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Visual Communication in Fashion and Textile Design

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Abstract:

"What was it that turned my initial enthusiasm into a sense of boredom, frustration and disengagement, surely the three deadly sins of the learning process? It can be summed up in one word: PowerPoint, the favoured tool of presentation for the unimaginative."

(Tom Ward (the name of the author has been changed): "I watched in dumb horror", Guardian Education, Tuesday May 20, 2003)

The "technological revolution" has presented educators with a range of new tools that, alongside traditional teaching methods, can be employed in the communication of visual ideas to fashion and textile design students.

Although the drive to harness the economy, power, speed, and global reach of computer communications is understandable, it is important that the differing technologies available are assessed objectively for what they can offer in terms of education, and are used to optimise the teaching and learning process, rather than being seized and used as "technology for technology's sake".

This paper explores the range of communication tools available to educators, evaluates their effectiveness in communicating visual ideas to fashion and textile design students, and seeks to explore why a backlash in the use of ICT is currently being experienced in fashion and textile design pedagogy.

To facilitate this evaluation, a range of visual communication tools will be drawn upon, including the author's own illustration work which is currently being used in collaboration with the cultural anthropologist Ted Polhemus to illustrate how ideas about fashion branding can be communicated in a more immediate and potent way than via the written word.

What is Communication?

**"If you will, for a moment, excuse the double negative…
You cannot not communicate even if you want to. Even silence communicates
something. Everyone communicates. Even the non-communicative ones".**

("What is communication?" Athabasca University, 2002:
www.athabascau.ca/courses/cmns/301/comment1.htm)

Simply put, communication is the process by which messages are sent and received. It is a universal, essential process that encompasses an enormous range of methods including reading, writing, talking, listening, graphics and non-verbal behaviours.

A great deal of research has been carried out into the dynamics of communication, where communication has been described as the transmission of information; a one-way process, or as an exchange of information; a two-way, or even more complicated process.

The 'transmission' model of communication describes communication as the transmission of information: a simple, one-way process.

'Semiotics' is the theory and study of messages or signs, especially as elements of language or other systems of communication: how they are organised and styled, how they get from the source (or "sender") to the destination ("receiver") and back again, how they are formulated and prepared by the source, and how they are received by the destination.

In the semiotic approach, communication is seen as a mutual negotiation of meaning, an exchange of information between the sender and receiver, rather than a linear transfer of messages from transmitter to receiver. Signs presented by the signifier can be significant on a conscious or an unconscious level, and they can be verbal or non-verbal.

The 'interactive' model of communication is more dynamic and introduces the idea of "feedback and feed forward", where the receiver of a message can influence the source of the message.

More complex still, the 'transactional' process model views communication as "an ongoing process, as opposed to a static process" (Tyler, S. Kossen, C. & Ryan, C. 1995).

It includes elements such as content, context, perception, culture, experience, mood and emotion, and therefore presents a more complete picture of the mechanisms involved in the complex process of communication.

Nonverbal Communication

**"Jerry, the throat-clear is a nonverbal indication of doubt".
George, Seinfeld**

(Seinfeld, January 29, 1998).

In the vast and complex subject area of communication, words, either spoken or written down, are clearly an extremely sophisticated and effective tool in the expression of thoughts, emotions and ideas.

However, research shows that nonverbal communication, that is, the process of sending and receiving wordless messages, is often more important than verbal communication. How something is said can sometimes be more important than what is being said, even to the point

of completely overriding the verbal content of the message, as demonstrated by the following example:

As he arrived at work every morning, a university professor greeted his colleagues every morning with a cheerful "good morning". This ritual greeting was echoed every day by a response of the same greeting. One morning, equally cheerfully and with a broad smile, he said "Go to hell!", to which everybody responded with the usual "Good morning!".

There are many different "channels" of nonverbal communication: facial expressions, the clues in our voices ("vocal paralanguage"), gestures, body movements ("kinesics"), touch ("haptics"), aromas, and body positioning in space can all play their part in conveying meaning.

The first scientific study of nonverbal communication was published in 1872 by Charles Darwin in his book "The Expression of the Emotions in Man and Animals." Since the mid-1800s thousands of research projects in archaeology, biology, cultural and physical anthropology, linguistics, primatology, psychology, psychiatry, and zoology have been completed, firmly establishing the importance of nonverbal communication, and creating a generally recognized body of nonverbal cues.

Theories about what percentage of our communication is nonverbal vary widely and are difficult to verify.

Each of us gives and responds to thousands of nonverbal messages daily. We react to wordless messages emotionally, often without knowing why.

Nonverbal messages are particularly potent and compelling because they are processed in ancient brain centres located beneath the newer areas that are used for speech. Because nonverbal cues are produced and received below the level of conscious awareness, they give us the "look" and "feel" of our experiences that are remembered long after words have been forgotten.

Body-language signals may be learned, 'innate', or mixed. The thumbs-up signal, military salutes, or a wave, for instance, are clearly learned signals. Blushing, clearing the throat, or yawning, however, are inborn or 'innate'. Some of these nonverbal communication cues are audible (the clearing of the throat, for example, or the change in tone of a voice) - but many more are visual. Facial expressions, for example a smile or a frown, gestures, for example a nod, a wink, a thumbs-up or pointing are all visual cues. Many more are both - a laugh, a cry, a yawn, the tapping of fingers.

Visual Communication

One picture is worth a thousand words.

(Fred R. Barnard: "Printers' Ink", 10 March 1927, p. 114.)

(Note: Fred R. Barnard described this statement as "a Chinese proverb, so that people would take it seriously." It was immediately credited to Confucious.)

The two sides of the human brain have different attributes and respond to different stimuli. The left side of the brain is analytical, verbal, sequential and linear; the right is visual, spatial, holistic and relational.

