A staff development programme

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This study aims to document and evaluate a staff development programme in design and technology undertaken in Woodford CE Primary School as a result of my attendance at a primary design and technology GEST course. It will focus on:

- the school development plan
- identifying the school's needs
- programme planning
- evaluation of each activity
- evaluation of the programme.

Woodford – a brief description

Woodford CE Primary School is a small village school with 77 children on roll and 3.2 teachers. The staff comprises the headteacher, whose teaching commitment is 4/5 of the week, a .2 part time teacher who covers for the headteacher's administration time, a newly qualified teacher (appointed on a temporary contract for a year) and a very experienced permanent class teacher.

As a small school with an increasing roll (from 60 to 77 since September 1992), we do not fit within the ideal framework of the National Curriculum. Our classroom organisation has to be flexible to accommodate the fluctuations of our pupil population.

- Reception and Year 1 (Class 3) are taught together.
- Years 2 and 3 (Class 2) are a cross key stage class and next year, due to pupil number, this class may have to accommodate a few Year 4 children.
- Years 4, 5 and 6 (Class 1) have been joined since September 1995 by one Year 3 child due to his exceptional academic achievements. This is not the first time that this type of "osmosis" has taken place. In fact, since September 1992 Class 1 has only been taught as a group of Years 4, 5 and 6 for one academic year.

Figure 1 shows the way we attempt to reconcile the requirements of the National Curriculum (for what we call "content led" curriculum areas) and our organisational needs.

The school development plan

Several factors had contributed to design and technology being identified as a particularly appropriate area for staff development for the academic year 1995-1996.

- History, geography, R.E., and science had been reviewed and re-mapped in the light of the requirements of the new National Curriculum Order. Design and technology was our next priority on the school development plan.
- After a period of reviews, redrafts, and confusion, the new National Curriculum requirements for design and technology were read with increasing worry: the

Figure 1

Class	Year groups	Science	History and geography	R.E.
Class 3	Reception Year 1	2 year rolling programme		
Class 2	Year 2 (KS1)	2 year rolling cycle	2 year rolling cycle	2 year rolling cycle PoS from both KS1 and KS2
	Year 3 (KS2)	2 year rolling cycle same units as Year 2 children with suitable progression taken from KS2 PoS	4 year KS2 rolling programme taught 1 hour a week by class 1 teacher	
Class 1	Years 3, 4, 5 and 6	4 year rolling programme		

document was a lot less bulky, but did not shed any more light on what is described in the SCAA publication, *Design and Technology – the new requirements Key Stages 1 & 2* (1995) as "a relatively new and developing subject, changing rapidly both within and beyond education".

- Acceptance of the design and technology coordinator (myself) on the GEST course provided renewed interest in an area where despondency and loss were the key words. Everyone was therefore particularly receptive.

Identifying our needs

This identification resulted from what Jones et al (1989) describe as "the mutual sharing among the whole staff of concerns and experiences".

During a staff meeting prior to the course, we brainstormed and identified our needs as a whole staff in terms of whole school priorities and individual teacher priorities.

***School priorities*:**

- to have a common understanding of the meaning of design and technology capability
- to have a common understanding of the terminology used in the National Curriculum document
- to identify design and technology opportunities within our existing curriculum map for science, history, geography and R.E.
- to map the design and technology curriculum in rolling programmes for the whole of the primary age range.
- to understand skills and knowledge progression within the 4-11 age range
- to plan specific units of work using an agreed format
- to tackle issues of teaching design and technology to under fives and to children with special educational needs
- to write a policy document.

Individual teachers' priorities:

- to know and understand the specialist vocabulary associated with design and technology
- to acquire the skills appropriate to our respective children
- to plan explicit and meaningful design and technology schemes of work/sessions.

Programme planning

The GEST course had fulfilled most of my needs as a class teacher, as a curriculum coordinator and as a headteacher. I went back to school with a vision and a need to experiment. However, my main task was to take the staff along with me.

When drawing up this school based staff development programme plan, I paid attention to the following advice from Jones et al (1989):

"Staff should have ownership of the programme....

- staff see that it is *their* programme;
- the programme clearly reflects the identified needs of staff;
- staff feel involved in the evaluation process;
- staff feel involved in the follow-through to classroom practice;
- the programme remains flexible, with staff having the power to adapt it."

However receptive the staff were, the development programme needed to gain their approval and confidence in order to be effective.

Aims of the staff development programme

- to develop understanding and knowledge of the new National Curriculum requirements for design and technology
- to acquire skills and gain confidence to develop our children's design and technology capabilities
- to produce school documentation.

