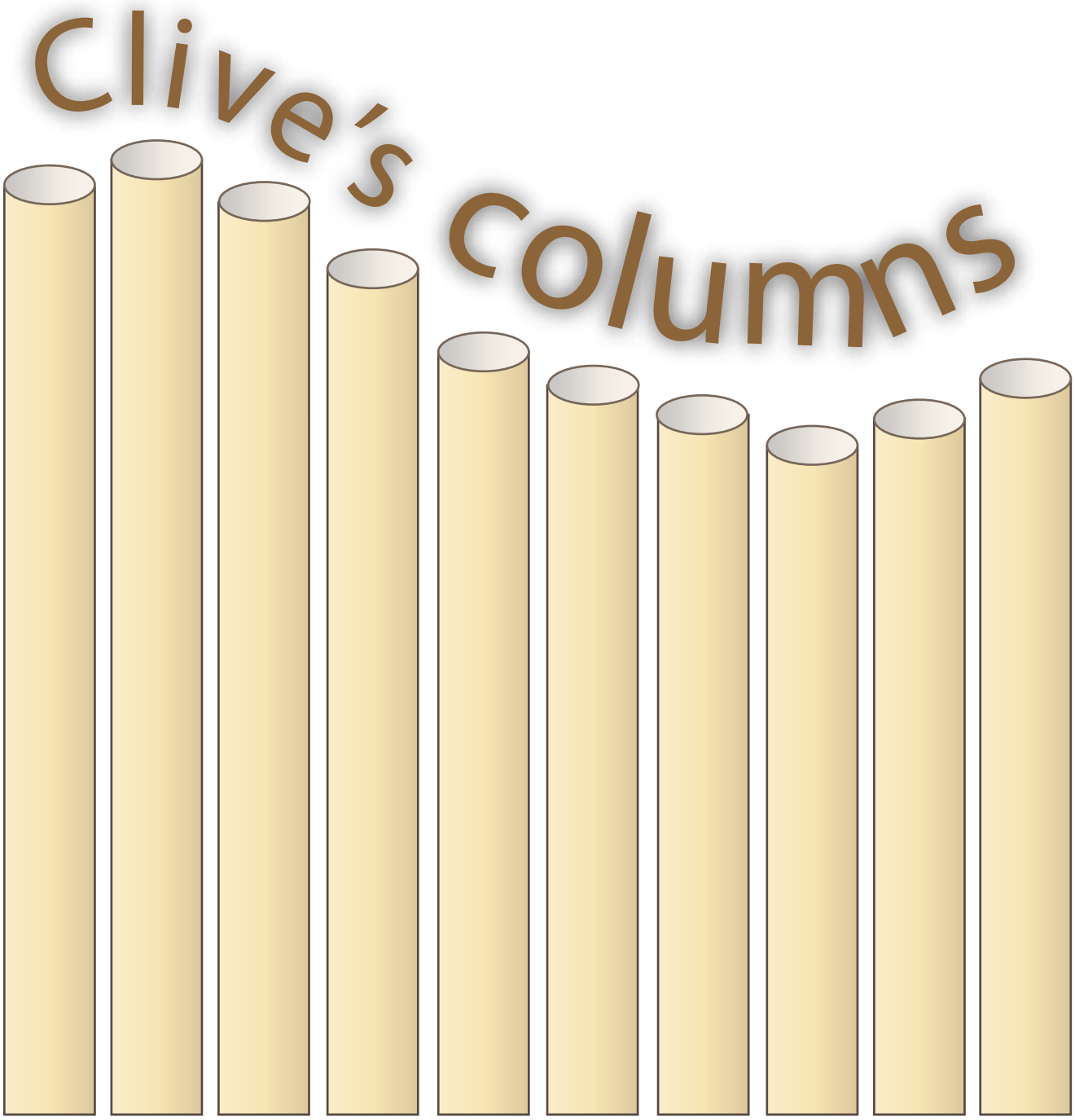
VOLUME ONE

A compendium of 33 of Clive Shepherd's columns on e-learning and blended learning, originally published between 2003 and 2007 in IT Training and Learning & Development magazines.



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More than a Flash in the pan

Flash has its origins in a relatively low-profile graphics product called FutureSplash Animator, based largely on the work of a single programmer and graphics enthusiast, Jonathan Gay. In November of 1996 Macromedia acquired the product, renamed it Flash 1.0 and a star was born. As this column is written in 2006, it's time to celebrate the tenth anniversary of what has become the world's predominant animation software.

Prior to the launch of Flash, if you wanted to display animation on the World Wide Web you had to use a format called an animated GIF. On the off-chance that you're interested, let me explain that a GIF is a type of bit-mapped image, stored as a grid of coloured dots. It's one of the main ways that graphics are presented on the Web. Anyway, if you can load a bundle of these images, stack them up and then run them quickly enough in sequence, you get the effect of animation. The trouble is that if your animation is of any significant size, complexity or length, you have to load a lot of data – and if you're not using a broadband connection (and there was no such thing in 1996), the wait is simply not worth it.

Flash works differently in that it stores its imagery not as bitmaps but as 'vectors'. With vector graphics, images are generated by the computer from mathematical descriptions that determine the position, length, and direction in which lines and curves are drawn. Only the descriptions have to be downloaded, because the actual drawing is done locally on your computer, and this makes Flash animations considerably more compact than animated GIFs. There's another significant advantage with Flash and other vector graphic formats – images can be rescaled with no noticeable loss of quality. Whereas most web pages reformat completely as you reduce or increase the window size, Flash content stays in exactly the same proportions, providing you with a much more predictable end result.

OK, but do we really need animation on the Web? In most cases you'd have to say no. Movement attracts the eye and unless the animation is actually more important than other elements on the screen, you will be taking attention away from your key content. For this reason, many Flash-based websites are pretty but hardly ergonomic. But used judiciously, animation does has a definite place in e-learning. The most obvious application is in representing processes, such as the weather or the workings of the economy, but animation can also help learners to visualise procedures and to explore structures and layouts. In short, some topics cannot be covered without animation, while some are definitely enhanced.

But Flash does more than animation. It enables the development of sophisticated user interfaces utilising a wide variety of interaction formats, all backed up by Flash's own programming language, ActionScript. You can create drag and drop questions in HTML, but you'll find it much easier in Flash. You can create a limited range of games and simulations in HTML, but with Flash you can do just about anything that's possible without going 3D.

Flash has another significant advantage and that is its ubiquity. The Flash player is present on more than 97% of all Internet-enabled computers in use today – Macs, PCs, the lot. As long as your IT department is reasonable and aware of the benefits that Flash brings to e-learning, there's no reason why they shouldn't support it. And as long as you're using more recent versions of Flash and you design your applications with care, you can still be compliant with the new rules on accessibility for the disabled.

Two developments have driven up the use of Flash in e-learning. One is the advent of new tools which convert PowerPoint presentations into Flash, typically allowing you to add narration, quizzes and other forms of interactivity. Perhaps the most prominent tools in this market are Articulate and Adobe Presenter (known as Breeze before Adobe took over Macromedia, above all to get their hands on Flash!). The output from these tools is much more compact than PowerPoint and doesn't require users to be running Microsoft Office. The other development is the rise of Flash video. By using the Sorenson Spark codec it dramatically reduces video file size and it runs on any computer with Flash, without Windows Media Player, QuickTime or the RealPlayer having to be invoked. That's why YouTube, MySpace and other major sites use Flash video and that's why you can insert video clips into your e-learning programmes with a great deal of confidence.

So, happy birthday Flash. You're a real friend to e-learning, allowing us to fulfil many of our ambitions for engaging and professional-looking content within the limitations of the World Wide Web and restricted bandwidth. Here's to another great decade of development.

Open source brings learning for all

Contrary to popular belief, monopolies are not entirely evil. They have a number of quite useful advantages, like the fact that you are saved the effort of having to make a choice about whose product or service to purchase, and you never have to worry about the chances of your supplier going broke. Take software for example. Knowing that at least 90% of everyone you work with has Microsoft Windows and uses Microsoft Office makes life extremely simple: you can exchange files with (some) confidence, you can work on someone else's computer without having to learn a whole load of new applications and, if you are a trainer, you only have to teach one operating system and one office suite.

I must confess that, when I first heard of the so-called open source revolution, I was sceptical. I knew there were legions of Microsoft haters out there who would use any product as long as it didn't originate in Redmond, but I also thought those products would be flaky and that the vast majority of corporates and home users would want to keep things simple and stick with the devil they knew. OK, Linux and its compatriots would probably find a home in niche markets, but the mainstream – and that includes the world of e-learning – would be largely unaffected.