The left side of the brain is therefore associated with logic, responding better to textual material, whilst the right is more imaginative, responding more to visual imagery.

From the beginnings of human culture, visual awareness has been a key element in communication. In the same way that information conveyed by the written word holds significance for humanity in the 20th century, the symbols of early cave paintings held a deep significance for the artists and cultures that produced them.

Visual media are forms of communication that, while fundamentally different from speech, can and must be seriously examined as ways by which human beings create and share meanings.

In fact, even in textual communications we use visual cues. Devices such as <u>underlining</u>, the use of **bold** or *italic* type, CAPITALS or larger lettering emphasise the importance of some words over others and help to clarify the meaning of the text.

"In our culture we tend to take words seriously while dismissing, for example, the choice of typeface as a surface phenomenon which does not in and of itself convey meaning. This is a mistake. Ordinary people may not know Universe from Helvetica but they feel the difference and this subconscious perception is more often than not of critical importance. The same is true of colour, pattern, photographic, video and illustration styles, the choice of models, interior décor, furniture, clothing, hairstyles, make-up, accessories, etc."

(Ted Polhemus: Ted Polhemus web site: <u>http://www.tedpolhemus.com</u> 2003)

Ted Polhemus, quoted above, is a cultural anthropologist who has published a number of works that promote the idea of visual imagery as a potent method of conscious and subconscious communication, and in particular on the use of the human body and personal image as a means of self-expression.

In recent years, Polhemus has concentrated on the phenomenon of "branding" in fashion advertising.

Visual communication techniques have been used by manufacturers to market their products for many years in a variety of media including magazines, television, billboards, and the internet.

In modern advertising, however, the imagery used by clothing companies is much more likely to depict the <u>lifestyle</u> that is associated with a particular label or "brand" than the garments themselves. Although clothes are usually present in the advertisements, they are often of secondary importance to the advertisement's message, and it is the idea of an appealing lifestyle that is principally being "sold" to the customer.

The idea behind this approach is that in choosing the products of a particular company, consumers are associating themselves with a whole way of life, and set of values that they deem to be attractive. In effect, the company is selling a way of life, rather than just a jacket, a perfume or a pair of shoes.

Thus, by wearing a particular brand, the consumer is able to communicate to the World at large what kind of person they believe themselves to be, what outlook they have, what group of people they belong to, what beliefs they hold, and so on. Essentially they are 'marketing' themselves, and communicating an expression of identity. In the 21st Century, garments are being chosen for their value as a communication tool, rather than to serve the traditional functions such as to keep us warm, or preserve our modesty.

To help to illustrate this concept of "brand lifestyle marketing", I have been commissioned by Ted Polhemus to produce a set of images that set out to express the 'lifestyle' promoted by six different clothing brands: Versace, Armani, Vivienne Westwood, Tommy Hilfiger, Diesel and Burberry.

The intention of these images is to highlight different brands' portrayal of a "desirable lifestyle", for example:

Vivienne Westwood - British, quirky, witty. Tailoring and tradition is contrasted with deconstruction and rebellion. A very British way of life is suggested, coupled with a quirky, uniquely British sense of humour. A reverence for history and tradition, belies a spirited irreverence. Wealth is hinted at through understated quality of fabric, styling and finish, rather than flaunted.

Compare this version of a "desirable lifestyle" with that promoted by Versace:

Versace - Sexy, opulent, extravagant, Italian. Wealth is openly and ostentatiously displayed, and the flaunting of 'bling' is encouraged. Versace people are young, colourful, extrovert, and have associations with lavish, "rock and roll" lifestyles. Versace style challenges the boundaries between 'taste' and 'tastelessness'.

It is significant that all this information, both obvious and subtle, can be conveyed by a single image in a couple of seconds, and serves to underline the effectiveness of visual communication.

The illustration produced to depict the "Diesel" lifestyle suggests that the "Diesel" customer would like to 'market' themselves as young, streetwise, and outgoing. These people are fashionable, but definitely not "fashion victims" - casual denim 'workwear' garments are timeless, and individuality, independence and freedom of thought are all alluded to at by the fact that the stand-alone figures do not interact with each other. The setting suggests an urban, "street" lifestyle, and a sense of adventure is indicated by the "extreme sport" skateboarding figure. Although the figures have "attitude", a quirky sense of humour is symbolised by the unexpected presence of the kitsch flying ducks.

The use of medium has its' own story to tell - roughly collaged, unmatched pieces of paper give a "rough and ready" impression, while the distinct, often straight edges and bold contrasts suggest "edginess". The colours and textures used to create the image reflect the importance of denim to the Diesel brand, and the gritty, grey, urban setting.

In contrast the Burberry image conveys a completely different lifestyle. The Burberry customer wishes to associate themselves with the respectable rich - the 'huntin' shootin' fishin' crowd,   typically the British landed gentry, or even royalty, as suggested by the stately home and Union Jack in the background of the image. The Burberry brand represents everything that is white 'upper class', and 'old school' . Associations with tradition, 'old' money and British heritage are evoked by the black and white sections of the image, suggesting that this tranquil scene has changed little in centuries.

The choice of media - pencil crayons and watercolours in muted shades - is itself traditional, and somewhat reserved, and produces a soft, genteel effect reminiscent of the understated good taste represented by the Burberry label.

Of course while these are the associations that people 'buy into' when they wear the Burberry brand, none of this may necessarily be true of the wearers at all.

In recent years the Burberry brand has been adopted by a group of people who are as far removed from the Burberry demographic (described above) as it is possible to be:

"Personalities from Martha Stewart to Prince William are seen at various events sporting Burberry threads. Even Ja Rule gets his groove on with a Burberry bucket hat planted firmly, yet crooked, on his head.

