boy, called Subuddhi who had much common sense, but was not learned in the scriptures and science. They set off on an adventure to use their learning to make money. On their travels through the forest, they

find animal skin and bones. They thought that bringing the skeleton back to life was a good test of their *learned* skills. Subuddhi, however, proved to be the wisest in the group, climbing to the top of the tree to escape, and was the only one to survive to tell the tale. From their notes the pupils were invited to discuss and infer the moral of the fable. The pupils suggested a range of morals including: "Think before you do"; "Dare to disagree" and " Having brains and being rich isn't everything". Writing their thoughts on small whiteboards (see Figure 15) enabled them to rehearse their ideas before sharing a range of plausible responses with the whole class. The teacher responded positively to those that were rationalised.

The class was then divided into three groups, to write individually, but discuss collaboratively, their pieces of extended creative writing. Each group was guided to write either the beginning (A), middle (B) or end (C) of their own story. They were also directed to write with a particular character in mind. The framework provided for the three sections of the story was:

A – *Start of the journey before they find the bones. Character: 1ˢᵗ clever boy ;*
B - *Finding the bones, bringing the lion back to life. Character: Subuddhi ;*
C – *The lion is alive again and what happened next. Character: The lion.*

Figure 12: Example of extended creative writing

After co-operatively discussing their ideas but writing individually, each group was invited to read out one of their stories to the class. The remaining peers commented on what was good before suggesting how the prose could be improved. This kind of open opportunity to develop understandings without feeling that only one constrained view is right provided these pupils with the confidence to continue commenting on their own and others' creative writing in plenary discussion. This brought the different groups together to share their creative compositions. Formative assessment took the form of peer-assessment through appreciative comments on what was good about the writing of the story and suggestions about how it could be improved.

Core element 4: Assessing and supporting learning using walls and whiteboards

Weekly targets and the learning supports required for the ongoing work are placed on a "*working board*" (see Figure 13) or, as other teachers in the school referred to it, a "*learning wall*". The specific lesson guidance, the learning objective, is introduced and presented on the IWB, which in this case was : "I can identify the moral of a fable". The teacher, Hazel, presents the idea that a fable is a brief, succinct fictional story that illustrates a moral lesson. She indicates how this connects with their writing targets and development that is summarised on the working board. These targets are differentiated as following examples demonstrate:

"I can confidently write in different styles using appropriate language. I can interest the reader in a thoughtful and stimulating way."
"I can write in different styles using appropriate language. I have thought about who I am writing for."
"I can edit my work. I have thought about who I am writing for."

Figure 13: The working board   Figure 14: Supporting factual writing

As the lessons progress during the week, various word banks, connectives, scaffolds for structuring writing and examples of pupils' ongoing work are displayed on the working board. Through showing particular pieces of work Hazel uses this board as a way of modelling or demonstrating her expectations.

As she explained, the working board was "*usually changed weekly, depending on the topic. If it's Maths and shapes I would put up the shapes and parallel lines, angles and everything else .so they can see it all the time*". In this way she was creating the display to support development of the key concepts that she wished the pupils to grasp in their learning. As well as providing suggestions and scaffolds, Hazel also used the working board to communicate:

- pupils' initial thoughts on a topic;
- pupils' early ideas about what to do, and
- pupils' propositions about the current topic.

These often originated from the pupils' wipeable whiteboards (described further below). The working board (or learning wall) is therefore used to illustrate class understandings and work-in-progress. It can *signpost* how to begin or progress with a piece of work. It appears to be effectively used as collective aide-memoir for pupils to use as a guide for learning.

Teacher's reflections
The small whiteboards are used across the school and children were observed using them routinely in a number of learning situations. As Hazel indicated though, their regular use is a fairly recent innovation:

> [Alongside using the small wipeable whiteboards] *was a concern that the pupils were not writing in their books. But it's good to have a time when you [the pupils] are not restricted to writing in your book. We have started [photo]copying some of work on whiteboards because it is really good, insightful [see Figure 15]. Sometimes we put [examples] on the working board so we [the class] can have a look*".

