

# Teacher Leadership

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*Teacher Leadership* is in two parts. The first part includes brief articles written by teachers and edited by the editors. The second part includes short ‘stories’ of teacher-led development work written by the editors on behalf of the teachers who led the projects described.

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## Correspondence

To correspond with the authors of the articles or the teachers featured in the stories, please email Lyndsay Upex, [lju20@cam.ac.uk](mailto:lju20@cam.ac.uk)

## Editorial

*David Frost*

*University of Cambridge Faculty of Education*

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Welcome to the third issue of *Teacher Leadership*. This completes the first volume of this new journal established to showcase enquiry-based development work undertaken by teachers in the UK and elsewhere.

This issue of *Teacher Leadership* is a particularly rich collection of articles and stories all of which illustrate the huge untapped potential within the teaching profession to engage in transformative action. The projects discussed here address issues fundamental to learning. While these are recognisable as recurring issues in classrooms across the world, the accounts published here give us invaluable insights into the ‘how’ of improvement as well as the ‘what’. Inquiry is a major feature of these projects but they were not constructed as research aimed at generating general claims about learning and the factors affecting it. Rather each one exemplifies the process of development. What these accounts show us are the ways in which ordinary teachers might intervene to make a difference to the situation they encounter in their own schools. Take for example the question of the importance of self-esteem to learning: this link has already been established in the research literature and in any case it could be said to be as much a matter of professional judgement as a matter of what research tells us. Janet Ollerenshaw’s article describes the evaluation of a helpful innovation – the development of a learning journal to enable students to build their self-concept through structured reflection. In contrast, Nicole Burman’s project focuses on how classroom activities can be designed to address self-esteem. The title of the story in this case points to an important link between self-esteem and engagement in learning, supporting the view that perhaps personal development should be tackled not separately from but as integral to the process of learning on the grounds that successful learning of itself raises self-esteem.

Engagement in learning – the very opposite of passivity, defeatism and resignation – is a thread picked up in several pieces in this issue. Patti Outen’s project for example is entirely focussed on engagement

which she has addressed by developing strategies to enable her students to reflect more critically on their learning. The theme is echoed in Louise Farrell's article although the context is different. In her project we see the evaluation of different strategies for building pupils' capacity for critical thinking which we hope will help them to avoid the dangers of the descent into the passivity that Patti has struggled to counter in her project. Lorna Newbrook has also found herself having to tackle the related problem of teacher dependence with her 16-17 year old students.

Projects focused on assessment have been presented in this journal before. This is perhaps unsurprising given its centrality in classroom practice and its high profile in both academic research and government policy, but Sue Lyons' project takes the subject further than most. Her article describes a particularly thorough exploration of how 'assessment for learning' practices are actually experienced by students. The idea of enabling students to express their views about their experiences in the classroom is gathering momentum. It recognises the power of student voice not only to inform teaching but to promote students' participation with all the attendant benefits of raised self-esteem and engagement in learning. Student voice was also addressed by Jennifer Atkinson's project where she worked with a consultant to the school to support a group of students who undertook 'research' projects focused on aspects of teaching and learning.

In this issue we also have accounts of development projects that feature creative approaches to learning that make good use of modern technology and visual techniques. Nadine Stone's story is about an art teacher trying to build her students' capacity for creativity by giving them more open-ended tasks that demand creative thinking and helping them to reflect on the value of creativity. Bristi Chatterjee's story is about helping her young students to use video cameras to make films about their learning. Both of these projects raise the level of excitement in the classroom and put the learners in the driving seat. The use of technology such as video cameras connects the world of the classroom to the media world that children inhabit beyond the classroom. Similarly Luke Sweetland drew upon his experience in the television industry to develop exciting techniques and materials for use in tutor time activities. It is interesting that, having been creative himself in designing materials, he discovered that one of the most powerful

ways to develop the curriculum is to draw the students themselves into the process, casting them as leaders of learning.

It is easy to see how these articles and stories address important pedagogical issues but there is also another thread running throughout. They are all accounts of the leadership of development work. They draw, to a greater or lesser extent, on the tradition of inquiry that is used increasingly to help teachers address their professional learning needs, but they go beyond that to illuminate how teachers can act strategically to manage change and draw colleagues into the process of development. This demands that teachers develop the skills and dispositions of leadership. If they want to embed their innovative practices in the fabric of their institutions, they have to develop the capacity to think strategically, planning their development projects with the maximum degree of influence in mind.

The guest article from Greg Elliot in Australia highlights the power of collaboration for school transformation. His account of adapting the ‘lesson study’ approach to such good effect in his school is rich with insight into the leadership dimension. He has the advantage of his position as Deputy Principal of course, but this does not mean to say that having such a position is a prerequisite for exercising leadership. Greg’s account also highlights the benefits of networking and we are proud to be making a fraternal link with the Coalition of Knowledge Creating Schools by including an article from a member of that network.

We look forward in future issues to publishing more accounts of the development work of teachers from other networks around the world and to continue to build our understanding of the ways in which teachers can lead change. These cases enable us to clarify a methodology for what we have called ‘teacher-led development work’ and, in subsequent issues of *Teacher Leadership*, we will say more about our plans for a research project designed to take this endeavour forward.

Readers will have noticed that the first three issues have been rather slow in coming. So far we have fallen short of our goal to produce a full volume of three issues each year. This perhaps reflects the fact that we lack the expertise of commercial publishers and are therefore having to learn the art of publishing as we go. Nevertheless we hope that our readers will think it worth the wait. Having now produced

our third issue and refined the process of editing and publishing, we are confident that the rate of production in the future will be considerably more rapid. We are also aware that, although the journal has been advertised as being available online as well as in the traditional hard copy format, this has not yet materialised. We have therefore decided to make all of the material in this journal available through free online access. From January 2008, all of the articles and stories from Volume 1 will be available as downloadable pdf files from our website [teacherleadership.org.uk](http://teacherleadership.org.uk).

Publishing these accounts is a very satisfying and joyful business. As editors and publishers we are proud to be able to present these articles and stories as a celebration of the remarkable achievements of the teachers who have committed themselves to improving the quality of education in our schools.

# Developing students' thinking skills in science

*Patricia Outen*

*Hitchin Girls' School, Hertfordshire*

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## **Abstract**

Patricia Outen graduated from the Herts MEd in Leading Teaching and Learning in 2006. In this article, she describes how she and a fellow science teacher worked with students preparing for their GCSE examinations to develop their cognitive abilities and understanding in science.

Students often say that science subjects are difficult. My project began with me wondering why this might be the case and how science teachers might help their students develop their understanding (Outen, 2006). It has become increasingly apparent that students need to understand principles rather than to rely on learning by rote. In other words, students need to 'know how' as well as 'know what' (National Curriculum on Line, 2000). Although memorising facts may give students a feeling of confidence or even safety, this strategy may only be the cognitive equivalent of colouring in a diagram. Learning a strategy that allows them to solve one problem does not guarantee success with a similar one, only with an identical one. Students need to understand rather than just repeat, which demands something more of both students and teachers. In my experience, younger students seem to be more effective learners: they seem more involved in lessons, eager to question, more confident and relaxed when challenged by the experience of making mistakes. By contrast, older students often appear more passive and reticent. There are many reasons why this might be the case - puberty for example - but there is clearly a need for teachers to help and encourage students to maintain their active approach in science lessons. I therefore wanted to explore how we could teach in a way that serves the best interests of our students.

## **Twenty First Century Science**

My school has piloted the 'Twenty First Century Science' double award course at GCSE level. 'Twenty First Century Science' grew

from the recommendations of the report, 'Beyond 2000' (Millar and Osborne, 1998), which identified the failings of science curricula at that time. However, teaching this new science course demands different and more varied skills from teachers. I therefore had a golden opportunity to modify my practice, re-assessing how to teach science in the light of a new specification. GCSE students are now required to know how to question, to be able to discuss issues and to draw conclusions. I therefore wanted to work with my colleagues in the science department, helping them to encourage our students to develop their cognitive skills as required by our new curriculum.

My starting point was finding out the extent to which my own students could identify their difficulties in science. I decided to carry out a series of semi-structured interviews with three articulate Year 11 students. Although these students were regarded as high achievers in school, they often expressed worries and concerns about their understanding in physics lessons. The interviews yielded three main points about student involvement in lessons and in their own learning. Firstly students acknowledged a tendency to be passive in lessons, although one student felt that questioning was the method by which she gained understanding. Secondly students agreed that it was more difficult for them to deal with concepts and the application of knowledge. Thirdly there was an acknowledgement of the need for greater reflection.

Two comments offered by these students appeared particularly perceptive to me.

*When we talked about it, more and more came back. Doing it made me understand. I can see it now.*

(Helen, Year 11)

This last statement referred to students working collaboratively to produce a summary of their learning during a lesson. By working in a group, students had found it easier to deal with demanding concepts and higher level thinking. However when the discussion turned to how students' thinking can be used to promote understanding, the following statement gave me a key insight into how I could plan a series of lessons to develop thinking skills.

*Yeah, if you're told, then you need to understand it. The 'how', 'when', 'why' is the understanding.*

(Nicola, Year 11)

This acknowledged the need for questioning to pursue understanding. This might be questioning of students by the teacher, questioning of the teacher by the students or questioning of students by each other.

I wanted to confirm that the three themes I had identified were relevant to other students. During a subsequent discussion with a group of three middle-ability Year 10 students, the same problems were identified. They also attached a great deal of importance to the teacher ensuring that students were engaged in an activity that promoted their learning and saw questioning as an effective method of achieving this. Furthermore, these students associated passivity in class with a tendency for behaviour to deteriorate. They recognised that when the whole class was actively contributing to the lesson, better learning was the result.

*I learn much more in physics because each lesson we have the ....., uum,..... interactive whiteboard and it just explains everything, and you learn it so much better and everybody is in a class discussion and everybody is involved in the lesson and you just learn so much, and it's fun.*

(Millie, Year 10)

There were themes that related to both the structure of our teaching and the effectiveness of student learning. These were cognitive conflict, construction and metacognition. Interestingly, there seemed to be clear parallels between these insights and those which had prompted the CASE (Cognitive Acceleration through Science Education) programme (Adey, 1999) used with students as they started at secondary school.

I have summarised these links in the following table:

<b>Problem identified</b>	<b>Course of action</b>	<b>Link with CASE</b>
Student passiveness	Student involvement through tasks which involve collaborative working	Cognitive conflict – students respond to cognitive challenge by working with peers or teacher
Using higher order thinking e.g. considering concepts	Socratic questioning (pupil-teacher or pupil-pupil)	Students work in their Construction Zone, developing the reasoning through questioning

Reflection on learning	Teacher encourages students to reflect on their learning and to summarise it	Metacognition – students consider how they solved problems, who helped them to do so, where difficulties lay, what reasoning they used
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I saw the teacher’s role as that of a facilitator, prompting students’ thinking when required. I also wanted to encourage a collaborative atmosphere to encourage students to develop their understanding more fully. Whilst the teacher would be part of this collaboration, she should also provide opportunities for cognitive conflict as well as reflection.

### **Keeping a ‘Learning and Understanding Log’**

The Year 10 specification of the ‘Science for the Twenty First Century’ course aims to develop students’ opinions by promoting discussion of relevant scientific issues. Therefore, the style of the course seemed to lend itself well to the purposeful use of Socratic questioning as detailed by Paul (1993). I particularly wanted to use questions that would encourage students to clarify their views, probe their assumptions and challenge their thinking regarding reasons and evidence. It was my intention that students should engage in this activity whilst working collaboratively. I decided that it would be helpful for both me and my students if some of their thoughts were recorded in a lesson-by-lesson ‘Learning and Understanding Log’. I felt I would then be able to plot the progress of the intervention by indicating the level of student reflection, collaborative working and understanding. I also hoped that it would help my students to maintain their focus.

I identified a series of lessons in which I could use an activity drawn from a physics module entitled ‘Radiation and Life’. This deals with a range of ideas and concepts that requires students to make judgements about how science and technology affects them now and in the future. This was therefore an ideal area to allow for discussion, questioning and reflection. My co-worker, Alison Salmon, identified a biology topic, ‘Health Matters’ which gave students the same opportunities for discussion, reflection and questioning. Both Alison and I were able to work with our middle ability Year 10 students.

Alison and I both used this activity in several lessons over the course of a term. We started each lesson by introducing the area of study and explaining the lesson objectives. This equates to what CASE terms 'concrete preparation' but it is also standard classroom practice for many teachers. Students were then encouraged to complete the tasks as set out, prompted by written questions. This gave students the opportunity to work collaboratively for the majority of the lesson. We generally observed that they stayed on task well and seemed engaged in discussions prompted initially by the questions. As Chin (2004) remarks, question-asking can facilitate knowledge construction. Questions can 'stimulate students to generate explanations for things which puzzle them and to propose solutions to problems' (Chin, 2004:107). If, as suggested, this resulted in students using deep-thinking strategies then cognitive abilities would have been exercised. This process lasted over a time span of approximately forty minutes; each lesson is one hour long in total. If a group of students appeared to be losing concentration, we redirected their thoughts by asking a question. The lesson then drew to a close with a class discussion of the ideas met which led students to reflect on and summarise their learning in the 'Learning and Understanding Log'.