"Ja Rule? That's right, hip hop artist Ja Rule is a fan of the plaid. As are Nelly, Foxy Brown, and a million fans."

"…These fans are nowhere near the polo field where Prince William dons his plaid…"

O'Brien, Diane: "Burberry - square". Brandchannel.com, 16th June 2003.

Burberry products can currently be seen everywhere worn by American black rappers and those associated with the recent English phenomenon of "chavs".

"Chav" is a derogatory slang term currently in popular usage throughout England. It refers to a working class subculture of teenagers and young adults who have been negatively stereotyped as being uneducated, uncultured and prone to antisocial or immoral behaviour. Their style is defined by oversized and obvious jewellery ("bling"), branded sportswear, - and Burberry baseball caps.

Although both the American rappers and English "chavs" are regarded as wealthy (and certainly want to be regarded as such), they are hardly devotees of the concept of "understated good taste". In this case, the ideals of wealth and luxury associated with the Burberry brand have been deemed desirable and are being flouted by an unlikely market - to the extent that the original associations of Burberry are in danger of being lost. On asking a colleague what she understood by the Burberry label, she replied: "Trash".

In this case, the intended message of the brand is becoming distorted, and the image of the trademark camel, red, black and white Burberry check has newer, less appealing associations. Nevertheless, the simple fact that a checked fabric design can trigger a whole wealth of associated messages serves to demonstrate that even the most basic image can be used as a powerful communication tool.

The quantity and precision of information, including even extremely subtle clues, that can be derived almost instantaneously from an image makes it a more "efficient" medium for advertisers. Furthermore, meaningful images are more readily stored in long-term memory than words.

This is why advertisers prefer to use images rather than words to describe their products in magazines, and why television advertising is far more expensive than radio advertising.

Of course, the combination of both images and words provides us with the most powerful communication device of all - television advertisements usually have a 'voice-over' or text as well as pictures - and is preferable to the exclusive use of one or the other.

What is important however, especially in terms of design pedagogy, is that the importance of imagery as a potent, efficient and "user friendly" communication tool, is not underestimated.

The use of visual communication
In fashion and textile design pedagogy

The ability to communicate well is one of the most fundamental skills required by any educator.

The specific task of an HE lecturer in fashion and textile design is to communicate the design process to fashion and textile design students.

In the context of a fashion and textile design department, much of the communication that takes place between staff and students is visual in nature. Given that the visual appearance of fashion and textile design products is of paramount importance, it is perhaps inevitable that visual imagery is used to teach the process.

My students respond far more readily to images than the written word. It is far easier to get their attention by showing them pictures or samples than by giving them something to read.

They are artistic people who are enrolled on a design course because they are instinctively interested in visual communication - whether they realise it or not!

Fashion and textile design students and professionals are sophisticated in their instinctive use of visual literacy. Visual clues are picked up and processed instantaneously with hardly any conscious thought.

In fact, the examples described in the "Visual Communication" chapter above clearly show that fashion itself is an extremely potent method of communication. What people wear, and how - even when - they wear it offer an enormous number of clues about what that person is like.

In order to teach effectively, it is important to acknowledge that students tend to operate more readily in their "comfort zone" and that students will therefore more readily engage with the learning process if they are comfortable with it.

Given that visual communication is more "user friendly" to visually-orientated people, it makes sense to exploit visual methods of communication when teaching design students.

Given that fashion and textile design students in general respond better to visual material, they are much more likely to access learning materials that are visual in nature, and having done so, derive more meaning and use from them. It is perhaps necessary to exploit this tendency in the provision of visual communication tools to aid the learning process.

Visual communication in fashion and textile design education relates to two separate (discrete) areas. As well as using visual communication tools to communicate visual design ideas to students, fashion and textile design educators also teach the art of visual communication to our students to enable them to communicate their own design ideas effectively to others.

Traditional visual resources used for teaching fashion and textile design students include:

Slide projectors / overhead projectors
Blackboard and chalk / whiteboard and markers
Examples / pictures of students' work, and the work of art and design professionals
Magazines / magazine cuttings
Textile or garment samples
Video

- however following the 'technological revolution' of recent years, a great many more teaching and learning tools have become available to educators and students.

Visual Communication Tools

"Human use of computing is vast and growing. Networked technologies such as the Internet and the World Wide Web have been called 'transformational' because of their wide-ranging impact. Electronic networking creates communications across terrestrial boundaries, across cultures and on a global scale. Concepts of space and time are changing, and of how and with whom people can collaborate, discover communities, explore resources and ideas and *learn*."

(Gilly Salmon: "E-moderating: the key to teaching and learning online", February 2000: http://www.atimod.com/e-moderating/extracts.htm)

Although there are an enormous range of communication tools that have become available in recent years by the advent of the Internet and related technologies (examples include: e-mail, mobile telephone technology, newsgroups, mailing lists and discussion boards), most of these

are text-based and the range of visual communication tools available to the fashion and textile design educator are relatively few.

A great many 'good in theory' arguments exist for purchasing and regularly updating the latest educational software and equipment, however most of these are presented by those marketing the tools, rather than educators and students themselves.

Here I will attempt to identify the technology-based tools that do exist, and evaluate their effectiveness in communicating visual ideas to fashion and textile design students. This evaluation is taken specifically from an educators' perspective, from the experiences of my own working practice and those of my colleagues and students.

An evaluation of the teaching and learning tools that have been provided by the 'technological revolution' is worthwhile in order to investigate whether technology can help lecturers to either improve their teaching practice, or make life easier .