Now, as economists like to remind us on a regular basis, markets are, on the whole and in the long run, much more beneficial to consumers than monopolies. Because suppliers are competing with each other for our custom they are compelled to be more innovative, to provide higher levels of service and to keep prices to a minimum – all jolly good things as I'm sure we'd agree. What open source software seems to have achieved, alongside the inexorable rise of free web services funded by advertising (Google, MySpace, Flickr et al), is a massive revitalisation of the software industry. And as software consumers, we have never had it so good, nor so cheap.

Bit by bit, free and open source software is beginning to find its way into the world of learning and development. Let's start with Moodle, a virtual learning environment that enables colleges and training providers to deliver collaborative e- and blended learning solutions online. My own experience with Moodle over the past six months includes the delivery of online courses, providing support (pre- and post-course activities, forums, etc.) for predominantly classroom-based courses and building an online community for a potential audience of many thousands of course graduates. Moodle may not be quite as sophisticated as its commercial counterparts, such as Blackboard and WebCT, but it's free. And it must be scalable and reliable, because it's now being used by the Open University to support hundreds of thousands of students.

If you don't need a full-scale learning management platform, just a way of delivering learning content and collaborative tools as part of a general purpose intranet or performance support environment, then there are countless excellent open source content management systems. Try Mambo if, like e-learning consultants Kineo, you want to get your website up and running in days and maintain it without going anywhere near a web developer. If podcasting's your new craze, try Audacity, an audio editor that includes all the features you need to record and edit your sound files and then convert them to MP3 format. On one course that I've worked on, we've asked more than fifty students to download and use Audacity to create their own podcasts, and we've never had a single technical support query. Just great podcasts, developed for free.

Of course there are issues to consider when going down the open source path for e-learning. Firstly, you should not expect great documentation, nor great support (you may get it, but there's no guarantee). Then, don't be surprised if you do have to shell out some cash – after all, the software may be free, but it still has to be set up and hosted somewhere. Also a bit worrying is the fact that there are so many offerings available and you just know they can't all survive. My advice if you want to sleep at night would be to play safe and go with the leading players.

Learning has never been so available. On those rare occasions when learners can't find what they need for themselves using Google or the Wikipedia, you can develop new content yourself and deliver it online using open source tools such as Audacity, Mambo and Moodle. Competition has brought prices right down and made e-learning accessible to the smallest employers and learning providers. Open source means an open house for learning.

Blended learning is the crossover

Blended learning has been harshly criticised, if not completely written off, by advocates of new, informal approaches to learning (you know, those that take advantage of new technologies such as blogs, wikis and podcasts), as just another attempt to impose highly-structured and formalised instruction on employees who would prefer to be in much greater control of what they learn, when and how. They see blended learning as yet another repackaging of the same tired old ingredients, typically classroom instruction and what used to be called CBT (computer-based training, i.e. interactive, self-study lessons). Worse than that, perhaps, is the accusation that the e-learning element in the blend is so often restricted to covering the boring knowledge material that trainers hate training and learners hate learning. In his book *Lessons in Learning, e-Learning and Training*, Roger Schank laments that "the part that is assigned to e-learning is the rote learning part – the facts followed by the answers. That stuff doesn't stick, and for the most part trainees hate it. When you hear the word 'blended', run."

This viewpoint of blended learning, while appealingly cynical and superficially fashionable, is off the mark in at least two respects. First, I believe that there remains a place for formalised instruction and a very valuable one at that. Structure is important in learning when you don't know what you don't know, nor (once you realise what you don't know) how to go about rectifying the situation. You are a dependent learner – dependent on an expert, who has done all this before, to guide you from ignorance to mastery. The more dependent you are, the more you appreciate the structure that goes with formalised instruction, whether that's in the classroom or online. Structure is also helpful if you're an employer and you need to be absolutely sure what knowledge and skills your employees have been exposed to and what they have learned as a result. As valuable as informal learning may be (and at least 75% of the total by all accounts), it doesn't show up as a pass or fail on your learning management system. That matters when you're responsible for training pilots, ensuring compliance to key legislation or a thousand other critical training challenges.

The criticism of blended learning by informal learning enthusiasts falls down in one other important repect – it assumes that blended learning cannot make use of new, relatively informal methods and media. Now strictly speaking, no learning activity that is set up with an explicit learning objective can be accurately called 'informal' – however loosely it may be structured, however discretionary, however unsupervised; if it is deliberately included in a programme to facilitate learning, then educationalists would like us to call it 'non-formal'. That's fine, this distinction can be conceded – blended learning cannot include informal elements, but it can be as non-formal as you like. Here's for non-formality.

It's true that most blended learning is a combination of formal, you might say traditional elements – a bit of classroom, a bit of CBT, perhaps some on-job instruction. But there is no reason whatsoever why this should always be the case. By including non-formal elements, blended learning not only becomes more relevant, more embedded in real-work behaviour and therefore more powerful, it also acts as an important crossover from formal to informal learning. It demonstrates the potential for learning in everyday work activity. It encourages independent learning.

So how can blended learning incorporate methods and media normally associated with informal learning? Well, perhaps the most obvious way is the use of blogs (web logs) by learners to maintain an ongoing learning journal, starting before the course (or whatever you call the formal bits) and extending on well after, if not indefinitely. Blogs encourage reflection, allow learners to communicate their successes and their frustrations, and provide an opportunity for tutors and fellow learners to offer encouragement and assistance. They help to build communities of learners that persist long after a formal event has been consigned to history. Wikis (web sites which all users can add to and edit) provide a similar advantage. They allow learners to work together to build a body of knowledge from which they and all future learners can benefit. They remove the burden on trainers and subject experts to be the providers of all useful content. They encourage the notion that everybody's a teacher as well as a learner.

Of course the non-formal elements in a blended solution aren't constrained to online technologies with strange names. There's nothing to prevent you providing opportunities for face-to-face collaboration, teleconferencing, maybe even reading. There are no rules for blended learning, other than the requirement to be effective and efficient. Using your imagination to incorporate a wide range of non-formal methods and media is optional but highly desirable.

In praise of the course website

Your typical classroom course is an isolated event, a deviation from the normal work routine which the brain seems to be able to wipe from the memory as completely as any holiday. However expertly the event has been facilitated, however exciting the new concepts and skills to which we have been exposed, however stimulating the new relationships we have built, the classroom is a strange and unfamiliar environment in which it is all too easy to lose touch with real-world problems and issues. Just like a holiday in fact. Except with a holiday the whole idea is to get away from it all; when we're training, it's because we want new capabilities to help us confront all those problems and issues.

If there is to be an effective transfer of learning from the classroom, then the learning process must start and finish in the everyday work setting. As Jay Cross states in his *Internet Time* blog, "Learning environments are like landscapes. They make sense as a whole, not simply a bunch of independent courses and workshops." He dubs his vision of this sort of learning environment a 'learnscape'. Well, there's a relatively simple way of helping to create learnscapes and it doesn't require us to abandon our classroom training programme. It's called the course website.

A course website provides not only a permanent base for a course, a repository for all the information you're likely to need, but a centre for collaboration with fellow students. Importantly, because it comes to you through your desktop PC or laptop, over the Internet or a corporate intranet, its context is solidly work-based. It comes into operation well before the classroom event and continues to be relevant well after, perhaps even permanently. It's embedded in our normal routine, alongside all the other online communications which dominate so many of our working days.

A typical course website will contain information and activities that act as a precursor to the face-to-face events: joining instructions, pre-reading, questionnaires, interactive self-study materials, pre-assessments and so on. Participants may also complete a profile of themselves, along with a picture, and make preliminary contact with their fellow learners. After the face-to-face event, participants will be much more familiar with the course material and with each other – which is when the course website really delivers value. Expect to see forums, allowing participants to debate issues and obtain answers to their questions; expect a chat facility, so learners can get back together in real-time to compare notes; expect a facility for learners to maintain their own learning journals in the form of blogs (web logs), on which their colleagues and tutors can comment; expect a repository for course content, created and edited by all participants, not just the trainers (commonly called a 'wiki').

So, how do you go about putting together a course website? Well, if all you're going to do is provide information about the course and a place from which to download documents, then you'll probably have the facility to put this together quite simply on your intranet – just talk to your IT people. If you want some of the collaborative facilities, such as forums and chats, and are prepared to put up with a few adverts, then you could use the facilities provided for free by Yahoo Groups, Google Groups, MSN Groups and others. However, if you want to remain within the firewall and integrate with your existing training administration systems, you are better off working with whatever your LMS (learning management system) can provide, assuming of course that you have one. If you don't, consider a separate virtual learning environment (VLE). This need not be as expensive as you think. Thousands of colleges, training providers and employers are using the free, open source package called Moodle, which is extremely easy to set up and use and which already incorporates wikis and learner blogs.

