

GATSBY TEACHER FELLOWSHIPS (GTF) PROGRAMME NEWSLETTER

CREATIVE PRACTITIONERS

Definitions of creativity vary; however a consistent theme that runs through most literature on the subject is the ability to be novel.

When reading this newsletter you will discover that fellows are being novel by making links between previously disparate areas and coming up with new ways of improving teaching and increasing learning. But what makes a teacher willing to attempt novel solutions, which often require significant energy and risk taking in an increasing culture of compliance? Perhaps a more important question is why do some teachers avoid taking risks, avoiding attempting novel ways of teaching? Is the culture of compliance, accountability and league tables so great that fear of failure rules the day?

I personally believe that you can be both creative and accountable and that those of you who are pushing the boundaries of your subjects will be sharing your enthusiasm and findings with your pupils. Pupils will learn with you and fail (whatever this may mean) with you and gain much more from the process.

"It is not by knowing the Pythagorean theorem that the free exercise of a person's reason will be assured. Rather, it is assured by having rediscovered that there is such a theorem and how to prove it. The aim of intellectual education is not to know how to repeat or converse ready-made truths. It is the learning to gain the truth by oneself at the risk of losing a lot of time and of going through all the roundabout ways that are inherent in real activity."

Jean Piaget - To understand is to invent

David Spendlove
Liverpool John Moores University
(Editor, Fellow 1999-2000)

Please visit the
Gatsby Teacher Fellowships Website
www.gtf.org.uk
for further details on fellows' projects

DEVELOPING MACROMEDIA FLASH™ MOVIES FOR SCIENCE TEACHERS

I've always been frustrated by conventional whiteboards and chalkboards because they limit teachers to the use of static images and text when explaining concepts and ideas to students. This causes problems since many of these concepts are continuous processes. Science in particular poses problems for teachers, as many scientific processes involve fluid situations where static diagrams and text alone rarely help to fully explain the concept.

Technology has finally caught up and now makes it possible for teachers and their students to enjoy multimedia presentations via digital projectors or personal computers. Software packages such as Macromedia Flash enable teachers to animate both text and graphics and so offers the opportunity for teachers to bring to life their presentations. Better still, one of the key elements of Flash is interactivity. This allows students not only to view a flash movie but also to interact with it, making it possible for them to get fully involved in a lesson.

The Gatsby fellowship has enabled me to purchase the hardware and software in order to start producing a range of Flash movies to aid the teaching of science. I've also been able to receive a little training that has helped me to get to grips with the Flash software (which is quite difficult to use!) At the moment I'm creating a movie to explain enzyme action to 'A' level biology students. The movie is interactive and includes the lock and key hypothesis, but also the induced fit model as well as the effects of temperature, pH, substrate concentration, enzyme concentration and the effect of inhibitors.

I hope to produce several movies during my fellowship year on a range of scientific topics. Once produced the movies will be freely downloadable from various web sites; they will also be disseminated to teachers on floppy discs or CDs.

Arthur Harwood, Bishop Stopford School
Fellow 2002-2003

HOW FAR DO YOU HAVE TO TRAVEL TO LEARN SOMETHING NEW?

Shortly after being awarded a fellowship I took a school trip to Romania. We stayed in a hostel in the north of the country in the mining town of Baia Mare. For ten days the contingent of fourteen Welsh pupils from St Cyres School, Penarth worked with their Romanian counterparts (and a few Hungarian, Bulgarian and Italian students) on a range of multimedia projects.

It was an exciting time for the Welsh. The journey through Austria, Hungary and Romania was one of the highlights. Meeting students from a very different country and visiting places which seemed like a living history lesson was very fulfilling. Yet, the main reason for the visit was to learn about modern multimedia techniques and our students were very surprised to discover computers more up-to-date than some, which we have in our school. Just as impressive was the amazing ability of the Romanian students who could give lessons on work and commitment.

