The merits of class teachers teaching design and technology against the use of the specialist teacher (Winnie the Pooh or Christopher Robin ...Who is right?)

Abstract
The current debate concerned with the specialist primary teacher versus the generalist is one that has stimulated strong arguments both for and against among primary specialists. Of course, it does not have to be either/or but factors such as size of staff, timetabling and an uneven balance of strengths often predetermine what is or is not possible. This article seeks to highlight the argument for the class teacher teaching design and technology, whatever his/her curriculum strengths. It focuses on three main areas for discussion:

- knowledge of the children
- curriculum integration
- class management.

It is hoped that this article will contribute to the argument and will provoke a reader to provide another viewpoint in this topical debate.

Alison Hopton

"Winnie the Pooh, what are you doing?"

"Oh, I'm stuck up a tree – I thought there was honey in the hole but when I climbed up here the hole was empty."

"Have you ever thought of asking someone else to get the honey for you – someone with more experience, someone who knows where the good honey can be found?"

"You mean ask Christopher Robin?"

"Possibly."

"Certainly not!"

"Why, surely you can't be enjoying yourself up there. Every week you look for honey and every week you seem to get wet, sticky and thoroughly fed up".

Pooh scratched his head.

"Mmm, true, but then I'd miss out on the thrill of finding honey, the good stuff and lots of it, golden and sweet and warm in my tummy, and I wouldn't want to miss that."

"You know what, Pooh bear, I'm glad I found you up in that tree today."

"You are?"

"Yes, you see I've been asked to write an article for DATA on the merits of class teachers teaching technology against the use of specialist teachers and your ideas about honey have helped me."

"They have?"

"Yes, don't you see. You, Pooh, are the class teacher, the honey is National Curriculum design and technology and Christopher Robin, well, he's a bit of a specialist."

"National what?"

"Don't worry, I'll explain later. Where are you going now?"

"Off to find more honey, of course; that tree over there looks promising."

"I've just seen a bee come out of a hole in the tree next to it ... perhaps you should try there first".

"Mmm, maybe I will. See you later, then."

It would appear that Winnie the Pooh does not require any specialist help when collecting honey, even though he does get into a mess and may on occasion heed a little advice, but for someone else to take over his honey collection – certainly not!

Let's relate Pooh's theory of self-collection of honey to the benefits of a class teacher teaching design and technology against the use of the specialist teacher. Here the specialist teacher could either be another teacher within school, perhaps the coordinator, a specialist from outside school, or a part-time teacher with expertise in the subject.

There are three main areas for discussion:

- knowledge of the children
- curriculum integration
- class management.

Knowledge of the children

- Teachers get to know children very quickly – survival instinct some may call it! A class teacher, by spending more time with the children will inevitably gather this knowledge more quickly. This knowledge would include knowledge of academic ability, behaviour, attitude, independence and the ability of the

children to work in groups and as a class. With this information, planning can be more informed, leading to a better match of task to pupil need, including the more able and special need children.

Curriculum integration

- Class teachers usually teach all National Curriculum subjects to their class and this can also have tremendous benefits when teaching design and technology. Design and technology, when taught well, will take advantage of the knowledge, understanding and skills gained in other areas of the curriculum (for example, measurement in maths, forces in science...). This can enable children to experience the 'natural links' between subjects. Concerns are being voiced about the increasing lack of time we, as teachers, have to develop links between subjects. We need to exploit this where and when we can.

- Language work is a good example of a natural link between subjects. Vocabulary plays an important part of the teaching of design and technology. Spelling activities can be planned to include the technical vocabulary used in the subject. This would be more difficult if it were planned and taught by another person. Design and technology also provides excellent opportunities for the development of speaking and listening skills. These skills take time to develop and could not be fully realised only during a technology lesson.

- A class teacher will be able to encourage good quality of work presentation. The teacher would be aware of a child who had not produced a good piece of work in design and technology by comparing with other subjects. A specialist teacher would not have this comparative knowledge. Leading on from this, a class teacher will know how far to extend individual pupils when it comes to applying their maths or science understanding to their design and technology work. This helps raise expectations for design and technology and other subjects. The specialist teacher is unlikely to be sufficiently well informed to do this to the same extent.

