Co-ordinating Technology in the Primary School: developing students' capabilities

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Mark O'Hara and Margaret Noble wanted to find ways of helping final-year BEd. (Hons) students prepare for possible future roles as technology co-ordinators in primary schools; using a range of school- and university- based activities and the GRASP problem-solving approach, these are their findings.

Our purposes

The aim of this work was to prepare our students for their future roles as co-ordinators in primary schools. Although we do not anticipate that our students will go straight from college into such posts, we know that at some point in their future careers they are going to find themselves with curriculum responsibilities. We feel that it is therefore necessary to lay the foundations for this important role while students are still at university rather than simply expecting them to learn the job in school as they go along.

Such preparation needs to be set against the background of the report by Alexander, Rose and Woodhead which suggests that, in the past, while the development of curriculum co-ordination in schools had made quite an important impact on whole-school planning of the curriculum in general, it had had less impact in terms of effective classroom practice[1]. This is due firstly to co-ordinators having limited access to their colleagues' classrooms and secondly to the fact that the job places the co-ordinator in a contradictory position, astride two roles — one as a member of the familial group and the other as a member of the inspectorial team[2].

Our purpose was therefore to turn out a group of students who could support schools and colleagues in terms of planning for technology but who had also been given the opportunity to consider ways and means of affecting classroom practice within the constraints of the primary school. It was apparent at an early stage in our planning that we needed to provide the students with school-based experiences. The activity would require tutors and students to work closely with local primary schools. There were two issues in particular which we needed to address: the role of the co-ordinator as a researcher and the need for a process which would allow for the job to be managed efficiently and effectively.

Our criteria for a successful outcome

We wanted to be able to say, following the exercise, that the students:

- were more confident in their own abilities to work with their peers and professional colleagues
- had increased their knowledge and awareness of current thinking in terms of good practice in bringing about change and supporting development in schools
- could think in a reflective and intellectual way about their subject and its place in the curriculum — in other words, not simply act as conduits for other people's ideas but be capable of conducting their own research in schools and feed the resulting information into any debate.

As for the schools, we felt we might measure the success of the exercise against the following criteria; by the end of the project the teachers would feel:

- comfortable with groups of students conducting research in their classrooms and running short staff meetings
- that the students had contributed to the current debates about aspects of primary technology in their schools and had stimulated further discussion
- that the exercise was worthwhile and interesting.

The overall strategy

After considering a number of ways of approaching this, we decided upon a balance of both college-based input and school-based work. The outcome would require the students to take on the role of teacher as researcher[3], to assume the role of co-ordinator for a short period of time and to be placed in a situation in which the results of their research were to be fed back and shared with practising teachers.

The college-based work was to take place within two separate units which were timetabled to run side by side. The first of these dealt with the co-ordination of technology in the primary school and the second with research methods. The nature of these two fitted our purposes well and gave ample scope for integration.

Controlling the process

We also needed to identify how we were going to manage and control this process. We decided that the use of GRASP® (Getting Results And Solving Problems — Comino Foundation, 1986) would be extremely useful not only in helping us to be successful in managing the process but that it would also be a key element in preparing the students for the demands that would be made of them in schools and in the submission of work for assessment. GRASP describes an approach to learning designed to

promote clearer understanding of the process of getting results and an increased chance of achieving clearly formulated objectives[4].

The students had been introduced to the GRASP process previously for planning various school-based activities and for effective time management. In this task GRASP would ensure that students would:

- demonstrate clear purposes for what they were doing
- identify realistic and achievable criteria against which to measure the success or otherwise of their activities
- produce a logical plan of action
- make use of a continuous and informative process of review and evaluation.

Above all, it would make use of the key feature of GRASP — one which distinguishes it from other problem-solving models — namely controlling the process, making things happen in the way one wants things to happen.

As the tutors responsible for the units and the work in schools, we too had to consider how we were going to control this process. We decided to do this by:

- discrete college-based inputs on the role of the co-ordinator and on research methods
- establishing a shared understanding of what our purposes were and what the schools wanted to get out of it
- establishing effective liaison with the schools
- using appropriate teaching and learning strategies
- managing and organising the two units in such a way as to make things happen in a planned way.