The visits became the focus for PowerPoint presentations, which the students were encouraged to give to each other (there were 150 students at the camp). The best presentation was by a Romanian group on the perils of smoking done on Office XP, while our pupils excelled by editing a newspaper called "The EuroLink" which we brought home on CD.



What did I learn from the trip?

Of course there were the benefits of seeing my team grow in stature after they gave a presentation of Wales and the Welsh and of course the pleasure of meeting and learning from trainers as far a field as the USA, Russia, Italy, Hungary, Bulgaria and Malta. The Romanian students were a delight and keep me busy on the Internet with their latest news and questions about "the West".

And I learned how to use "Yahoo groups" to support my teaching in school.

Since returning I have set up three Yahoo Groups at KS3, 4 and 5 to support the students I teach. The Yahoo group allows me to post messages to my students, provide worksheets and revision material,

distribute PowerPoint presentations (that's what my Fellowship project is all about); offer links to good websites, send global e-mails and even "chat".

The students seem to like the groups and there are always a lot of visitors just before a test! The GCSE group is busy because help on SC1 and support for the mocks is there and the A level site will be well used as modular examinations appear over the horizon.

For reference, my groups can be examined on:
http://groups.yahoo.com/group/hollers_chemistryGCSE/
http://groups.yahoo.com/group/hollers_chemistryAlevel/
http://groups.yahoo.com/group/hollers_chemistryKS3/

**Peter Hollamby, St Cyres School
Fellow 2002-2003**

A-Z

I have begun developing an A-Z of design terms. This was based upon an idea of Jeremy Myerson. Jeremy works at the RCA and is a respected Design Journalist. He produced an A-Z of design for the Channel 4 series featuring Seymour/Powel. It was not aimed at schools and contained specific programme references. With his permission, I have begun to produce a fully linked hypertext format and written version of this A-Z for school based use. I intend that when complete it will be updateable and used to support advanced level students and those studying key stage 4 product design and similar courses. I have shared my first drafts with Jeremy and a number of others who feel it is of great value to further develop this resource. I have agreed to share this resource with all through the TEP distribution network.

**Mark Hudson, Thomas Telford School
Fellow 1998-1999**

COMPUTER BASED PROGRAMMED LEARNING MATERIAL TO AID TRANSFER FROM GCSE SCIENCE TO AS COURSES IN CHEMISTRY

Being a slightly obsessive character, as soon as I found that I'd been awarded the fellowship in March I started some limited work. It's probably a good job I did, as I would have been hopelessly bogged down if I'd waited until September. Since March the learning curve has been very steep.

My submission mentioned that I intended to use MSWord on the basis that most schools use it. However it soon became clear that it wasn't suitable; first not every school uses the same version, secondly it really is not very versatile. My IT colleagues were full of suggestions - MS Publisher, MS PowerPoint etc. So I explored them and they were equally unsuitable for various reasons. By the end of the summer term I had come to the conclusion that a web page format was the way forward and then spent much of the summer holidays learning to use MS FrontPage - a web design package. (I felt justified in my choice when I got back to school and found the RSC publication "Alchemy?" was in the same format.)

There's lots of material on the web, a lot of it done by people more talented than me, but they are generous. Carnegie Mellon University, in Pittsburgh, has given me permission to use a really flash version of the periodic table. The RSC and their authors have given permission to use some programming from the "Alchemy?" CDs, and I am using some software from "Half Baked Potatoes" to produce word quizzes (though I did have to purchase a licence).

Work has progressed at a pace since September and a comprehensive draft is being trialled in three local schools. Although I'm not sticking to my original timetable I'm not too far off target. If my work gets rave reviews it will be quite a boost to my ego and it will inspire me to carry on. If it gets pulled apart then there's still enough time to rectify the situation. Here's hoping!!