The programme

- activity 1
  description and evaluation of the GEST course
- activity 2
  planning my classroom practice
- activity 3
  design and technology "show and tell" staff meetings
- activity 4
  familiarisation with DATA material
- activity 5
  mapping the curriculum
- activity 6
  practical design and technology workshop sessions
- activity 7
  writing a policy document

This action plan was presented alongside activity 1 (during a staff meeting), and was discussed and accepted as a possible way forward. However, one overriding principle was made clear: the staff would dictate the pace of their own development. The targeted completion period was July 1996; the targeted implementation date was September 1996; (these target dates were negotiated).

We agreed to use a NIAS advisory teacher to run activities 4 and 6 and to invite our colleagues from our 'twin' school.

Cost implications were not an issue as design and technology was part of our school development plan, and enough consultancy and supply budget had been set aside. We would altogether require seven and a half hours of consultancy and eight and a half hours of supply cover.

Activity 1 – description and evaluation of the GEST course

Rationale:

- to share the GEST experiences, positive and frustrating
- to initiate the debate
- to set a climate of trust and credibility

Evaluation:

The course folder and artefacts that emerged from the course proved useful to describe the four day experience. I was careful to balance enthusiasm with critical analysis.

The discussion which followed focused on the following points:

- confusion about the differences and similarities between food technology and cooking
- the resources implications
- how to manage design and technology in a class of Reception and Year 1 children
- how staff could see ways to adapt and make some of the artefacts I had made during the course
- the confusion between focused practical task and assignments
- how to cope with, and differentiate for children with physical needs.

The programme for our development as a school and as individual was then presented, discussed and accepted. We also negotiated what kind of outside help we wanted: using a consultant within the classroom context was rejected from previous experiences as an artificial setup which leaves the teacher somewhat frustrated.

Unfortunately it proved impossible for our colleagues from our 'twin' school in Brigstock to join us.

Activity 2 – planning my classroom practice

Rationale:

Since my appointment in Woodford CE Primary School I have always endeavoured to lead by example, piloting changes to find out pitfalls and advantages, to share the difficulties and tensions which arise as a result of change. I am essentially a no-nonsense pragmatic teacher with little time to waste.

My aims were the following:

- to provide me with information and evidence for the GEST assignment based on classroom practice
- to have hands-on experience of planning and managing design and technology with children
- to provide me with plenty of observations and outcomes to discuss at staff meetings.

Evaluation:

Riding on a wave of enthusiasm I wrote a most ambitious scheme of work to be delivered during the half term before Christmas. This created plenty of opportunities to talk not only with staff but also with parents and governors – and suddenly design and technology had a much higher profile. This work culminated in a display in the entrance area of the school.

These are some of the issues which emerged from my classroom practice:

- problem of space in terms of storing half finished artefacts
- classroom teaching versus group teaching
- poor quality of our current design and technology tools, including items such as scissors
- state of our current resources for design and technology
- health and safety issues related to food technology
- loss of teacher control when food technology is taught by a classroom assistant away from the classroom
- issue of time required by children in completing design and technology activities
- is it art, science or design and technology?
- is a task a focused practical task or an assignment?

However, it was not all negative. Even within as short a time as seven weeks, the quality of the children's skills and responses towards practical problems improved beyond expectations, thus proving that design and technology was an effective way of teaching children, and that I still had a lot to learn. I had crammed what could have been a whole year's work into seven weeks!

Activity 3 - design and technology "show and tell"

Rationale:

- to allow each one of us to share our achievements, and frustrations
- to moan and to laugh
- to realise that design and technology was actually taking place even if not mapped
- to constantly review our needs.

Jones et al (1989) state in their study of approaches to staff development that "Teachers need to be able to take part in INSET activities, take away what they have learnt, use ideas in the classroom where possible, and *bring back to future sessions comments on how these ideas have worked in practice.*"

Evaluation:

The "show and tell" was slow to start with, and for the first three weeks I was the only one willing (or daring) to share my achievements and frustrations. The problem was that design and technology activities were taught but not identified as design and technology. Instead of bringing our "show and tell" to the staff meeting, I suggested that we should show each other what we had done within the confines of our classrooms.

Here are some of the design and technology opportunities provided in each of the classes.

Reception and Year 1

- cutting a mask out card and making it into a friendly, naughty or frightening mask by adding folded paper for features
- simple paper and card Christmas decorations

- reproducing the main buildings of the village using reclaimed materials (Year 1 children only)
- 2D card cars with rotating wheels including design and evaluation (Year 1 children only)
- making a biblical looking village using reclaimed material (Year 1 children only)

Years 2 and 3

- making stained glass biscuits
- shadow puppets
- 3D Christmas cards using several layers of the same design
- Christmas party hats

We noticed that most of the activities were focused practical tasks where we all felt in control. However as confidence grew, some 'controlled' assignments were beginning to emerge.

