REVIEW SECTION

Textile Innovation
Helen Wilson, Head of Textiles Technology, Plantsbrook School

This book has got to be the answer to any textiles teacher's prayers! The inclusion of modern and smart materials in the Key Stage 3 and 4 Programmes of Study (Curriculum 2000) has meant I have spent a considerable amount of time surfing the web to resource my teaching of this aspect of textiles technology. I was therefore delighted to find a comprehensive textbook with the answers to all my questions!

This book has got to be the answer to any textiles teacher's prayers!

The book is clearly set out in three chapters that cover:

- **developments in commercial fibre sources**
  All you need to know about the main natural and manufactured fibres including really up-to-date information on technological developments. (Did you know they are working on genetically modifying cotton so that it can be grown in different colours?)

- **non-traditional fibre sources**
  This chapter covers some of the more unusual fibre sources, for example, bast, peat, alginates, metals, and minerals. There are also some very unusual fibre sources described - bio fibres (fibres produced using genetic engineering i.e. by adding a single spider silk gene to the DNA in goats has produced bio steel fibres within the goats milk) and nano-fibres (fibres as small as one micron or even less).

- **New properties**
  This covers all the protective and comfort properties plus those all important "smart and interactive" textiles (Chromatic dyes and inks, "Wearable" electronics and Biomimetics).

Understanding fibres and fabrics and all the new technological developments involved in their production is often a daunting prospect for teachers, and even more confusing for pupils! This book is written in a way that even the less scientific among us can follow and understand it easily. It provides invaluable reference material for any GCSE or post 16 Textiles course.

Each fibre or topic is set out on a double page spread with clear text and black and white illustrations. There are two questions for students to answer related to the fibre/topic. As it can be photocopied for use in school these can make ideal worksheets for use both in lessons and for homework.

The appendix includes a comprehensive glossary covering all the technical vocabulary used in the book. There are useful web addresses for numerous different fibres and fabrics to enable students to carry out further research. There is also a list of textile manufacturers contact details (with the suggestion that teachers rather than students contact these!)

The book costs £35 (a similar price to other photocopiable resources) and is certainly worth every penny. It addresses all the needs of both the student and the teacher in coming to grips with this rapidly changing area of textiles technology. It is definitely worth adding to your resource library.
If you are an ‘arty’ textiles person you will find this a fascinating booklet. The projects included cover many of the traditional methods for transferring designs onto fabric, like tracing and using carbon paper. However Margaret has described and produced products using some interesting new and very original techniques, many of which involve using ICT.

Each method for transferring designs is briefly outlined in the contents section with reference to practical projects that take you through the process in more detail. These include:

* hand copying - from designs produced on the computer
* using carbon paper
* tracing – traditional techniques and using soluble fabric and scanned images
* transfer dyes used with designs produced on the computer
* using printouts as templates and stencils
* direct sewing by hand or machine
* printing directly onto fabric using an inkjet printer
* cross stitch and canvas work designs.

The projects not only show how designs have been transferred to fabric but also offer some exciting ideas for developing the designs themselves. The projects are described quite clearly although some may take more practice than others! A basic understanding and competence in using a graphics program is needed for some of the techniques. There are several projects that involve printing directly onto fabric using an inkjet printer (with the appropriate warning about the risk of using fabric in a printer!) These could be used with students to develop a basic understanding of digital printing.

The booklet offers some interesting ideas for teachers to experiment with. These could be developed with students to combine traditional and technological skills in an artistic, creative way to produce imaginative textiles products.

A list of suppliers is included with reference to the products used in the different projects.

The booklet is available by post and is inexpensive enough to be a useful addition to the both the textiles and art departments resources.
Food Solutions: Food and Technology

Reviewed by Jonty Kinsella, Deputy Head of Department, Orleans Park School

Written for a particular syllabus in Australia, this heavy text is not a design and technology style book to which we have become accustomed to here. The 300 odd pages are filled with dense text divided into 14 chapters. At the end of every chapter there are student activities and a debate and discussion section. Pages for these more active sections are about 5% of each chapter. Pages are mainly black and white with an occasional coloured spread of photographs of industrial aspects, labels, diagrams etc.