Jack Edwards
Rawlins School and Community College
Fellow 2002-2003

USING INDUSTRY LINKS TO TEACH PRIMARY SCIENCE AND TECHNOLOGY IN N. IRELAND

In June 2002 pupils from Eden Primary School presented the project they had just completed entitled "Generating Electricity" to a prestigious audience gathered at the school. Guests included Dr Sally Montgomery, Chief Executive of W5, the interactive science museum in Belfast, Dr Julie Corbett, Chief Executive of the N. Ireland Business Education Partnership and Carmel Gallagher, Development Officer for CCEA, the Curriculum Council for Examinations and Assessment for N. Ireland. The children gave an excellent power point presentation covering all aspects of their investigation into generating electricity at the power station opposite their school and at F.G. Wilson Engineering Ltd, one of the biggest producers of portable generators in the world. The pupils had visited both workplaces and had also studied alternative methods of producing electricity, which avoid the burning of fossil fuels. They concluded the presentation with a short improvised play that they had written themselves about the dangers of mains electricity. They then demonstrated the electrically operated toys that they had designed and made. They received great acclaim and thoroughly enjoyed the experience. The project is suitable for the new curriculum, which will be introduced shortly into school where pupils will learn through topic work rather than individual subjects.

Linda Hooke, Eden Primary School
Fellow 2002-2003

SICK SOLUTIONS!

The alarm goes off and you realise you have a blinding headache, sandpaper throat and are about to throw up. Then a thought pole-axes you - you have to phone in sick with suggestions to keep your class busy all day *and you have science timetabled for an hour in the afternoon.*

Or, you are happily setting up your first lesson while liaising with the classroom assistant when the Head peeps round the door - can you quickly fix a science lesson for Y5 as their teacher is ill and the supply can't find any of the equipment. Panic!

After experiencing both of the above, and trying to explain Y6 objectives to a supply teacher more used to Y1, I decided that there had to be an easier way. In essence the problems were:

- Supply and cover teachers with limited or no scientific knowledge of the topics studied by pupils in unfamiliar age groups, thus, at best, being unable to teach the topic to sufficient depth, and, at worst, misleading the pupils with misinformation.
- Lack of lesson plans to hand, especially in the case of sudden illness.
- Dovetailing an outsider's approach with how the class teacher planned to move the topic on.
- Gathering and setting up suitable equipment in a very limited time, or being unable to explain to covering staff how the equipment set out works, resulting at times in damage or loss.

The conventional solution is to have a stack of worksheets to hand. This may be convenient for the teacher, but I felt that a science worksheet sold the pupils short, especially as many of them look forward to science lessons and the chance to experiment. I know from my own children's experiences that an absent teacher can often mean a whole day of worksheets and be rather depressing.

I wanted a different solution, which the children would enjoy and would take the pressure off busy science co-ordinators and sick teachers. The criteria were:

- Active lessons with no worksheets in sight!
- A script for the teacher to use, which was self-explanatory and involved no prior knowledge of the topic.
- All equipment to be included with each lesson.
- The subject matter would not intrude on what the usual teacher might be planning to cover, yet would not be outside the National Curriculum guidelines for each age group.

The last of these points was the key to the whole project. I studied my own class reflectively and noticed that the stumbling blocks to learning were often not the actual subjects I was teaching, but the lack of assumed pre-knowledge and thinking skills. The next stage was to discuss my findings with other science teachers to find out whether or not my class was unique.

Through collaboration I identified several background skills that children in general lacked. These were:

- Listening and recall skills.
- Attention to detail, especially differences between similar objects.
- Awareness of the passage of time
- Colour differentiation.
- Logical reasoning and the process of elimination.

I decided to produce three self-contained lessons per age group reinforcing these skills in a variety of ways. Each lesson would be based around practical activities

designed to underpin the normal class work without impinging on what the usual teacher may have planned. But how would I present them?