Just having a course website is not enough to make much of a difference. A website is a 'pull medium' – it sits there waiting for you to come to it. Believe it or not, course participants have other priorities in their lives and won't just visit the course web site on the off chance. They require plenty of 'push media' to remind them. Use email to inform participants when there is a resource they should be looking at or an activity they should be engaging in. Have participants be automatically notified of new postings to forums. But the biggest push of all needs to come from the trainer. He or she has to be the website's main advocate, establishing it as an integral element in the course design and playing a major part in encouraging the ongoing collaboration that participants will value most highly. There is a major shift towards more informal, work-based and self-directed learning. Classroom trainers can act as positive agents in support of this change by embracing the course web site.

E-learning takes the lead

There were times just after the dotcom crash when you had to wonder whether e-learning was just another false start for computer-assisted learning. After all, we'd been trying since the mid-70s to find a place for computers in the world of learning that was not only valuable but viable, and never achieved more than marginal success. That was long before Tim Berners-Lee unwittingly brought the Internet into the public eye through his invention of the World Wide Web and Jay Cross signalled a new start for computers in education and training by coining the term 'e-learning'. As with all things dotcom, e-learning was over-hyped, in this case as a complete replacement for all other learning media. 'Over my dead body' muttered the soft skills trainers, but they didn't have to worry, because the proposition was clearly ridiculous and everyone except the vendors could see it. When sales of e-learning products failed to be meteoric, the e-learning industry became more than a little depressed and there were smug grins in classrooms up and down the country.

However, and this is quite a big however, it seems that many of the outlandish forecasts made during the dotcom boom seem to have proved correct. In just a few years, the Internet has completely changed the way we engage with each other and with information. It has spawned e-Bay, Amazon and the world's best-known brand, Google. We have reached a billion Internet users, a figure set to double in another ten years, and who knows how many billions of web pages. How does that affect us? Well, without quite knowing what happened and through no fault of its own, e-learning has enjoyed a sudden and emphatic boost in popularity. According to my calculations, e-learning is now bigger than the classroom. Much bigger. Now that got your attention.

Before you get all hot under the collar, let me explain, starting with the formal stuff - the courses organised by the training departments across the globe. The ASTD's State of the Industry Report 2004 showed e-learning as 29% of all formal training (up from 8% five years earlier) and the classroom at 63% (down from 80%). In the UK, research by the UfI saw e-learning growing from 15% to 29% of all training, with the classroom dropping from 69% to 52%. And how about the CIPD's 2004 training survey, which suggested a 42% increase in the use of e-learning? Now, a reality check here: it's possible that there's not actually less classroom training being done, just a smaller proportion of a bigger overall total. E-learning may be making training possible that wouldn't otherwise have been done. Whether or not you believe this, you must admit that there are limits to the applicability of e-learning to formal training and that a realistic maximum share is less than 50%.

So, how can I justify my claims that e-learning's bigger than the classroom? Stick with it. It has long been known, and proven by a number of major studies, that most of what people learn at work does not come through formal interventions. A typical estimate is just 20%. The rest occurs quite naturally as we do our best to cope with the demands of our jobs by hunting down information, asking opinions, trying things out and learning from what happens. I'm sure you'll agree that a fair proportion of this comes through communication with peers and with experts, both within and beyond our immediate working environment.

Now, here's where we need to make a judgement call, because I'm not aware of any up-to-date research. What proportion of this communication would you think is online, through email, instant messaging, web conferencing and forums; through browsing the intranet and searching with Google? How much higher could this rise when blogging extends its reach into the world of work? I'd say a conservative 30%, perhaps even 50. The remainder is likely to be a mix of face-to-face communication, print and telephone, perhaps even TV and radio. None of this is going to be in a classroom.

Time to tot up the figures. Let's say, conservatively, that e-learning represents 20% of all formal learning (or 4% of the total) and 30% of informal learning (another 24% of the total). That's 28% overall. If classroom training is 70% of formal training (being generous), then its total contribution is 14%. I know it's a long time since I passed my Maths O level, but I believe the e-learning contribution is double that of the classroom.

So, what does this jiggery pokery tell us? Perhaps it just confirms that there are 'lies, damn lies and then statistics'. More importantly, I believe, it emphasises the contribution that networked computers are making to all aspects of our lives and that includes how we learn. Even without the interventions made by trainers and e-learning suppliers, we have become empowered by the phenomenal improvements that have occurred in our access to information and expertise. We are becoming ever more independent learners, less and less reliant on the formal inventions of learning professionals. That's what all good teachers and trainers have always wanted (isn't it?), so I believe there's cause for a modest celebration.

Beward the 'everyone's doing it' argument

I don't know about you, but nothing gets my back up more than someone trying to persuade me to do something because everyone else is doing it. The ASTD managed to achieve this unwittingly in one day, with two articles that they published through their 'e-learning community'.

The gist of the first of these was that people now entering the workforce have been brought up on games and simply won't accept interactive learning material in any other format. Apparently, enlightened and successful US corporations have recognised this and have made interactive, online games an integral part of their learning strategy. Oh yeah?

Believe it or not I am a big advocate of using games in learning, in the right place and done well. However, rather than encouraging me in my opinion, this pitch risked turning me right off the idea. Why? Because it implies that games should become the driving force within learning interventions because people seem to like them. Look, trainers didn't allow their classes to listen to psychedelic music and smoke dope because that was the thing in the 60s. And their predecessors didn't have to communicate through the medium of film because young people at the time liked going to the movies.

There are good reasons for games in learning and they are not new. They are to do with the compelling motivational characteristics that are common to all good games, characteristics that raise the adrenaline level and focus the attention. People will strain every sinew to beat their own high score. The more competitive ones will work even harder to overcome a real or imaginary opponent.

Teachers and trainers have been using games in learning for centuries. My tennis coach has a good one. He has me try to serve in turn out wide, to the body and down the middle to the deuce and then the ad court – that's six serves. I once hit the target five times. Boy am I keen to hit all six before I'm too old and stiff to lift a racquet?

What has changed is that people are now extremely comfortable interacting with a computer. They know interactivity can be challenging and captivating, because they experience that when they're searching, blogging, playing shoot-em-ups or bidding on e-bay. They know that a lot of the e-learning they see is not very challenging, so they feel disappointed and who can blame them. Games might help, but so would good story-telling, thought-provoking questions, illuminating images and the chance to share thoughts with peers.

The second example was an article by Sami Nurmi and Tomi Jaakkola entitled *Problems Underlying the Learning Object Approach*. Here I was told that "…only by using learning objects according to the principles of **contemporary** learning theories can their promises be fulfilled." The authors assured me that: "The reductionist views of teaching and learning underlying the prevailing learning object approach are strongly conflicting with the **current** theories of learning (e.g. constructivism, social constructivism and situated cognition), which consider learning as active, intentional, motivational and social processes of knowledge construction and meaning making."

Now, if I had to pick my favourite from the various perspectives on how people learn, I'd probably pick constructivism and I would be least drawn to behaviourism. I was running training courses according to constructivist principles in the 1970s so convincing me of the merits of constructivism for the design of learning objects should be pushing against an open door. Not any more. I've gone off the idea after this attempt to bully me into believing that this is contemporary/current, i.e. the right view. This is simple social blackmail, playing on the fears and insecurities of trainers who don't want to be seen as old-fashioned or lagging behind.

Let's be quite clear, constructivism is not new. If in doubt, get onto Google and look up Piaget, Vygotsky, Bruner and Dewey, some of constructivism's best-known names. Note when they were born (as an example Vygotsky was 1896) and when their major work on this subject was published.

I must apologise to Sami Nurmi and Tomi Jaakkola, because their intentions are good. They hate over-structured, over-formalised, trainer-centred, behaviouristic training as much as I do. They just won't win me over by telling me that an alternative approach is better because it is 'contemporary'. How about some evidence of effectiveness? How about the possibility that different approaches can work in different situations?

It's the fear of following what might be becoming a discredited bandwagon that led the chairperson at a blended learning seminar that I was speaking at to refer to the subject as 'the B word'. This before most trainers have even heard of the concept, let alone reflected on it, played around with it, refined it and integrated it over a sustained period. Beware the fashionable. Trust your own experiences. If something's working stick with it, until the evidence supporting a change is clear and compelling.

Paradigm war

Coming up for ten years on and we're no nearer to obtaining a common understanding of the term e-learning. It seems that e-learning specialists are like economists – put any two in a room and you will generate at least three competing theories. And yet, without some common understanding, how can we expect to bring managers, learners and, most importantly, the training and teaching professions, with us in making the most of the opportunities provided by new technology.