Our plan of action

For the school-based work we approached two local primary schools, an infant school and a junior school[5], who agreed to participate, and students worked with one or the other according to the key stage in which they had chosen to specialise. The tutors then met with the technology co-ordinators from the two schools and discussed the possible ways in which the students might best work with the staff and children. It was decided that a staff meeting taking place at the end of the day would be the best way for the students to disseminate their findings. The students then met with the co-ordinators and together with the university tutors were able to discuss the issues identified by the schools as being associated with technology education. These issues included the use and storage of resources, quality in teaching and learning, assessment, safety, differentiation and progression.

The students worked in pairs, each pair being given one of the issues identified by the schools. They then had to conduct research into this issue in order to feed back their findings to the schools. Their research was to cover three areas: to focus upon the existing and current literature, to look at what was actually happening in the two schools, and to gather information from other schools.

To enable students to do such research effectively the research unit was split into two equal sections. In the first section the students were given inputs on conducting various research methods and techniques such as conducting surveys, writing and analysing questionnaires, conducting effective interviews, systematic observation and action research. Each of these sessions was followed by one in which the students were given a directed task which focused upon a different method or technique. The task was to try out and evaluate these methods and techniques, thereby practising and improving their skills in this area. The students were able to make use of these sessions to do some research focused on the particular issues they were researching for the schools. The second section was conducted on a tutorial basis as students developed their research programmes in readiness for the feedback sessions in school. These programmes were quite varied and students were not only able to do research in the two schools in the project but also worked with other schools (many of them formerly their teaching practice schools), observing and interviewing children, interviewing staff and conducting questionnaire surveys.

While the research unit allowed the students to explore the role of the teacher as researcher and to gather information which would provide the content for the staff meetings, the unit on co-ordination allowed them to explore the role of the teacher as co-ordinator and to examine the processes by which they might disseminate the content. To achieve this the unit was also

divided into two equal parts. The first part consisted of lectures and seminars which covered issues and areas such as OFSTED and its implications, models of curriculum organisation and delivery, the nature of change, whole-school policies, report writing, roles and strategies for working with peers and colleagues, and input on the areas defined by the schools. The second part focused on the staff meetings and was given over to meetings in which the pairs planned the INSET sessions and to tutorials at which these plans were discussed and further support given by the tutor.

Throughout the exercise it was emphasised that what was expected of the students was that they should:

— make a well researched and considered contribution to a debate that was already present in the schools — a debate concerning what constitutes good practice in technology education

— plan an appropriate dissemination session

— make use of those sessions as learning experiences to reflect upon and from which to learn lessons which would prepare them for their future roles as curriculum developers and co-ordinators.

Evaluating the exercise

Students and teachers were asked to evaluate the experience against the original criteria. Based on this feedback and from our own observations the following conclusions can be drawn:

• The students have increased in confidence. All the students are able to say that they they took part in this exercise and some are able to say that they were very successful. Even those who were less successful gained in confidence by being given the opportunity to try things out in a relatively safe environment and learn from the experience. The research element also helped to build their levels of confidence by helping them to gain a deeper understanding of aspects of their own subject.

• The feedback from students also indicates that they have increased their knowledge and awareness of what constitutes good practice in bringing about change and supporting development in schools. The school-based element was pivotal as it provided them with an opportunity to test and to apply their skills and techniques in a real situation rather than in the university setting.

• Through placing the emphasis upon the teacher as a researcher we believe we were able to inject a degree of intellectual rigour and that the use of GRASP encouraged and reinforced reflective behaviour. Not only were the students drawing on the published literature, they were also conducting classroom-based research in the light of some of that literature and combining the two to make an informed contribution to the debates current in the schools.

• The use of GRASP also helped them to achieve their desired outcomes, in carrying out the research and in disseminating the outcomes of that research. The importance of control within the process became particularly apparent to some of the students once they began to run their staff meetings and found that planning and a timetable in themselves are not sufficient but that one has to recognise the need for action and to be capable of taking action in response to the things that happen during such an activity.

• A good working relationship between the students and the schools was built up and maintained throughout the exercise and the feedback from the schools suggests that the activity was worthwhile and successful.

Plans for the future

We are convinced that as a result of student feedback, comments from the schools and our own observations, this was a very worthwhile activity. However, as a result of our own review and control of the process we are now looking for ways forward to make it even more worthwhile for schools and students.

We are now in a position to talk and to plan from experience, which will add to the quality of our planning and our support for the students and the schools. At the beginning of the units we intend to share the experiences of this group with the next cohort of students. We are also looking at the possibility of spending a day in school which will allow for students to plan and to run technology workshops with teachers and children. The day would end with a staff meeting at which the students would present their research findings and which would give time for a discussion of points and issues raised during the day.

References

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