- In the present educational climate, dare we mention the 'unexpected opportunity' in design and technology teaching? A child brings in a new toy with a lever system. One would hope that there would still be opportunity during the day to exploit design and technology opportunities, and flexibility in a school curriculum will always allow for these opportunities. A specialist teacher would not be in a position to take advantage of this situation.

- Specialist teaching lacks flexibility. It is likely to require a timetabled lesson once or more each week. It is not easy for extended bursts of design and technology to be organised nor can sessions be extended easily to help children complete their work if it takes longer than the teacher expected. Concluding lessons and helping children to evaluate work is a difficult task in itself. Often, to prevent children losing interest, evaluations can be spread over a longer period and may form the part of another lesson (during English for example), rather than spending an hour while all children in class evaluate work.

- Specialist teachers may not be available to develop links between focused tasks and design and make assignments. Focused tasks may form part of another subject (electrics in science for example). The class teacher would plan for this because of the overview he/she has of the whole curriculum. This would be difficult for the specialist teacher.

Before discussing the issues of class management, it is worth raising the question of when specialist teaching should begin. Would Reception children benefit from specialist teaching? Should Year 3 be the starting point or as late as Year 6? The question posed is an open one and would need to be addressed.

Class management

- Design and technology is difficult to resource at the best of times. A whole class set of equipment, whilst the ideal, is probably unrealistic. A specialist teacher may require this in order to teach class technology as opposed to some

group teaching. This may also affect the teaching of the subject throughout the school, leading to inflexibility for other teachers who may need the equipment at the same time.

- Holding activities are essential in all areas of the curriculum and involve children taking part in meaningful activities once their work has been completed or has reached a particular stage. These exist in design and technology but more are available when other subjects can be used to provide them. This option may not be available for the specialist teacher.

- Assessment of technology becomes easier and probably more meaningful when the teacher can comment on and recognise the child's design and technology achievements across the curriculum wherever and whenever they occur. An evaluation of a design and technology product could take place during discussions that are focusing on speaking and listening skills during a literacy hour. Specialist teacher assessments might be less reliable due to time and curriculum constraints.

Having put forward the case for the benefits of the class teacher teaching design and technology as opposed to the specialist teacher, the case for specialist teaching becomes stronger in a school that has little or no design and technology expertise and/or teachers who are unwilling or unable to take the subject on board. The case may also be argued more strongly as children enter Years 5 and 6, when there is more need for specialist knowledge.

This whole debate may become more of an issue if inspection findings continue to state:

> "Frequently pupils fail to progress in their development of design and technology capability. This is often linked to teachers' lack of subject knowledge and practical expertise in the range of design and technology activities, poor and cramped accommodation, large class sizes, and insufficient resources ..."
> (Design and Technology: A review of inspection findings 1993/4.)

They continue :

> "In the best lessons, the objectives were made clear to the pupils and the appropriate knowledge and skills were taught well ... The teachers of these lessons had nearly always been involved in recent INSET".

There is a role for specialist teaching in aspects of the curriculum, however ultimately, an effective design and technology professional development programme can help overcome not only Ofsted findings but also the dilemmas facing the coordinators and teachers of design and technology in the primary school.

Ultimately it is the argument of pedagogic knowledge versus didactic knowledge.

Banks (1996) in his paper 'Approaches and models in technology teacher education: an overview', quotes from Newman (1994):

> "There should also be more emphasis on pedagogical skills. It was never safe to assume that competence in a vocational specialisation was enough to ensure effective classroom teaching, particularly in catering for the wide range of abilities and backgrounds characteristic of classes today".

Every school is different and to that extent this paper sets out to debate and inform rather than advise. Each school will debate the benefits and drawbacks associated with specialist teaching versus class teaching of design and technology and reach decisions appropriate to their situation. However, in conclusion, each class teacher brings something different in terms of outlook, expertise and interests, all of which adds to the richness of the child's experience. This presents a strong case for design and technology teaching remaining with the class teacher.

Winnie the Pooh may not be an expert at collecting honey but a little advice on occasion may prevent him from getting quite so sticky!

References

Banks (1996) 'Approaches and models in technology teacher education: an overview' *Journal of Design and Technology Education* Vol1 No 3

Ofsted (1995) *Design and Technology: A review of inspection findings 1993/4* London: HMSO