SHIPSTON HIGH SCHOOL
A MILLENNIUM SCHOOL VIEW

Shipston High School were one of the first schools to be involved with the Millennium Schools Project and their experience like Lady Manners School featured in our last issue is recounted here as a useful context for teachers considering the benefits of adopting Millennium Projects for their Key Stage 3.

Technology staff also teach ICT through Key Stage 3 up to a short course GCSE and a GNVQ ICT course which all pupils follow at Key Stage 4. At Key Stage 4 pupils follow a compulsory GCSE technology course and choose between Food Technology, Graphic Products or Resistant Materials. Small year sizes create a few headaches trying to give all pupils their preferred option. As part of the option course pupils can opt to follow Engineering as an alternative.

Penny Bailey is a TEP associate and was appointed as Head of Department for Technology at Shipston High School in 2000.

Penny takes up their Millennium experience:

When I arrived at SHS it was with horror that I realised Ofsted was due at the school within 3 terms. I discovered the department had been put forward for the Millennium Project and felt it would be an interesting experience as I had to write up schemes of work for Key Stages 3 and 4, department plans, assessments schemes and any help in this would be beneficial. I had already used the Post It Note Organiser project at my previous school and had been impressed by the project and pupil outcomes.

The school timetable is taught on a fortnightly basis. All lessons are 50 minutes long, with 6 periods a day. In Year 8 the whole year group is very small, so they come into the department as a year group. This has the advantage that all technology staff are on at the same time and allows us to change the groups around to create the best class dynamics.

There are 4 specialist technology rooms based together, 2 resistant materials workshops, a technician base and office/storage area. Upstairs is a graphics room with 15 networked computers and a CNC milling machine are close by. The small sizes of all technology rooms are a problem and there are very little areas for storage.

Both Keith and I are united in our belief in pupils designing and making quality products that will ignite family admiration not sympathy when they go home. Pupils need to take home products that are appropriate technology for them and the society that they live in. So we were attracted to projects offered by TEP and the reactions from pupils were extremely encouraging. They certainly created the Wow factor we hoped for. Older pupils were extremely fed up not to have produced the TEP projects. Taken along to parents' evenings the exemplar products also created a stir and jealousy with nearly all parents!

In year 1 of the Millennium project we offered the Mouse Mate as an introduction to Technology for Y7. Pupils had the option of including tie dyeing the fabric backs before printing the ICT generated design and or applying smart inks to enhance their designs if they wished. We chose not to include the milled out space for a floppy disc as we followed this process with the CAD torch project. In this first year we followed the project to the letter and discovered that this Y7 were not coping so well with the instructions to producing the three layered torch body and as a result too many of the designs would not machine well. One of the great joys of the millennium project has been the opportunity to discuss, argue and laugh over problems created by pupils with DT colleagues from Warwickshire, Yorkshire and Derbyshire. We discovered that staff from Lady Manners School in Derbyshire had come up with a solution to the problem of milling out and had reduced it to one layer using 8 mm acrylic.

Yr8 pupils made Post It Note Organisers, PIC based Jitterbugs, Flat Torch as well as Food Technology. Having an abundance of really good projects allowed us to choose appropriate projects for some groups. At SHS the groups are set according to their Maths and English abilities and allow us rightly or wrongly to differentiate by tasks as well as outcome. A few pupils have special needs with poor listening and sequential skills; as a result tasks have to broken down into very small steps with guaranteed success built into projects to boost their self esteem, confidence and therefore progress. That sequential approach is made easier with these millennium projects. All our Y8 pupils really enjoyed the projects and were especially taken with the jitterbugs.

As Yr9 curriculum was to be changed in the second year of the project we ran our own projects for the first year, however in contrast with the millennium projects they looked tired, with a poor quality of outcome. Many were left in the cupboards and proved to be great kindling wood for Keith's Aga!

In the second year of the millennium project we adapted the CAD torch project to create a torch / keyring with a milled maze game and LED cut out of 8 mm acrylic. With year 7 pupils we used a template to create a CAD design for their torch that they printed out to use as a template in the workshop. They then used hand wastage methods to create the torch. On finishing we returned to the computers and they learned to use Pro/Desktop to draw a simple version of their torch design as extension work. This delivery of the CAD torch project produced a 100% successful outcome.

Y8s have continued to make Post It Note Organisers and there is the opportunity to incorporate a Batch Production theme with suitable groups. I have organised this project so that pupils work in groups or "factories" to produce a batch of organisers with pupils taking different roles within the factory. With able pupils, they can be taught about tolerances, the roles of H & S. etc. Group presentations can be arranged with a "client" found from within or outside the school community. Various groups from Y8 have also tackled the Battery Tester project in different ways. A more able group were given the challenge of developing the flat battery tester into a 3 dimensional product. They explored a choice of nets that would combine an inner net to carry the circuit and an outer net for the surface graphics. I found that this created an enormous amount of problem solving for them, provided discussion points about the role of packaging and environmental considerations.

Yr9s have all made Aroma fans but again we adapted the project for them and to match our resources. As we have no circular saw we had to make the shell larger with thicker material. Initial reaction from the pupils made us believe that we needed to add a secondary purpose for the Aroma Fan so we adapted it to be a desk tidy as well. In practice this proved doubly appealing to pupils. Y9s also had a go at the Message in a Box project, programming PICs to light a seven segment display to create text, a letter at a time. With an able group I delivered this as a DMA, and while this has produced some interesting outcomes e.g. a periscope, assorted picture frames and containers, however this can take time away from the programming of PICs. More recently we have created a 'message in a bag' graphic product approach with a high degree of popularity. In the future I may well deliver this as a focused task.

Y9s also undertook a project that introduced them to Pro/Desktop in which they designed a camera using CAD and free hand sketching skills. They will also be designing and making a mobile phone stand and a bubble blower this year.

As new courses for Key Stage 4 had to be written we incorporated some of the TEP/SHU projects into them. So in the first year the GCSE Resistant Materials group all made Post It note Organisers, looking at Batch Production methods. In this current year Y10s have all made an Aroma Fan and have been encouraged to explore the form through experimentation with some interesting architectural influences. This year our year 7 are working on an all new desktop design mobile phone holder too. The Millennium projects have influenced both the pupils in Key Stage 4 and the staff. We have transferred techniques and skills into Key Stage 4 projects. The pupils have seen the Key Stage 3 outcomes and I'm sure it has helped raise the quality of outcomes both in Resistant Materials GCSE as well as Graphic Products. Our department results continue to rise dramatically and are in no small part, due to the influence of TEP projects and processes.