Chapter headings show a definite focus on food production in industry, and the case studies are supported by current industrial practice, and many Australian companies have been credited with assistance in the preparation of the Book. Headings include ‘Influences on food production development’, ‘Processing of food commodities’, ‘Creating new food products’, ‘Food production systems’, ‘Modified food products’, plus old favourites ‘Packaging’, ‘Preservation’, ‘Ingredients’ etc.

Techniques for pupils of research and resourcing, are included to assist with the school assessed course work. Recipes are chosen, 26 in total, to illustrate food production techniques and the scientific theory that underpins them. I was interested in many of these, as they are so different than we are used to in the UK. For example lime and passionfruit butter, smoked nuts using ‘smoked mixture’, raspberry vinegar, glace figs. There are familiar ones too of course - marmalade, hot pot, lemon meringue tart.

When assessing such texts, I look for the overlap with our ways of working in school. I ask ‘to what extent could a pupil, raised on a diet of our new-style design and technology textbooks, cope with this? In the UK certain books have tried hard to redefine and reanalyse the concepts that are required for the application of knowledge. For example in the 1970s, there was a group of curriculum developers in London, whose work redefined the whole approach to food technology. Technology concepts were identified and described as never in the past. New teaching methods were invented or taken from other areas such as science and used for the learning in food studies. Concepts were sequenced for a level of difficulty of understanding, and ways and times for their introduction to children were assessed. Our new texts since, to greater or lesser degree, have tried to do this - to act as a bridge for pupils whose imperative is product development and who need help to cherry pick the background information needed and then to apply as appropriate.

This textbook has none of these pointers to knowledge - the need or its use; the knowledge is not set in a context of ‘need’ for a project. Perhaps however, this is exactly the skills ‘bridge’ pupils will need when moving into the world of higher education and the types of book they will use there, were the book holds no indication as to how to garner knowledge for the need on hand.

So- the use to which this could be put? I would suggest it is a useful reference book on industrial practice, for teachers of able pupils with advanced syllabuses in Years 12 and 13 and beyond. And as always with new texts, I always learn something for which I am most grateful.
What a pity this book was not published three years ago, when providers of New Opportunities Fund (NOF) ICT programmes were beginning to develop training materials. This informative text and accompanying CD-ROM would undoubtedly have clarified 'the when and when not' to use ICT in subject teaching. Food technology teachers who still feel less than skilled would do well to buy this resource for the quality and coverage of the subject material.

ICT Activities for Food Technology is in two complimentary parts. The pack effectively supports teaching and learning of ICT through teachers' notes, which may be photocopied, curriculum mapping, activities and design and make assignments. Similarly the CD-ROM contains templates, writing frames, interactive features and a comprehensive glossary, all of which will support students and teachers.

At £149.99 for a site licence including five CDs and full photocopy facilities, this resource represents good value. Used in conjunction with both generic and subject specific programs it will enable students to understand and apply appropriate ICT skills into their food technology work.

One topic that the author deals with particularly effectively is that of computer aided design (CAD). After explaining how the food industry uses CAD in the design and development of a product, it is reassuring to read that in school, this may be slightly different, but none the less, equally as valid. Other topics are treated in a similar manner, with clear technical explanation and 'how to' instructions ensuring that the reader is helped to understand and practise ICT skills in context.

I would recommend this resource as essential for any forward-looking department. It will enable teachers to respond to Curriculum 2000 with confidence and competence.
GCSE Food Technology for OCR

Reviewed by Karen O'Mahony

The resource comprises of an updated student book with a photocopiable teacher's file to support it. It is targeted at GCSE students who are studying for a food technology course, and specifically for the examinations offered by the OCR examination group.

The teacher file contains photocopiable resource sheets and exercises that support the sections of the student book. These folder materials extend and develop student knowledge and expand the themes and topics covered in the student book. Templates or proformas are included for students and/or teachers to use. These include assessment sheets linked to OCR, safety and quality checks, a hazard chart, a product specification, a control check chart, and star diagrams. The back part of the file contains proformas and worksheets that are designed to support the OCR entry course in food technology. This course is aimed at students who may not achieve more than a 'G' grade at GCSE. The three units from the Entry Level specification are backed up with copiable worksheets that tie into the assessment objectives.