As student numbers increase per head of staff, and educational budgets become increasingly strained, traditional teaching methods are becoming less effective. Lecturers attempting to maintain the quality of traditional delivery to larger student numbers are either failing to do so, or else are becoming increasingly stressed and exhausted in the attempt to maintain the quality and breadth of delivery.

At the same time, the student cohort is changing. 'Widening participation' means that the traditional HE fashion and textile design student demographic of "white, British, 18-25, middle class, female" is changing, and a greater range of learners (e.g. mature students, part-time learners, males as well as females, students from less affluent backgrounds and overseas students), need to be catered for.

In addition, advances in pedagogic theory and developing understanding of the learning process suggest that adult learners make the most progress when they take an active role in the learning process.

As a result of all these factors, the concept of "self-directed learning" - with lecturers taking the role of "facilitators and collaborators" in the learning process, rather than "teachers" of profound wisdom - is increasingly considered to be the way forward in education.

Further, the fashion and textile design industries themselves are changing, with computer -based technology playing a greater part in both the design and manufacturing processes. As educators, we have a duty to prepare students for employment, and in light of this, it is necessary for design students to be aware of, and familiar with, the technologies that they will encounter in a working environment.

It is clear that teaching methods need to change, and it is possible that technology can offer solutions to how this change should take place. To what extent can we apply technological solutions to practical pedagogical problems?

Evaluation of a range of Visual Communication Tools available to educators in fashion and textile design

"What do they need a computer for? They just make frocks"

("What do they need a computer for? They just make frocks" - Dr.Julia Gaimster, London College of Fashion, 2004.)

Digital projectors / 'PowerPoint' software

Digital projectors and PowerPoint software have superseded slide projectors and overhead projectors in most educational establishments.

Generally, their function is the same - to present images to a large audience at the same time.

Unlike the old slide projectors and overhead projectors, however, 'PowerPoint' and other digitally-projected presentations can link a number of different formats, incorporating text, pictures, sound and video into a presentation which, in theory at least, means that presentations can be both exciting and interesting.

In practice, however, presentations are often far from 'exciting', or even 'interesting'. Far too many PowerPoint presentations are over-long, over-complicated, and as a result, extremely dull. Too often the content of the presentation is secondary to the design of the presentation, which appears to be aimed predominantly at demonstrating the presenter's skill at using PowerPoint functions, and has little or nothing to do with effective communication:

"What was it that turned my initial enthusiasm into a sense of boredom, frustration and disengagement, surely the three deadly sins of the learning process? It can be summed up in one word: PowerPoint, the favoured tool of presentation for the unimaginative."

(Tom Ward (the name of the author has been changed): "I watched in dumb horror", Guardian Education, Tuesday May 20, 2003)

As a result, "death by PowerPoint" - being bored rigid by tedious PowerPoint presentations - is a phenomenon that many students are familiar with. In order to investigate how prevalent is this hatred of PowerPoint, I typed the words "death by PowerPoint" into a search engine. A staggering 1,750,000 results came up!

The principal limitation of PowerPoint as a learning resource is that it is entirely reliant on the communication skills of the presenter. The audience, or 'receivers' of the intended message, usually take only a passive role in the communication exchange, meaning that it is far too easy for them to "switch off" and not engage in receiving the message at all.

In addition, current pedagogic thinking suggests that adult learners need to engage actively in the learning process, if optimum learning is to take place. The essentially passive role of the student in a PowerPoint presentation means that as a learning resource, PowerPoint is fatally flawed.

Thus, unless great care is taken with the content and format of the presentation, a tool that is intended to be a more effective means of communication than traditional projectors can result in educators communicating LESS effectively!

VLEs (Virtual Learning Environments)

Virtual learning environments, or VLEs, allow for course related materials, as well as communication, assessment, and administration tools to be provided and used within a single environment via the web browser. Access to the learning environment is restricted by username and password and will typically be organised by programme or module. Most institutions are currently supporting and using one or more systems, and some have developed their own. The market leaders in higher education at present are Blackboard and WebCT.

The aim of VLEs is to support learning and teaching activities across the internet.

In terms of communication, VLEs enable students to access visual imagery (as well as text-based materials) supplied by lecturers and each other, within the "virtual classroom" of

the VLE, e.g. drawings, scanned samples, photographs and video clips, and links to other web resources.

VLE communication can work in two ways: visual ideas can be communicated <u>to</u> students by lecturers and other students, and visual ideas can be communicated <u>by</u> students to lecturers and other students.

Students can display their work for critique, critique each others' work, and engage in collaborative work without having to be in the same place at the same time.

The intention is that a VLE becomes a "virtual classroom", where students can learn at any time, anywhere, according to what is convenient and timely for the student. This concept enables them to learn at their own pace, rather than at the pace dictated by the tutor, or the rest of the group, and direct their own route through the materials available, according to personal preference and method of working.

Design students in general are encouraged to take responsibility for their own learning, in order to encourage individuality in their work. Self-directed research is a usual starting point for design - based projects. VLEs support the concepts of student-centred learning, and self-directed learning.

Once again, however, the theory and practice of using VLEs appear to be very different.

Of my group of 28 second year fashion and textile design students (at Liverpool John Moores University), not one student was able to tell me what a VLE is. Worse still, several members of staff did not know either.

Although many (staff and students) had heard of 'Blackboard', and were aware that it existed as part of CWIS, the JMU Intranet, only one student had accessed her modules on the system, and reported that all she found were copies of the module handbook. Clearly the resource is being underused!

It seems this experience is not uncommon:

"The impact of technology has meant that it is possible to offer students access to a range of resources that enable them to engage in self-directed study in textile technology.   The problem is that students and educators are not always aware of them or encouraged to use them."

(Gaimster, Dr. Julia, and Sinclair, Rose: "Fashioning Our Future: Education in Fashion and Textiles in the UK".   London College of Fashion, Goldsmiths College, 2004.)