According to my dictionary, a paradigm is a pattern or example underlying a theory or methodology. In my view we have three paradigms at play in e-learning, each engaged in at least a border dispute with the other, if not outright war. It's time they signed a peace pact and started to trade together. Let's take a look at the contestants.

Paradigm one sees e-learning as a natural evolution of good old CBT, CAI, CAL and all those other TLAs (three-letter abbreviations). CBT, computer-based training, is about delivering interactive lessons to individual students, sitting in front of their PCs. CBT has changed very little since its conception in the late 1970s; in fact many would argue that the very best work in this field took place at least twenty years ago. CBT online is almost exactly the same as CBT on CD-ROM, even on videodisc, just with less of the multimedia. If you believe that CBT is the essence of e-learning, then you might wonder why such a fuss was made about its relaunch, alongside the dotcom boom. CBT at worst has all the benefits of other self-study media (self-pacing, flexible timing, economies of scale, etc.), at best it can be adaptive to the learner's needs, engage the learner in a meaningful dialogue and present compelling games and simulations. Needless to say, we're not seeing the best.

Whereas paradigm one has its origins in corporate and military training, paradigm two comes out of further and higher education. It utilises the Internet as an alternative channel of communication for distance learning, an inexpensive way to deliver linear (non-interactive) content to geographically-dispersed learners and to enable them to engage with one another and with their tutors using standard Internet tools, such as email and bulletin boards. Paradigm two scores because it mixes self-study and collaborative learning and provides the learner with continuous support. Compared to CBT, paradigm two courses are relatively inexpensive to develop. Unfortunately, because of the heavy tutorial requirement, they are as expensive to deliver in terms of faculty time as the classroom.

Paradigm two scores because it takes advantage of the Internet to bring learners and tutors together. In this respect it is genuinely new. What it doesn't do is provide the sort of live, real-time experience that learners are used to in the classroom; which takes us to paradigm three, the use of virtual classrooms. Synchronous communication is important to learners because it helps to provide structure to a course timetable (activities you must engage in at particular times), because it enables issues to be handled quickly and because it encourages social interaction. If the virtual classroom software wasn't so inexplicably expensive, it would also be by far the cheapest of the three methods.

So, three paradigms, which like religions attract their own believers and which, also like religions, can act as catalysts for confrontations. But, in essence, all three are entirely compatible; each adds something really valuable to the mix. Paradigm one provides us with the potential for compelling, interactive, multimedia content, available anytime, anywhere. Paradigm two removes the risk of learner isolation on longer courses, by allowing communities to form and all learners to be supported. Paradigm three makes the immediacy of the classroom available to learners at a distance. E-learning, which exploits computer networks to facilitate education and training, needs all three of these approaches, and so do learners. Let's face it, it's time to stop the paradigm war.

Rapid e-learning gets the job done

You can imagine the situation. Your boss calls you to say that a critical new product launch has been brought forward and you now have only two months to design, develop and deliver a training programme to more than a thousand engineers, sales people and customer support staff that will enable them all to hit the ground running on launch day. You can forget about using the classroom – not enough time, not enough trainers and nowhere near enough money. You could cascade the training down through middle managers but the quality would be inconsistent and the process too unwieldy. How about putting some pages on the intranet? Quick and simple, but hardly what you would call training and definitely not trackable. Of course you could develop some self-study e-learning, but with only one specialist developer at your disposal and a historic design to delivery ratio of at least 200:1, you simply haven't the time.

It's not surprising that organisations are demanding faster turnaround on e-learning projects – according to Bersin & Associates (2005), 'a whopping 72% of all training challenges are time critical.' Some 38% of trainers surveyed in the USA by the eLearning Guild (2005) indicated that they were under significant pressure to develop e-learning more rapidly; a further 40% were under moderate pressure. The demand for rapid e-learning is felt most acutely for product training and technology training – subjects where timeliness is most critical and the content is most likely to change.

According to the same eLearning Guild survey, the two issues that slow down e-learning development the most are content review and approval, and access to subject matter experts (SMEs). The way most e-learning projects are designed exacerbates this problem: an instructional designer interviews the SME; the designer puts together a design (naturally enough); the SME approves this; the designer scripts the programme in full; the SME approves this; developers get to work on the graphics and other media and then assemble a test version; QA staff (and probably those pesky SMEs as well) test the programme to destruction and suggest plenty of changes; after plenty of further revisions some training might get done. One solution is to get SMEs, designers and developers into one room, lock the door and then don't let them out until they've agreed every nuance of the programme. Another is to let the SME do the whole job themselves. And that's rapid e-learning.

LTI Magazine defines raid e-learning as courseware (live or self-paced) developed in less than three weeks, where SMEs act as the primary development resource. Bersin uses a similar definition: 'Web-based training programmes that can be created in a few weeks and which are authored largely by SMEs'. Agreement on definitions – is this a first for e-learning? They also agree that if SMEs are going to develop e-learning rapidly, they are going to need some pretty simple tools. That's not Authorware, Flash, DreamWeaver or the many other tools on the market designed to be used by specialists. We're talking about the sort of online content development tools that have allowed 16 million people to publish their own blogs (web logs), thousands of people to collaborate on creating the Wikipedia, and countless small businesses to set up their own web sites without going near a web developer. Simple, template-driven authoring tools allow interactive content to be produced in days, not months. And if linear content will do the job, why not record a class and publish it as a video, add some audio to your PowerPoint slides, create a PDF or issue a podcast?

At this point, seasoned e-learning professionals (and that includes me) may well be holding their hands up in horror. Are you seriously suggesting that a mere SME could possibly produce a piece of training material that anyone in their right mind would want to look at? The answer is 'yes, when the need is urgent, the shelf-life is short and you're prepared to take the time to provide them with a little training.' As Reuben Tozman points out, 'Tools are not skills. Word processors don't turn bad writers into good ones.' Agreed, so take a little time to provide the skills. Rapid e-learning may be disposable, but it still has to be fit for purpose.

What do SMEs need to know? A little, perhaps about defining objectives and how adults learn. More critically, they need to know about the importance of storytelling, the need for meaningful and challenging interaction, how to illuminate their material with images and how to cut out all the detail. If they take these lessons to heart, they may well do a better job than many of the pros. At the end of the day, whether the SME does the job on their own, works with you in partnership or returns the monkey to your back, everyone benefits when the right training is delivered to the right people at the right time. Exotic multimedia productions might win awards, but rapid e-learning gets the job done.

Kicking up a skinker

You may never have thought of it this way, but most training is essentially a 'pull' experience. Before you start getting the wrong idea about where I'm leading, let me clarify: the training basically sits there, in the course catalogue, on the intranet or wherever, for employees to pull it down when they need it – like TV, radio, books, newspapers and magazines, websites and CD collections. All of these can be considered 'pull media'. Pull media have some useful advantages – they are non-intrusive (if you don't want them, you simply ignore them) and they put the learner firmly in control of the experience (you partake of them when and where its suits you). Trouble is, when you're under pressure at work (and some of you keep insisting that you are), pull media come a very definite second when it comes to grabbing your attention.

At work, the urgent crowds out the important – it always has and it always will, even if you've been on the best time management course going. And what seems more urgent is what is pushed at you with the greatest force. Push media are addressed at us specifically, not at the world at large. Push media include phone calls, SMS messages, emails and letters. They're aimed at you, so you feel obliged to give them at least a little bit of your valuable time.

In the online world, it's been understood now for years that a pull technology on its own, like the World Wide Web or an intranet, is going to struggle for its share of your attention. That's why most websites also operate on a push basis, emailing you to inform you of what's new on the site and hoping you'll click on a link to open up the site in your browser. Think, how many websites have you been to recently without an email link to take you there? Chances are that without the emails you'd forget about the sites altogether. Of course blogging operates in a similar way. We subscribe to the blogs we're interested in using an RSS (Really Simple Syndication) feed and then get alerted the moment a new post is created.

Trainers have a problem. In the classroom, in a one-to-one coaching session, even in a self-study lesson, they have got the learner's full attention. They can push at the learner whatever they like. They can emphasise, they can encourage, they can draw out, they can reinforce. But as soon as the training session is over, their influence wanes to practically zero, as the learner's memory fades and the new day's push media arrive by phone, post and network connection. Perhaps it's time for trainers to compete in the push wars.

The very least trainers can do is to operate an e-newsletter, ideally targeted at specific audiences and subjects. I know people at work get a lot of these things, but if they are clear, concise and contain useful information then they will be valued. If you're anxious about whether your students will resent them, then provide an easy opt-out facility. E-newsletters can inform learners about new training events and services, they can celebrate successes, they can provide case histories, they can exhort learners to keep using their new skills, and they can present new tips and hints.