She described how these then often enlighten her planning or direction of teaching in subsequent lessons. Reflecting on the various ways she uses the whiteboards, she explained:

> *Personally I would use them for both [critical and creative thinking]. I would get them to hold them up. For starters, "How many adjectives can you think of to describe a fairground or verbs to describe a running race?" and brainstorming to [capture] ideas. [We] gather all our knowledge and put it up there [on the learning board] so they can see it all the time.*

The flexible use of the whiteboards and the learning wall have become assessment techniques which provide insights into the dynamic development of pupils' ideas, existing knowledge and learning perceptions, directing and informing their ongoing work. They are viewed, by the teachers, as necessary formative assessment strategies and this use for planning illustrates how she operationalises this.
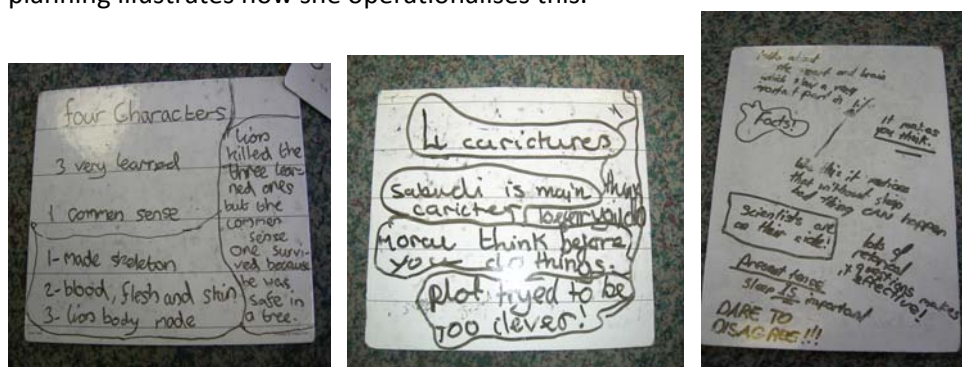

Figure 15: Examples of pupils work on whiteboards

Proposition

- In order to make appropriate 'in-flight' decisions teachers require inclusive assessment techniques, open to all pupils, which are flexible enough to cover a range of understandings and do not disrupt the flow of the lesson.

Core element 5: Thematic learning as a basis for assessing authentic learning

This class was immersed in a thematic approach, for a week,that embraced "India" in a wide variety of ways. The children were guided to develop many skills including dancing, singing, drawing, painting, model-making, storytelling and writing, all within an Indian context. At the beginning of the week Hazel dressed in a Sari to set the context of the activities for the week. She provided an information board (see Figure 16) and displayed various artefacts and books from and about India around the room. Immersing the pupils in this way appeared to stimulate their imaginations and enable them to relate to the topic, collaborate and engage with sometimes intriguing and contrasting cultural and historical aspects of a country very different to England.

Figure 16: Provision of rich visual thematic material to stimulate creativity

Teacher's reflections

Hazel recognised that selecting 'India' as a theme for 'writers' week' was key as it conjured up a rich repertoire of words that can be used for a range of genre writing (e.g. persuasive, creative, etc). The lavish colours, copious smells and history of the country provide lots of connected ways to explore literacy in a cross curricular way. Her knowledge of the potential learning opportunities in choosing such a theme was evident in discussion with her:

> *India is visually rich - the colours, smells and tastes… and because of the history of it as well, it's really interesting, useful. And the children should know its history and [because of] the traditional tales, they are just quirky, quite strange.*

This kind of recognition that the selection of particular topics can lend themselves to thematic subject knowledge development underpins innovation in the curriculum, as exemplified by the encouragement to develop "*persuasive writing through the travel agents window*" and use *"powerful adjectives rather than lovely*!".

Proposition

The conscious selection of a rich context in which to develop writing skills offers children more ways into and experiences of different genres. The plethora of stories (Indian tales, folklore and fables) can also stimulate ideas and provide opportunities for the development of a wide repertoire of adjectives, nouns and connectives clearly identified in the level 4 descriptors. This increases pupils' confidence and competence in using such words and discussing writing and comprehension skills, which can then be applied in self and peer-assessment. When Hazel asked pupils in the lesson to offer comments about good aspects of peers writing and then suggest how they might improve it, they had a wide range of in-depth experiences that they could draw upon.

- Immersing children in rich learning contexts can stimulate them to engage more deeply with the subject matter and improve the quality of both self and peer assessment.

