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
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## School-based teacher training - a partnership in balance

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### Abstract

*Greenhead Grammar School, a multi-cultural, mixed ability, comprehensive school in Keighley has gained an international reputation for its excellence in the teaching of Design & Technology. In particular the 'TRIPS' (Technology, Resources, Information and Problem-solving) scheme pre-dated the National Curriculum to provide a balanced experience for KS3 pupils in the areas of Design, IT, Business Awareness, Food and Fabrics, Systems and Structures.*

*Leeds Polytechnic Design & Technology Centre was the first institution in the country to modularise its degree programmes in line with National Curriculum requirements to provide a Design & Technology degree with two routes Design & Technology and Design & Technology/Home Economics.*

*Greenhead Grammar School has for some years facilitated traditional teaching practice placements for Leeds' students on a variety of courses. Links have grown naturally from the interaction of school and polytechnic staff.*

*The paper will outline the KS3 TRIPS scheme and give an insight into a developing pilot project which has run this year as a possible model for a more school-based teacher education course.*

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Mike Hopkinson and George Asquith formed a partnership between school and polytechnic which has led to Mike teaching in school for one day per week over the year as part of the TRIPS scheme, with George and other school-based staff lecturing and contributing to seminars on a range of courses in the polytechnic.

**Greenhead Grammar School** is an urban mixed 13-18 comprehensive, over 60% of the intake is of South Asian origin.

Technology at Greenhead has two wings - those of Design and Information, and a total of eight staff.

Seven years ago, it was deemed necessary to take Technology out across the curriculum. A group of staff from Art, CDT, Computing and Resources came together to have deliberations and make proposals. In the first year it was proposed that three studies would be made: Signalling, Measurement and the Modern Office. The course was not successful and, on investigation, it was found to totally lack structure. Lots of heart-searching later, a new course was proposed and accepted, it had more structure. We were concerned that the structure would inhibit creativity, it had the reverse effect in that it provided to deliver motivation, better attendance and a lifting of standards. After a number of annual revisions due to staff change, improvement of facilities and publication of National Curriculum, we now have a well-trying and tested vehicle through which we can

deliver technology to KS3. The activity is called TRIPS - an acronym for Technology Resources Information and Problem-Solving.

### The structure

A half year group (Year 9) is taken into TRIPS at one time. This half year is made up from five Form groups, each one being mixed gender, mixed race and mixed ability. A Technology teacher is allocated to each class of 24 and they are based in the specialist room of the teacher. Together, the form and the teacher form a company. All five companies are posed the same problem. The scenario can change from year to year but when teachers have put so much time and effort into preparation - far higher than for the traditional elements of Technology - it is usual to run twice. The students quickly realise that it is not possible to solve all the problems within the scenario based in the room they are in and with the teacher they are with they need to move out to gain more expertise. This is then organised centrally and an equal number of students go out to five specialist areas from each form or company. This keeps the numbers in balance. They will work in that area on an extended problem for one third of the year. Changes are then made to enable the students to experience other activities. TRIPS has an allocation of two lessons per week out of thirty and in the first lesson each week, the company meets together for about fifteen minutes to exchange ideas, update each other and set the next week's targets. Each phase of work is assessed by using a Record of Achievement.

My staff, now a very close-knit team because of all the work we have had to do together and ideas we have had to bounce off each other, see themselves as managers and facilitators as well as educators, not controllers - nearer to Rousseau than Socrates. I rely heavily on my staff as I cannot deliver National Curriculum alone.

National Curriculum demands new things of us as teachers - change in:

attitudes  
skills  
and, therefore, knowledge

The function of the teacher in a non specialist role with their own companies is to involve students in investigation and the general design process. All specialist input is by a specialist in specialist rooms.

**Attitudes** that perpetuate divisions in Technology must go. There is space for specialism, it is vital. Our rooms are all designated as Technology rooms with specialisms and staffed by teachers with specialisms. Attitudes need to be changed, our specialist skills are most important. We need to be able to practice and pass on a variety of skills. In-house INSET has been vital here.