The book is divided into sections on nutritional needs and food choices, hygiene and safety, food ingredients, food production, individual case studies and general food technology and project skills.

The student book is colourful and attractive. All topics are laid out in double page spreads that contain information, graphics, key points and student practice questions. A very wide range of topics are covered and students get a good basic introduction or outline to each. Topical photographs from the manufacturing industry are used, giving students an insight into the way products are developed and made.

The nutrition and hygiene and safety sections cover dietary issues, special food needs and vegetarians, food law, and food commodities in a fairly traditional way. The rest of the book is presented with a definite food processing/technology slant.

The best sections are those on food production, including a range of industrial case studies. These show examples from a range of manufacturing scales - from small to large-scale production outfits. Links with CAD and CAM are made fairly explicit through text and graphics.

At the back of the student book, there are sections relating to coursework skills, with some examples of quality student work. The teacher file support this work by giving examples of how ICT could be used to present project work. This links with the new requirement for ICT skills to be taught through food technology in the new criteria for GCSEs that were introduced in September 2001 for first examination in 2003.

Effectiveness for target audience

This resource would be good for any student or teacher involved in a GCSE food technology course - not just those following the OCR specification, although the assessment objectives and content is obviously geared towards covering the subject material in the way that OCR require.

The material in the book alone, although broad in nature, would not be in sufficient depth to cater for those students who are targeting A/A* grade without the supplementation of the teacher file.

Capacity to support student and teacher

The resource offers good support to both student and teacher. There is a distinctly technological feel about most of the book and file, which gives students the right approach to the way they should think and work in food technology.

Particular strengths and weaknesses

A very good range of topics is covered in a bright and attractive looking way. At times, even with the support provided by the teacher file, however, the depth covered in topics can be a little limited and would probably need supplementation from other sources.

Presentation and cost

The resource in total would cost £35.49. This is probably justifiable if being used as the main course textbook or a supplementing resource. The two resources taken together offer very good value for money to the purchaser, although the student book is slightly more expensive than other books of a similar nature. The text and graphics are well balanced, and the book, in particular, is interesting and attractive. The teacher resource file is clear and well referenced to the book.
Focus on Wood Joints
Alison Hardy, Caistor Yarborough School, Caistor

This is another CD-ROM in the Focus series supporting students’ work in resistant materials and product design. The software includes animations of 37 wood joints with supporting information about the joints and their applications. One of its main uses is helping students select a joint for use in their projects.

The CD-ROM is easy to install and navigate, opening straight into the program. There is no introduction, which would have been helpful to give some outline of how to use the software. The opening screen has a menu on the left-hand side showing pictures of different applications for wood joints. By selecting one of the pictures you are led to another menu of suitable joints for the application; for example, by selecting tables corner mortise and tenons, haunched mortise and tenons, dowel joints and corner bridle joints are recommended as possibilities. Each joint comes with a computer-animated drawing; the animation demonstrates how the joint fits together. The drawing can also be zoomed in and out, rotated, exported and printed. Further written information and photographs of applications are also given about the joint to help students choose the right one. However, the information given is superficial with no advantages or disadvantages given. Some beautiful examples of furniture, with close-up photographs of the joints are shown; some students may find this is a source of inspiration for project work. Unfortunately in some photographs it is not clear how the joint is used.

Within the software there is a built in word processor for the students to make notes and write a report for their projects, pictures of the joints can also be imported and annotated. This is one of the most useful features of the program, it also appears in the Focus on Resistant Materials CD-ROM.

Included with the CD-ROM is an extra program - knock down fittings. The fittings are explained in a similar way to the wood joints using animations but there is no written information about their use.

It is a well-presented CD-ROM that is easy to use. Students would find it very simple to work with and collect relevant information for their projects. If a school already has the CD-ROM Focus on Resistant Materials then this software has a few similar characteristics that students will recognise. My feeling is that teacher guidance would be needed for the full potential of the CD-ROM to be realised by students. As I mentioned earlier, an introduction at the beginning would be of benefit or teacher notes with recommendations for its use.