*Collaborative working:* One section of the log provided evidence of what students found difficult in the lesson and who helped them most with their understanding. I wanted to see if there was a shift over time in students' focus from the teacher or the text book to that of other students within the class.

*Reflection:* The log contained a series of questions inviting students to question, wonder or comment on their learning during the lesson. Again I wanted to probe whether students became more likely to respond positively, showing an increased capacity for reflection as time progressed.

*Understanding:* It is difficult to assess lasting understanding but I was more interested in students' perceptions regarding their understanding. The students' responses to whether the objectives of the lesson had been met and understood, together with their final summaries of their learning, were used as indicators of understanding.

## Insights from the logs

Reading the logs gave me an insight into how our students were approaching and developing their learning. I looked for trends regarding the extent to which students felt positive about their understanding, and how helpful and collaborative the process had been.

The level of understanding reported by students was consistently high throughout the intervention. I looked for clear statements from students that they had understood the material; the students' summary of their work acted as verification of understanding. Interestingly, the lowest level of understanding was recorded in one of Alison's lessons. This was concerned with the reliability of news stories and required students to read contemporary accounts of scientific topics (particularly in the field of biology), discuss them, question their accuracy and evaluate them. Whereas most of the students considered this to be a straightforward and interesting exercise, a significant minority reported difficulties in understanding.

*The evidence to back up an article was hard to find and establish. I still don't understand it'.*

(Jenny, Year 10)

Whilst students may not have regarded this as traditional lesson content, it is very much in keeping with the aims of our new specification. Alison prompted student thinking throughout the lesson by her use of questioning. Whether the students retained their understanding is a different matter, and one that relates to whether

They had perceived themselves as having gained a deep understanding or merely a surface understanding. Prosser and Trignell (1999) regard a deep approach to learning as being characterised by students aiming to understand ideas and seeking meaning. An indicator of developing understanding might be the observed degree of purposeful discussion undertaken by students.

As each intervention lesson had contained an element of collaborative working, I was interested to see if students identified this as being helpful in aiding their understanding. Specific references in the student logs suggested that discussion with friends was the prime method by which understanding was achieved. Both Alison and I were confident that our students had generally engaged purposefully when working collaboratively. A high degree of

participation was felt to be important as studies indicate that high achievers tend to be more actively engaged in class, whilst more off task behaviour is observed from low achievers (Burns and Myhill, 2004). However, I was surprised by the student response to my question about the impact of collaboration. The proportion of my students who identified collaborative working as being of major significance stayed fairly low, only fluctuating between 25% and 36%. I had initially expected that, as students became more adept at working with each other, they would have viewed this as an increasingly rewarding exercise. However, more light was shed by the trends revealed by the students' comments. Initially, these showed a high dependence on the teacher for explanations. As time progressed, more rewarding interactions between students were described and skilful practitioners within the classroom community were identified. The teacher was also seen increasingly as a consultant in the search for understanding rather than a source of information. In other words, the students were becoming more active in their own learning. I witnessed many pupils' dialogues moving from simple exchanges of information to a learning process whereby knowledge was constructed in a 'collaborative community' (Wells, 1999). This process was also coupled with more students naming the variety of methods they were employing to build their understanding. They become more adept at taking responsibility for their learning and seemed more active in seeking understanding.

Finally I was interested in seeing how much students were able to continue the reflection beyond the confines of the particular lesson.

In one of my preliminary interviews with Year 11 students they talked about hurtling from lesson to lesson without any reflection on their learning. When I designed the log I wanted to find out whether students could carry the reflection with them. The logs did provide some evidence of metacognition and indicated a general trend in the right direction. This is exemplified by part of Sarah's reflection at the end of a lesson on global warming:

*It is important to remember about global warming and greenhouse gases. A question I have is, how long can the Earth go on like this?*

(Sarah)

Comments often showed evidence of higher-order thinking as the students explored 'knowing how' by speculating and planning. Similarly, summaries of learning generally evolved from a simple

sentence indicating limited use of knowledge to more detailed and varied methods such as mind maps.

Final student interviews helped to confirm my understanding. I was struck by how closely linked collaborative working, student reflection and teacher input were in the minds of my interviewees. Whilst I had tended to regard them as separate entities, my students interwove them in their discussions, describing their effectiveness in aiding understanding. Students acknowledged that collaborative working had been helpful in aiding understanding. They liked working with others with whom they felt comfortable so that they did not feel diminished by acknowledging difficulties. Careful teacher intervention was also seen as being vital when students 'got stuck'. It was clear that a prompt in the form of a hint or a question was regarded as being useful whereas understanding was not developed if teachers simply supplied the answer to problems.

*Giving us the answers or whatever is a bit, like, just giving us nothing to do. It's not a challenge.*

(Rachel)

## **Conclusions**

Alison and I judged that we had become more effective in our use of questioning through this project. By modelling questioning, we noticed that our students were able to ask deeper, more pertinent questions which explored their understanding more fully. We felt that this area of the intervention had the most impact on us as teachers.

We also believed that students' understanding was enhanced as they learnt to reflect successfully on their learning. Many students demonstrated increased confidence when talking about their thinking about how they learn. Furthermore, like others before us, we observed that our students developed a greater ability to take control of their learning and to work independently (Conner, 2004).

The project itself impacted not only on our teaching but also contributed to the debate on teaching and learning within our science department, and throughout the school, as we shared accounts of our work with the rest of the staff. We continue to question, to encourage collaborative working and reflection to promote better understanding. No doubt, students still feel that developing

understanding requires effort, but as teachers we now have a clearer view as to how to facilitate this process.

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# Investigating students' experience of formative assessment

*Sue Lyons*

*Onslow St Audrey's School, Hertfordshire*

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## **Abstract**

Sue Lyons graduated from the Herts MEd in Leading Teaching and Learning in 2006. Currently, she teaches English and mathematics in a secondary school. In this article, she provides an account of her project to develop the school's formative assessment practice.

## **Introduction**

Assessment is an ongoing professional interest of mine. I have witnessed its ability to help or hinder learning; and seen its application mediated by a teacher's own pedagogical beliefs and assumptions. It seemed to me that students might encounter the same assessment practice as being either formative or not, depending on the way the teacher uses it. The application of Assessment for Learning (AfL) techniques was a case in point. For example, I remember an ex-colleague who used 'increased wait time' in an ostentatious fashion, staring at his watch to count the seconds allowed for responses to be formulated. He then declared 'Right!' to a class often intimidated into silence. He was using the technique in a behaviourist fashion, expecting given outcomes (improved measurable attainment) from their altered behaviour (the adoption of new techniques). Yet, I saw others use the very same practice to nurture and explore student potential. The technique was the same; the intent, application and outcome very different.

I wanted to explore the ways in which our assessment practice is actually experienced by the students. We needed a better understanding of how students experience and respond to what we hope might be formative assessment practice in order to ensure that it actually is formative. Thus, my project had two purposes: to generate discussion and reflection about assessment, and by doing so, improve assessment practice in the school.

## **The project design**

The project used a range of approaches to explore the question ‘What nurtures your learning potential?’ Descriptions of memorable experiences, imaginary teachers providing ‘perfect’ feedback, and future models for improved assessment practice enriched the data. Students were also asked to consider school assessment systems (reports, merit system). Later, they were asked to consider my tentative conclusions. The sample of students was a small, purposive one, chosen to elicit a range of thought. I used open-ended questionnaires and semi-structured, reflexive interviews as the main instruments for data gathering but also drew upon records of discussions in lessons to enrich this data.

The project took place over 15 months. I began by administering a questionnaire with my Year 9 group with the intention that this would be merely to pilot the instrument without using the data; however, the resulting data was so rich that I decided to use it instead. With the same group, I ran four research-based lessons to explore the questionnaire responses. I used all the technology at my disposal. For example, I fed the questionnaire data into an Excel database to analyse it. Throughout the lessons, I used my interactive whiteboard to display, query, explore and validate the data with the students. This also facilitated the use of other electronic files to develop discussion, such as an online PowerPoint giving normative ‘conclusions’ about quality feedback (Te Kete Ipurangi, 2005).

My initial analysis of the survey data helped me to design a format for semi-structured interviews and improve the questionnaire. Over the following four months or so, I conducted semi-structured, in-depth interviews with 14 students (11 Year 9s, 1 Year 11 and 3 Year 13s). Students were offered a choice of preferred times and places and asked to choose pseudonyms. Most interviews took about two and a half hours over three lessons.

The Year 11 student (Oscar) had stopped me in the corridor to ask if he had been chosen for the research as he had a strong desire to participate. He was a very interesting candidate: he had an Individual Education Plan (IEP) focused on his dyslexia and dyspraxia. Memories of negative assessment experiences ran through his interviews as did his frustration at having an IEP. His interviews were lively affairs during which he would pace in front of the whiteboard, my typing barely keeping up with his fluent

speeches. This contrasted dramatically with his short, written, questionnaire responses.

Using the Excel database proved an invaluable tool for thinking, organising and disseminating. At intervals I put updated versions on the intranet for staff to view; gave copies to the Headteacher, a Deputy and an Assistant Headteacher and also emailed various versions to interested Local Authority consultants. My student Oscar also asked for a copy. After a few months, I carried out an interim analysis and posted a summary on the intranet. This process of ongoing analysis and reflection was invaluable to me. It helped me improve my questionnaire, work out how to analyse the results and develop an interview script. I put this on the database too; it helped the fluency of my interviews, giving students a visual display of the questions on the interactive whiteboard.

Sharing the data with colleagues at various stages in the project also led to unexpected events, most notably the Headteacher's request that I provide workshops for colleagues. For this, I rewrote the interim analysis, highlighting key points, which we discussed. I also displayed the database in a large horseshoe around the room for people to browse and discuss.

The final data collection stage was a second set of research lessons with my Year 8 PSHME group. The lessons were based on three documents: the revised questionnaire; the aforementioned PowerPoint with 'conclusions' about quality feedback and the summary document prepared for the staff workshop. The group was interesting because the students differed hugely in ability, attitude, motivation, self-esteem and maturity. During discussions and written work, I paired very weak students with more literate students to ensure that the words of the less literate students could be recorded accurately.

Once the project was complete, I wanted to communicate key insights and some of the challenging and provocative statements that had emerged. For this, I chose to use display boards and a whole school assembly. I hoped that such communication would stimulate reflection, debate and discussion about assessment. I put up the displays in 'sociable', heavy traffic areas where students might be more likely to stop and read the material. The displays followed a recognisable format. In the centre of each board was the relevant research question in a think bubble. Around it, speech bubbles held a

selection of the students' comments, each bubble having a summative heading for speed reading. For a teacher, the displays could be read, effectively, as guidance for an expanded assessment repertoire, helping them to extend their current thinking and practice. For students, the displays could encourage both self-reflection and some understanding of why teachers might offer, and students might want, feedback in different ways.

I used the opportunity of the whole-school assembly to encourage students to read and consider the displays and, also, the 'new' ideas about assessment it introduced. Subsequent feedback from both students and staff demonstrated that this had been successful.

### **What we learned about assessment practice**

The most productive question for me was: 'What sort of feedback helps you learn?'

#### *Feedback that supports learning*

Many students said that feedback helps them learn when it includes guidance on how to improve.

*If I just get positive, it makes me think my work is perfect and cannot be improved. If I just get negative, it doesn't help my self-esteem so I think that I haven't done anything right.*

(Student 8, Year 9)

Variously, students explained that the guidance should:

- be written and private
- include praise, '*positive feedback*'
- good points or encouragement
- '*be critical*', include '*negative feedback*'
- highlight weak areas or include error correction

One strong dimension was that a balance of 'positive' and 'negative' feedback was considered beneficial. Many students felt that positive feedback supports their self-esteem and helps to develop receptivity to critical feedback.

Generally, students used the term 'guidance' positively and the term 'critical' negatively. I explored individual students' personal boundaries between the two, often finding that one person's 'negative criticism' was another person's 'positive guidance'. How

the line between the two appeared to shift seemed to relate to many issues including resilience, self-belief and the personal relationship between the student and teacher. There was also exploration of the words 'positive', 'negative' and 'critical'. Students were introduced to ideas such as 'constructive criticism' or being a critic (as in one who makes judgements, be they positive, neutral or negative). This was in order to help them to recognise that the habit of using the word 'critical' only pejoratively is unhelpful. They might then recognise its broader meanings and explore the benefits of criticism. These discussions helped clarification and understanding of key assessment terms.

Many students said that feedback helps them learn when it is social or verbal, such as teacher-student 'tutorials', dialogues, or sharing work and ideas in class. Markus (Year 10) considered 'private feedback' harder because there was no exchange of views.

*If you share, you can see where others did it right when you did it wrong.... In some subjects we don't share work at all, we just do work. It's a lot easier when you share work.*

Several students said that feedback helps them learn when it is simple and easy to understand, such as bullet points, annotating throughout work or the use of the 'tick and arrow' system.