**Knowledge** - we need to increase our breadth, we need to be able to advise our students. In many areas, prior to the students requiring the input of a specialist. To quote Prof Asher Cashdan of Sheffield Poly: 'We need to carpet, rather than stack up, knowledge' - opening lecture welcoming speakers to the Sheffield Polytechnic Education Convention 1991. The work we put to our students must be real, we must not sell them short.

My first introduction to Greenhead Grammar and George Asquith's department was during the supervision of 2nd Year BEd students undertaking traditional 5-7 week block practices. My first impressions were of a well-resourced, highly-motivated department teaching in rooms which were visually conducive to design education. It was not long before I visited the 'TRIPS' scheme - the organisation and structure were immediately evident. I was surrounded by pupils wearing corporate company badges, all with a sense of purpose. Bases and classrooms had detailed charts and planners which gave clear guidance as to the location of all pupils. The documentation of the scheme both for pupils and teachers was well-developed and commercially available. This was clearly a scheme which had undergone an

apprenticeship and had been developed by experience. Investigation revealed that the scheme, in its initial form, had nearly been stopped by senior management in the school because it was too open-ended and lacked structure and organisation. This honesty gives an insight into the success of the present TRIPS scheme. The rigorous organisation and clear structure are evident to all visitors and gives a clear message to those who are still trying an unstructured, open-ended approach.

The statutory orders for the Technology National Curriculum were issued to Higher Education Teacher Education Colleagues at a HMI invitation conference of the Design & Technology Centre at Leeds Polytechnic in March 1990. On behalf of Alan Marshall, the consultant organiser, I invited George and Brian Smith, the team co-ordinator to speak at the conference to a daunting audience of 10 HMI and 40 teacher educators. Their delivery was both informative and challenging and it was with mixed feelings that I read the article shown below in the Kighley news the following week.

Although not totally agreeing with the text, I have never been one to dodge a challenge nor to avoid an argument. On a return visit to the school I made it clear that if their perception was that teacher education was failing schools we had better communicate and interact in an attempt to put things right. The 'partnership' was born and it was agreed that during my 'ROSE' year (Renewal of School Experience), I would teach at the school for one day a week and George would reciprocate in a work swap for fixed Pedagogy sessions and lectures at the Polytechnic. I taught for two TRIPS lessons a week for two terms, followed by a combined lower/upper Sixth Form 'A' level group.

This year's TRIPS scheme is based around a motorway service station. A polite pre-term enquiry as to its whereabouts was met with 'Hartshead Moor, second left off the M62'. Full of enthusiasm for context-led NC, I trooped off there and spent two days with my camera, eating fish and chips, drinking tea and coffee and relieving them of anything portable which wasn't bolted down. I felt able then to join George on a most enjoyable term, team-teaching with half of his class in the Design team, planning site facilities, whilst George busied himself with corporate logos and company badges. We were able to produce some worthy work and I was particularly pleased when one form tutor came to see me delighted with the work of two girls in his form. I had been completely unaware that one had a reading age of 7!

### **Design Brief 1 - (planning facilities and company logo)**

Term 1 was for me pretty safe ground and held no unexpected surprises. I decided to step out into the unknown in Term 2 and joined Denise Davies in the Food and Material Technology team. The following brief filled me with trepidation, but I was keen to meet the challenge or a learning experience.