In order for VLEs to be effective learning tools, it is necessary to educate both staff and students in their use, and for learning materials to be updated regularly.

For flexibility of access, which is essential to facilitate student-centred learning and self-directed learning, students also need to have access to a computer and the Internet, which many do not, outside ofthe University environment.

Further, this type of learning relies upon the students' willingness to access the resource. Experience among educators shows it is likely that the kind of students who access the VLE are the stronger, more motivated students who are already actively engaged in the learning process, whereas weaker students, who stand to benefit most from the additional learning materials available are less likely to access the VLE. Learning materials have no value at all unless they are being accessed!

<u>The Internet</u>

The advent of the Internet has meant that there is a vast and ever-changing wealth of information to those with access to a computer and Internet connection. Unlike books, Internet-based information is usually (although not always) up-to-date, meaning that students can keep abreast of current thinking: this is particularly important in the rapidly-changing worlds of fashion and textile design.

This resource can be used to communicate a vast wealth of information, including visual ideas, to design students. Images can be found readily by 'surfing' the Internet or by conducting directed searches, and these images can be readily saved, manipulated or printed, according to the individual requirements of the student.

Online visual resources, such as tutorials (e.g. "Garment Construction: an introduction to basic blocks, pattern cutting and garment construction" (http://www.arts.ac.uk/learning/garment/findex.htm) can be accessed and used via the Internet, and subject-specific sites abound (e.g. www.wgsn.edu.com) that provide visual information about trends, exhibitions, industry news, and so on.

As with VLEs, in accessing the Internet, learners actively engage in their own learning, navigating their preferred path through the information, and learning at their own pace.

They can also take advantage of the flexibility of access to resources: they can continue to learn outside of the University campus, and outside of University hours.

In theory, this means that all students would have limitless access to the Internet, but in practice this is not the case - the same limitations of access and availability are as true of the Internet as they are of VLEs. Not all students have access to a personal computer and Internet connection, and the cost of acquiring them means that wealthier students are at an advantage, directly contradicting the principle of 'widening participation'.

Furthermore, again the students' willingness and ability to use the resource properly is fundamental to its' effective function:

"The Internet offers a wealth of resources but students often do not have the appropriate information seeking skills or domain specific knowledge and vocabulary to enable them to utilise these resources effectively."

(Gaimster, Dr. Julia, and Sinclair, Rose: "Fashioning Our Future: Education in Fashion and Textiles in the UK".   London College of Fashion, Goldsmiths College, 2004.)

It is easy for learners to become lost, confused or overwhelmed by the scale of the Internet and the vast amount of information available. There are also an enormous number of distractions available via the Internet that have little or no educational merit: games, chat rooms, etc., that can serve to tempt students away from the learning process.

Finally, students can also be frustrated by slow Internet connections and download times, and password-or payment-accessed resources, which restrict their ability to 'learn at their own pace', and can seriously undermine the student's enthusiasm to work.

Learning packages

The range of subject-specific materials that staff and students can access on DVD or CD-rom is increasing.

These multimedia-based resources are often interactive and, when well-designed, represent powerful communication tools.

Staff and students can access these software packages at learning resource centres such as university and public libraries at little or no cost, and can use them to support their learning process as and when required.

"Multimedia-based products are powerful communication tools, which stimulate the senses of hearing, vision, and touch by delivering a rich combination of media components in an interactive software environment.
"CD ROM based multimedia learning provides a dynamic environment to acquire knowledge and develop skills at a time and place convenient to you. The modules contain text, graphics, animations, photographs, video and audio commentaries to create an interactive, stimulating learning experience."

(http://www.elearning-textiles.co.uk/htdocs/Home.htm)

Once again, these resources support student-centred learning and self-directed learning by allowing students to take responsibility for their own learning. Students learn at their own pace, accessing learning materials remotely and designing their own route through the materials, repeating difficult concepts as many times as necessary.

In addition, students can get immediate feedback on their performance via test exercises, if this function is built into the software.

"Introduction to Textiles" is a set of interactive CD ROMS developed by Leeds University that took 2 years to develop, and was introduced into their undergraduate and postgraduate programmes in 1995. The package uses multimedia to offer 70 hours of structured tuition on 82 topics and has also been used in industry.

In the promotional material presented on the 'Fashion, Textile and Apparel Learning Centre Web Site', '"Introduction to Textiles" is described as:

"the most comprehensive training system for today's textile, apparel and fashion-related industries. Used by companies and universities world-wide, this multimedia CD-ROM provides up-to-date learning material direct to your computer."

("Introduction to Textiles" - Fashion, Textile and Apparel Learning Centre Web Site
http://www.elearning-textiles.co.uk)

The software features video and animation sequences that freeze-frame to allow students to learn at their own pace, and repeat information that is difficult to understand. A bibliography, glossary of terms, and online assistance are available, as are tests to assess whether learning has taken place.

The obvious disadvantage of this type of resource is the cost. Although some packages are not prohibitively expensive ("seeingdrawing", a DVD package containing over 30 hours of viewing time is available for £45 at www.seeingdrawing.com), others can be far too expensive for many university departments to afford. For example, at the time of writing, "Introduction to Textiles", described above, costs almost £3000 for the first-year licence fee, followed by £2200 per year for following years. Separate modules (e.g. "Yarn technology", "Knitting technology" or "Clothing technology") carry additional costs of approximately £1000 each.

Another limitation of learning packages is that much of the interactive learning materials currently available are directed towards children, and can therefore patronise adult learners, or contain material that is of limited value.