A different perspective came from Claire (Year 10) who argued that, in order to learn, feedback must be truthful.

*If I get feedback that isn't truthful then I can't improve. I'll carry on doing the bad. But if I get truthful feedback, I'm going to learn from it, I can improve from it. Also, if I know I am doing well, then I know to carry on like that.*

Insights also arose from the question: Does praise help you learn?

#### *The role of praise*

In recent years it has been suggested that it might be unhelpful to give praise (Black and Wiliam, 1998; Butler, 1987; Natriello, 1987; Siero and van Oudenhoven, 1995). Yet, many students cited praise as formative – an aid to learning. The students I talked to generally held that praise helps them in holistic ways – social, psychological, emotional and cognitive. Students explained that praise gives them encouragement and self-confidence; stimulates positive attitudes and

motivation; helps cognition; makes them feel satisfied; and strengthens the student/teacher relationship.

The three Year 13 students considered praise '*a boost when you're down*' and '*when you're doing really well, a boost to carry on succeeding*'. No praise was generally considered unproductive: '*If you feel constantly criticised, you won't want to try*'. Many students described how praise had increased motivation, giving them '*an incentive to work harder*' or to '*keep on learning*'. Praise also stimulates positive attitudes: '*Praise helps me learn by making me happy and glad to be working*' (Grace, Year 10).

Many students said that praise acts formatively by highlighting good points about their work which could then be repeated. The '*quick praise*' of ticks throughout work was liked for this reason. These students felt no need for an accompanying comment. Other students mentioned that praise strengthens the student/teacher relationship. Praise shows that a teacher is proud of a student's success/effort and this encourages the student to try to impress the teacher again to get more praise in '*a virtuous circle*' (Oscar, Year 11).

Some students warned that praise should be specific, sparing and valid so it did not inflate the ego or prevent learning taking place. Praise could lead to people feeling '*too good and becoming big-headed*' so teachers should '*praise a little but not so that they feel better than anyone else*' (Claire, Year 10). To avoid this '*a good variation of positive and negative points is really helpful*' (Student 8, Year 8).

Several students said that they would not feel content by receiving only praise because there would be no guidance for improvement and therefore no learning potential. Equally, some students said that praise alone could demotivate them because they would have nothing to aim for and so reduce their effort.

The students' emphasis on praise prompted a discussion about what a teacher should do when work is clearly not up to standard or inadequate. The general preference was for private 'criticism' and public or private praise. When asked, most students felt the teacher had an obligation to consider the student's feelings in the delivery of feedback; and, where the work had little or no redeeming features, to find a quiet, private time to give the feedback in a personal manner.

However, some students felt spurred to greater effort with the threat or actuality of public criticism of their work.

Another important question for me concerned the question of the giving of comments, marks or a combination of the two.

#### *Comments versus marks*

In recent years, it has been suggested that it is good practice not to put marks on students' work. Many studies have signalled the positive effect that comments alone have on both self-esteem and learning (Black and Wiliam, 1998; Black *et al.*, 2002, 2003, etc). Grades have been viewed as damaging because they reduce complex performances to a single dimension, creating a single global stratification scale (Simpson, 1981). Explicit recommendations have been made to avoid giving grades (Black and Harrison, 2004).

In this project, most students wanted both comments and marks. They viewed each as offering formative benefits. The mark was an '*easy reference*' (Oscar, Year 11) and progress indicator whereas the comments offered guidance on how to improve. The blend of normative and personalised feedback is more helpful because '*with the marks, you can easily tell your progress; with the comments, you can tell how to improve and what is right and what is wrong*' (Jane, Year 10).

Students felt that the regular marks act as targets and help them keep on track, recognising slippage earlier and allowing them to track improvement. As such, marks allow students to compare current against previous work, challenging themselves to exceed prior achievement. The comments also tell students how to keep on track, guiding them towards specific improvements. Some students said lower marks make them act on formative comments even more.

Some students see grades as essential from Key Stage 4 upwards due to the pressure of doing well in GCSEs and A levels. Teacher comments are interpreted as specific guidance about how to raise a potential grade. It is only at Key Stage 3 that more students seemed receptive to comment only marking.

Some students expressed concern about comment only or grade only marking. Grades alone can lead to bewilderment '*I will have the mark but I wouldn't know how I got it or how to improve*' (Student 2, Year 9-10) or can encourage laziness and the avoidance of improving

work if the grade was '*good enough*'. Comment only marking can lead to confusion or difficulty in seeing progress.

Another productive question focussed on what would cause students to act on feedback.

#### *Motivation to act on feedback*

In recent years, it has been considered good practice to motivate students to act on feedback by providing them with targets, linked to the idea of 'closing the learning gap' (Ramaprasad, 1983; Sadler, 1998).

The students I talked to said that they would act on feedback that:

- is clear, specific and relevant
- includes guidance on how to improve
- is written
- balances encouragement and guidance
- offers praise
- is an appropriate length
- is provided in an appropriate context
- is part of a desirable teacher-student relationship
- taps their intrinsic motivation

The most frequently mentioned factor was that feedback should be accessible, specific and easily understandable (whether verbal or written). One danger was overdoing it – swamping students with information or '*essays*' which made them feel that they could not act or could not be bothered to act. The annotation of work was preferred to terminal '*long paragraphs*' since annotation was specific, pinpointed feedback - and each point not very long. However, other students wanted detailed feedback '*explaining exactly what you have to do*' (Student 5, Year 9-10).

Many students also mentioned either written or verbal feedback as a motivator. Written feedback was seen to be motivating as it is easier to remember or because its format is simple and easy to follow. Preferred formats included bullet points, '*ticks, dots and arrows*' and annotation throughout the work. An ongoing teacher-student dialogue in the book had been motivating to Crystal (Year 10) as it was '*modern. Like MSN. Then you will look to see whether the teacher has written back.*' Verbal feedback is seen as motivating

because it is more personal, more informal, giving the student more confidence, or because questions could be asked and misunderstandings clarified. Oscar (Year 11) said *'the verbal push behind it means more'*. The potential for public humiliation via public verbal feedback motivates some (Markus, Year 10) and demotivates others (Crystal, Year 10).

Another factor in motivating students to act on feedback is guidance for improvement. However, some students will only act on guidance if it is directly linked to a chance of increasing future grades or positively assisting in other ways. Many students explored the balance of positive and negative comments that spur them to action.

Intrinsic motivation also led students to act on feedback. Jane (Year 10) spoke of *'that little annoying voice in my head telling me what to do'*; Jessica (Year 10) described *'knowing that I want to do well'*; another student wrote of *'knowing you can make the piece of work better and wanting to do it'*. Within this, the valuing of effort and attitude were mentioned by some students as spurs for action.

All the above leads me to believe that we need to take a quizzical approach when a student does not respond to feedback and consider whether the manner of our feedback should be adapted. We need to presume that the same formative feedback may result in very different outcomes in the students receiving it. We can only approach feedback that suits our students if we regard students as individuals not simply in their approach to learning but in its subset: their approach to assessment of their learning.

#### *Other benefits and outcomes*

The project was seen by several students as a spur to action and/or as improving their metacognition.

*It's helping me see how I want the marking to be done.*

(Gary, Year 10)

*It helps me understand the way I work. It makes me look into what I do at work at school.*

(Grace, Year 10)

*... it's opening my eyes in different ways about how I could improve assessment for me. If I ask a teacher in a certain way, then maybe I can ask for verbal feedback... it's helping me because I can see how I*

*might try to make something happen to make assessment work better for me and for the teacher.*

(Oscar, Year 11)

Other students spoke of feeling listened to or cared for, leading to greater self-worth. Such comments show that this project also provided a platform for students to be heard, thus resonating with the work on 'student participation' and 'student voice'. The above demonstrates that teacher-student dialogue about assessment can, itself, lead to cognitive and affective benefits for students as well as informing professional dialogue about assessment and, hopefully, improving practice. Significant implications of the project, therefore, are that we need to promote such dialogue school-wide and maintain dialogue with the students as part of normal teaching and assessment repertoire.

#### *The students' conception of formative assessment*

Most of the students I talked to placed emphasis on fluid, dynamic aspects of formative assessment such as the teacher-student relationship. Their conception is holistic, incorporating psychological and emotional aspects (how their self-esteem waxes and wanes, how they lose or gain confidence and self-belief) and social aspects (how feedback affects their peer status, how students can develop feedback collaboratively). Their model of feedback is a human, social, cognitive and affective one.

This strengthens my belief that we need to examine our approach to feedback, questioning the nature of the underpinning pedagogy from which it derives. Some may conceive feedback in behaviourist terms as stimulus-response, linear and unidirectional, with the teacher in control of the learning process (Askew and Lodge, 2000). However, we could conceive feedback as an active exchange during which the students also direct the nature of the process. In this case, learning is a responsive, joint endeavour in which control is shared (Edwards, Gardini and Forman, 1993).

## **Conclusion**

For me, the project confirmed the importance of the affective (social, psychological and emotional) dimensions of teaching and learning. It reaffirmed the simple message that, in giving feedback, teachers must attune themselves to both cognitive and affective dimensions.

The project enabled us as a school to examine our approaches to assessment and consider whether students are benefiting from current practice. Dialogue and discussion enables us to make transparent and explicit the rationale behind our assessment methods and enables students to express their own views about the practices that nurture their learning potential. In this way assessment between teacher and student becomes 'a two-way street' (Oscar, Year 11).

The project confirmed for me that a teacher's pedagogical philosophy informs and permeates everything she does. Recommended techniques and strategies can never replace deep thought about the process of teaching and learning. Many years ago, Vygotsky expressed his view of the assessing and teaching role as that of a gardener viewing his orchard.

The state of development is never defined by what has matured. If the gardener decides only to evaluate the mature or harvested fruits of the apple tree, he cannot determine the state of his orchard. Maturing trees must also be taken into consideration. The psychologist [or teacher] must not limit his analysis to functions that have matured. He must consider those that are in the process of maturing. If he is to fully evaluate the state of the child's development, the psychologist [or teacher] must consider not only the actual level of development but the zone of proximal development.

(Vygotsky, 1987:208-209)

He was describing the nurturing of incipient learning. The beauty, elegance and power of Vygotsky's metaphor remains pivotal in guiding me to evaluate continually the 'orchard' in which I teach and the resources I bring to help it 'grow'.

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# Building student's self-esteem through a learning journal

*Janet Ollerenshaw*

*Barnwell School, Hertfordshire*

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## **Abstract**

Janet Ollerenshaw graduated from the Herts MEd in Leading Teaching and Learning in 2006. In this article Janet provides an account of the development and evaluation of a 'learning journal' as a tool for promoting the self-esteem of students in a secondary school.

Throughout both my personal and professional life, I have been increasingly aware of the important role that self-esteem plays in learning. This was of particular concern to me as I struggled with low self-esteem in the early stages of my life. I suffered from feelings of inadequacy and became very self-critical throughout my childhood and young adult years. These feelings were occasionally alleviated by the discovery of my talent for Music. I was not very successful at school and left at the age of sixteen, with three O' levels. At my father's suggestion I became apprenticed to a hairdresser. I was moderately successful as a hairdresser and continued with music as a hobby, earning a little money as a folk-singer. Later on I was invited to teach the guitar to children at a local school and gradually developed a career as a peripatetic Music teacher. During these years I witnessed the positive development of young people's self-esteem when they were encouraged to realise for themselves that they could play or sing well enough to perform in public. My own self-esteem improved too. I decided to take steps to become a qualified classroom teacher, embarking first on an Open University degree course and after six years of study, I graduated and completed my teaching qualification under the GTP scheme.

Since qualifying I have been a teacher of English at Barnwell School and increasingly aware of inhibitions to learning. I wanted to explore the extent to which this can be explained by negative self-esteem. Alongside this I wanted to find ways to build self-esteem and counteract negative attitudes towards the self. I explored research already carried out into self-esteem and then decided to

design an intervention tool that would enable students to reflect on their 'selves'. This would be a journal, designed to improve students' self-esteem. It would also provide me with data to inform my understanding about self-esteem and its importance for learning.

### **Self-esteem and learning**

Through an intensive period of reading I was able to clarify the principles that would underpin my intervention. It is generally agreed that self-esteem refers to a person's judgement of their own worth or value, and that it arises in part from feedback from significant others from childhood onwards (Shackleton and Fletcher, 1984). This evaluation of self is usually comparative, both in terms of what is perceived as an ideal self and as a measurement against other people. Self-esteem is the 'bottom line' for successful learning and that, without a belief in one's ability to succeed, the chance of success is limited (Gilbert, 2006). Self-esteem can be seen to be a basic human need. Maslow's hierarchy of needs helps to explain how basic needs motivate us all (1970). His theory has been very influential in the fields of management training and personal development. Maslow's model has layers of needs in a pyramid; needs such as physical and emotional well-being appear at the lower levels with self-esteem appearing higher up just under the pinnacle of 'self-actualisation'. Some writers question the hierarchical ordering; Perera (2005) for example suggests that self-esteem should be placed at the very base of the hierarchy, even before the basic physiological need for food and water. This resonates with my own view that, in order for a child to develop into a psychologically and physically healthy adult, self-esteem should be considered equally necessary as the need for nurture and sustenance.