### **Design Brief 2 - (safety headgear and company uniform)**

I was to be the 'hat man', Denise was to handle the company uniforms. My only experience of softer materials was knitting blanket squares for refugees at primary school round about the time of the coronation. I was provided with a hat pattern and a few photographs as examples. I remember asking George at the time if he could make a hat - his simple reply was 'Yes, Mike'. I decided to play it cool and disappeared to borrow a sewing machine and seek the necessary technical help. In an ideal world, a course of instruction would have been sensible, there was no shortage of offers of help from school and both technical and academic staff at the Polytechnic. The nature of my job, however, prevented me from keeping three arranged appointments and I had to pick up a sewing machine, materials and a complete set of instructions late one night. I surprised myself by mastering most of the technical secrets of spool threading, tensioning and stitch patterns in a relatively short time (between 10pm and 3am the night before the first practical session). I had witnessed the transferability of skills from textiles to electronics many times before and was relieved to observe it working in reverse! Simple manufacturing techniques did not worry me but I was still concerned about my ability to lead a meaningful 'design and make' experience with my knowledge level. Pupils were researching and enthusing about a range of chefs' hats, waiters'/ waitresses' baseball hats all based around their company theme.

Co-incident with my mild panic, my Fourth Year Honours group was about to present its first seminar at Leeds, detailing their intentions for a school-based curriculum resource package. George was present as a school-based consultant. During the course of this, one student admitted to being totally lost having followed many blind alleys. Her presentation featured a spider diagram, one leg of which mentioned 'garments'. A quick discussion afterwards linked my dilemma, the student's lack of a project and George's willingness to accommodate the student in the school, in addition to an existing 2nd Year BEd student. The next term saw the development of an excellent teaching resource

which involved teachers, pupils and student.

This unplanned teaching experience benefited myself, the school and the student. The advantages were obvious to all involved. At the end of this term came the statement from the Secretary of State recommending, in very forceful terms, more school-based teacher education. We all know that this was directed primarily at the PGCE course but urged institutions to consider 'similar patterns on other courses'. As a single 4th Year Honours student had worked so well on a school-based model, George and I looked at possibilities for extending the idea to involve larger numbers in a more structured way. We set ourselves the task to involve a large number of 10 students who would teach in pairs over the five TRIPS areas, the intention being to mirror my experience and have a long thin teaching practice over the whole year.

This was unacceptable to the course as a continuous block of teaching experience was considered necessary to grade for Honours worthiness. An alternative considered was to take ten students for the whole of the six week block practice and then involve them in a serial way all through the year on the TRIPS scheme. This would have worked well for TRIPS but would have given insufficient variety of teaching within a department relatively swamped by 10 students.

The solution came co-incidentally with a Polytechnic decision to start the block practice at week 2 of the school year. Five students enabled the placing of one in each group of TRIPS (not to be taught in quite the same way next year) which gave a reasonable varied diet to each student and enabled a link with one student to a pastoral tutor within the school.

All teacher education colleagues will appreciate the resource implication of teaching practice supervision. We talk of 'partnership' and 'co-operation' and usually have about 40 minutes a week to foster both. An allocation of an hour for each student per week gives 5 hours. Combine this maximising of resources with the need for only one journey (near home and on the way to work!) to give a sensible chance for a partnership to develop. It should enable team-teaching, support of weaker students and academic tutorials in a school with a tutor, a whole range of staff consultants and the benefit of student peer group interaction.

By involving 4th year students involved with curriculum research there was an opportunity to develop material based on a real context which

could be trialed in support of existing school resources. This led to:

- curriculum development support for school staff
- resource material development for a lecturer renewing school experience
- co-operation and support between students on different courses
- team-teaching between school, polytechnic staff and students
- direct involvement of school staff in pedagogic aspects of polytechnic course delivery

Another advantage, not to be overlooked, is that it will again allow the flexibility to have a tutor from a

polytechnic involved with other groups on a consultancy basis (slide Upper Sixth Form project) and involve school-based staff pedagogic inputs on a whole range of teacher education courses.

A partnership in balance is where both parties benefit and where neither have unrealistic expectations of the other. The pilot scheme will enable the school and Polytechnic to maximise resources to make school-based teacher education a reality. There are plans to expand the scheme to other centres of excellence with an ultimate aim of concentrating the whole year group of 20-30 students in 4 or 5 centres.