After much thought I decided that the best way to organise the lessons would be to produce 'supply boxes'. Each box would contain all the lessons and, vitally important for them to be of practical use, all the equipment needed by the school for their implementation. This was harder than I imagined as many of the items I wished to include were not commercially available (e.g. sets of laminated A4 cards in 14 colours including cyan and magenta; playing card sized photos of items under varying magnifications), so I had to make these myself.

Originally I envisaged producing an Infant School box, with lessons for Reception-Y2, and a Junior School box, with lessons for Y3-Y6, however the LEA advisor suggested making a First School and Middle School box as well, thus extending the age range to Y8 and gave me the contact numbers of the local schools which he thought might be interested. As well as these I had two brave supply teachers offer to use some of the lessons and the staff at my own school tried them out, providing detailed valuable feedback face to face.

My first big problem on contacting the LEA schools was the National Curriculum! Many schools have every second of every day planned out for the whole year ahead and could not envisage allowing a class one hour in which to try out a speculative lesson. I found it very disheartening that the teachers in some schools had absolutely no autonomy.

My second big problem was OFSTED. Having agreed to take the boxes, one school pulled out due to an unforeseen inspection and another agreed to keep the box, but delay trialing the materials until after their inspection.

After Christmas 'new improved' boxes, modified on the basis of the feedback questionnaires are to be sent to a different set of schools. I also plan to produce a CD with all the lesson plans etc. on it so that anyone wishing to can make up their own box.

My ultimate hope is that every school will have a 'science supply box' and no teacher will ever be in dread of being ill on a science day again!!

If you would like further information on the boxes please contact me by telephone 01628 483350 or email a.sweeney@o2.co.uk

**Anne Sweeney, Herries School
Fellow 2002-2003**

ICT TRAINING

ICT Training Workshops at Thomas Telford School took place on Saturday, 30th November 2002. Mark Hudson and Jonathan Boyle led an ICT training day for Gatsby Teacher Fellows at Thomas Telford School in Shropshire. Two sessions were held. The first focused on PowerPoint and the second concentrated on how to develop auto run CD-ROM content and video capture.



Mark covered PowerPoint basics including how to insert simple video and images. Jonathan taught how to create splash screens for running video files, Word documents, playing music and how to capture live video from the computer desktop. As well as being enjoyable, those who attended found the training very useful.

**Lisa Page
Gatsby Technical Education Projects**

DESIGNING AND MAKING AIDS FOR DISABLED CHILDREN IN THE COMMUNITY

Year 8 pupils at St James Middle School, as part of their National Curriculum Technology course, design aids for children with special needs in the community. Referrals for projects come from Riverwalk Special School BSE, Child Development Centre BSE, Thomas Wolsey Special School Ipswich, Stowmarket Opportunity Group and Minden House Bury St Edmunds.

Barclays New Futures, in collaboration with CSV (Community Service Volunteers), offers schools and their students the opportunity to develop vital skills for life, work and citizenship through school/community partnerships and have awarded the project £5000. The project has attracted 2 other awards:

- MAD (Make A Difference in the Community) award (Suffolk) for the year 8 Technology project to design and make aids for disabled children in the community.
- High Sheriff's Award (£500) for Community Project work in Technology and for the Folk Group with Music in the Community. Awards were presented at Police FHQ Martlesham in June 2002 and an exhibition of Technology work for disabled children was set up. The Folk Group provided music in the award ceremony. Publicity was generated in the press and on Radio Suffolk.

Barclays New Futures Award was for Both Community Projects – Technology and Music in the Community. St James Middle School was presented with a plaque by Barclays for the Award. I attended the Barclays NF induction day in Birmingham with Penny Waters (school Governor) as a guest. A further £1,000 sponsorship for the community project was received from the Vinten Trust.