What was of particular concern to me was the part that schools and teachers can play in the maintenance of pupils' self-esteem. For the young child, going to school presents many opportunities for positive or negative self-evaluation

Success and failure are the principal nutrients in the development of selfhood. Yet we may not be the final arbiters of success and failure, which are often defined from outside according to culturally specified criteria. And school is where the child first encounters such criteria – often as if applied arbitrarily. School judges the child's performance and the child responds by evaluating himself or herself in turn.

(Bruner, 1996:36)

Charlton's illustrative diagram, 'Cycle of Failure' (1992), demonstrates that the experience of academic failure can lead to reduced self-esteem which then leads to less effort and persistence, resulting in academic failure leading to reduced self-esteem and so on.

Self-esteem can be easily damaged by insensitivity to a child's inner feelings and misinterpretation of outward signals and behaviours displayed may lead to teacher reactions which only reinforce a child's perception of him or herself.

The teacher's ability to help students attribute success to effort has a long-lasting, powerful effect on those students' self-concept and feelings of pride ...

(Bocchino, 1999:135)

As Hargreaves (1982) argued many years ago, the ethos of school can destroy students' personal sense of worth even where there is an explicit aim to foster personal and social development. The constant experience of failure and a lack of respect for those things the students themselves value seriously undermines students' personal sense of well-being and self-esteem (Pring, 1984).

As a teacher I realised that there was little I could do to change the foundations of self-image and corresponding self-esteem, but I wanted to see if it would be possible to encourage a child to accept themselves with whatever self-perceived imperfections and idiosyncrasies they may have. I wanted to see if positive attitudes to self could be supported, providing a stronger foundation for a belief in their capacity for learning and achievement.

### **A project to address the problem of low self-esteem**

I designed a project to try to create an alternative cycle of success, thereby raising self-esteem and providing students with techniques to encourage continued emotional stability and balanced self-esteem. I developed a process of problem identification and strategies for supporting those students whose self-imposed limitations appeared to inhibit their progress. I investigated ways of supporting children with negative self-esteem, both to promote positive esteem and to raise achievement in spite of low self-esteem. This came into being the learning journal, which I labelled, "Me, Myself and I".

I began my development project by searching for a tool to assess levels of self-esteem and found the 'Lawseq' questionnaire. This assessment tool has been widely used, in particular, in the 1979 National Child Development Study where it was administered to 15,000 primary-aged students. It was considered to be of high reliability and validity (Lawrence, 2006). It is brief and easy to administer and intended as a screening device for making a quick assessment of self-esteem. I used the questionnaire to identify a focus group of Year 10 students to work with. I wanted to see if the strategies I was developing would be equally applicable in a different kind of school so contacted a teacher at St George's school in Harpenden and invited her to collaborate with me on the project.

I had decided at an early stage that I would ask the students in my focus group to keep a learning journal. Journals can teach us about ourselves, how we feel and what we think; they can give us the perspective of where we were or what we were thinking on a given day and, in hindsight, they can show us the path we were on and what contributed to our decision-making processes (Kradel, 2002). Writing in a journal can enhance our feelings of well-being by helping us to understand more about ourselves (Clement, 2002). I developed a structured journal with specific tasks included to provoke the type of thinking and self-reflection that would help the students to recognise their own strengths and abilities. I knew that students would need considerable support in using such a journal to reflect on their feelings and record significant events; I would need to create quite detailed scaffolding, a structure within which they could write.

## **Designing the journal**

In designing the learning journal I was guided by the five points provided by Rob Barnes in *Positive Teaching, Positive Learning*:

- Ultimately, negative thinking is wasted energy
- Negative thinking feeds on itself
- Negative thinking is unnecessarily stressful
- Positive optimistic attitudes can be developed
- Pupils can take responsibility for becoming positive

(Barnes, 1999:3)

Our journal would focus on encouraging students to recognise their capabilities, counteracting negativity and helping them to take responsibility for developing their positivity. I drew on ideas

gleaned from a number of self-esteem assessment tools. As well as helping to promote positive thinking, these would provide me with guidance as to how and what the students felt about themselves, both socially, domestically and as learners in school. Particularly useful for stimulating this reflection is the concept of writing a letter to one's self (Churchill and Churchill, 1992). Since self-esteem is a personal measure of how we see ourselves in comparison with how think we should appear, it was important to place emphasis on being unique. Children are notoriously judgemental of each other and their opinions of each other can have a profound effect on levels of self-esteem, especially where it is low or wavering. Some of the questions in the journal were designed to help the students think about how they perceived themselves in relation to other people and what they believed about themselves.

Emotional reactions can influence self-esteem; for example, as a child, my reaction to personal criticism was to cry, thus reinforcing both my own and other people's opinions of me as weak. For others the reaction can be one of anger or aggression. In the journal I asked the students to consider what things affected how they were feeling. Much of this aspect of the journal was based on the work suggested in Gillian Shotton's (2003) *Feelings Diary* and Barbara Sher's (1998) *Self-esteem Games*. To promote positive self-esteem I wanted to encourage the students to be self-reflective and learn to recognise their own strengths and weaknesses. However, the capacity to effect changes also depends on being able to accept and rationalise feelings of inadequacy. The techniques, suggested by the authors referred to above, are designed to help students take responsibility for their own emotional responses and reactions and to avoid relying on others for feelings of well-being and success, thus promoting positive self-esteem.

Loosely based on an Adjectival Discrepancy exercise was a task based on how students describe themselves and their feelings in specific subject lessons. I chose to focus on the core subjects, Maths,

English and Science since they were common to all students in year 10. This was followed by a four-week programme wherein students were asked to complete a page of questions per subject lesson per day. Each week focused on a slightly different aspect of feelings; such as enjoyment, anger and frustration, interaction with friends and learning, thinking positively and being ready to learn.

The use of colour was particularly important in the design of the journal. It needed to be something that the students could take pleasure in looking at and in completing. It also needed to be stimulating and provocative and something quite different from everyday textbooks and resources. I was encouraged when I read that: ‘our perception of colour – is central to visual aesthetics and profoundly affects our emotional state’ (Gregory, 1990:119) and thought that colour could affect how the students perceived the tasks set and how they might respond to the various questions.

All of the questions were designed to promote positive thinking; not placing emphasis on what the students have failed to do, but on what they have been able to achieve. The final task in the diary was to write a second letter to themselves. In this they were asked to write about where they would like to be in a few years’ time focusing on what they need to do in order reach their goals and to be able to think positively about themselves and their futures. In retrospect, there are other ideas that I could have included and hope to develop in future editions of the journal, ideas such as ‘climbing ladders one rung at a time’ or ‘eating a whole box of chocolates but only one at a time’. This would further focus on learning as something that can be done one step at a time, especially when the whole lesson appears to be too daunting.

The journals were personalised for the students and the title, “Me, Myself and I”, was used to emphasis the focus on them as individuals rather than on a whole class or school initiative. In supporting individuals and encouraging them to think and behave differently, I hoped to help them to see that they could also change the way that other people responded and reacted to them (Barnes, 1999). Above all I wanted them to be able to recognise their own strengths.

### **Evaluating the journal in action**

My colleague from St Georges’ School and I agreed to use the journal with its associated programme of activities over a 4-6 week period. I would keep a research diary throughout to record significant dates and events and comments from the students and other teachers about the journals and about the project in general. Also, at an early stage in the project, I arranged to conduct group interviews with the students in the two participating schools. Having begun the project in September, I had completed journals back from all of the participating students by mid-January.

I now had a wealth of evidence to examine. The students' responses to the questions and tasks in the journals such as the letters to themselves provided rich data, this was further enriched by my own notes and the data from the group interviews. I analysed all this material in order to be able to design a protocol for semi-structured interviews (Drever, 2003). I then set myself the task of interviewing each student who had participated in the project in order to explore their views about the impact of the journal exercise and how it could be improved.

Students were enthusiastic about the journal. Many of them said that they felt more positive about themselves as learners and that they would be able to use the strategies they had learned to support themselves in future learning opportunities. All of the selected students expressed the opinion that a learning journal, such as the one they had used, could be very useful in supporting students with negative self-esteem. They were very positive about its effectiveness and in general about its ease of use. They were critical of some aspects, in particular the size of the journal and of some of the response options to questions. Most of the students thought that their experience of the journal had been valuable to them and that it could continue to serve them as a reminder of their own abilities as learners.

*Yes it (the journal) did, it made a big difference, specially in my classes ... it gave me confidence to do well in lessons and that.*

(Student B4n)

Even the Barnwell student who had been most ambivalent towards the journal at the beginning of the project, agreed that:

*[I] could learn a few things about myself, about little things, like writing them down ... probably because it made me think.*

An examination of the two 'letters to yourself', one at the beginning of the journal and one four weeks later at the end of the programme, provides some interesting and gratifying points. One student wrote:

*I also think that you think about what other people think too much. I know that popularity is important but education should come first.*

(Student G2n)

And later:

*You need to start thinking about the future and what you want to do and especially how you plan to achieve it. [] ...you would realise your potential and work harder.*

(Student G2n)

Here there is an indication of realisation that the onus and responsibility for change lies in yourself.

One of the Barnwell students was extremely critical of the journal at the beginning of the programme.

*I haven't learned anything about myself, or my lessons. I don't think this book has helped me at all. It's annoying filling it out every time we have English, Maths and Science. It takes too much time ...*

(Student B1p)

However, in the second letter the same student wrote:

*Even though I thought it wouldn't help me ... it did a little bit. I am going to concentrate more in lessons ... I will change the way I am in lessons. I will be more confident in myself.*

(Student B1p)

This indicated to me an unexpected change as a result of the programme. Even a student who was hostile to the idea of using the journal was able to recognise a change that could benefit them in the long term.

One of the St Georges' students acknowledged a lack of self-confidence.

*There are times when you lack confidence and seek reassurance from others. It is not necessary for you to always ask others, have faith in yourself.*

(Student G3p)

Nevertheless, later they advocate 'a positive attitude and determination in order to achieve your full potential and never, ever give up.'

These words from one student summarise the overall opinions of the students involved in this project.

*You lack so much confidence ... you feel that the world is against you and that everyone seems to secretly hate you ... once you are stuck on something you tend to just tell yourself there's no way out ...*

(Student G1n)

But just four weeks later this student said:

*I have recently learnt that it pays to be patient. Just because things aren't going well at the moment, it doesn't mean they won't be (better) next week. I know I am going to have to work hard to be more confident and happy, but I know if I'm patient I will get there. I now have aims that I am going to work towards and hopefully achieve.*

(Student G1n)

The lowest scoring student who also showed the biggest gain a measured by the Lawseq instrument, wrote:

*I am also going to think positive and think ahead about what I am going to do to have a positive attitude about my learning so I can make a big success of myself.*

(Student B4n)

## **Taking the project wider**

The next step in this important work was to find ways to utilise the journal further. Fortunately staff at Barnwell School are encouraged to share their development work by making presentations to staff.

Discussions with Learning Support staff at Barnwell resulted in the journal being used with two more students, one in Year 9 and one in Year 8. Since these two students were displaying negative self-esteem and since the journal had been introduced to other members of staff, it was suggested that the journal be used to try to encourage and support them in their learning. Both students completed the journal, reported that it was '*very helpful*' and that it encouraged them to think differently about themselves and their learning. One of these subsequently requested to use the journal again, implying perhaps that a longer period of use could be beneficial for more adversely affected students.

A presentation of my work to the Senior Leadership Team at Barnwell School was useful and encouraging. The general opinion was that the journal could be used as a whole-school initiative, perhaps through PSCHE (Personal, Social, Citizenship and Health Education) or through the Achievement Support Department.

Another suggestion was that it could be introduced to Year 7 on their arrival at their new school in order to support and develop their learning attitudes and provide a positive basis for their self-esteem as learners. Altogether, reactions to the journal and its intentions were very positive and the potential for change and improvement to students' learning experiences recognised and acknowledged.

It became apparent through discussion with colleagues that, although issues of self-esteem were considered by many to be relevant to learning aptitude, little consideration had been given as to how these issues might be addressed. The journal, therefore, has the potential not only to help students but also to raise teachers' awareness of how pupils' self-esteem is affected by their experiences. It also provides an immediate and accessible tool for use in various circumstances.

Already the journal has been used to help re-integrate a long-term absentee from school into full-time attendance by supporting and reinforcing their self-esteem and confidence in their ability to learn. A Year 10 student felt that they were unable to meet the expectations of teachers and parents. However, having used the journal for two weeks to support, they are now attending school on a regular basis. There are implications here for a wide range of uses for the journal, such as support for the inclusion of disaffected students and positive thinking for students displaying behavioural difficulties generated by low self-esteem.