Commercial fashion and textile CAD / CAM software

Commercial fashion and textile CAD / CAM software packages, e.g. "Speed Step" software, or "Lectra" software, enable students to access a wide variety of tools that help them in the and the communication and presentation of design ideas, and the design and manufacture of garments.

A library of stored images - for example garment components, templates, photographs and figure illustration "blanks" to fill with colour and fabric render - can be accessed, added to, and used to create design ideas, or modify existing designs.

Drawing tools - such as different colours, pen widths, and line styles - and functions for drawing stitches, buttons and zips, are also available, while tools for creating production drawings, such as labels and measurements, and pattern-cutting software can assist students in garment manufacturing processes.

This type of CAD and CAM systems are increasingly being used in industry, so familiarity with this type of software is useful for preparing students for employment.

In the learning environment, again students are encouraged to access the software at their own pace and as often as they need to support their work and training (as long as the equipment and software are available). Functions of the software and design processes can be repeated as often as necessary to develop skills, and students can design their own route through the materials.

An unexpected benefit of CAD and CAM technology in fashion and textile design is that the use of CAD / CAM software has led to increased interest in the subject by male students, thereby promoting 'widening participation':

"The introduction of CAD has also led to an increased interest in the subject by male pupils.   However this is still a fairly small proportion of the overall number taking the examination."

(Gaimster, Dr. Julia, and Sinclair, Rose: "Fashioning Our Future: Education in Fashion and Textiles in the UK".   London College of Fashion, Goldsmiths College, 2004.)

Using this software, professional standards of presentation are possible, even by those with very limited drawing and presentation skills, however approval of these presentations is not universal.

The prescriptive and mechanical nature of the packages, and the "building block" approach to design that they engender can lead to students' instinctive design and drawing skills being underused, and therefore becoming suppressed.

For the same reason - that they are not being encouraged to use their creative thought processes or imagination to the full - more creative students can find the software boring to use.

In addition, even though work can look very 'slick' and professional, many agree that it can also appear somewhat repetitious, two dimensional and boring, with different students' work looking far too similar.

Despite the recent surge in enthusiasm for technological aids to design presentation, students and professionals in fashion and textile design are now used to, and becoming bored by, flat, 2-dimensional, impersonal computer-generated images.

There continues to be far more interest in drawn images - especially those with textural elements, such as fabric swatches, collage and textured finishes. As human beings, we are fascinated by, and drawn to, very personal representations of ideas. It is perhaps for this

reason we are currently experiencing a waning in popularity of fashion photography in favour of fashion illustration, and a correlating waning in popularity of computer-generated images in favour of traditional illustration methods.

Whether loved or hated, cost is inevitably a factor in deciding whether to integrate CAD and CAM systems in educational establishments. In Britain, due to Government initiatives and assistance, "Speed Step" software is available to schools for relatively little cost, about £260, however for Higher Education establishments, to whom Government assistance does not extend, the situation is very different. Universities are required to pay full price for the software and licence fee.(****actual cost awaited).

Furthermore, once acquired, training for staff and students in the use of the software is also necessary, further adding to the cost of integrating the systems into education.

The usefulness of CAD and CAM software is also obviously dependent on whether the students have access to it within their working environment. For these systems to be properly integrated into students' working practice, workstations loaded with the necessary software need to be available within design studios, and in pattern cutting areas.

This is not possible in every university programme: indeed at JMU the Art School's computers are held in a basement media suite, two floors below the fashion and textile design department, and are therefore completely divorced from the students' usual working environment.

It is worth noting, however, that despite the limitations of cost and access, fashion and textile design programmes in HE are under pressure to acquire CAD and CAM systems because within as little as 2 years students who have been 'weaned' on CAD and CAM packages from school age will be entering Higher Education, and we must be ready to allow them to build on their CAD / CAM skills by having the systems available, and staff trained in their use.

Design Packages

Computer-based illustration and design packages such as Illustrator, Corel Draw! And Photoshop allow students to access, copy, save, manipulate and print images in a number of ways, and then communicate their design ideas professionally.

The advantages and disadvantages of these packages are similar in many ways to those of the CAD systems described above: advantages include their widespread use in industry, and the possibility of producing efficient, professional presentations. Disadvantages include the fact that the resulting presentations can appear repetitious, 2-dimensional and predictable, and that personal, instinctive design and drawing skills may become underused and suppressed if students become over-reliant on "user-friendly" software.

Although cost is as much a factor with these packages as with fashion and textile specific CAD packages, the fact that they are essential tools for a far greater range of students (graphics, multimedia, product design, architecture and fine art students all use them on a regular basis as well as fashion and textile design students) means that they are available and used regularly in most university art departments.

Despite this, access to the software is still a problem if computers are not available in the design studio, or at home, where students could effectively integrate the software into the design process as another design tool, rather than viewing it as a "stand alone" discipline that is completely divorced from their design work.

Digital Cameras

The advent of digital photography in recent years has speeded up the photographic process significantly, enabling students to view their photographs, decide whether or not to keep them,

and download and manipulate the images as soon as they have been taken.

This immediacy has brought about a revolution in design students' interest in photography, and students' own photographic material is increasingly being used as part of a number of design processes, such as research, design development and styling.

Students can record various stages in the design process, such as gradually evolving toiles or garment shapes so that potentially useful ideas are not lost and, having produced their garments, students can use the camera again to quickly and efficiently record or style them.

Given that it is the speed and efficiency of digital photography that has attracted modern design students to the medium however, it is perhaps inevitable that more traditional methods of design communication are falling victim to its' popularity.

Among design students, the slower, more thoughtful practice of drawing as part of the design process is gradually being diminished, and as a result students' drawing skills are being eroded. Large numbers of photographs are replacing sketches and drawings in sketchbooks, and it is becoming increasingly difficult for educators to convince students that drawing (which they often consider to be time-consuming and boring) is still a worthwhile activity.