If you're already doing this and still find you're not getting noticed, you can escalate your attack significantly by employing desktop alerts, or 'skinkers'. Rather than sit in your inbox, hoping you'll get round to them, these pop-up to provide you with important news the moment it is available. The BBC, Sky and The Financial Times use them to provide news alerts; Motorola and British Oxygen use them to communicate with their sales forces; Vodafone with their call centre staff and Cisco with all their employees. These alerts can contain simple text and graphics, video and audio messages, and links to websites, PDFs and other documents. Just imagine how they could help to keep your training messages alive and kicking day in and day out.

And the fun doesn't stop there. Enterprising training departments are already taking advantage of their employees' obsession with gadgetry and the dead time spent commuting and in business travel, by creating audio material for distribution as podcasts. Once a user has subscribed to a podcast, their music software will automatically download the latest edition as soon as it is available and copy it to your MP3 player, where you can listen to it at your pleasure. It's easy to produce audio files in MP3 format on your own PC. Why restrict yourself to text when increases in bandwidth allow you to be heard in all your glory? Come on trainers, push on. It's time to kick up a skinker.

Trainers do it for themselves

For as long as there has been e-learning, by this or any other name, there has been the debate about who should be the ones doing it. Is e-learning exclusively the job of specialists, tucked away cosily in Nerdsville and thinking of higher things, or is this just another skill set for your everyday, journeyman trainer to pick up and run with as they will? The choices, as always, are never that simple, but the choice that you make is more than a little important.

Outsourcing is in the news. According to a recent IDC study, the market for business process outsourcing (BPO) in the training function reached $2 billion in 2003, an increase of 150 percent over 2002. The forecast numbers are even bigger: a $10 billion learning BPO market by 2008, with a 40 percent compound annual growth rate. American data, true, but likely to be reflected internationally in due course.

The arguments for outsourcing sound convincing: external training companies should be able to save you money, because they have the scale to achieve economies and cope with peaks in demand; they should, in theory, have access to world-class solutions; they should also leave you to concentrate on the core business. In e-learning, it is possible to see how these arguments could apply: developers can and do build courseware production 'factories' in places like India and make considerable savings in labour costs as a result; they can invest in research and development to make sure they have the best systems, processes and tools available; they can also afford to employ the sort of technical and creative specialists that e-learning can occasionally demand and whose skills would definitely not be core business in the average training department. You might argue that no developer does all of the above well enough to do achieve what you want. You may be right, but not for long – they will get better.

A friend of mine who used to run one of the largest development companyies, and who must therefore have a vested interest, told me how internal e-learning development departments have the Sword of Damocles hanging over them: it is only a matter of time before someone in senior management notices how far they have strayed from core business and closes them down. He is right, but the internal units that have been closed down all have one thing in common: they stray beyond the usual activities of trainers, i.e. helping people to learn, and populate themselves with all sorts of specialists, from programmers to 3D graphic artists, from video directors to sound engineers. Of course these skills are not core business and of course they are readily available outside.

In practice, the majority of work in e-learning involves no programming, 3D graphics, video direction or sound engineering. The most important work is identifying training needs; designing appropriate learning interventions; writing learning content that is clear, succinct and readable; creating or sourcing simple diagrams, charts, photos and screen shots; assembling the materials into a finished product; and tying this all together with a dose of project management. That's not to mention those e-learning skills that don't involve the creation of self-study materials, such as providing support to learners and running live, online virtual classroom sessions. If these skills sound familiar, then they should; by and large, they are the things that most trainers do every day, with or without e-learning.

So, let's leave aside the really specialist technical and creative tasks that it would be foolish to bring in-house, assuming you could convince the people that do these things to leave their ghettoes. If you ever need these skills, you can buy them in for just as long as you need them. The real issue is whether you believe that the not-so-specialist skills listed above (those to do with helping people learn) are core business or not. If you believe they are, then you should probably keep them under your control; just make sure you provide your trainers with the top-up skills they need to apply their existing subject knowledge and their expertise in adult learning to the new technologies. If you believe these skills are *not* core business, then why would you not consider outsourcing the lot – not just the e-learning bit, but the whole business of designing, delivering and administering all forms of training? Now there's a thought.

Something for everyone

In the past few years I have had the dubious privilege of speaking about e-learning to a great many ordinary, everyday trainers, many of whom are extremely resistant to the idea and believe it to be the work of the devil. As a survival tactic, I have had to work very hard at finding angles on e-learning which help to break down some of these barriers and get them on-side. Showing flashy demonstrations of exotic interactive multimedia materials doesn't work at all, nor will you attract a glimmer of interest from a look at a state-of-the-art learning management system. These people are not impressed by technology, because it seems so very distant from their own skills and interests. By and large (unless you're in IT training), the classroom is one of the last technology-free zones and, as a result, attracts more than its fair share of technophobes.

So, you're probably wondering, how do I manage to win over these reluctant participants to the joys of e-learning? Well, the first step is to put e-learning in its place, as just another channel for communication with learners and one that is not going to usurp their positions or devalue their skills. That's important, but it's not what I want to focus on here. What clinches the commitment of trainers to the idea of e-learning is that they can do it for themselves; yes, e-learning represents fun for all the family.

I have contributed a great deal of my time to the creation of training programmes for e-learning professionals, whether they're developers, e-tutors or managers. I have an interest in seeing those wishing to devote all or a large part of their careers to e-learning, attaining the highest possible standards. We need committed professionals to tackle large scale development projects and implementations. We need them to apply their skills to training programmes for large audiences and with long shelf-lives, where the budgets are likely to be greatest. In particular we need them to supply the technical and creative skills which are beyond the reach of normal mortals. Believe it or not, that still leaves masses of room for the professional trainer who, by comparison, would still be regarded as an enthusiastic amateur when it comes to e-learning. Here's how.

First of all, most training needs are not for large audiences and don't have long shelf lives. They do not justify hefty budgets, or the assembly of teams of specialists. They represent the majority of situations facing trainers in organisations and they require a quick response by versatile all-rounders; trainers who are able to turn their hand to a wide variety of e-learning tasks, in addition to the skills they already hold in other media and methods. And even when the professionals are called in, they need not and should not occupy all the key positions in a project team. In the e-learning skills triangle, creative skills are in one corner and technical skills in another, but at the top of the triangle is the trainer, the expert in adult learning and the one calling the shots.

So what are the e-learning tasks that the everyday trainer should feel comfortable performing? Here's my list, at the top of which is the ability to create or contribute to the creation of training websites. Hardly any trainers that I've encountered have ever created a single web page. Why not? - the rest of the world is busily creating pages by the billion. Gone are the days when you needed HTML skills or any other esoteric technical knowledge. Creating a web page is no harder than knocking out a Word document or PowerPoint slide.

Second on the list is the ability to produce short, ten to fifteen minute interactive self-study tutorials. These can be used to tackle many training problems effectively and efficiently. OK, so the trainer needs to become familiar with an authoring tool, but only the very basic kind, one that works online and requires no more than simple form-filling. The same skills can be applied to the customisation of off-the-shelf materials, to make sure they fit precisely with the needs of the organisation.

So far we've concentrated on content creation and, let's face it, most trainers are more interested in interaction with other humans. That's OK, because e-learning provides plenty of opportunities here as well. Most trainers will, with a little training, feel comfortable with running live sessions in a virtual classroom. They are also, again with a little help, more than capable of providing top-class support to learners engaged in longer online or blended learning programmes. We are not talking about new areas of competence here, just the application of existing skills to a new channel.

E-learning will fulfil its potential if the training department as a whole is driving the change and if every member of the department is engaged in making a contribution. There isn't a trainer in existence that cannot make this contribution and who can legitimately excuse themselves from picking up the necessary skills. E-learning really can provide something for everyone.

Get your free iPod here

Looks like the opportunity you've all been waiting for; the perfect excuse to have your company pay for you to own a brand new iPod. Just imagine the incredulous look on your manager's face when you tell him you want it for your personal development. Not to listen to Eminem, Coldplay, Black Sabbath or Russ Conway (delete as appropriate), but for learning. Be prepared with your arguments.

It's hard to have a rational discussion about podcasting, because there's so much excitement and emotion associated with it. After all, it is the latest thing in training and no dedicated follower of fashion in the training department would want to be left behind. And of course you do want that free iPod, the one which does videos and stores all your photos, or that tiny one you can almost fit in your credit card wallet. Nevertheless a rational discussion is called for, so try to be objective.