I was assessed for AST (Advanced Skills Teacher) in September and take up a post in January 2003 as the first Technology AST in Suffolk. I hope to concentrate on Technology and Citizenship links and raising the achievement and motivating boys (including disaffected boys). Perhaps other Gatsby teacher fellows may be interested. If so, please contact me by email ricky5844@aol.com

**Ricky Wilkinson MBE, St James Middle School
Fellow 1998-1999**

MOVING ON

CAD CAM Cookies 3 is in the wings. The film crew have been booked for January and I fully intend to get the video content edited by March. The content this year is to again focus on the absolutely brilliant ArtCam for Education software.

Last year's CD ROM has been distributed countrywide and has received a significant amount of press in the Times Educational Supplement. The topics this year will bring aluminium injection moulding tools, a material called Jesmonite and the usual thermosetting polyurethane to the CAD CAM table in a variety of new projects. I have also invested time in more advanced CD ROM authoring and DVD authoring.

If you fancy having a fantastic time with interactive menu choices whilst actually watching video, buy yourself a decent DVD package. Hopefully two versions will be released, one on DVD and one on CD ROM.

I have just secured a new post with responsibility for driving forward Technology at The Walsall Academy after twelve happy years at Thomas Telford School. The Academy is going to be a CAD CAM heaven when it opens in September 2003 and for those of you that know me well it will suit me down to the ground.

**Jonathan Boyle, Thomas Telford School
Fellow 2000-2003**

FAST PLANTS

My fellowship project was to investigate the development of fast plants in key stage 1 and 2 and develop a workbook containing useful guidance for pupil and teacher.

To this end I still continue to run workshops and twilight sessions for schools in Hertfordshire, most recently for a day conference run by the Consortium of Bishop's Stortford Primary schools. I led 2 workshops, one for each key stage and introduced over 60 staff to the

SAPS fast plant scheme. I am very pleased with the advances made in the use of the plants and the diverse nature of investigations that are now carried out.

Having mastered new ICT skills, mainly thanks to Thomas Telford School (Mark Hudson & Jonathan Boyle), I am now planning to develop a CD on fast plants, using PowerPoint and other digital video software. I have just planted a new set of seeds and will be testing time elapse photography.

The next workshop is planned for a group of Essex schools towards the end of January. It will be the first time I will use digital images and a data projector for a session such as this.

Any further enquiries to jforgham@hotmail.com

**Jonathan Forgham, Summercroft JM School
Fellow 1998-1999**

VIRTUAL WALKTHROUGH

Currently this project has one major development, which I am currently working on and which is proving most difficult, namely the virtual walkthrough of the Physics Lab.

The first program that we tried to use was VR Worx 2.1

The VR Worx™ is the complete suite of QuickTime Virtual Reality authoring tools from VR Toolbox™ and the VR Worx combines all our QTVR tools into a single integrated interface. It also gives us the ability to generate QTVR Panorama movies, Object movies and Multinode scenes.

This was our first idea, however problems arose:

- The software is expensive.
- It is not possible to show all areas of the room.
- A special lens is required for the cameras and this added to the complexity and the expense.

The second program that we tried to use was Blender. This is a professional 3D computer aided design package for Linux and Windows that can output in many recognized 3D file formats; therefore Blender is not strictly a VRML world-building tool. Blender could be used to create a VRML scene if the author of the scene was familiar with its complex controls.

This was our second trial, however problems we encountered other problems!

- Although the program was free the in depth functionality of Blender meant that generating 3D scenes was not easy
- The learning curve associated with building even the simplest of scenes is steep due to the large array of design tools available.

Due to the problems encountered with the first two programs we then tried a third CiteMap™ Builder.

- This program CiteMap Builder is free it is easy to use and, while it will not support complex VRML worlds, it is like a map of the London Underground since it provides the user with the information they require in a simple, easy to navigate web page.