Case study 3: Innovation in a Year 6 Learning skills and creativity lesson

The school and its approach to the curriculum

This school is in Yorkshire, it is situated in a socially and economically disadvantaged area and has 435 pupils aged 5 to 11 years, on roll. The proportion of pupils eligible for free school lunches is above average. A quarter of the pupils do not speak English as their first language. Pupils' attainment on entry is generally below average, especially in communication, language and literacy. Ofsted note that the school is outstanding in the way it accommodates learners' individual needs and pupils often exceed the expected levels for their age by the time they leave. A small proportion of pupils are cared for by the local authority.

The headteacher at this school had been in place for 19 years and, like her counterpart in the previous case study, appointed new staff who were creative, flexible and prepared to take risks. The school's ethos, reflected in interviews with staff, was to try and respond to learners' individual needs and to develop independent lifelong learners. There was also a very consultative culture around learning. Teachers audited pupils' general learning needs in a number of areas, including creativity skills, collaborative working skills and learning styles. They also asked them regularly about their subject learning experiences and discussed with them after activities their perceptions of the processes and outcomes.

Teachers described their overall approach to the curriculum as a plan -> do -> review cycle. They adopted an enquiry approach to curricular and learning developments. Learning experiences were made as varied, authentic and relevant as possible for the pupils, making imaginative use of the local environment and frequently bringing outside experts into the school. There were 'Eco-Warriors' who work on the local school allotments, a school magazine and radio station and an extensive range of extracurricular clubs, including debating, chess, and science.

Summary of an innovative Creativity lesson

The Y6 lesson reported on here focused on creativity. The aim of the lesson was to challenge the children's views about creativity and develop their understanding of its importance in learning. At the beginning of the lesson, the teacher, Linda, was explicit about her intentions, linking backwards to previous work they had done on creativity and forwards to the end of term pupil evaluation, asking them explicitly, "!*What's the point of doing this?*" and stating, "*It's about you and your learning*". She used four activities to guide them to examine creativity.

For the introductory activity she used a skipping rope suspended across the classroom. The children were told it represented a scale of 'zero' to 'very creative' along the length of it. They were asked in turn to stand at a point along this scale and to explain their a reason for positioning themselves there. Linda used this to assess the children's judgements of themselves, "*because there were some pupils she wasn't sure about*". The teacher intended to use the rope activity again at the end, because "*some of the girls who deemed themselves absolutely, unbelievably creative because they were good at art and craft …who put themselves at the end of the scale…I would like to have seen re-position themselves somewhere in the middle…and some people who put themselves down at the end….move to the middle, like the dyspraxic boy who is hopeless at holding a paint brush…..to place himself in the middle because he could be creative in different ways*".

The second activity began with groups of children considering words that describe creativity (prompts devised by the teacher intended to model creativity) including *"asking questions"*, *"having fun", "inventing something", "solving problems"*, *"taking risks" and "working together".* Individually they then drew an egg outline (Linda suggested this as it was a circular shape with no beginning and no ending and Easter was approaching) on which to write what they saw as the main characteristics of creativity (see Figure 17). They then shared this with peers and noted which features they agreed on and whether there were additional qualities not previously considered. During this activity Mozart's Requiem was played, to fit the Easter theme and create the working atmosphere they were used to.

The third activity, a 'Lost at sea' exercise, involved negotiating and prioritising important items for surviving on a desert island. This allowed them to discuss in groups proposals about the usefulness of various items, the nature of life on a desert island and what would be essential (compass, mirror, water, rope etc) to stay alive. This enquiry-based approach supported the development of a wide range of problem-solving skills from proposition-making and negotiation to rationalisation and creative, critical and evaluative thinking.

In the fourth activity Linda used a questionnaire to check that her class had improved their understanding and awareness of ways in which they could be creative to improve their learning. The questions were designed to check that the children understood what creative means, that they knew what it looked like, and were aware of where and when it was most likely to arise for them. They were also asked to think of someone creative. Responses varied widely and included '*my mum, because she thinks of ways to help me make my model*'; '*Emily Miller because she uses lots of big words*' and '*All my class because they have good ideas*'.

Figure 17: Example of pupils view of creative characteristics

During the lesson, "Top Thinking" certificates were awarded, to show that capabilities such as "thinking", "speaking", listening" or "questioning" were skills of value in classroom learning. Often the children were responsible for awarding these. To present these certificates peers had to explain why the recipient deserved them.

The range of teaching methods that Linda adopted involved varied activities designed to offer different contexts in which pupils could apply the complex construct of creativity. The pedagogic approaches included informal reflective class discussions, structured discussions in pairs and groups and an individual retrospective audit on creativity. The lesson involved

many opportunities to make judgements about personal creativity through self-assessment when working independently and in groups.