In case you've been away for rather a long time, let me explain what podcasting is. First, you need an iPod or some other form of MP3 player, and a computer with an Internet connection (actually a PC on its own is enough as long as it will play back audio, although this is nowhere near as cool). Then you subscribe to the podcasts that you're interested in. These are typically audio (although video podcasting, or vodcasting is also popular) and composed primarily of speech rather than music. You could listen to your favourite BBC radio programmes as podcasts, or the daily ramblings of an audio blogger recorded on his laptop, or fascinating little learning nuggets prepared by your training department. You'll need some special 'podcatching' software, such as Apple's own iTunes, to regularly check to see if new editions of the podcasts that you have subscribed are available, download them to your PC and then transfer them to your portable player. All you have to do is listen, on the train, walking to work, in the gym, at your desk or wherever you like.

Now podcasts have a certain glamour, but let's not forget that they are just sound recordings. When it comes to learning, sound recordings have never before had much of a role to play and they are not going to change the world this time round. There are obvious limitations, not least the fact that listening to a podcast is a passive experience – you can't ask it questions and it can't ask you any either. And recorded audio is not self-paced – it goes at the speed of the speaker, which may be much too slow or too fast for your taste. If you want to hunt down information, you'd be better off with a transcript. But listening to a podcast is not about hunting down anything; it's what marketing people call a 'lean back' experience. It's reflective and low-stress. It's enjoyable. Most of us do plenty of 'leaning forward' in front of our PCs during the working day; listening to a podcast provides a welcome break from incessant messaging. Who knows, we might even learn something.

Audio does have its advantages as a medium. It engages the ears, but leaves your eyes free to concentrate on driving or otherwise avoiding bumping into people. A significant minority of learners has an auditory preference. And the spoken word reveals more of the personality of the speaker than the equivalent text, is typically less formal, and has the potential to be more compelling. We can also combine the spoken word with music, and music is surely the ultimate mood enhancer.

If you're not already using podcasts, consider the possibilities: interviews and conversations; lectures and monologues; quiz shows and dramas – listen to the radio and you're bound to get some ideas that could be successfully applied to subjects you teach. Use podcasts as pre-course work, as a follow-up or as an ongoing channel for keeping learners up-to-date. If you have a simple message for a relatively small audience, record your own podcasts using a cheap microphone connected to your PC. When the stakes are higher and your audience runs into thousands, get a little professional help. Audio is quick and relatively cheap to produce. It doesn't require any debugging. In the end, just be sure you do it, because your learners are relying on you to justify their free iPod. And, come to think of it, you quite fancy one yourself.

The fourth paradigm

E-learning has been consolidating – which is what you do when you're worn out from too much change and need a breather. We've been honing our skills, listening to feedback, refining our strategies and making pacts with our enemies (a development also known as blended learning). Unfortunately, while the e-learning industry has been doubled up trying to recover its breath, it has completely taken its eye off the ball, failed to anticipate an attack from an unexpected direction and ended up deflecting the ball off its backside and into the net for a spectacular own goal.

As readers will recall, in a previous column I was explaining how there were three paradigms (big ideas) for e-learning: the first, and the dominant, being the use of computers to deliver interactive, self-study lessons (you know, CBT in a web browser); the second, the use of the Internet as a channel for delivery of longer distance learning courses that incorporate a wide range of activities, are supported by tutors and encourage collaboration between learners; and thirdly, the delivery of short, live online events using virtual classroom software. Well, no sooner had the printer's ink dried than readers were informing me, with smug self-satisfaction, that I had completely ignored what was probably the most exciting new development of them all. Let's call it the fourth paradigm (which sounds like a great name for a spy film).

The fourth big idea for e-learning has emerged without any intervention from the so-called professionals. It has evolved as a natural function of improved tools for online collaboration and the increasing self-confidence of Internet users. The fourth e-learning paradigm is *learners doing it for themselves*.

I say 'learners' but it's hard to identify them as such – they don't wear school uniforms and sit behind a desk. Learners in this context are just people looking to get things done and using their initiative to overcome any obstacles in the way (like being short of information or not knowing how to go about doing something). They can do this because they have been empowered by software tools that are incredibly easy to use yet awe-inspiring in their potential. First port of call is of course Google – not a new phenomenon, but one that plays an increasingly important role in everyday life. You will buy books, watch TV documentaries, consult with experts, even go on training courses, but only if you can't find what you need on Google.

But Google's not enough, because with Google you're still essentially a passive recipient; you are not in a position to challenge or debate. More importantly, you don't have the opportunity to publish your own thoughts and opinions, to become a provider as well as a recipient. With the new tools, everyone's a publisher, everyone's a teacher. As of early 2006, there are something like 30 million blogs (online journals), with more than 30 thousand being discovered daily. Blogs allow people like you and me to publish our thoughts and experiences to whoever will take notice. They allow us to make contact with others who are facing similar challenges and who may be able to help us. They provide us with the broadest possible range of views and perspectives, often in stark contrast to the 'official view' or the hysterical outpourings of the mass media.

If you don't like the views of the establishment, publish your own. 'Wikis' are websites that are created by their own users. You want to add or delete a posting, just go ahead and type it in. For the finest example of how wikis allow learners to do it for themselves, visit the Wikipedia (www.wikipedia.com), where thousands of 'amateur' contributors are creating their own online encyclopaedia. If you have more questions than answers, then simply *Ask Yahoo!* or submit a query to one of the thousands of forums addressing every topic imaginable.

The fourth paradigm represents the ultimate learner-centred approach: learners identify their own needs, work out how best to meet these, implement their own training plan and then evaluate their own results. What they don't do is wait for teachers and trainers to do this for them. This approach is not completely learner-centred because teachers still play an important role – it's just that those teachers are just other learners, trading their expertise for yours.

The fourth paradigm is, of course, simply another manifestation of *informal learning*, the way that 80% or more of all learning has always been achieved. What's different is the scale of the operation: the pool of over a billion potential teachers and learners, the literally uncountable web pages, blog postings and podcasts. If, as professional trainers, we feel under threat then we are missing the point. We cannot hope to be everyone's teacher – there simply isn't the time. If we embrace the fourth paradigm, we take a significant step in helping our organisations to establish a truly sustainable learning culture. And that's not a bad way to spend our time.

Rethinking e-learning

At last I get the chance to correct what I believe to be the greatest cause of confusion about e-learning. Contrary to what I've been told by trainers on countless occasions, e-learning is not just a tool, in fact it isn't a tool at all (as they say in Ireland). What e-learning *is*, is a rather inadequate term to describe a medium, a channel of communication through which learning can take place. Like face-to-face communication. Like print. Like the telephone. Like TV and audio systems.

Does this matter or am I losing all sense of proportion? Well, yes it does and no I don't think so. It matters because if you think of e-learning as a tool then you are understating its potential and overstating its significance. Let's take the understating argument first. Before e-learning, trainers had at their disposal a manageable collection of long-established delivery tools, including workshops, seminars, on-job instruction, books, workbooks, individual and group assignments and video; along with a variety of ways of providing ongoing support, through face-to-face coaching, by post or telephone. E-learning almost doubles the range of offerings. Just think, using computers and networks you can deliver interactive self-study materials, virtual classrooms, streaming audio and video, chat rooms, discussion forums and all sorts of online materials (not least through that greatest e-learning resource of all time, the World Wide Web). You also have more support options, using email and instant messaging. Impressive, huh? So, e-learning isn't a tool, it's a channel through which you can access a whole range of tools.

What does this mean for trainers? It means that you can't dismiss e-learning as just another tool; you have to take each of the tools in turn to see how useful they might be in meeting your training needs efficiently and effectively. It also means that the task of media selection – choosing the most appropriate ways to deliver your training intervention – just got a whole lot more complicated. Because now you have twenty options to consider, not ten. And because if you don't consider all twenty, you could be missing an opportunity to make your training better, faster or cheaper.

So, why, at the same time, are we in danger of overstating the significance of e-learning? Well, because it is just a communication channel, a rather sophisticated channel perhaps, but just a channel nonetheless. As a channel, it provides us with three forms of output – a screen, speakers or headphones, and a printer. This is a useful combination, because at its best, it enables a computer to deliver a multimedia experience to match any previous technology. On the other hand it delivers nothing new – sitting in front of the TV while reading a book gives you the same experience. But then, because this channel has input devices – keyboards, mice, microphones, webcams, scanners and the rest – it has interactive capabilities; it allows learners to interact with materials, with other learners, with expert sources and facilitators. True, we can do all this already using existing channels, but now we can do it at a distance and at very low cost. Finally, this channel has one other important characteristic and that's processing power – not as subtle as that of a human being but a whole load faster. This power enables us to create individualised self-study learning experiences, to deliver simulations and games.