- CiteMaps are interactive VRML scenes of hyperlinked 3D objects. The CiteMap Builder is designed to be very simple and easy to use, even for those with no VRML experience. A collection of over 100 objects can be dragged and dropped onto a grid, and additional information such as URL, label, title, and abstract can be applied to each object.
- The resulting 3D landscape can be traversed using any VRML97-enabled browser. The 3D scene can be embedded in an HTML page, or placed into a two-frame page with a VRML window linked to an HTML window. The URL and title are used to automatically create a hyperlink for each object; the label is applied as in-scene text; and the abstract appears as an in-scene text pop-up (with a selectable delay).
- The VRML files created are easily edited to change colours, add image textures, etc., providing an excellent entry point for learning about creating 3D Web pages.
- CiteMap Builder comes with a tool called VRML Data Trimmer, which can be used to greatly reduce the file size of the resulting VRML files.
- CiteMaps can be used to enliven numerous pages, such as providing high-level guides to a site, collections of related or cool links, or sharing favourites or bookmarks.
- CiteMap Builder will work on any Pentium PC running Windows '95, 98, XP, 2000 or NT. Any VRML97 capable Web browser can view the resulting CiteMaps.

I therefore have decided to use CiteMap for the working walkthrough of my lab, A7 for the January 2003 meeting at the Royal Society.

Due to the unprecedented amount of time that this has taken and on the advice of my Gatsby Mentor, Sandra Amos, I have decided not to do a walkthrough of the other labs in the Physics Department. Instead, from mid-January onward my time would be better spent linking all aspects of the project together so that by June 2003 the complete database would be on the Physics Website. Between June 2003 and November 2003 I would wish to be completing and putting the final polish on the technician and teacher resource material which I would see as being the most potentially useful part of the data base for fellow teachers. This would be formally launched at the international European 'Physics on Stage Conference' in November 2003 where it would form part of the UK team entry for this European Space Agency sponsored conference.

**Denise Gault, Dalraida School
Fellow 2001-2003**

GRAPHIC CALCULATORS AT KS3

I consider the graphic calculator to be the most versatile piece of technology that is presently available to teachers today. Its main attraction is that it is portable and readily used in any classroom.

With this hand held piece of equipment you can deliver many aspects of the maths and science curriculum. Combining this with an OHP, demonstration lessons can take place by projecting the image onto a white surface such as a white board.

I now use it regularly with my daytime classes and in our after school year 9 Booster Classes.

The ability to plot and show travel graphs as a result of students moving towards a motion detector and back gives real meaning to speed and distance, especially when you describe the graph you wish them to produce and the class is giving various suggestions of "now move quickly" "now you need to slow down" "now you need to stop".

The graphing facility is superb for students that have great problems and staying power when they need to draw axes, produce tables of values and plot points before they can start discussing gradient and intercept. With the graphic calculator this can be done by putting in an equation and the graph is projected onto the white board in the classroom and students can then do this with their own one too.

We have had great fun with these calculators and I now have a full set in my school, thanks to Gatsby. The students enjoy using these and it enables them to access some quite sophisticated maths that they would otherwise not have been able to do. Their feedback at the end of sessions is one of enjoyment showing a positive attitude. This enables the members of staff to join in and learn along with the students.

I was one of the teachers fortunate to have the opportunity to go to South Africa. Part of my work there was to go into schools and teach. I took my motion detector and graphic calculator with me and the facility to use the OHP. The staff had never seen this before and I could deliver a revision lesson to their final year students on exponential graphs (equivalent to our year 13 A level). I also gave INSET to staff at the Science Centre where we were based.

I feel I am just starting out in this project and can envisage so much more I need to do. I am about to start a maths extension group for our bright mathematicians. I have also been approached by a maths advisor to do some INSET in the north of England for the staff in his region.

I am enjoying my project and really appreciate the opportunity I have had in running it.

**Pat Warner, Cowes High School
Fellow 2002-2003**

GIYANI SCIENCE CENTRE

Two Gatsby teacher fellows took part in a visit to Giyani Science Centre in South Africa: Mike Growcott, Callington College and Pat Warner, Cowes High School. This is a brief outline of their itinerary.