It was interesting to note that one of the teachers was about to throw away her children's initial drawn designs. However, the designs, together with the artefacts and written evaluations, are now on display together.

All the issues that I had noted from my classroom practice became discussion points as everyone was experiencing the same elation and concerns. We also started talking about differentiation.

Activity 4 – familiarisation with DATA material

Rationale:

The DATA pack *Guidance Materials for Design and Technology Key Stages 1&2* is described as " ... written by a team of specialists [to] give practical advice on a range of organisational and planning issues, and [to] feature a series of units of work that have been written to provide a sound, well balanced programme for Key Stages 1 and 2."

Its simplicity and clarity had to be shared:

- to initiate further discussion on design and technology, not just in terms of what we were doing but also what may be done
- to sow the seeds of a common vision.

Evaluation:

The DATA material, handed out in small amounts, was well received. Some resentment was also expressed: why had all schools not received this most informative pack?

The consensus was that it provided us with:

- a format for planning specific units of work
- examples of activities which could easily fit into our existing curriculum plan
- an overall planning sheet to ensure balance and progression
- an insight into the link between the three essential types of activities for children – investigative, disassembly and evaluative activities (IDEAs), focused practical tasks (FPTs), and design and make assignments (DMAs)
- an insight into the links between the requirements for designing and making skills and knowledge and understanding
- a booklet of specialist vocabulary
- clarity and simplicity

The Reception and Year 1 teacher spontaneously started mapping the curriculum for her class over a two year rolling programme using some of the DATA material as well as her own successful design and technology activities. This was a most encouraging initiative as she was probably the most reluctant among us.

Ideas for units of work were what we had all been looking for, and DATA was providing us with a light at the end of a long tunnel.

Activity 5 – mapping the curriculum

Rationale:

- to identify design and technology opportunities within our existing schemes of work
- to map the curriculum efficiently and cooperatively
- to create a whole school framework.

Evaluation:

Two sessions had been planned:

1. – mapping a two year rolling programme for Reception and year 1
   – mapping a two year rolling programme for Years 2 and 3
2. – mapping a design and technology four year rolling programme for Key Stage 2

Considerable preliminary discussions had taken place; we were well prepared for the consultancy. We knew what we wanted to achieve: three sets of rolling programmes which would fit within our three existing rolling programmes for science, history, geography and R.E. This existing curriculum map was to provide the contexts within which design and technology opportunities could be developed. We also wanted each unit of work to contain the range of activities described in the Order (IDEAs, FPTs and DMAs). We wanted our consultant to help us juggle successfully with the elements which would develop the children's design and technology capabilities:

- designing skills
- making skills
- working with materials
- quality, health and safety vocabulary

Session 1

In some ways the Reception and Year 1 teacher set the tone and the format of the mapping which was to influence the rest of our overview. She had already started the map of a two year rolling programme using the DATA material as well as some of her own successful activities. We soon realised that a greater number of shorter units was preferable. The consultant was most helpful in suggesting various opportunities for design and technology.

During our first session the consultant drafted the long term planning model below:(*see Figure 2*)

We have since adopted and customised the model shown in *Figure 3*.

As we had not yet tackled mapping for Years 2 and 3, we decided to alter the agenda for our session:

- to map the design and technology curriculum for Years 2 and 3
- to review Key Stage 2 mapping which I would attempt to do using the above format.

Session 2

We achieved what we set out to do.

The consultant was most helpful in pointing out some of the pitfalls within some of the opportunities planned for Key Stage 2 and in making suggestions for the areas where I had not been successful in finding ideas for units of work.

We now had three design and technology rolling programmes which needed a bit of

Figure 2

Year of cycle	Autumn Term		Spring Term		Summer Term	
Context						
Title of unit						
Potential outcomes						
DATA resource card						
Material focus						
Skills						

Year of cycle	Autumn Term		Spring Term		Summer Term	
Context						
Title of unit						
Potential outcomes						
DATA resource card						
Material focus						
Design focus						
Knowledge and understanding						
Skills						

Figure 3

fine tuning. We felt that the mapping exercises reflected what we wanted for our school.

It has to be noted that we felt this would not have been achieved had we not gained the insight provided by the DATA material. It was felt that the consultant came ready to do the "usual curriculum mapping exercise", expecting a poorly informed staff.