The problem of expense is, as usual, also an issue. Digital cameras are expensive, and they have a reputation for heavy consumption of batteries, making them even more expensive to use regularly. Universities cannot supply every student with such expensive equipment, so once again wealthier students are advantaged by the increasing use of digital photography in the design portfolio.

The "Slowing Revolution"

The wealth of disadvantages as well as advantages to the implementation of ICT in education offers some clues as to why we are currently experiencing what The Guardian recently called "The Slowing Revolution" (http://www.guardian.co.uk),   whereby the race to adopt new technological advances as aids to teaching has not continued as expected, but has slowed down significantly in recent years.

In fact, despite - or perhaps because of - the accelerated drive to adopt digital technologies, in Britain the fashion and textile design industries are currently experiencing a backlash against technological methods of working, and the use of traditional handcrafted techniques is once again on the rise.

As well as the resource-specific problems described in the chapter above("Evaluation of a range of Visual Communication Tools available to educators in fashion and textile design"), there are a number of problems that are true of computer-based learning tools in general that may be responsible for this backlash. These need to be acknowledged and addressed if technological tools are to be effectively integrated into fashion and textile design pedagogy.

The loss of creativity

The obsession with 2 dimensional computer-generated imagery, brought about by rapid developments in digital imaging processes, has been responsible for the greatest criticisms of the use of computer technology in fashion and textile design. It is felt by many design professionals, as well as academics, that traditional skills - an important part of fashion and textile design education - may be lost, and that the lack of personal   involvement in the creation of 2 dimensional fashion and textile design undermines what is, to many, the essential 3 dimensionality and character of the craft.

In 1998, Jane Harris wrote:

"It is clear that 'craft' education is being marginalized at a time when digital imaging technology is fast becoming the medium for a whole other world of communication, commerce and education. However I believe that 2D and 3D computer based digital imaging processes (computer graphics) could greatly benefit from the unique aesthetic skills in material understanding and making that the 'crafts' have to offer."

(Jane Harris, "Preparing a Medium for the Next Millennium: The "Crafting" of Computer Graphics: A Textile Makers Perspective". Royal College of Art, London. 1998.)

"In my own working practice, I have observed a trend amongst students to demand "instant" work that can be produced in a hurry without too much thought or consideration. Their sole focus is the rapid creation of a "product", while the creation process itself is afforded little, if any attention or merit.

Students who adopt this "super-charged", accelerated view of the design process cannot engage fully in the process of developing design ideas, and as a result the "instant solutions" they produce often have no integrity, depth or conviction.

The skills associated with fashion and textile design are as important today as they ever were, and the development of new ways of working, rather than being seized as a replacement for current working practices, should serve primarily to provide us with a greater amount of choice in the range of methods by which the fashion and textile design process can be carried out.

Accessibility

As described above, access to equipment can be a serious stumbling-block to the idea of students working autonomously. Some students own their own PCs, others do not. For example, while in theory access to computers and the Internet is available to all students at Liverpool Art School (LAS), the high cost of equipment and running costs means that availability inevitably falls short of demand.

In the media suite housed within LAS, there are 90 machines, accessible in theory by 1200-1500 students from the Graphics, Multimedia, Fine Art, Contextual Studies, Architecture and Product Design and Fashion and Textiles Design departments.

Due to the heavy demand and block-booking for taught sessions by the Graphics and Multimedia departments, in practice only 15 of these machines are actually available to the fashion and textiles students, of whom there are around 200. This equates to in excess of 13 students per machine.

Further, due to the booking of these machines for the delivery of the computer modules to the level 1 fashion and textiles students, it is not uncommon for there to be no machines at all available to fashion and textiles students who wish to use them outside of taught sessions.

The library facility presents the same problem: although it houses computers accessible by all the students, again the resources are heavily over-subscribed. The high cost of printing full-colour imagery presents another financial restriction to the art school students in particular.

Added to the problem of insufficient equipment is the problem of hours of access. The theory of 24/7 access to computers is inaccurate as university buildings and libraries have restricted opening hours.

Students who own their own PCs, therefore, inevitably have an advantage over those who do not, added to which this lack of accessibility means that students are far less likely to seek out computer-based learning tools than if the computers were available in their work areas, and

thus their effectiveness as a learning tool is reduced.

"With new improved graphics programs, pattern generation software, and computerised sewing machines, digital printing and then on-line resource access there is a need to have computers in the textiles rooms. Students are engaging with it as design tool and not just a research tool."
Rose Sinclair, Goldsmiths College - Dept of Design, Lecturer Date: 09:23am May 7, 2004 GMT

Technical problems

The advent of computer-based technology has brought with it a whole new set of technical problems that can make the use of computers, especially to new users, both baffling and frustrating.

Lost files, computers "hanging" or "crashing", the inconvenience of different file formats that will open on one computer, but refuse to do so on another, infuriatingly slow download times, and problems created by file sizes are all problems that can lead to a deep suspicion and dislike of technology, and a tendency to revert to traditional, non-computer related methods of teaching and learning.

The inter-relationship and inter-dependence of several components (monitor, computer, keyboard, mouse, printer, scanner, etc) that are often necessary to complete a function can also be frustrating - if only one of these components is faulty, the whole system becomes useless.

Too many presentations are ruined by the vagaries of technological faults, or inexperience on the part of the user. Audiences of PowerPoint presentations are distracted by precious minutes being wasted by desperate presenters trying to make the system work:

 "….is this on…?   What do I….?   Oh, is that it?   Oh,….erm…no….hang on, it was working before…."

When it works correctly, and is used proficiently, new technology can greatly assist the educator, but all too often technical "glitches" and inexperience stand in the way of successful application.