Where does that leave us? With a highly versatile new channel that enables us to deliver a wide range of new tools for learning. If we are anxious about this, we shouldn't be. So far, no new channel has replaced an existing one. Did print see off face-to-face communication? Did the telephone threaten the careers of postmen? Did TV ruin Hollywood? True, in each of these cases some adjustment was necessary, but all those channels seem to be valuable to us; they all add something unique to our lives. E-learning is no different: computers and the networks that connect them constitute another channel for trainers to employ, alongside those we've grown to know and love; a channel that we're only just beginning to understand and exploit; a channel that's here to stay.

Talking interactivity

Interactivity is a good thing, like motherhood and apple pie. All really professional trainers and instructional designers know that their mastery of interactivity is what sets them apart from the rabble. We're taught how important a regular dose of interactivity is in the classroom (as with the Training Foundation's TAP model) as well as on-screen (both the behaviourists and the constructivists agree on this one). And we've all seen that when interactivity is skilfully integrated into a training programme, whatever the medium, it seems to be the better for it. So, that's that then. Interactivity rules OK. At least I think so.

Two recent conversations have got me wondering about just how necessary interaction is to learning. The first was with a colleague of mine who runs a company specialising in the delivery of interactive learning materials online. He confided in me (and me with you) that everything meaningful he had ever learned came from a book. He doesn't tell his customers this. I checked whether others shared this view and a small, but significant minority did. Then, I met with someone who'd just returned from an Open University summer school. This person was a professional classroom trainer, yet told me how they found the simple lectures, where you just sat and listened, much more satisfying than the workshops, where you engaged in group activities. For this person the activities just got in the way of hearing the fascinating things that real experts had to say about their subjects.

It's quite clear that, at least for some people in some situations, externally-mediated interactivity is not really a necessary component of learning. So what is it about these people and these situations that break the rules? Well, firstly, both of these people have a passion for learning and know what they know and what they don't know. They don't need motivating to learn and they don't need encouraging to question their assumptions. Secondly, in both cases, the learning was at the level of knowledge and understanding, and quite academic at that. There are some implications here for trainers. Firstly, don't underestimate your learners – some of them don't need a lot of intervention from you to learn effectively. And furthermore, don't write off the use of so-called passive media in your training programmes – books, videos and lectures still have an important role to play.

Another reason why debates about interactivity become so heated is that no two trainers can agree what it means. The dictionary says that something is interactive when it is "reciprocally active, acting upon or influencing each other", but it doesn't make clear what or who those others might be. In my mind there are three types of interactivity that, if you can include them all to some degree in your design, will make for a course that engages and satisfies the majority of learners. The first of these is interactivity with the subject matter – with the content, if you like. To learn golf, you have to hit balls. To become an author, you have to do a lot of writing. To memorise information, you need to rehearse and test your knowledge. Self-study can deliver this if interactivity is built-in, which usually requires a computer. One-to-one and classroom training achieve this through practical work. Books, videos and lectures don't – they help you to acquire knowledge, they don't help turn this into a skill.

The second form of interactivity is with a tutor, coach, trainer, subject-expert or whatever. You can manage without it, but it helps if you have it. The real-live human expert, whether accessed face-to-face, online, on the telephone or through the post, can provide you with personalised feedback. They fine-tune your skills and they correct any misunderstandings. Which brings me to the third and perhaps the most controversial element in an interactive strategy – the need for communication with other learners. Most of us are social learners to some extent. We like to have other people around to celebrate our successes, test out our new theories, help us with our problems and share with us their experiences. We may like to read, listen and observe passively, but when we find something that turns us on, we want others to know about it!

Any trainers reading this can relax. We need you to organise courses that not only allow us to quietly reflect, but which challenge us with practical activities, provide us with expert support and help us to build communities with our peers. Whether these things happen online, face-to-face or through some imaginative blend is not an issue to us, we just want interaction please. It's part of being human.

People actually like e-learning!

Rather unsettling news has been reaching the training community in the past few months; so unsettling that many trainers are in a state of complete denial. The news emanates in particular from two major surveys, conducted by the UK magazine e-Learning Age and the international e-learning content provider SkillSoft. These surveys are suggesting the unthinkable; that ordinary employees of major organisations (not techies or teenagers) actually like e-learning. They like it enough to do it again and again, and to recommend that others do the same. E-learning was not meant to be like this.

We all know that, during the dotcom frenzy, e-learning was horribly oversold. The content wasn't up to scratch, the platforms weren't ready and learners were expected to be totally self-sufficient. Needless to say it didn't work, much to the delight of those trainers who had been told their days were numbered. E-learning providers went away to re-think; to break away from their behaviouristic learning models, to see how e-learning could be properly integrated with other approaches to training, and to ensure proper support for those engaging on e-learning courses. Some progress has obviously been made, because at last we're beginning to see some positive feedback – but not necessarily where we were expecting it.

Most trainers would admit that, implemented well, e-learning is a highly-flexible medium, providing access to learning materials, tutors and other learners wherever you are and at whatever time you wish. And, of course, it can be extremely cheap. That goes without saying. What most trainers would struggle to come to terms with is that e-learning is in any way an enjoyable experience. Surely most learners would much prefer to develop their knowledge and skills in the comfort of a classroom and the company of an expert tutor, wouldn't they?

Well, a reasonably high proportion of learners do quite like learning in the classroom, but that doesn't mean they can't like e-learning as well. SkillSoft's March 2004 survey of 204 learners, in 15 organisations across Europe, made that quite clear. An overwhelming 93.5% said they enjoyed e-learning and 98% said they would recommend it to a colleague (it's not clear why the 4.5% who didn't enjoy e-learning would want to recommend it to others – perhaps as some sort of trick). Respondents to the survey particularly liked the self-pacing. Ageists might say that the young like self-pacing because they can go as fast as they want, and the old because they can go as slow as they want. Getting on a bit myself, I like to get the ageist jokes in first.

Another survey, conducted by Laura Overton for e-Learning Age and published last November, obtained responses from 2112 learners across 14 organisations. The figures are just as compelling: 89% would recommend e-learning to colleagues; 93% would use it again; 94% support the introduction of e-learning in their organisations and 81% believe it usually provides the knowledge and skills that they require. It's interesting that more than 10% of the respondents who didn't obtain the knowledge and skills they require, want to use it again – they are determined to make it work!

Sceptics are likely to argue that these respondents were self-selecting enthusiasts and working in organisations which provide exceptional support. However, in the SkillSoft survey, most came to e-learning with a degree of trepidation; and most were learning without the luxury of formal dedicated learning time. In the e-Learning Age survey, only 43% reported that they were provided with enough time to learn at work, and only 63% felt that they were supported during the experience.

Interestingly, SkillSoft found that one of the main barriers to e-learning's success was an image problem, based on a fear of technology and a lack of understanding about how e-learning works. One claimed: "The main barrier is taking the first step to do an initial course. Once that hurdle is overcome, then people can't help but be hooked on e-learning." Overcoming the image problem is clearly e-learning's greatest challenge. These survey results are certainly a step in the right direction.

Learners know best

Back in the eighties when, surprising to many, some of the best and most adventurous e-learning programmes were created, I was landed with the task of managing a series of interactive video projects with a major UK company. This was an organisation that prided itself on its training, that wanted to do ground-breaking work and which, more than anything, wanted to win awards. At the start of each project we would go through a ritual. I would suggest that a touch of humour would really add interest to the programme. They agreed, assuring us that we had a free rein and should not hold back creatively. Suckers that we were, we really went for it and littered the script with amusing stories and witticisms. First draft, one or two of our more outrageous suggestions were removed, perhaps sensibly. Next draft a lot more disappeared, leaving just the safest jokes which were also, inevitably, the least amusing. Final draft, the last vestiges of humour were removed, 'just in case'. We were left with a script that contained all the necessary content, but was so dry it could crumble in your hands.

With some forms of e-learning, using methods such as virtual classrooms, discussion forums and chat rooms, it doesn't seem hard to hold the learner's attention (assuming you can get them there in the first place). That's because these methods allow people to interact with each other – their tutors and their colleagues. Other people are intrinsically interesting – they have stories to tell, real problems to solve and endless ways of amusing us. We like stories, we like to help people talk over real issues and, above all, we enjoy a laugh. That's why it's hard for many of us to work remotely from each other for too long – we miss too many episodes in the soap opera of life. Even when we're relaxing and not interacting directly with other people, we like our films, our TV programmes, our books, even our music to be packed with interesting stories, intrigue and controversy, pathos and humour. Sometimes it seems the only place we're guaranteed to miss out on all these elements of life that we really enjoy is if we register ourselves on a course of self-study.