Activity 6 – practical design and technology workshop sessions

Rationale:

The next stage was to organise practical workshop sessions:

- to meet staff practical needs in terms of making skills and progression of such skills
- to respond to specific, individual needs
- to provide hands on experience of skills
- to increase confidence and further motivation for change.

Hands-on experience provides "what Piaget calls the concrete operational stage rather than the formal operational stage of intellectual development. This suggests that ... abstract talk sessions are not sufficient to change behaviour." (Jones et al – 1989)

These workshop session were to be held in school during school time.

Evaluation:

At the time of writing the practical workshop sessions had not yet taken place. As expected, the agenda for this activity emerged during the curriculum mapping:

1. progression of skills in paper and card at Key Stage 1; movement and structures in paper and card at Key Stage 1
2. exploration of any area of design and technology schemes of work where doubt still exists in terms of skills.

Activity 7 – writing a policy document

Rationale:

- to set out on paper our common understanding of design and technology
- to outline our vision of design and technology
- to highlight our approach to progression of skills, design and technology with under fives and children with special educational needs, equal opportunities, classroom and curriculum organisation, etc.

Evaluation:

As a curriculum coordinator for design and technology, I had done the following preparatory work for the staff meeting set aside for design and technology policy writing:

- a list of aims which could underpin our design and technology teaching in Woodford CE Primary School
- a list of headings to consider.

We had already gone through this type of discussion for other curricular areas. We therefore focused on issues specifically related to the organisation and delivery of

design and technology. This enabled us to clarify some of the following issues as well as highlight the next steps of our development:

- design and technology activities which arise spontaneously
- special needs, differentiation and extension
- teaching design and technology to children across key stages
- assessment and reporting
- health and safety.

We also agreed on a format for medium term planning based on the DATA Unit of Work planning framework.

A policy document is now drafted and ready for discussion at the next governors' meeting.

Evaluation of the programme

As the whole programme has not yet been completed we have not formally evaluated it. However, we are a small staff and feedback has been forthcoming.

Have we achieved our objectives?
The answer is YES!

- After so many years of confusion, we now have a curriculum document for design and technology as well as a policy document which reflect our understanding of the requirements of the 1995 Order.
- More design and technology activities have been planned for and delivered in the last three months that we would have normally done in a year.
- As a staff we now feel confident not only to "have a go" but also to teach to the requirements of the National Curriculum within the framework planned in cooperation.
- We were flexible enough to adapt to time constraints and alter the original plan:
  - we did not wait for the practical workshops in order to write our policy document
  - we also suggested that classroom assistants should join in the workshop sessions.

This framework has now been passed on to our 'twin' school which currently teaches to a similar four year rolling cycle at Key Stage 2 in science, history, geography and R.E.

What was most worthwhile?
Responses to this questions show differing views depending on the role assumed:

- as class teachers (myself included)
  - curriculum mapping
  - practical workshops
- as curriculum coordinator
  - the preliminary work leading to the first consultancy

What could we have done differently?
The only comments were about timing, but there was no consensus:

- the practical workshops should have been timetabled before the mapping exercise
- the practical workshops should have been timetabled closer to the mapping exercise.

Where do we go from here?
This question initiated further identification of needs which will no doubt be taken into consideration within next year's School Development Plan:

- to carry on with staff meeting feedback and mutual support:
  - to discuss our achievements and difficulties as teachers implementing the design and technology rolling programmes
  - to identify emerging training needs and resources

- to initiate a cooperative staff meeting with our colleagues from Brigstock
- to discuss ways of assessing children's work
- to monitor the planning of individual schemes of work
- to monitor the quality of children's design and technology learning in the classroom.

On the whole we agreed that the overall aim of the programme "to gain understanding, knowledge and confidence to develop children's design and technology capabilities" had been achieved.

Conclusion

As the design and technology coordinator and headteacher I feel that the programme has been effective in initiating positive changes. Throughout the whole programme staff morale remained high and positive:

- design and technology is now approached in a planned and structured fashion with some degree of confidence and enthusiasm by all staff
- displays to encourage the evaluation/disassembly of manufactured items as well as displays of children's designs and outcomes are visible throughout the school
- design and technology activities are clearly and correctly identified and planned for
- a policy document and a curriculum are ready for discussion with the governors.

Summer term 1996 was originally agreed as the date to start implementing design and technology throughout the school. At the time of writing, the date had been brought forward unofficially to March 1996 as we are all planning to "pilot" our first fully fledged design and technology unit of work.

References

National Curriculum Orders for Design and Technology (1995)

SCAA (1995) *Design and Technology, the new requirements Key Stages 1 and 2*

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