New skills to be learned

"There is a drive to introduce ICT increasingly into the learning process, but it appears to require the teacher to take on the role of technician."

Tom Ward (the name of the author has been changed): "I watched in dumb horror", Guardian Education, Tuesday May 20, 2003

In order to minimise the technological problems outlined above, it is necessary for educators to overcome any suspicion of computers and associated technologies, and become trained and competent in their use.

Finding the time, and financial means to accomplish this, however, presents another set of problems.

It is ironic that overwrought educators are being told that new technology will serve to Make their working lives less stressful - while the truth of the matter is that many educators are facing even more stress due to the pressure to learn new technological skills.

Visual Communication in Fashion and Textile Design: © Carol Ryder 2005

In addition, given the vast number of things that can go wrong when preparing computer-based materials (see "Technical problems", above), educators are actually being advised to prepare computer-based materials, whilst having "low-tech" teaching materials prepared as back-up - thus <u>doubling</u> their workload!

Further, in addition to the preparation of face-to-face learning materials, educators are also expected to prepare, present and regularly update materials for inclusion in virtual classrooms - VLEs - increasing their workload still further. Typically, no extra time is allocated for all this extra work, and certainly no extra pay!

Built-in obsolescence

New learning materials appearing at an increasing rate – no sooner have you bought or mastered one piece of software or machinery than it is declared obsolete. "Technophobes" find this confusing and worrying.

The fear getting "left behind" leads to increased anxiety and suspicion of new technology, and once again leads to educators turning their back on it in favour of traditional teaching methods.

Further, universities rarely have enough money to buy the equipment needed to keep their students abreast of technological developments. As the technology becomes available to produce different effects, or to speed up processes, it is unlikely that we can pass this experience on to our students as part of their learning process until new technology has become relatively "old" - and therefore affordable - technology. Hence it is difficult to keep up with advances that are being made in industry.

Jargon

a whole new language has sprung up around the use of the internet, which can be both baffling and off-putting for the uninitiated. The new Internet user is confronted with   a whole new vocabulary containing such words as   "netiquette", "emoticon" and "neterati" plus an endless string of acronyms: CAA, WWW, IRC, CMC, etc.

Isolation

It is feared that the increasing number of students working in isolation via their computer means that the "community" of education may be lost:

"The 'Web-phobes' are very worried that the benefits of learning together may be lost and that it will be a bad day for knowledge, for feelings, for the joys of gatherings and groups."

(Gilly Salmon: "E-moderating: the key to teaching and learning online", February 2000: http://www.atimod.com/e-moderating/extracts.htm)

Legislation

The legislation surrounding the use of computer-generated imagery - e.g. copyright legislation - can also be a problem, and present another raft of information to be assimilated by both staff and students in the design environment.

Students' approaches to learning

In education, it is essential to remember that even if availability and access were universal (and currently this situation is still a long way off), the success of such learning resources as CAD / CAM software, design packages, learning packages, the Internet and VLEs is entirely reliant on students' awareness of them, their skill in using them, and their willingness to access them.

ICT does not fundamentally change the way people behave. For "remotely accessible" learning tools to have any educational merit at all, students have to be motivated to use them.

In short, the human element in the learning process cannot be ignored. Technology is most useful where effective communication and "user-friendliness" is paramount.

Dr Charles Cook from Loughborough University conducted a study into how students used the Internet in three different universities, asking them to keep logs and to participate in interviews. Dr. Cook states:

"The romantic idea that people only need to be given this resource and they will go off and start learning is not right. The web doesn't make tremendous differences to what students do. The problems of motivating students when there's so many other interesting things they could do still exists."

(Joe Plomin: "The revolution that wasn't", The Guardian, Friday June 22, 2001.)

By providing more flexible access to learning resources, using the WWW can encourage students to take a more active role in education and become more independent learners. But even independent student learning needs to be guided and supported, either directly by access to tutors or implicitly through the organisation and design of the resources. Appropriate induction and ongoing support are essential for effective learning to happen.

"… the computer industry now advertises not computers, but human-computer partnerships: it matters less what the technology can do alone than what you want to do with it."

(Malcolm McCulloch "Abstracting Craft: The Practised Digital Hand" 1996.)

Although the drive to harness the economy, power, speed, and global reach of computer communications is understandable, it is important that the differing technologies available are assessed objectively for what they can offer in terms of education, and are used to optimise the teaching and learning process, rather than being seized and used as "technology for technology's sake".

In the wrong hands, information technology can hinder the teaching task, rather than enhance it.

ICT needs to be integrated sensibly into a learning programme. Instructors and students alike need to recognise what is the best use of this technology in order to achieve the greatest benefits.

"The key to using technology in the curriculum is to carefully consider what value it will be adding to the learning experience and to ensure that it is used only when appropriate to the learning outcomes that you are trying to achieve."

(Gaimster, Dr. Julia: "The role of technology in supporting student learning". London College of Fashion.)

What is important is that the focus needs to remain on the teaching, not the technology. A whiteboard and marker in the hands of a good teacher / communicator will always be a more effective tool than the most technologically-advanced gadgets in the hands of a poor one.

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<u>Footnote - Learning Haptically</u>

As a footnote, it is interesting to note that research is currently being carried out into <u>haptically</u> - enabled devices: that is, devices that exploit the sense of touch.

In the same way that the development of computer graphics has expanded exponentially in the last 2 decades, haptics processes are currently poised to enjoy the same extremes in both attention and development.

This means that future educators will not only be able to exploit the visual interests of their students, but their haptic, or tactile, interests as well, and the range of technologies available to us in fashion and textile design education - and the advantages and problems associated with it - will continue to grow!

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