Monday 22 July

The programme started with a welcome meeting with the Director and the staff at the centre. Then, in the company of two members of staff who were gathering information from a group of teachers, visits were made to two schools, one primary and the other secondary, in very remote areas of the region. To say the schools were very different from the UK would be a major understatement; characteristics of the schools included a sense of complete isolation, a lack of running water, large class sizes, bare rooms, very limited equipment but committed teachers and polite and motivated students. In the primary school, there was the opportunity to engage in discussion about difficulties in implementing developments in science and technology and in the secondary school; an outdoor lesson on agricultural science was observed. (The roof of the school had blown off and the recently completed building remained closed due to a 'payment difficulty'). The teacher, limited to a piece of chalk, a black board that rested against a tree and a well-used hand-drawn diagram on paper for resources, employed a 'lecturing' style with regular stops for questions and as is the norm, the language used was English.

Tuesday 23

This visit to another rural school was with a member of staff and the driver of the truck towing the mobile lab. A presentation to approximately 200 students on acids and bases, with very limited resources, was observed.

Wednesday 24

Two visits were made to schools. While like Monday, one of the two visits was for gathering information purposes for the centre, the other visit allowed time to discuss 'difficulties' experienced by the science teachers in the school. A lack of confidence, particularly with handling chemicals, was clearly evident and emphasised the importance of the work of the centre. After work, a trip to a nearby resort was undertaken.

Thursday 25

After individual work, cultural visits were made to a village wood-carver and pot 'shop' about two hours drive from the centre. In the evening there was a round trip of approximately 200 kilometres to a Hotel/Casino.

Friday 26

The morning started with an exchange of thoughts/ideas at a meeting with some staff from the centre. There followed a visit to a private school where, as you might expect, the environment and conditions were very different from the village schools, e.g. a slide projector was used for a lesson on cells. In the late morning a cultural visit was made to the Manombe Museum and a Tsonga village before leaving for the national park.

Saturday 27 and Sunday 28

From a base at the excellent Mopani camp-site, two very full but extremely enjoyable days were spent at Kruger National Park. The opportunity to clearly observe a wide range of animals in their natural habitat, including elephants, giraffes, hippos, zebras, baboons, monkeys,

crocodiles, waterbucks, etc. was exciting and certainly a very memorable aspect of the visit to South Africa.

Monday 29

Individual work/discussions with staff at the centre was followed by an afternoon exchange of thoughts/ideas at a meeting chaired by the Director.

Tuesday 30

The day was used to prepare for a workshop for teachers and for discussions with staff.

Wednesday 31

Following further preparations for the workshop, there was an afternoon cultural visit to the hot springs and saltmine at Baleni.

Thursday 1 August

The morning was used for final preparations for the afternoon workshop. This was delivered to two different groups of teachers. Observations indicated the wide variation in the participant's confidence and competence in practical activities as well as subject knowledge. Evaluations were excellent. In the evening there was an extremely enjoyable farewell meal that was accompanied by a display of local tribal dancing.

Friday 2

Following the final and very sincere all-round 'thankyou' meeting, the visitors left for Pietersburg and a short afternoon meeting with the Minister of Education for the Province.

BEST PRACTICE WEBSITE

The Technology Colleges Trust is launching a best practice website early in 2003 as a way of sharing best practice in their schools. If any fellows would like to contribute some material please get in touch with me by email janetw@tctrust.org.uk
Thank you.

**Janet Waters, Technology Colleges Trust
Fellow 1999-2000**

LARGE SCALE LECTURES TO ENHANCE SCIENCE LEARNING

What do you remember? If you think back over the last weeks and months, what sticks in your mind? Is it the mundane things of everyday life – or is it the exciting things that you have seen/done/experienced? A holiday abroad – a great concert – a beautiful sunset... And about science? The things we probably remember from school are Bunsen burners, the Van de Graf generator and burning magnesium – the things that had a large "WOW!" factor.