Certainly my project seems to reinforce the idea that self-esteem can be raised and a more positive attitude to learning can be encouraged through the use of the journal. However, this was a small-scale experiment so I would like to try using a revised journal, with a Year 7 English class of 32 students.

## **Conclusion**

At the conclusion of this initial project the key lessons for me were as follows:

- reflection is vital for self-monitoring
- structured reflection can encourage and foster self-acceptance
- the acknowledgement of students' individuality is important for personalised learning
- teachers can gain insight and open their views by reading pupils' journals (provided there is no infringement of personal privacy)

- strategies such as this journal can help to develop emotional literacy in both students and teachers

I began my MEd thesis (Ollerenshaw, 2006) with ‘my story’ and the project described in outline here represents a continuation of that story. My life journey of self-discovery has encouraged me to believe that I can make a difference both for myself and for others, especially my students. In my privileged position as a teacher and as a student, I can appreciate both ‘sides of the coin’. I lead the learning of others and I learn alongside my students. I like to think that it is never too late to learn but I also believe that the earlier good learning practices are absorbed, the better the learning will be. Self-esteem has a major impact on learning and my project has illustrated the advantages of encouraging positive self-esteem for learning. For me, the journey has been invaluable. On a personal level, it has allowed me to understand better my own ongoing issues with negative self-esteem and to come to terms with some of the possible reasons for my own failings. For my students, it has equipped them with strategies and tools with which to enhance and support their self-esteem, ultimately giving them an opportunity to avoid the possibility of becoming trapped in a cycle of failure. For my school, it represents a significant advance in understanding emotional and metacognitive processes and the factors that can diminish students’ capacity to learn. Overall, it raises awareness of the fundamental importance of recognising that an emotionally balanced attitude to self and positive self-esteem is essential for successful learning.

### **Post-script**

My ‘guinea pigs’ were duly rewarded with chocolates and cinema tickets not only as a token of my gratitude for their assistance but also to encourage them to go on believing in themselves. I wanted them to feel that they have succeeded in some way beyond normal classroom expectations thus promoting their self-esteem. One student left Barnwell School at the end of the Spring term so I had not been able to give her the chocolate reward. I posted a parcel to her house and a few weeks later I received a letter thanking me in which she wrote the following,

*What I helped you with has helped me a lot. In my lessons it has given me more courage. Thank you for picking me to help you.*

(Student’s letter)

This was a gratifying response which reinforced my belief in the value of promoting positive self-esteem for more successful learning.

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# Developing thinking skills in the primary classroom

*Louise Farrell*

*St John's Catholic Primary School, Hertfordshire*

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## **Abstract**

Louise Farrell graduated from the Herts MEd in Leading Teaching and Learning in 2005. In this article she provides an account of her evaluation of strategies for supporting the development of her pupils' thinking skills.

As a primary school teacher and science specialist, I have always been interested in how I can develop children's learning in science. When my project began I was Coordinator for both Key Stage 2 and science in my previous school. I am now Deputy Headteacher at my current school so I have been able to use my developing understanding of thinking skills to influence practice directly in two schools.

My project began when an OFSTED (Ofsted, 2001) inspection report pointed to the need to extend and challenge able pupils throughout the curriculum. This became a focus in the School Development

Plan and I was asked to take a lead. However, I was keen to provide opportunities for all the students in the school to develop their cognitive skills, together with the language necessary to do this, regardless of their ability. I therefore decided to focus on the development of thinking and how this can be accelerated through discourse. Fortunately, this was also an area of interest in my new school. I began by reading around the subject to help me to find a way forward for my development work.

## **Building on the work of others**

My reading raised two important issues for me: firstly, there is the question of whether the development of thinking skills should be integrated into the whole curriculum rather than approached as a discrete programme and secondly, if pupils are to develop their 'cognitive processing' they need to be able to reflect on what better

thinking is (McGuiness, 1999). Realising that I also needed to develop my own understanding of the thinking process, I read John Dewey's early work (Dewey, 1910). His view that reflective thinking involves identifying and defining the problem and then generating and testing a hypothesis stimulated my own thinking. The crucial issue for me was how you teach such thinking skills to young children. Matthew Lipman (2003) argues that it is important to introduce young children to the different thinking skills or processes in a logical order, starting with the lower order skills such as comparing, distinguishing and connecting before moving on to such things as classification and analogical reasoning. He stresses that it is a matter of being able to recognise these thinking processes in others in order to engage in discussion and argument. This suggested to me a key role for the teacher in enabling children to engage in this social process.

I began to think about the value of teacher questioning together with the way in which children can learn through discussion. I read about the development of 'dialogic talk' (Alexander, 2000; 2004); here the questioning is controlled by the children and provides them with the opportunity to express their ideas and develop their understanding by making links to what they already know. The Socratic approach to questioning also raised some interesting issues about my own classroom practice. This approach to questioning differs from random open-ended questioning; it follows a pattern with questions probing reasons and assumptions in order to take the enquiry further. Examples include 'Can you explain that?', 'Can you give me an example?', 'Why do you think that?', 'How do we know that?' and 'What if someone were to suggest that...?'. Such questions can be divided into the following categories:

- Questions that seek clarification
- Questions that probe reasons and evidence
- Questions that explore alternative views
- Questions that test implications and consequences
- Questions about the question / discussion

Having stimulated my own thinking about thinking, I moved on to explore various intervention programmes which have been used to accelerate pupils' thinking skills and raise attainment across the curriculum. Such programmes have sought to develop thinking skills both in the primary and secondary sectors of education. A number of these programmes (Blagg, Ballinger, Gardner, Petty, and Williams,

1988; Lipman, 1991; Adey, Robertson, & Venville, 2001) involve children working in small groups with an adult. The Cognitive Acceleration Through Science Education at Key Stage One (CASE@KS1) (Adey *et al.*, 2001) programme was of particular interest to me. The thirty small-group activities, published under the title *Let's Think*, are designed to promote cognitive conflict and encourage social interaction and metacognition in Year 1 pupils. I wanted to trial these activities to see if they might help me to support the development of my pupils' learning and thinking skills.

The thirty small-group activities lasting 30 or 40 minutes were based on Piagetian and Vygotskyian psychology. They promoted cognitive conflict and encouraged social interaction and metacognition. Piaget believed that during the maturation process children go through different stages of development; the intervention activities in *Let's Think!* were aimed at pupils making the transition from pre-operational to concrete operational thinking. Each *Let's Think!* activity follows the same structure, shown in Table 1 below. They require no writing from the children, leaving them free to engage with one another; they are free to concentrate on engaging critically but constructively with one another and so continue to build on their thinking skills.

Table 1: Structure of Let's Think! Activities (Adey *et al.*, 2001)

Concrete preparation	The materials and language of the activity are introduced. Existing knowledge is consolidated and children recall what they already know so that they can use this knowledge during the activity.
Cognitive conflict	The children are given a challenge and encouraged to puzzle over it. A correct answer is never given, even if the children do not find it out for themselves. The focus during this part of the activity is the thinking that is carried out, rather than a solution to the problem.
Social construction	Children are encouraged to interact with one another throughout the activity by offering suggestions and commenting on those of others in a polite, constructive way. Pupils

	may be asked to justify statements made. At the beginning the programme the teacher models how group members should interact with each other during this stage.
Metacognition	The children are encouraged to be aware of their own thinking during any phase of the activity. Questions and comments such as: ‘...you’ll need to think hard...’ or ‘What were you thinking when you did that?’ may be asked.
Bridging	This is the process of linking the kind of thinking that is being developed in the <i>Let’s Think!</i> activity to other situations when that type of thinking could be useful. It can be carried out during any stage of the activity.

I believe that *Let’s Think!* has been successful because it includes three preliminary activities. These develop pupils’ speaking and listening skills and establish how the activities will take place. Also, although the group is allowed to work collaboratively and independently, the teacher is present at all times. The teacher’s presence is an important factor since, although children may possess the tools of language, they may not have learned how to use them to good effect once adult support is withdrawn. The educational effectiveness of group work depends entirely on communication (Dawes, 2004) and the teacher’s presence during the activities to model and promote good communication. An additional reason why *Lets’ Think!* may have been successful is that, through questioning, it requires the students to reflect upon how they can apply the thinking skills in other curriculum areas.

### **The process of development work**

Feeling more confident about my own understanding of the development of thinking, I set about planning my classroom explorations. I knew that I wanted to learn more about the impact which both structured intervention activities and open-ended teacher questioning can have on children’s ability to talk about their own thinking. I therefore decided to use a comparative case study approach (Hays, 2004) to help me understand more about the way in which cognitive discussion takes place and how it can be promoted

through different kinds of questioning approaches and structured activities. A key strategy would be the observation of the children's personal interactions and thinking behaviours in a range of classroom activities.

Collaboration with other staff was vital for two reasons: first, I would sometimes be teaching the group and could not both teach the lesson and observe the children, and second, I wanted to involve colleagues so that the development work would become embedded in school practice rather than just my own. I asked colleagues to take field notes that included general observations regarding timings, events in my classroom, learning conditions and children's actions.

We focused on two mixed ability groups of six Year 1 children whilst they undertook activities aimed at developing cognitive discussion through collaborative work and Socratic questioning over a ten week period. One group would complete ten activities from the *Let's Think!* intervention programme and the other would develop their thinking skills through the teacher using open-ended, Socratic questions. I was interested to see if there would be any difference in the development of the pupils' understanding and thinking. I explained to parents and the children what I wanted to do and was encouraged by the amount of interest and enthusiasm shown. The children were very excited to be included in my project.

In addition to observing the children and listening to their talk I decided to video them to allow me to revisit what I thought I had seen and heard. I also kept a research journal throughout my project in which I recorded my questions, thoughts, concerns, reminders and key events.

## **What I learnt**

The evidence from the observations, discussions and my research journal suggested that open-ended, Socratic questioning does provide pupils with opportunities to discuss their thinking. Pupils appeared to explain, work and think collaboratively with greater effectiveness. Pupils' development in their ability to explain was particularly interesting to me. The field notes contained evidence that suggested to me that the children were more able to explain their own and others' actions at the end of the project. Attributing such outcomes to any particular input is always problematic of course but it seemed clear to me that opportunities to carry out 'dialogic talk' (Alexander,

2000, 2004) had helped to build the children's confidence in this regard.

The structured intervention activities similarly seemed to impact positively on children's powers of explanation. They appeared to think and work more collaboratively, adopting new ideas, asking questions and demonstrating their learning. The large number of questions being asked by the children by the end of the project was particularly interesting to me. In the early part of the project, children had opportunities to question one another about their thoughts and actions yet seemed to lack the confidence to do so. Adey *et al.* (2001) point out that social construction needs to be modelled by the teacher at the beginning of the programme and this is the role that the teacher undertook. My project seemed to support the view put forward by Mercer, Wegerif and Dawes (1999) that intervention programmes rely on this action of the teacher; children need to hear the appropriate forms of dialogue if they are to use these themselves. The pupils' increased confidence and ability to question by the end of the project was a very encouraging development.

The increase in patterns of collaborative working amongst the children also challenged my thinking. By the end of the project the children were working keenly and confidently together, sharing their ideas readily. The structured intervention activities appeared to be both helping the children to work together to solve problems and also providing them with the language necessary to participate in collaborative work.

Open-ended, Socratic questioning and structured intervention activities appear then to result in similar types of talk about thinking. However, the structured intervention activities offered more opportunities for the children to talk and enabled the learners to become more independent when discussing thinking. The role of the teacher appears to be key in fostering this talk about thinking. My explorations reinforced the view that it is more effective if teachers firstly focus on developing learners' listening skills before attempting to develop their discussion about thinking during subject based group work (Dawes, 2004). I also found that if the learners are not provided with opportunities to work independently they become too reliant on the teacher working with them. As a result, I believe that it is necessary for teachers to introduce activities but then leave pupils to work independently (Harlen, 2004a; Alexander, 2000), so that they can participate in exploratory talk. The role of the teacher

is then to share in the pupils' discussion by asking questions to guide the conversation but to allow the group to work independently. The teacher also needs to create a safe learning environment where the children feel confident in expressing their views and ideas. During the activity the teacher can also make the pupils aware of their thought processes so that they can use these strategies to solve future problems.

In order for group work to be successful in encouraging learners' talk about thinking, consideration needs to be given to the nature of the activities and the resources provided. Providing pupils with individual sets of apparatus encourages them to work individually and so develop their own thinking skills. Although this develops thinking skills, it appeared from my observations that it is the interaction with peers and adults that accelerates the development of cognitive abilities. This accords with much of what I learnt from my reading (Lipman, 2003; Vygotsky, 1978; Dillon, 1994; Harlen, 2000; 2004a; 2004b; Mercer *et al.*, 1999; Pollard, 2002).

## **Reflections**

This project has greatly increased my personal knowledge about thinking. It has made me reflect on my understanding of the term 'thinking skills' and how these skills can be developed in the primary classroom. It has also helped me consider my interaction with pupils during small group work and whole class teaching. I now ask questions that require the pupils to use and apply their thinking skills. I also try to ensure that small group work which occurs in my classroom encourages cognitive discussion. I let the pupils work more independently now so that they can continue to develop their thinking skills through exploratory talk and I recognise that effective questioning alone does not encourage good thinking habits.