Core element 6: Engagement of learners with formative critical reflection

The pupils were asked initially to judge and position themselves against a linear scale, from zero to maximum creativity, along a suspended skipping rope. Each pupil gave a reason for their location along the rope. This activity was also planned as a plenary at the end of the lesson, so that the children could review their perceptions of creativity generally and reconsider their earlier decision.

The mindmap activity (Figure 17) provided children with opportunities to reflect critically in pairs on their first construct, and then consider it again after class discussions. Engaging pupils interactively in this way helped them to appreciate how peers can formatively validate and extend their learning. Such involvement in evaluating and articulating why one of their peers has illustrated good thinking, speaking, listening or questioning is formative. It also engages pupils in critical reflection.

Teacher's reflection

Reflecting on this lesson, Linda explained that her beliefs about teaching learning skills and creativity were in part shaped by her involvement in a 'Creativity for Learning' project. She believes that the childrens' needs should inform the nature of their learning experiences. She thinks that they should be supported to reflect independently on their capabilities and develop their understandings about 'what next' through exchanging ideas with others. She perceived the egg shaped diagram (Figure 18) as a mind map to represent their thoughts about creativity. She already knew from a previous questionnaire that they held constrained views about creativity because "*in their evaluations they [the pupils]……. only listed painting, drawing and art as creative skills…and they couldn't say why they were important for learning*".

Her pedagogical approach was to scaffold learning processes and ask probing and challenging, even controversial, questions about children's views and the reasoning behind their decision-making, because as she explained "*pupils need to be interested to be motivated…so that they take ownership of their learning*". In her view this approach emphasised the process of learning, rather than its products, and in this lesson her objective was to have the pupils reflectively change their view about the nature of creativity and its usefulness in learning. Her belief also that learning should be experiential and formative was borne out by the way she engaged them in sequential, connected and purposeful activities.

She recognised that her school was 'outstanding', but that there were still ways in which teachers could present learning in a more engaging way so that children were '*wowed, in awe or wonder*' about things, situations, information or thoughts: "*Although we have 'outstanding' awarded to our lessons from Ofsted […] they are not always the lessons that have a 'wow' factor about them or give the children a buzz".* Her intention with this lesson was to get them to "*wonder about creativity [and] reflect that the first answer is not always the right one, and that to collaborate, think and make choices brings out creative characteristics*".

Propositions
- Pupils need sequenced opportunities to help them articulate, reflect on, and review their ideas of themselves as learners.

- Combining peer and self assessment approaches with a variety of assessment activities is vital in terms of ensuring pupils engagement in a consideration of themselves as learners.

Core element 7: Structuring more summative critical reflection

Linda used a questionnaire exploring children's social and emotional capabilities and skills before she taught this lesson. Its findings indicated their constrained views of creativity and its importance in learning. She structured her subsequent teaching activities to engage them in different ways of describing creativity. When they mind-mapped their original thoughts, she seeded some suggestions, a little like a word bank. She purposely had them think individually about creativity, then discuss it with partners to validate and extend their views. After this they talked with others in the class and gleaned more insights before self-reflecting on their (augmented) personal view of it again. At the end of the lesson she had them complete a written audit (Figure 18) that gave her clear feedback on their progress and development in understanding creativity. This provided her with a more summative view of the whole class and individuals' understandings, complemented by the formative class and informal group discussions.

Teacher's reflection
At the minute…we are so tied up with success criteria and learning objectives that sometimes you've got to…...allow for the unexpected things that happen in your classroom…..which is [often] what happens quite often if you are being creative. You can end up creating something you didn't expect in the first place. Sometimes it can be better…sometimes it can be not as good…..but usually if you are involved in something that is creative it builds confidence. Most people who are involved in something that they would deem creative have a) enjoyed it immensely and b) got a sense of personal satisfaction. It's the same with pupils - that's why I wanted to do it. I gave them the prompts to start with because when we started to think about being creative last week….and last term's evaluation, it was evident that they saw creativity as painting and art and drawing….[came up through SEALS[1]]. A lot did not see themselves as creative because they were not good at painting - they had no concept of creativity. Things they most enjoy about school, find exciting and interesting - .and the things they would want to change are to do creativity. This lesson was to develop a shared understanding and to give them a basis upon which to say if a lesson has been successful or not.