It is my aim to try and enable teachers to take this "WOW!" factor and use it on a larger scale in the school environment.

Most schools have a large hall, some staging blocks and a digital projector. Most science teachers enjoy seeing people enthused about their subject. It is my belief that the two can be combined in a way that both raises the profile of science within the school and also enhances learning.

It all started with the Christmas lectures – BBC2 every Christmas holidays. Great atmosphere, interesting experiments and I remembered them! When the A level Physics course had a section on the properties of materials at different temperatures I thought it would fit perfectly to turn it into a 40-minute lecture. When I did this the pupils loved it. In fact they still talk about it and ask when the next one will be!



My project this year is to write up the lectures to allow others to perform similar lectures in their schools. Often it is not a lack of desire or presentation skills, but just the time to sit and prepare that stops people doing them. What I hope to produce is a usable resource allowing teachers to put together quickly a presentation that matches their school's needs and audience. This will include PowerPoint presentations, lecture notes, experimental details, safety requirements and video clips of the important parts. It is my vision that seeing the entire year group in the main hall watching a presentation about an area of their curriculum will become commonplace. This starts to restore the excitement in seeing the amazing sides of science in the atmosphere of a large group. By enabling teachers to achieve this without having to sit for fifteen hours preparing it beforehand will, I hope, be a step towards seeing this happen.

**David Richardson, Gordano School
Fellow 2002-2003**

TRANSITION

Is there anyone out there who has cracked the secret of a smooth transition from middle to high school? Perhaps I am particularly concerned because in the 3 phase schooling system (as on the Isle of Wight plus a few other areas) I feel that we see so little of our pupils. The 8 terms between joining us and leaving to sit GCSEs is so short I do not feel we have enough time to provide a really rich and broad experience.

During my fellowship year I arranged to have groups of year 8 pupils for master class sessions in Design and Technology. We covered many aspects of IT within DT –

including using control software, using a CAMM1 and CAMM3 and electronic design software. Six months on I surveyed all the students who took part.

1. Did coming to the sessions help you choose your option in Design and Technology?
2. Did coming to the sessions help you improve your knowledge in Design and Technology?
3. Did coming to the sessions make your move to Cowes High easier in any way?
4. You are following one option in Design and Technology.
 - a) Do you find it interesting and challenging?
 - b) Is the work what you expected?
 - c) Was the information I gave you about the choices clear?
 - d) Any comments about the course?
5. I would like to run further classes to help year 8 pupils understand about their options in Design and Technology at high School – could you tell me how YOU think they could best be run. I would like your ideas on what time of the year, group sizes, what projects they should do?

All students felt that the series of sessions should be repeated, opened up for more students to participate and run in small groups of 6-8. I had only one student in my class who took part in the master class and when we started using the CAMM1 and 3 it was great to have someone there already able to run with it.

We ask pupils joining Cowes High to select a Design and Technology option towards the end of year 8. To facilitate this I visit all of our feeder middle schools to meet our new pupils and explain the options within DT. We work with middle school colleagues to involve them in explaining the differences between the five subject areas we offer. I run through a presentation and take plenty of examples of work to illustrate the difference between say Graphic Products and Resistant Materials. Pupils give a first and second choice, about 10-15 pupils move during year 9. Year group is 280.

Request for help: I would be interested in hearing from anyone that has run or experienced creative subject specific links with feeder schools. I would also be pleased to receive comments (however short) about the system on DT options that we run.
Email mikeallicargill@hotmail.com

**Mike Cargill, Cowes High School
Fellow 2001-2003**

**For further information on the
Gatsby Teacher Fellowships Programme
please contact:**

**Lisa Page
Gatsby Technical Education Projects
Allington House (1st Floor)
150 Victoria Street
London SW1E 5AE**

Telephone 020 7410 7127 Email l.page@gtep.co.uk