## **The way forward**

This project has enabled us to begin to address the issue of the development of thinking skills in my school. There are a number of ways in which we are taking this forward.

### *Professional development workshops*

These enable us to stimulate and support staffroom discussion about developing thinking. Although most teachers recognise the importance of asking open-ended questions, professional

development sessions provide the opportunity to focus on developing our classroom practice.

*The use of thinking development activities in all curriculum subjects*

To promote talk about thinking and develop good thinking habits it is important to adopt a whole school approach in which teachers incorporate into curriculum subject lessons activities that are specifically aimed at developing thinking skills.

*Teacher collaboration*

We must enable teachers to collaborate in order to learn more about the effectiveness of group work strategies for developing pupils' awareness of their own thinking and their ability to think. We need to develop our own expertise in this area through good professional development programmes, peer observation and other forms of collaborative work.

During the two years that I engaged in this development work I have learned a great deal. My project helped me to address the issue of developing thinking in my school. I am keen to continue to address the issue by focusing on the transfer of skills developed during structured thinking activities to other subject areas and contexts. I am also interested in working with Year 3 pupils to explore the use of De Bono's (1996) 'thinking hats' with them. I foresee that this journey of investigation and discovery will be never-ending as there are so many strategies to explore. My project taught me that many children have never reflected on the process of talk; they need to be helped to pay attention to what and how they speak to one another, so that they can become members of what Goodwin (2001) calls the 'articulate classroom'. This plays a key role in helping children to become educated and develop their thinking (Dawes, 2004). Children who can confidently and effectively talk to one another can support one another's learning.

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# Master Classes: building on the ‘lesson study’ approach in an Australian school

*Greg Elliott*

*St Mary Star of the Sea College, Wollongong,  
Australia*

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## **Abstract**

Greg Elliott is a Deputy Principal at St Mary Star of the Sea College in Sydney, Australia. The school participates in the Coalition of Knowledge Building Schools that supports enquiry-based professional learning. In this article Greg tells us about a project which built on the ‘lesson study’ tradition to engage teachers in collegial professional learning.

My role as Deputy Principal has been to facilitate the change and development processes in the College. In doing so, I have gained some very critical insights into my profession and into the way in which notions of that profession are constructed and challenged in a dynamic and changing environment.

For some time I have struggled with what might be argued is the down side of professional autonomy (McCormick, 2000). At its worst, professional autonomy is a belief in the inalienable right of the teacher to conduct his or her lessons free from any scrutiny or accountability. A teacher who places high value on this type of professional autonomy would be characterised by their resistance to resource sharing, a resentment of intrusions into the classroom, a suspicion of imposed change and a certain lack of reflective or critical practice. To people outside of the profession, this may appear to be professional arrogance and is poorly aligned with most other professions, where systems of accountability and supervision are built in. Quite often these systems are managed and contributed to by peers or fellow professionals, which feeds into collegiate or system learning. In these professional contexts, the belief that practice occurs in private and beyond scrutiny would be anathema.

A great deal of the investment made by schools in professional development and professional learning grows out of a desire to build teacher capacity and enhance professional knowledge. This is very often provided for in a setting outside of the classroom. In Australia, as in all developed countries, there is a thriving industry of consultants, agencies and bureaucracies that attempt to cater to the professional development needs of schools. This training, though of high quality, is usually '*just in case*' learning. Typically, teachers and directors of professional development will choose courses from a catalogue as one would select whitegoods for the kitchen. This is not to say that none of these experiences are motivating or do not create change in the classroom. What is missing is quality enquiry, conversation and a cycle of implementation, reflection and improvement. Even quality professional development, tightly focused on improving student and teacher learning, remains theoretical until it is applied, tested and evaluated over time within the classroom.

Researchers such as Wang and Odell (2002) have questioned the effectiveness of any type of professional learning which leaves untouched the hallowed ground of the individual teacher's classroom. They offer four principles to inform quality, sustainable teacher learning:

- active construction and reconstruction of beliefs, content knowledge and pedagogical practices
- professional learning that is situated in the practice of teaching, relevant to the particular school-based context
- individual reflection and collaborative inquiry that develops an understanding of what constitutes good teaching practice
- substantial and sustained time to practice and experiment with a variety of approaches and resources.

In this article I reflect on an attempt in my school to challenge the notion of professional autonomy in a way which focuses on the relationship between teacher behaviour and student learning in the classroom.

### **The context**

This self-sustaining experiment took place in a long established girls' high school on the beach south of Sydney, Australia: St Mary Star of the Sea College (<http://www.stmarys.nsw.edu.au>). The school has a

history and reputation based on excellence and a deep commitment to learning on the part of the staff. Over time, the school has reinvented itself to meet the changing needs of learners and learning. The student population represents a broad range of background and ability with students capable of acceleration in a range of subjects and others with special learning needs. The school has developed a system to support the mainstreaming of students with special needs. This policy of inclusion has brought to light a need for further development of teachers' skills in differentiation and inclusive teaching practices. This has emerged as an area of focus for professional learning and has been supported by the Coalition of Knowledge Building Schools (Groundwater-Smith, Mockler and Normanhurst, 2002).

### **The Coalition of Knowledge Building Schools**

Developed as an agency of the Centre for Practitioner Research at Sydney University, the Coalition has grown to include schools from across the three sectors of secondary education in Australia: the public, Catholic and independent sectors. The diversity of this movement is exceptional when you also consider that the schools involved in the Coalition range from economically and culturally challenged city schools to more wealthy, independent, mono-cultural regional schools. The aim of the coalition is to share and cooperate on projects that enhance learning for students and teachers. This collaboration has seen such valuable ventures as a cross-sectoral enquiry into the environmental impediments to learning and a 'Kids' College' wherein students from around New South Wales cooperated with the Australian Museum and architects to redesign the learning spaces in the museum. Two of the central values of our Coalition are the primacy of student voice and the imperative to reflect together.

In recent years, my college has collaborated with the Coalition of Knowledge Building Schools. We have undertaken a review of professional learning and have established a process whereby professional learning must be aligned with the strategic intent of the school. Rather than outsource teacher training to a range of institutional and commercial service providers, we have established standing and ad-hoc professional learning teams. The professional learning needs are addressed through practitioner enquiry. The master class project was a deliberate attempt to push the boundaries of professional autonomy and to stimulate questions and conversations about 'our' teaching, 'their' learning and 'our' learning. The project builds on the tradition of 'lesson study', an

approach to collegial professional learning we had explored within the Coalition.

In their advocacy for the study of teaching and learning through the study of lessons Fernandez and Yoshida (2004) place their greatest emphasis upon the culture of collegiality that brings teachers together to deeply consider their practice in the context of the classroom and the diverse needs of students therein.

(Groundwater-Smith, 2007:1)

I also found useful an article entitled 'Improving teaching through Lesson Study' (Rock and Wilson, 2005) which presents a number of key features of 'research lessons'. They should be:

- focused on specific teacher-generated problems, goals or vision of pedagogical practice;
- carefully planned, in collaboration;
- observed by other teachers;
- recorded for analysis and reflection and discussed by lesson study group members.

(Rock and Wilson, 2005:78)

Will Richardson, in his blog 'The Pulse' (07/02/2007), provides a thought-provoking list of ten things we need to *unlearn* in the current educational environment including the following.

We need to unlearn the idea that learning itself is an event. In this day and age, it is a continual process...

We need to unlearn the notion that our students don't need to see and understand how we ourselves learn

The master classes were as much an opportunity to unlearn as to learn.

We borrowed the term 'master class' from the musical tradition, where, in an orchestral context, collaboration is the most vital force. A skilled musician, or visiting 'master' may offer to bring others into their practice in order to share talent and wisdom about music and performance. This analogy in our context translates into sharing talent and wisdom about learning and teaching. We did not see the term in elitist or gendered terms - we do not have two 'classes' of teacher, master and novice - but as an affirmation of our professionalism which we are developing together. A 'master

teacher' may open her or his class to observers in one session and be an observer / student in the next.

## **The plan**

### *Stage 1 – Enlistment*

I approached our heads of departments and sought 'kindred spirits' for the project. It was necessary to ensure that the leaders within the departments understood the challenges that the project would entail, and that they could identify people within their teams who would become the pioneers, opening the frontier of the classroom to this experiment. In most cases, it was the head of department who blazed the trail.

As it happened, it was my colleagues in the mathematics department who first accepted the invitation to be involved. This enlistment has been an ongoing task for the heads of departments, as many of our colleagues expressed terror at the idea of being observed by a group of their peers. As we proceeded, we developed processes to make this enlistment less threatening, as well as self-sustaining. Nevertheless, our first volunteers were certainly generous and bold in accepting our invitation.

### *Stage 2 – Planning*

In preparation, we met and discussed the areas of practice, and of student learning, that seemed to suggest themselves as a good foundation for enquiry. Through our work with the Coalition of Knowledge Building Schools, we have compiled over time a significant portfolio of evidence about our practice and about the college's operation more generally. We were able to draw on this data to illuminate our discussions about a way forward. The portfolio had dealt, in some detail, with the notion of student engagement in an all-girl context, and we were aware that engagement is as much a product of the dynamic between an individual teacher and student as it is a cultural or organisational phenomenon. This assertion was derived from a series of focus groups, interviews, learning logs and parent interviews over a period of years. Through action research, we established factors for engagement and disengagement, summarised in the table below.

<b>Factors for engagement</b>	<b>Factors for disengagement</b>
T+ A quality, active relationship between teacher and student	T- A poor, passive relationship, or none at all between teacher and student

<b>L+</b> A strategy for teaching broad literacy in a student centred-mode	<b>L-</b> Traditional view of adult-centric literacy
<b>E+</b> A focus on emotional intelligence, exercised through reflective learning experiences	<b>E-</b> A focus on subject content without building connections to the inner world of the student
<b>P+</b> Participation by students in planning for learning and assessment, through negotiation and choice	<b>P-</b> Little or no participation or choice by students in the learning process
<b>V+</b> A forum for listening to authentic student voices	<b>V-</b> Student voices not heard or valued
<b>R+</b> Students given active responsibility and status	<b>R-</b> Students passive. Contributions not valued or promoted

The conversations in preparation for the launch of master classes in mathematics considered how these factors for engagement could be observed and measured by participants in the master class. A series of observation tasks were developed which sought to capture these factors in action.

Under the leadership of the Head of Mathematics the areas for enquiry were framed as questions for our very first master class session:

1. If we were to track the visible signs of student engagement through the lesson, what would be the high and low points? What were the actions and strategies responsible for this?
2. Who learned the most this lesson? Who learned the least? How can you tell?
3. What is the proportion of teacher talk to student talk? Teacher questions to student questions? Teacher / student talk? Student / student talk?
4. How does the teacher relate to the class using the physical space of the room?

We did not know if these were the right questions but as a group we knew what we wanted to learn. As with any case of action research, knowing what we don't know is often a critical stage of enquiry. The framing of the questions was a 'teachable moment' wherein my colleagues and I were able to have a valuable conversation about

what happens when students are learning; what is observable; what is measurable; what are the important indicators of engagement; what measures will yield valuable data and eventually wisdom. These questions were loosely based on the Flanders' Interaction Analysis Categories (Lewis, 2002).

In the many master classes since this one, we have met, reflected and shaped questions to both illuminate our broad educational concerns, as well as developing questions to address more individual professional concerns. One teacher, for example, wanted specific feedback on the effectiveness of their voice. Another wanted feedback on the authenticity of her affirmation of student achievement in the class. I am impressed with the depth of reflection and professional self-awareness that generates the questions in the first place.

### *Stage 3 – Implementation*

Students are informed that a group of teachers will be joining their class to learn something about teaching. Despite initial concerns that the presence of four or five teachers may create a false or artificial dynamic in the classroom, our results have not borne this out.

In the early phase of the project, we tried various sizes of observer groups: between two and five. It became apparent that three or four observers were sufficient to report on a range of research questions. More than this began to crowd out the classroom and fewer seemed to restrict the depth and breadth of data yielded in the reflection session. The observers are arranged along the back of the classroom or learning space. All take notes, and some use stopwatches to accurately time cumulative totals for data on questions, student talk, activity balance and so on.

Since the first master class, it has become custom and practice for the master teacher to make no reference to the observers during the lesson. This is for the comfort and confidence of the teacher rather than for any reasons of scientific validity. There is still sufficient trepidation about opening our classrooms that to simply pretend the observers are not there is probably an understandable strategy.

### *Stage 4 – Reflection*

We ensure that time is made available for the people involved in the master class to meet for a structured reflection session. This is where the learning takes place.

Good teachers have always been reflective teachers professionals who have asked themselves questions directed to the improvement of their craft. What have been missing in my experiences have been the time, structures and forums within which collegial reflection can take place. The master class reflection has developed as a deeply respectful environment for critical questioning and sharing. It is precisely this process that turns the observation data into pedagogical wisdom.