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[1] SEALS =Social and Emotional aspects of Learning. A project focused on promoting underpinning qualities and skills that promote effective learning.

Figure 18: Creativity audits after the lesson

Proposition

- When cumulative cycles of formative assessment by pupils are integrated with more summative teacher assessment there is an increased likelihood that this will result in changes to the curriculum on offer.

Key features of innovative practice

Six key features common to all the schools visited were identified through analysis of the classroom practice observed. These are briefly outlined below and associated with the propositions about linking curriculum innovation and assessment developed in the case studies.

1. A guiding philosophy and vision that recognises the centrality of pupils in learning and assessment processes

Discussions with teachers revealed how they held pupils at the centre of the learning process. Teachers' recognition of pupils' personal involvement in sharing what successful learning looks like was underpinned by the diverse range of formative assessment strategies employed. The schools celebrated active approaches to learning, and "pupils doing". Learning processes were made more apparent to individual pupils through exploring their ideas, suggestions or even "mistakes" which offered the opportunities for pupils to participate in evaluation. Asking learners to "justify their ideas" even if they were not "right" enabled teachers to explain and explore the learning process and communicate their expectations clearly (see case study 1) thus enhancing pupils' capacity to contribute to their own and each other's self and peer assessment.

Learning approaches were often underpinned by open questions which assessed progress at strategic points. Questioning strategies enabled teachers to "*understand where the pupils were in their learning and understanding*".   One teacher described how she tried to enable the students to "lead in their learning" by framing questions that guided pupils to consider and articulate what good learning or quality achievement would look like. Another teacher indicated how she encouraged her students to "*think about their learning*" and evaluate reflectively to realise what they needed to do next to progress their learning. Pupil ownership of and participation in assessment enabled teachers to co-construct the learning journey with pupils to allow them to "go off at different tangents or in different directions" while still extending their capabilities in both performance and cognitive dimensions.

2. Using the learning environment as part of the assessment infrastructure

Classroom environments were designed to help pupils to make informed judgements in their self and peer assessment and own their learning, as well as supporting and re-iterating teachers' expectations. Innovative teachers' classrooms provided visual, informative displays intended to support learning to "stimulate the imagination" and "scaffold creativity" (see case study 2). The posters (of relevant and interesting factual content), construction pyramids (for grammar, spelling and creative ideas) and clearly articulated learning aims provided scaffolds and cues to support the development of independent learning.

Figure 1: Construction pyramid

Classrooms that provided clear vistas for learning in this way offered learning messages that pupils could discuss and consider to co-construct shared interpretations, align expectations and (re)develop views of learning goals, tasks and processes. They often contained specific areas, laid out for particular purposes such as "thinking corners" which provided opportunities for quiet reflection or small group collaboration; or dynamic, regularly changing "learning walls" (see case study 2). All the schools used music to build or transform a working atmosphere; in one class children often selected music appropriate for the activity they were undertaking.

Figure 2: Thinking corner

Case study propositions

- The classroom environment needs to play an active part in establishing a positive assessment culture which supports children to own their learning.

3. Clear curriculum and assessment structures that provided space for innovation, personalisation and creativity

In each school the architecture of the curriculum provided broad learning experiences and deep academic activities (literacy, numeracy, thinking) within thematic approaches. Pre-determined weekly, termly and annual plans clearly scaffolded curricular development and outlined cross-curricular themes and possibilities. Diverse learning experiences were created through elements such as the involvement of outside experts (across the curriculum e.g. music, languages, art, rocks) or out-of-school visits (e.g. catering industry, contrasting uses of local community). Creativity was celebrated through a series of cross-curricular themed approaches, including adapting National Literacy and Numeracy prescriptives.

In one school the teacher purposely guided the pupils to reflect on her assertion that "*to be creative you don't only have to be an artist, drawer or painter. Being able to solve problems, question, work collaboratively, reason, suggest improvements to others are ways of being creative*". Her varied use of feedback in the lesson suggests that clear structures, routines and frameworks for assessment can inform creative pedagogies which teach about problem solving or subject matter and contribute to successful learning.

Case study propositions

- Immersing children in rich learning contexts can stimulate them to engage more deeply with the subject matter and improve the quality of both self and peer assessment.

- Pupils need sequenced opportunities to help them articulate, reflect on, and review their ideas of themselves as learners.