If you are in a school that uses a significant amount of wood in projects or if you want to promote independent learning, encouraging students to make decisions on their own, then this is a useful CD-ROM to have. It is a program that students will respond to, as the animations do help with understanding how the joints work and the written information gives some basic facts. For students with difficulties in accessing information in a textbook Focus on Wood Joints may direct their thoughts for coursework. However, the program gives no extra information that is not already available from a good textbook and if you have a handling collection of wood joints and knock down fittings for students to look at then this CD-ROM offers nothing new to the classroom. Its main advantage is that it would bring ICT into coursework for some students.

For some design and technology department budgets, £59.95 is a significant amount of money for an insignificant part of the National Curriculum and GCSE and A* Level specifications. If you have the money to spare then consider buying it but I think it could be better spent elsewhere.
Designing for a Future
Reviewed by Ian Capewell, ITDG

Designing for a Future is intended for Key Stage 3 and 4 students and designed to increase their awareness of the social and environmental aspects of design and technology through the use of eight projects from different international contexts. The projects have a cross-curricular dimension that means there is valuable material here too for geography, science and PHSE teachers.

The student projects make up the bulk of this easy-to-use, spiral bound, 150 page book. They are followed by teachers’ notes, giving practical advice based on classroom experience. Technical and construction details are also included.

Set in an introductory context of ‘Is technology good for us?’ and ‘What is appropriate technology?’ the projects range from can crushing in the UK to wind power in Mongolia. Each project starts with a useful descriptive context, outlining what life is like for the people in the area where the project is based. It gives students a clear indication of their lifestyle and why there is a technological problem to be faced.

There is a clear analysis of why conventional solutions to each problem may be damaging. Students are then given a design brief and asked to make or model their own solution that is appropriate for the potential customer, be they in Holland or Nepal.

The teachers’ notes give an indication of the level at which each project is pitched, whilst accepting that much depends on the students’ ability and the openness of the design brief given by the teacher. Although some of the technical detail is challenging, every effort is made to explain it in simple terms appropriate to the age group.

The book will be an invaluable resource for all teachers grappling with ways of introducing the idea of appropriate and sustainable technology into their teaching. It sets realistic projects, though some require an understanding of quite complex principles. Each design and technology focus area is covered, offering the potential to include an appropriate technology design whether a syllabus is divided into focus areas or not. The emphasis is on resistant materials.

Six of the eight projects have a developing country context with only two from developed nations. This imbalance perhaps leaves an impression that students from the north can design to ‘help’ developing countries rather than indicating that design solutions may be appropriate in both north and south. A project showing how a design solution from a developing country might be introduced in a developed country would have been useful.

The student sections are clear and can be modified to the needs of an individual group. The teachers’ notes show that the ideas have been soundly tested, give clear indications of potential pitfalls, and suggest different possible adaptations of the main design brief.

The book will be a blessing to teachers trying to find ways of introducing social and environmental issues into an already crowded curriculum. It offers real case study material to present manageable design problems, though the author acknowledges that some tasks may be difficult to accomplish with a whole class.

Its language is appropriate, it has effective, lively black and white illustrations with appropriate line drawings, exploded where necessary, to help with designs. At £12 it is a bargain as all student activities are freely photocopiable. It should be a must for any design and technology resource bank.
Learning to Teach Design and Technology in the Secondary School
Reviewed by Jenny Jupe, Reviews Editor

This book takes a refreshing approach to the pedagogy of design and technology. Written as a companion to school experience, the text is not only highly relevant to any trainee, but also invaluable to course tutors and subject mentors. All professionals need training and practice to improve their knowledge, skills and performance, and this book, through focusing on different aspects of design and technology, brings together important pedagogical issues.

Learning to Teach Design and Technology in the Secondary School is clearly and logically set out with leading objectives preceding the content in each chapter a pertinent reminder to the reader of this important aspect of teaching. Throughout each chapter, focused tasks encourage readers to reflect on what they have read and understand and to apply this where appropriate to their school experience.

After an introductory chapter, which deals briefly with the development of design and technology both in the UK and more widely, subsequent chapters deal with each of the four areas identified in DATA Research Paper 4 Minimum Competences for Students to Teach Design and Technology in Secondary Schools, i.e. resistant materials, food technology, systems and control and textiles technology. The summary at the end of each chapter usefully reminds the reader of what has been covered and how to take the learning forward.