The reflection session is led by a nominated leader who is not the master teacher. The structure of the session is tailored to the area under investigation, and very often, the questions established in the planning phase will become the scaffold for the reflection. The discussion that ensues is based on a combination of observation data and critical reflection. The discussion is recorded and moderated by the session leader, and, after each person has shared their observations and reactions, the master teacher is given a right of reply. It is especially interesting when the master teacher ‘pushes back’ against the observers’ impressions. It is the job of the leader / moderator to ensure that the master teacher is not put in a position where they feel they must defend themselves. We have been fortunate that the climate and culture of these sessions have been good humoured, and more of a meeting of generous spirits than an opportunity for undue criticism.

I have been fortunate to attend these sessions as an observer, thus adding another lens to the enquiry. For my part, I see teachers, including the master teacher for the session, working through their perceptions to understand the distance between teacher intention and student experience. In a way, this is the most critical metric: the gap between the educational intention, generated by curriculum and professional practice (the teaching), and the change that actually takes place within the student (the learning). Our aim is to use these tools to narrow the gap.

After a process of structured sharing and responding, the moderator guides the group to collate a list of explicit ‘learnings’ from the master class and reflection. These are expressed as brief, practical and tested ways of improving our practice. Below is a list of learnings generated from the observation and reflection on an advanced calculus class by four colleagues. They do not represent deficits in the master teacher’s lesson, but are the product of collegial reflection:

- Explore a range of possible mathematical solutions, to allow paths into learning for different students.
- Balance general class questions with questions to students by name.
- Ask powerful open ended questions like “You are right, but why?” and “Look at what we have done. What am I going to ask you to do next?”
- Challenge patches of disengagement by insisting on particular students answering a question.
- Position your body when you write on the board so you can engage the students at the same time.
- Investigate why students aren’t confident enough to challenge errors the teacher may make in the lesson.

#### *Stage 5 – ‘Conscription’*

We have been challenged by the notion of sustainability in professional learning. Communities of practice do not develop automatically. They require stimulation, distributed leadership and systems for regeneration. We have adopted a practice whereby participants in the master classes feed back into the action learning cycle. Each of the observers chooses one of the master class learnings that he or she will grow in his or her own classrooms. This is how the conclusion to the reflection session is managed. Participants, in turn, nominate the learning they will focus on in their own practice and their reasons for choosing this skill, or idea to develop. Finally, one of the observers nominates themselves as the subject of the next master class. Thus, we have built a life-cycle into the master class project and are assured that, without explicit management by the school administration, teachers will continue to open the doors of their classrooms to their colleagues and thus contribute to our shared wisdom about how students learn.

## **Outcomes**

The project is almost twelve months old and has already borne rich fruit. Many of the positive outcomes relate directly to measuring the gap between teaching and learning. Yet, it is the other unplanned-for outcomes that make this approach to professional learning so valuable. The teachers who have been involved in the master classes as observers are very likely to open their own classrooms to their peers. Beyond the actual lesson studies, our teachers are finding other ways to include their colleagues in their professional reflection, either as visitors to the classroom, or through informal mentoring.

The teachers who have made their lessons and students available for master classes have reported a sense of professional pride, and have received significant affirmation from the colleagues for their skill and care for their students. It is outcomes such as these that flow from the development of a professional learning culture that are unlikely to result from the traditional, outsourced professional development experience.

## **Caveats and conclusions**

As we grow through this project, we are once again learning what we do not know. Most significantly, we do not know what our students think and believe about the master class project, about the validity of the measures we are using and about the effectiveness of the changes in pedagogy that result from the action research. The absence of student voice in this experience challenges us to look for opportunities to draw the consequential stakeholders into the reflection cycle.

A second caveat is that we must resist seeing master classes as reinforcing a teacher-centric paradigm. It may be tempting to allow this process to give power to the view that the teacher is the subject of any lesson. Our professional community will be looking for ways to use these powerful reflective tools to encourage a student-centred paradigm of learning.

In conclusion it must be said that master classes are really for teacher-learners, not for master-teachers. If anything, master classes are about mastering our own learning about ourselves and our craft.

It is said that the most powerful part of lesson study is that you develop eyes to see the children learn (Stepanek, 2001).

I think we can say with some confidence that our adaptation of the lesson study approach has made a major contribution to the enhancement of our ability to see children learning and to evaluate our teaching in the light of this.

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## Jennifer Atkinson's Development Work **Developing students as researchers** at Sir Frederic Osborn School, Welwyn Garden City

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Jennifer Atkinson believed in the importance of involving students in evaluating their own learning and helping them to work in partnership. She was aware that students have clear views about the strengths and weaknesses of the learning opportunities available to them but they are rarely asked to share these views in a formal way.

Sir Frederic Osborn School has a history of student voice initiatives, the annual student/staff conference being one example. Jennifer wanted to try out a development of this consultation process. She was encouraged by her reading, particularly a book by Madeleine Arnot and colleagues at Cambridge (Arnot *et al.*, 2003) and the 'toolkit' that emerged from the 'Consulting Pupils about Teaching and Learning' project (MacBeath *et al.*, 2003).

Jennifer decided to launch a Students as Researchers lunchtime club with the aim of helping students to develop the skills to research an aspect of teaching and learning within the school. She was keen to work with students across the age range and particularly wanted to encourage the more challenging students to join the group.

All students at the Sir Frederic Osborn School received information from their tutor about an exciting new venture at their school. They were invited to 'Get your voice heard!' and were asked:

*Is there something about Sir Frederic Osborn School that you feel really strongly about? Do you want to find out more about this issue and then share what you have found out with others? If you do then think about joining our Students as Researchers group.*

Seventeen students responded positively to this invitation. These students were invited to an initial meeting to discuss what mattered to them in school and to share the areas they were interested in researching. The students' list included:

- What would be the good and bad points about starting Key Stage 4 courses after SATS<sup>1</sup> in Year 9?
- Would providing more activities at lunchtime affect behaviour during period 5?
- What types of homework in Year 10 help students to learn best?
- What makes a good lesson?

Jennifer then planned a series of sessions to support the student researchers in developing the skills to capture the views of their peers about these issues. The group looked at the ethics of carrying out research, learnt how to design a research tool and how to analyse data. The students also took part in a study visit to the University of Cambridge and produced a DVD outlining their areas of interest and the ways in which they intended to investigate them.

Jennifer realised from the outset the importance of keeping staff informed about what the students were doing. Regular updates were given at staff briefing, either by Jennifer or by some of the students themselves. Written news bulletins were also produced and displayed around the school. When the students had completed their research they produced a written report together with a powerpoint presentation outlining what they discovered. They shared this with other staff and students at a student/staff conference. Representatives from the group also presented their research to delegates at the national research conference, *Pupil Voice and Participation: pleasures, promises and pitfalls*, at the University of Nottingham in May 2006.

The impact of Jennifer's work has been greater than she initially expected. Her aim of finding additional ways to understand and share the views of students was realised but the real impact of the Students as Researchers project is deeper than this. Students have become more secure in their ability to contribute to the developing understanding of learning within their school. They have demonstrated a clear understanding of the link between participation and improving learning.

*Students should be involved in working to improve learning at SFO because it is their school and it is their right to a better system but only if they take the bull by the horns and do something.*

(Student Researcher)

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<sup>1</sup> SATs: Standard Assessment Tests set for pupils at ages 10 and 13 yrs.

Jennifer hopes that their insights will have made a significant contribution to the ongoing process of school improvement at Sir Frederic Osborn School.

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## Lorna Newbrook's Development Work **Developing independent learning in Year 12 English** at The Highfield School, Letchworth

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Lorna Newbrook was responsible for A level English Language and Literature at The Highfield School when she carried out her development project. Although teachers appreciate the importance of enabling students to think and work independently in preparation for higher education and the world of work, an overfull curriculum often pressures them into leading the students more than they would like to. Lorna was interested in helping her own Year 12 students to develop more active and independent approaches to their studies.

During the previous academic year, Lorna had attended an 'Independent Learning Toolbox' professional development session at her own school. This was a session in which teachers shared their knowledge and expertise on ways to encourage independent learning. Inspired by this session, Lorna reviewed the materials and websites mentioned by her colleagues. She was particularly interested in the concept of the 'Learning Pyramid' (Petty, 2004) which models students' rate of recall when information is presented using various teaching strategies. Other research showing the impact of active learning also excited her (Hattie, 1999). Lorna decided to try to include active learning with her Year 12 English group, focusing on the two novels studied for the A level examination: *The Color Purple* by Alice Walker and Nathaniel Hawthorne's *The Scarlet Letter*.

Lorna began her project by explaining to her students that they would be exploring a variety of methods of learning. They were interested from the outset and ready to collaborate with her to evaluate these. Lorna began by asking her students about their preferred ways of learning. She was surprised that most of her students preferred the more traditional ways of learning such as systematically reading through a text and taking notes, as opposed to group work, discussion and a variety of reading and writing activities.

Bearing these reactions in mind, she began gently. She introduced independent learning activities in the order below:

- summarising chapters of the novels at home and adding further details in class
- performing important sections of the novels to develop the students' engagement with the text
- analysing short sections through discussion and annotation
- making paired presentations of sections analysed to the class
- designing a representation of the scarlet letter worn by the heroine as a sign of adultery
- undertaking a homework task to analyse the text independently and respond to exam questions.
- group work with groups initially established by Lorna and later by the students themselves
- preparing a section of an exam answer in a small group and feeding back to the class using whiteboards
- using mind maps and flow charts to explore themes and characters

During the lessons Lorna was alert to the students' responses, supporting both those who appeared ill at ease or unmotivated and those who appeared more confident. At the end of the project, Lorna gave the students a simple feedback tool, inviting them to review the strategies they had encountered. She then followed up the comments with personal interviews.

As expected, the tasks which involved students in art work or presentations were approached diffidently by the shy students and those who were conventional learners. The pair presentations were seen by most students as constructive learning activities but the presentations were deemed too time-consuming to be of benefit to some students. The mind map and flow chart activities were viewed to be constructive as were the practice essay tasks. A significant number of students found it supportive to collaborate in essay writing but not all students were convinced of the value of working on the whiteboards. The most visual and kinaesthetic learners were unreservedly enthusiastic about all the activities.

Lorna learnt a great deal from this and wanted to build on it. She wanted to focus on being more explicit about the skills she aimed to develop when setting up an activity with students, whilst at the same

time encouraging the students to value thinking and discussion more highly. Towards the end of her project she discovered Mike Royston's book *Finding a Voice: A Personal Response to A Level English* and discovered there strategies that would help her extend her repertoire further.

Lorna shared the materials and ideas she had developed with colleagues and discussed the project at department meetings. Having clarified her thinking about how to support independent learning, she entered into discussions with colleagues in other departments, particularly RE and Psychology, with a view to planning some collaboration.

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## Luke Sweetland's Development Work **Engaging students with tutor time activities**

at Sir John Lawes School, Harpenden

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Luke Sweetland had trained as an animator and worked in the film industry before realising that his true vocation was teaching. He had been inspired to become a teacher by the man who had been his art teacher when he had attended Sir John Lawes School as a student. The school welcomed Luke back into the fold and employed him straight away, enabling him to qualify as a teacher under the Graduate Teaching Programme (GTP).

In his first year of teaching Luke became passionate about his role as Form Tutor. He had read about the role of the form tutor and pastoral care (Marland and Rogers, 2004) as part of the GTP. He had also benefited from a good practical induction into the role. He became particularly interested in the 'Thought for the week' aspect of that which was designed to build student's interpersonal qualities and emotional intelligence (Goleman, 1996). This was a whole-school activity in which the form tutors would be provided with a word or phrase such as 'dealing with adversity' together with a few quotations. This information was to be used in the 20 minute weekly lesson to lead a discussion with the students. However, preparing for the discussion activity, often without much notice, was quite challenging and so when Luke was appointed as Assistant Head of Year 8 in the following year, he decided to focus on this problem.

Luke could see the potential of the 'Thought for the week' activity to help students to develop confidence in reflecting on their emotions and discussing them within the group. This would impact on their learning more generally and on their developing citizenship. His first step was to review the sheets he had been supplied with. They seemed rather dry and one dimensional being just a series of quotations such as: "Men are not prisoners of fate, but only prisoners of their own minds (Franklin D. Roosevelt)". He looked at other published materials (e.g. Messina, 2003) and started to create a series of powerpoint slides with more exciting visuals and sound. For example, one of these used a James Bond sort of character – Agent

ACE – to help the students explore risk-taking. Luke gathered feedback from students by posing a few simple questions on a feedback slip to be completed anonymously. He asked about the students' enjoyment of the enhanced thought-for-the-week materials, how they could be improved and how the experience had helped them. The feedback was broadly encouraging although the suggestions for improvement contained a salutary reminder of the standard of presentation that young people are accustomed to in the media they have access to in their own homes. They wanted more animation, more music, more humour and interactivity. Some of the comments about the benefits of the lessons were particularly encouraging, for example:

*It encouraged me, for example to be more confident and positive. Now I try to contribute more to lessons.*

At a Staff Conference in the Spring Term, Luke and his colleague Danielle led a workshop for staff in which he presented his slide shows and some Year 8 students were asked to talk about their experience with these materials. The materials were welcomed by colleagues although some expressed concern about the amount of time they thought would be involved in creating them. The workshop was also a good opportunity for colleagues to discuss the use of tutor time and as a result it was agreed that Luke would lead the development of an 'Activity Handbook' for tutors.