4. Embedding assessment infrastructure within engaging and relevant learning activities

Teachers worked to ensure that learning activities were engaging and related to the children's lives in some way (geographically and/or reflecting their interests). They tended to be enquiry-based and imaginatively devised. For example, a lesson on "Extreme

Explorers" combined the learning objective "Factual report for non-fiction book: key features of note taking" with the half term theme of *Habitats and adaptations* by inviting children to explore different habitats (represented as information chests) and take authentic notes. All the teachers observed made links between the subject matter of the lesson and pupils' daily lives.

Figure 3 : Investigating water sources

Figure 4 : Exploring local pollution

One teacher linked persuasive writing with a scientific theme, water. She asked the children to create a short film about not polluting the local river and come up with success criteria with which to peer assess the quality of the film. Offering this kind of open opportunity to contribute to and articulate the nature of success in small groups personalised learning processes and outcomes.

Case study propositions

- In order to make appropriate 'in-flight' decisions teachers require inclusive assessment techniques, open to all pupils, which are flexible enough to cover a range of understandings and do not disrupt the flow of the lesson.

- Combining peer and self assessment approaches with a variety of assessment activities is vital in terms of ensuring pupils engagement in a consideration of themselves as learners.

5. Integration of varied assessment approaches to help articulate, define and judge successful learning

Observations of, and discussions with, the teachers focused on the ways in which they integrated assessment into learning processes. They devised, adopted or adapted varied pedagogic tools and routines to measure immediate (as well as medium and longer term) responses from pupils. Adopting an open pedagogical approach that facilitated enquiry-in-the-classroom broadens allowed teachers, in the words of one Doncaster teacher, to "*find out what pupils think and can do*".

Figure 5 : Articulating learning targets   **Figure 6: Nurturing learning skills**

Other innovative teachers negotiated with pupils to clarify potential objectives at the onset of learning activities because it "gives the pupils ownership of their learning". As case study 1 illustrates, integrated objectives and success criteria can inform learning activities. Individual and group progress was often monitored in lessons through a range of pedagogic tactics, including teacher questioning, varied permutations of peer interactions and collective presentations.

Teachers also encouraged regular reflective self-assessment and carried out regular (weekly and termly) reviews of pupils' personal targets against National Curriculum levels. This allowed them to collate ongoing records of individual progress against standard criteria at the same time as gathering pupils' more subjective reflections and judgements.   This enabled them to consider the impact of curriculum innovations summatively and in 'real time'.

Case study propositions

- An effective assessment framework will support teachers to take risks and develop pupils confidence in their abilities as learners

- When cumulative cycles of formative assessment by pupils are integrated with more summative teacher assessment there is an increased likelihood that this will result in changes to the curriculum on offer.

6. Ensuring assessment and feedback occurs within a range of learning relationships

Promoting discussion about learning in school added more formative dimensions to the ways in which pupils (and others) learned collaboratively from each other. Teachers encouraged a range of learning relationships to be developed among peers, pupils and parents, teachers and pupils, and others such as learning support assistants, translators, student teachers. They exploited these relationships in various ways (e.g. devising tasks, connecting suggestions, reflecting on success) for a range of purposes (task initiation,

monitoring learning progress, assessing success). Key outcomes from these relationships included the development of new assessment and evaluation opportunities.

The power of these learning relationships in assessment terms was that they provided rich and varied contexts for reflective discussion and evaluative observations around learning. This gave learners more comprehensive insights into how to improve and succeed. The approaches the teachers used to develop these learning relationships were sometimes quite sophisticated, as highlighted by this Cheshire teacher who explained the "rally robin" approach (see case study 2):

"*It is a technique where children take turns and they are all involved. Children can't sit back and not take part, there is equal participation. 50% of the time they are speaking and 50% of the time they are talking .so all children have their ideas heard. It's a method for quick exchanges*".

Figure 7: Clarifying purpose

Case study propositions

- Group negotiation of success criteria supports individual pupil's 'ownership' of their learning within a lesson.

- Developing pupils' ability to work in a range of interactive cooperative group settings is a key early stage in developing peer assessment.

- Paired informal peer coaching will deepen the learning of both children and their ability to self assess if it supports them to articulate their own learning.

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[i] Stevens, T. (2007, February). Creating new dimensions of performance. Available at http://www.businessleadermagazine.com/index.aspx?page=articles.feb07.feb07_Compass_Master_Creating_new_dimensions_of_performance (Accessed 23.4.08)