Generic issues are also covered within the book such as health and safety, use of ICT, lesson planning, classroom teaching and assessment. Whilst there is clearly insufficient space to be able to cover each of these in detail, the further reading included at the end of each provides invaluable guidance for deeper reflection.

The final two chapters in the book cause the reader to focus on two important aspects of subject teaching - design and technology and the community and continuing professional development.

I would highly recommend this book as essential reading for all design and technology trainees, and subject mentors/tutors.
Unlocking Potential – How ICT can Support Children with Special Needs

Reviewed by Rowland Dye, Filton College, Bristol

In the 'Information Age', technology is moving forward at a mind-boggling pace. People can now do things with computers that would have been considered science fiction as little as five years ago. One area of considerable progress is the opportunity that new computer technology offers for unlocking the potential for students with special educational needs (SEN).

This book looks at a number of areas of SEN and shows how information and communication technology (ICT) can contribute to teaching and learning. The information and examples are of a practical nature and will be of use to classroom teachers across all ages and settings. They will also be of use to teacher trainers, advisers, and inspectors who wish to disseminate good practice in the use of ICT.

Sally McKeown is education officer for Lifelong Learning & Special Needs at BECTa (British Education Communication and Technology Agency) in Coventry. Her position has obviously given her the opportunity to see a wide range of hardware and software in everyday educational use. Her book is divided into five chapters.

Lightening the Load suggests how ICT can ease the administrative paperwork load on teachers, it explains the virtues of e-mail and the National Grid for Learning (NGfL) training that is available for SEN teachers, and concludes with a helpful list of official web sites.

Physical Access describes input peripherals that SEN students may need from special keyboards to special mice and tracker balls together with helpful software to assist text input.

Sensory Impairment covers screen functions, sound, and alternatives to keyboards. CD-ROMS which assist learning sign-languages are reviewed together with literacy aids, using images, multimedia, and examples of students using the Internet.

Language and Literacy covers software that assists language communication, articulating sounds, expressive language, talking books and talking word-processors; dyslexia maths and text, spell-checkers and voice recognition software.

Access to Experiences discusses computers in the wider context of the school environment and their significance to students. Computers may be useful to tempt truants back to school by offering them a richer and relevant experience. Computer games, good and bad, are discussed together with the uses of multimedia packages, drama and role plays, life skills packages, and music technology.

The author has drawn on her first-hand experience to provide a comprehensive and up-to-date review on the potential of the whole range of new technology for SEN teaching. Her advice is practical and well communicated backed up with an extensive listing of suppliers and organisations. Anyone involved in this area should consider buying this book straightaway.
The e-learning revolution
Reviewed by Les Porter, Course Director for Industrial Design and Technology at the Design Department of Brunel University

Martyn Sloman writes this book from the perspective of a practising human resource manager—a career that he has been involved with over a 20-year period. Through his career he has seen numerous changes that have enabled human resources and corporate training to become more effective. The book explores new approaches and the emergence and acceptance of competencies and the growing use of communication protocols. It explores how the interlinking of computers and the acceptance of communication protocols will force people to do their jobs in a totally different way.

Sloman throws down a series of challenges that no one in education training and development can afford to ignore. This book is a timely exposure of the pros and cons of e-learning.

In the opening chapter, the author outlines a series of 21 propositions, some of which are very provocative and doubtless will cause readers to challenge some of the statements as Sloman develops his arguments in later chapters. The propositions provide a framework to guide the actions of those involved in directing, managing or supporting the training function. In the opening chapter the author provides the backdrop for his book by providing the reader with some historical perspectives on the development of the World Wide Web and goes on to differentiate between e-training and e-learning. He also provides a useful glossary of terms for readers unfamiliar with the concepts he introduces. The following are a random selection from the propositions that Sloman makes. I use this selection to give a flavour of the way the propositions are written in a seductive and provocative way to challenge the reader to think about the issues as the arguments unfold:

- the Internet changes everything including training
- the drivers of Internet activity and development are business and commercial; they will shape and foreshadow developments in training
- a useful distinction can be made between hard technology and soft technology. The expertise of many trainers is in soft technology and this offers them an attractive future.
- more honesty and less hype is required if the training profession is to grasp the new opportunity to maximum effort.