The handbook that Luke subsequently produced was in an electronic format accessible on the staff intranet. In addition to the Thought-for-the-week materials it contained games, revision guidelines and guidance material that had already been written by a colleague. A member of the senior leadership team had suggested to Luke that he should talk to a colleague, Maureen Standen, who had previously produced some materials she called 'Tutoring without tears'. The finished handbook was to be presented to the whole staff at the next staff conference.

In the Summer Term, Luke was asked to participate in a whole school review of the pastoral care system which involved him carrying out an observation of Year 9 tutor lessons. In one case the tutor had asked some of the students to lead the Thought-for-the-week activity and this was a revelation to Luke. He noted in his observation journal:

*The tutor had students delivering thought for the week. This engaged other students and the discussion felt alive. This was such an obvious idea that had completely bypassed me. I was left feeling that this could be built on.*

Luke saw the enormous potential of this approach and began to plan for a new development project in which a team of twelve students would work together to devise Thought-for-the-week activities which they could lead in pairs with each of the six tutor groups in their year group.

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## Nicole Burman's Development Work Developing students' self-esteem and engagement in lessons at Francis Bacon School, St Albans

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Nicole Burman had noticed that in some of her lessons a small number of pupils seemed to lack the confidence to take part in drama activities. Nicole's determination to try to address her concern was underpinned by her educational values. In her Teacher Led Development Work portfolio she made the following note:

*I believe that all pupils can learn from one another and not just through didactic teaching. I believe that every pupil has the right to achieve his or her best and it is up to the teacher to learn which way pupils can do this.*

Her work was also central to her department's improvement plan which focussed on 'Every Child Matters' (ECM)<sup>2</sup>. As Head of Drama, Nicole wanted to try out some work which supported one of the ECM outcomes, 'Enjoy and Achieve' ([www.everychildmatters.gov.uk](http://www.everychildmatters.gov.uk)). Nicole's work was equally influenced by reading Lawrence's work on self-esteem (1996). She was particularly encouraged by his suggestion that a teacher can contribute to developing greater confidence and self-esteem amongst pupils and that pupils and teachers can work together towards this. Nicole noted in her portfolio: *I wanted pupils to realise that it was all about confidence and that this can be developed.* This optimism was fundamental to her approach.

Nicole began her development work by undertaking some observations of Year 7 and Year 8 pupils in Geography, Art, History,

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<sup>2</sup> Every Child Matters is a government initiative which aims to ensure that all children achieve their potential through five strands: Be healthy, Stay safe, Enjoy and achieve, Make a positive contribution, Achieve economic well-being.

Information Technology and English. She taught these pupils in Drama and wanted to gain insight into how they engaged in other subject lessons. Nicole made the following observations:

- Pupils seem to be more engaged and willing to participate if a shorter, focussed task was given rather than a longer, more open ended task.
- Interaction with the teacher is important; where a teacher left pupils for long periods of time without discussion or an invitation to participate, their willingness to engage diminished.
- Pupils gained confidence when they were working in a group rather than working as individuals.

Nicole then planned a series of seven lessons for a Year 7 class, taking into account what she had observed. She focussed on three pupils in the group. Each lesson plan was annotated with detailed strategies and prompts for each targeted pupil. She planned a wide range of activities including:

- a collective memory warm-up based on a picture which a child had drawn during the second world war
- a poem about the second world war which pupils had to translate into freeze frames
- pupils directing a scene using stage direction sheets and wired characters
- structured improvisation lessons
- hot-seating
- a series of warm-up activities

Nicole gave a great deal of thought to how best to evaluate the pupils' responses to the lessons and sought advice and support from colleagues in the Teacher Led Development Work (TLDW) group. Following discussion within the group she devised an evaluation card which asked pupils to reflect on the extent to which they had contributed to the lesson and enjoyed doing the activities planned. Nicole was sensitive to the fact that some of the pupils attended school sporadically whilst other pupils had literacy difficulties. She therefore made the cards easy and quick to fill in. She used the feedback from each lesson to adapt her lesson plans and annotated her plans with specific ideas and prompts for her target pupils.

Within the TLDW group, discussions about how to evaluate the impact of group members' projects featured highly. In one session an article was considered about the use of photo evaluation with pupils (Schratz and Löffler-Ansböck, 2004). The idea of visual representations through photographs appealed to Nicole as she could look at the photos after the lessons and discuss them with the pupils. She did not want an observer in the room as she felt this might disturb the developing confidence of the pupils. In her portfolio Nicole included a selection of annotated photos and reflected on the question of how to measure impact. She noted improvements in pupils' self-esteem and confidence. She concluded that the pupils' responses on the cards indicated an increasing willingness to participate; the visual story the pupils told through the photos enables her to assess the impact of her work. The photos showed how pupils moved from participating in the lessons to actually leading other pupils.

The impact on Nicole's classroom practice has been far reaching. At the outset she hoped that she would make a difference to the class and pupils she had targeted but she noted in her portfolio:

*Quite naturally as I was finding things worked with the one class I built the strategies into my other classes. It did not matter if I used the techniques with a class that was already confident as these techniques helped to build on that confidence.*

She shared her work with her department and later with colleagues at a staff development session.

From this project Nicole learned a lot about her own classroom practice but also about the importance of professional discourse - the value of discussion with colleagues. She described how the discussions helped her to 'visualise' the things she needed to do. She concluded her portfolio with a reflection on the purpose of leadership, who can exercise leadership and how her view about leadership had shifted.

*I always felt that to be a leader you had to be a senior member of staff. This, however, is not true. Leadership is about being able to change things for the better even if it is just about your own progress. It is also about being able to develop yourself and pass your knowledge on to help others.*

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## Nadine Stone's Development Work **Developing creativity in art** at Fearnhill School, Letchworth

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Nadine Stone was a member of the Art Department and a Student Development Leader for Year 10 at Fearnhill School when she carried out her project. She was concerned that the examination pressures in schools encouraged teachers to focus on transmitting information rather than on releasing their students' potential for creative learning. Her aim was to consider strategies that would enable staff and students to come to a greater understanding of what is meant by creativity so that they would place greater emphasis on it in teaching and learning. She hoped to foster a sense of autonomy in the students so that they would become more confident and creative learners.

Nadine's critical perspective on art education had been sharpened through her reading. For example, in his exploration of why we teach art, Richard Hickman quotes a teacher who said the following:

School and creativity/teaching and art making are not comfortable bedfellows. Indeed the role of schools appears increasingly to be to manufacture mediocrity. We teach an edited filtered version of the arts and art history to suit society's need to produce drones – not thinking individuals. I believe teaching and making art is about generosity, sharing of concepts and enthusiasm for the craft and for life, and seeing a student's victories as their own.

(‘Jade’ in Hickman, 2005:93)

This stance resonated with Nadine's school's priorities; the recently appointed Headteacher had identified the school environment and the encouragement of creative thinking in the classroom as being two key priorities for development.

Nadine began her project by conducting a tour of the school with the Headteacher to gain an overview of the school environment. Their observations underlined the view that the school environment was not conducive to creative thinking. In order to investigate further, Nadine organised a meeting with a student consultation group made up of representatives from each year group. Two key suggestions

were made: firstly, that the display in the art department should draw from a wider range of work, particularly pieces which reflect creative ideas rather than basic skills; secondly, that students should be given greater choice in their work. This second point echoed the project described in Tony Delaney's article in a previous issue of this journal (Delaney, 2007).

As a response to these suggestions, Nadine experimented with providing two Year 7 groups and a Year 9 group with a range of creative activities. Some of these were simple but powerful, for example, at the beginning of one lesson she gave students a set of cut-out circles and asked them to see how many objects they could make with them. Another exercise involved a piece of paper on which Nadine had drawn a 'squiggle'. The students were asked to build on to the random squiggle to make a drawing of whatever came to mind. Nadine asked her students to draw a 'creativity thermometer' as a device to structure their reflection on the place of creativity in their learning.

Nadine asked the students to share their views on these activities with her. The reactions from the students to the activities were interesting and often surprising. During the starter activities Year 7 and 9 students were engaged and the fact that the activity did not have an expected outcome seemed to cause a buzz of excitement. However, during the main activity, a number of students, mainly girls with high predicted grades, did not want to start until they were told exactly what to do. These students manifested an anxiety that Nadine had not expected. On reflection, she understood that these students were accustomed to achieving a high quality outcome by following the example they were usually shown. Their work was generally technically skilled but lacking an individual element of creativity. In contrast, the reactions to the later Year 9 project on Surrealism were overwhelmingly positive with the students valuing their own work for its individuality and difference.

Nadine then selected one of the Year 8 students from the consultation group to participate in a focussed investigation into her perception of creativity and how she would manifest this in her work. To do this the student was set a title 'I', which she was to make into a piece of artwork. She then fed back to the consultation group her responses to the activity and during the discussion which followed, the development of a concept map of creativity began.

Nadine concluded that her teacher-led development work had contributed to the students developing a more independent approach to their learning. One indicator of this was that Nadine's 'A' Level students decided to create their own space in the department. The project also contributed to development in the department as a whole. The Head of Department experimented with some of Nadine's strategies in her own teaching and at the end of the project a concept map of creativity was created and displayed in the Art Department. Nadine shared what she learnt with the other schools in Letchworth at a local conference and at a professional development session in her own school. This was the beginning of a review that would lead to a new policy document for the whole school.

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## Bristi Chatterjee's Development Work **Making movies to support young children's learning** at Chater Infants School, Watford

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Bristi was still a Newly Qualified Teacher when she joined a Teacher Led Development Work (TLDW) group led by the ICT Adviser at Hertfordshire CSF. She was a confident ICT user herself and wanted to help the school realise its vision to become a school that uses technology as an integral part of daily life. She was also concerned to help to improve the speaking and listening skills of the many pupils for whom English was a second language. She discovered that the school already possessed some 'Digi-Blue' cameras. The Digi-Blue, short for 'The digital blue movie camera', is a low-cost digital video camera, which enables pupils to record their own video and sound clips for use in a wide range of curriculum areas. It can be used with children from aged 5 and upwards (Digital Blue Corporation, 2005). This seemed to be an exciting tool which had not yet been used other than to record pupils' drama activities. Bristi wanted to experiment to see how else it could be used to support learning. She began by investigating how the cameras they had been used before in educational settings (Kent County Council, 2004; Roberts, 2005).

The importance of involving both pupils and colleagues right from the start had been discussed in the TLDW group and reinforced through Bristi's reading (Durrant and Holden, 2006). Her project began with a group discussion with six Year 2 children (6 year olds). They talked about cameras, what they are for and how they could be used to help learning. They looked at the cameras together to see what they could do. Bristi's discussion with the pupils revealed that they believed that the cameras were only for teachers to use and when she suggested that they could use them, they became very excited. They thought that cameras could help them to 'remember important stuff'. It was agreed that they would be tried out in the classroom. Bristi talked to the other Year 2 teacher about her idea and she agreed to help with this experiment. Both teachers shared what they learnt from the small group discussion with their classes using a computer programme called "Writing With Symbols". This

had been used at the school before, for example when children feedback to the whole class after a school council meeting. It uses a range of symbols to make reading easier for less able children.

Bristi and her colleague planned to help the children to make films about 'key learning' in a series of lessons about 'The Romans'. The children were divided into groups each of which would investigate a different theme such as clothes, baths, roads and so on. The children would make their own decisions about how to record what they had discovered and then make a presentation to the whole class. This would be followed by a whole class focus on Boudicca's revolt so that the children could compare different accounts of the same event. Two children were asked to use the Digi-Blues to make short films about that they had learnt.

The Digi-Blues were then used in a variety of different lessons. These were shown to the whole class to help reinforce everyone's learning. Stills were also taken from the video films and used in story boards to support children's writing. Feedback from the pupils collected after the lessons using the visual symbols approach showed that the use of the cameras added another dimension to the learning. Another very interesting outcome became clear when the class watched a number of these film clips. Bristi asked the children to focus on what made a good speaker when speaking to camera. The children identified qualities such as speaking clearly, facing the camera, keeping still, telling the audience what they are talking about before they start and telling the audience something new. Bristi and her colleague were impressed with the way the use of the films was contributing to the development of the children's literacy.

Following this series of experiments, Bristi made a presentation to colleagues in a Staff Meeting. This identified the need to provide training for Teaching Assistants, put the software on all teachers' laptops and introduce a booking system for the cameras. They discussed the new literacy strategy and how the cameras could be used to film 'hot-seating' activities. The work was also shared with school governors. Following the showcasing of Bristis' work at a HertsCam Network Event, other teachers in the network have been inspired to embrace this technology.

## **References**

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