

Richard Cave's Development Work: Using peer-assessment in Design and Technology at The Nobel School, Stevenage

Richard Cave was a member of the Teacher Led Development Work group at The Nobel School, Stevenage (2004-05). He was awarded the Certificate of Further Professional Studies in the summer of 2005.

Richard came into teaching from a design background in the toy industry only a couple of years before joining the Teacher Led Development Work group at Nobel. At the end of his first year as a newly qualified teacher (NQT) he was appointed to the post of Head of Year 7. He saw his participation in classroom inquiry as a way of developing his teaching skills.

Richard's development project focussed on the use of a structured peer assessment system which he hoped would improve pupils' perception of their achievement and boost their self-esteem. He chose to work with two Year 8 mixed ability groups studying 'Systems, Control and Structures' over an eight to ten week period.

Richard had read Shirley Clarke (2005) on the subject of formative assessment and had linked this to his own observations as an NQT to conclude that students need a lot of support if they are to move beyond simplistic quibbles about spelling and neatness. Richard's early experiments confirmed that students did not discriminate very carefully when asked to mark their classmates' work. He then asked a different Year 8 group to assess each other's work but this time he provided a set of criteria and asked them to provide a short, two line commentary. The pupils responses were more helpful but still not as thoughtful as Richard hoped they would be.

Richard then turned his attention to the question of pupil motivation and self-esteem. He used a simple instrument consisting of four questions. How can I make my work better? How can I improve my learning? How can I get a higher grade? How can I get more merits? The results of this exercise suggested that pupils did not find the award of merit marks particularly motivating; it suggested instead that improving their work was more highly valued.

Following this assessment of what pupils regard as valuable, Richard monitored pupils' perceptions of their own performance. For example, at intervals they were asked to indicate how confident they felt about themselves as learners and how proud they were of what they had done by holding up between one and five fingers. Richard's reflections on the issue of students' self-perceptions led to the insight that pupils need to learn how to make realistic judgments about the performance of a task without drawing negative conclusions about their own capacity as learners. He chose to use the 'Structures Challenge' exercise to help them learn how to do this.

The Structures Challenge is an experiential learning activity used widely in training situations (Kolb, 1984). It requires students to work in small groups and co-operate to build the tallest structure possible from a collection of paper straws and card. The following points are stressed to the students:

- there is no right or wrong answer or way to do it
- you have to be prepared to take risks
- if it doesn't work, you can have new materials, and reattempt the task, as long as you can explain what you have learned and how you will proceed
- you need to listen to each other

The optimum group size appears to be three and the single biggest indicator for success is co-operation and discussion skills. Richard noted that in this exercise almost all the students indicated that they were proud of their work. Even the students he believed to have low self-esteem indicated that they "would make the tallest" and theirs "would be the best". Both the students and their teacher learnt a lot from this exercise. One clear message was that opportunities for dialogue and collaboration tend to enable the students to feel that they have achieved something. Another important lesson was that students tend to perceive oral feedback as valuable whereas they see the written format as constituting 'work'.

Richard began to place more emphasis on inter-student dialogue and planned questioning of students. He drew encouragement from Paul Black and his colleagues (2002) who have drawn attention to the need to make time for thinking and reflection through questioning and 'wait time'. In his portfolio Richard noted that:

At the beginning of the unit, between three and four 'curiosity' questions were being asked by students in a lesson. These were unprompted, enquiring questions, for example, *If a lever has a joint in it, does it still have a fulcrum?* By the end of the unit, the frequency of this type of questioning had risen substantially.

Richard emerged from this project with a firm conviction that the quality of interaction between the students was a key factor in building positive attitudes to learning. Good relationships make possible the regular provision of oral feedback between peers, generating a climate in which students are not afraid to make mistakes and feel confident to build on errors and thereby improve both their learning and self-esteem.

References

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- Kolb, D. A. (1984) *Experiential Learning: Experience as the Source of Learning and Development*. New Jersey, US: Prentice-Hall.