Sloman argues very strongly that one of the most important implications of operating in a connected economy is that discussion over the most effective or appropriate platform for training that uses technology are over. He suggests that training will be delivered through the Internet/intranet using web protocols. It will be accessed through personal computers and laptops and feasibly using mobile technology. As he says:

"The arrival of the Internet is a disruptive technology for the training profession."

As the book unfolds, the chapters explore:
- The Connected Economy
- What is Happening in Training?
- A New Paradigm for Training
- Developing the Agenda for the Organisation
- Focusing on the Learner
- The Changing Role of the Trainer
- Training in Transition
- Training and the New Economy.

Highlighted in each chapter are a series of Focus Points (33 in total). These Focus Points provide the background for the arguments that Sloman develops in that chapter and are often commentaries from accepted academics (or conference papers) speaking on the subject. I found these Focus Points extremely valuable in clearing my thinking on that particular chapter.

As the author says ‘e-learning is not about computers and it is not about computing’, he argues that the ‘e’ should be an abbreviation for experience and not an abbreviation for electronic. The learner should be the focus of the activity. The whole experience should be about communications with the learner, seeking to increase knowledge and encourage meaningful interchanges and transactions that achieve these objectives. Sloman argues that for too long the agenda has been driven by ICT, it is time for all those concerned with organisational learning and development to discard traditional models, ignore the hype of vendors and become active players in the connected economy. To substantiate his arguments Sloman provides the reader with a series of pertinent case-studies. These studies are wide-ranging and fascinating and are from a wide variety of sources:

- BBC Online
- Cap Gemini Ernst and Young Virtual Business School
- Performance feedback at Ernst & Young
- CERN
- Hanover Housing Association
- Clifford Chance
- The Post Office
- IBM’s Global E-Learning Model
- Learning at Motorola University—EMEA
- British Airways Quest and Communications points
- MDA training

The e-learning revolution
Martyn Sloman
Chartered Institute of Personnel and Development
ISBN: 0 85292 873 4
Orders: fax: 020 8935 9175

Appropriate content
Generic use
Pupil/student use
One of a series
N/A
Teacher resource
Photocopiable
N/A
Visuals
Pupil/student activities
N/A
Overall style
Cross-curricular
For me, chapter 5 was the most thought provoking of all the chapters. In this chapter, Sloman focuses on the learner and how the issues in e-learning often forget the needs of the learner. As he comments 'There is a danger of being seduced by the technology...e-learning cannot replicate all the facets that make classroom training popular...'. Here he discusses the exciting opportunities that the new technology offers and suggests some far reaching strategies for providing learner support and how a new discipline of learner support will emerge and should be encouraged. This chapter really made me think about my teaching methodologies and will help me develop a new paradigm for delivering material to my undergraduates.

This book is intended to help those involved in decisions on the provision of training to acquire a clear understanding of the underlying issues. Once this has been achieved, a realistic agenda can be created. Sloman comments that 'every organisation faces different challenges, but some basic messages apply throughout'. It is the following basic messages that the book examines:

- why barriers between knowledge management, performance management and training must fall to achieve competitive advantage
- how technology offering learner-centered opportunities will demand re-examination of the way adults learn
- why expertise in 'soft' technology – coaching, facilitation and learning support – will give trainers new credibility
- whether corporate universities and virtual business schools can provide radically different learning opportunities
- whether lessons from organisations as diverse as those described in the case-studies provide a way forward.

Sloman offers no simple answers or glib solutions. As he says 'there are none!' The case for e-learning as a universal panacea remains unproven. Sloman book provides an excellent read, it opens a debate and introduces a superb framework of tools for professionals to use as a catalyst to get started on implementing an effective strategy of their own.

It is difficult to do justice to such a seminal work in a short review; for me, this book has been a superb read and provided me new insights into a topic about which I had little knowledge. I have reservations regarding where this publication would be used in the design and technology (already overcrowded) curriculum, certainly it is a must for headteachers and those involved in school senior management and it would be useful for students studying A' Level economics or business studies, but to include its content into GCSE design and technology work would cause me difficulties.