We know what makes self-study e-learning interesting. Easy, it's what makes every other aspect of our lives interesting: we make liberal use of case studies (a posh word for stories) and scenarios; we base these and all the examples that we give, on real or at least realistic work situations; we recognise that the learner is an adult and therefore comes to the course with their own thoughts and opinions based on the events (the stories) that have occurred in their lives; we offer challenges that capture the imagination and stimulate the release of a little adrenaline – through provocative questions, imaginative activities and even games (not that we must ever call them that). Sorry, but no-one ever got excited about a course from reading the behavioural learning objectives!

They do say that selling training is like selling dog food – you sell it to the owner not the dog. The dog gets what their owner thinks will be good for them. Likewise, most training is sold to the management – and their representatives, the training department – not the learner. Management thinks they know best. They are sure learners prefer their training to have a serious, businesslike tone. They believe, mistakenly, that people can learn any number of abstract facts, rules and procedures just by seeing and hearing about them. After years of misguided political correctness, they are convinced that it's impossible to make a joke that doesn't upset somebody. They are wrong. Who's supposed to put them right? The training department. Do they? No.

It's time for some trainers, in particular those who project manage the development of self-study e-learning materials, to get a life. It's also time they consulted their customers, the learners. If they did, they'd soon discover where they've been going wrong. E-learning should reflect all that's fun in life, because learners who are having fun are also likely to be learning. And not only are they going to come back for more, they'll tell their friends. Lighten up out there, and remember, learners know best.

Blended learning in the mixer

I thought I had a pretty good understanding of what blended learning was about and how to combine online and traditional elements to build courses that used the best of the old and the new. That is, until I sat at breakfast watching my wife open her Open University package – then I realised that not only was I unduly restrictive in my definition of what blended learning meant, but that when it came to imaginative combinations of ingredients, I was a complete amateur. Out of the box came workbooks, good old-fashioned text books, cassettes containing interviews, lectures and extracts from pieces of music, and books full of nothing but full-colour pictures. Then there were the TV programmes to record, phone tutorials with your personal tutor, occasional group sessions with local members of your course and, to top it all, the one-week summer school. In this instance there wasn't a single online element (although subsequently discussion forums and interactive CD-ROMs have been added), but I defy anyone to say that this wasn't a first class example of blended learning: a broad range of media was used to present information, there were numerous self-study activities, opportunities to seek expert advice and a chance to collaborate with fellow learners (in the case of the latter, probably not enough to satisfy most learners, but a reasonable attempt given the budget). Well done the OU.

In coming to terms with blended learning, it's helpful to start with what it is not. First of all, it is not providing learners with choices of how to undergo a piece of training – you can have e-learning or, if you prefer, the classroom. Not only are learners not getting a blended solution (which means they get all the disadvantages of a single medium, as well as the advantages, whereas a blend can smooth out the rough edges), but you're having to pay to implement two solutions instead of one. A blended solution is also not a way of combining a number of very similar elements, say books, videos and CD-ROMs. The learner gets some variety in their self-study, but self-study is as far as it goes. A successful blended solution is like a balanced meal, combining a range of ingredients, each of which has a unique purpose.

I would define blended learning as an approach to the design of learning interventions which mixes learning media and methods appropriately, to achieve solutions which are both effective and efficient. It's easy to create blends that are effective, if you throw enough resources at the job. Similarly, it's easy to be efficient and conserve resources, if you let quality go down the pan. The challenge for the designer is to create solutions that are both effective and practical, given the inevitable resource limitations that we all work under.

Blended learning also takes account of differences in learning objectives, the preferences of learners and the practicalities of the particular situation. If you're not sensitive to these differences, the chances are you'll come up with the same familiar solution all the time, one with which you are comfortable but that doesn't necessarily deliver for learners. A good example is the classic 'classroom sandwich', in which a classroom course is topped and tailed with a little e-learning. This may be the right method in some situations; in others it could just be a sop to the classroom trainers.

Creating the right blends is a tough task for the 21st century trainer, because as soon as we started networking computers together we created another host of options (online self-study, virtual classrooms, discussion forums, chat rooms, email support and much more), each of which has to be considered alongside more than a dozen existing options. They have to be considered because they may be more effective or more efficient for your particular combination of learning objectives, target audiences and resource constraints. What we don't need are unnecessary complications like having to include something online in the mix when it isn't needed, or having to include a non-online option when we're getting all we need from the online options. Not to mention the fact that we don't need a blend at all for the vast majority of short courses. Now there's a thought.

Can computers teach skills?

When any trainer is first introduced to the concept of e-learning, they are likely to come up with the same key questions. What exactly is e-learning, and when should I use it? The first question is harder to answer than it sounds, because you have to explain all the ways that computer networks can facilitate learning, by providing learners with access to materials, tutors and other learners. The answer to the first question then makes the second that much harder. Each e-learning method has its own unique features and benefits, and hence its own place in the design of online and blended solutions. Nevertheless, if the trainer sticks with it, they will get to see how e-learning in its various forms can make a contribution, particularly in the teaching of knowledge – of facts, concepts, rules, principles, processes and procedures. When it comes to skills, they don't get it.

Skills are important in training because very few of us get paid for what we know; we are employed because of what we can do. It's not enough *to know that*, we have *to know how to*. If the emphasis in education is 80:20 in favour of *knowing that*, in training the priorities are reversed. So, good question, can computers really help us to learn skills? The answer, of course, is that it all depends.

Skills are rarely taught in isolation. There's typically a sequence starting with the imparting of some basic supporting information, moving on to some sort of demonstration of the skill, then the practice of that skill by the learner (ideally with objective feedback) and culminating in application of the skill in the real work environment. I don't think anyone would argue that computers can help in the first step, but then that's just the imparting of knowledge again. They certainly could assist in the second, because almost any skill can be demonstrated using graphics, animation, audio or video and, thanks to broadband, all of these media are now available to us. Imagine, for example, how you could use video to demonstrate interpersonal skills such as complaint handling or closing a sale. Computers might also be able to help at stage three, in providing practice with feedback, but here it depends on the type of skill.

Some skills are essentially cognitive, involving problem-solving, planning and decision-making; and in a knowledge society, so much of what we do falls into this category – programming, writing reports, analysing data, planning projects, creating marketing strategies. These jobs are usually carried out on a computer, so it's not too far-fetched to believe that you could practise them in the same way. The issue, of course, is how you get feedback on your code, your reports, your analyses, project plans and strategies. Computer software could be devised to examine your work and give you personalised feedback, but this is likely to be complicated and unreliable. Where computer networks can help is by allowing you to share your work electronically with tutors and colleagues, wherever they are in the world, and discuss your work using email, instant messaging and discussion forums.

Let's move on to social skills, the ones that involve you interacting with customers, suppliers, bosses, peers and subordinates. A fair amount of success can be achieved by designing software that helps you to take your first steps in applying these skills – scenarios that you observe and critique, scenarios in which you are an active participant and determine what happens next. However, these are first steps and not as authentic as the experiences that can be laid on in the classroom, where you have the opportunity to role-play and receive direct feedback from real humans. But even this is not enough. No skills can be learned from one or two practice sessions – the learner needs to continue their development on-the-job, getting feedback on an ongoing basis from their manager or coach.

The third category of skill is the psychomotor; practical skills that involve you interacting with the physical environment – operating machines, driving tanks, lifting parcels or cutting down trees. Classrooms and computers are of little use when it comes to practising many psychomotor skills, but there are exceptions. If the skill is computer-related, such as typing or using a mouse, then it's not surprising to find users learning on the computer itself. More importantly, consider how we use simulators to teach those skills which are too costly and too hazardous to learn in the real-world – flying planes, operating nuclear power plants, navigating an oil rig.

So can computers teach skills? Well, as we've seen, they can help in the early stages of learning any skill. When the skills are cognitive, they may be able to do the whole job – less so with social and psychomotor skills. E-learning is no more a panacea than the classroom, which is why blended learning is not so much a cliché as a practical necessity.

Bringing e-learning into the 21st century

In an astonishing speech – as much for who gave it as for what it contained – Rupert Murdoch told the American Society of Newspaper Editors that "Too many of us editors and reporters are out of touch with our readers. No wonder the young are ditching their newspapers. They don't want to rely on a God-like figure from above to tell them what's important." He goes on to say how news providers, such as his own organisation had better get web-savvy, stop lecturing their audiences and become places for conversation, where bloggers and pod-casters congregate to engage reporters and editors in more extended discussions. Phew. For the news media read the training industry and you'll see where I'm coming from.

E-learning (and for that matter a great deal of classroom training) is founded on 20th century assumptions about the roles and responsibilities of trainers and learners in the process of learning. It still treats the learner as an empty and largely unquestioning vessel into which you can pour the required knowledge, skills and attitudes. If only it was that easy. Unfortunately it probably never was and certainly isn't now. Learners no longer want to be passive in any aspect of their lives – they want to be active participants.

Modern technology does not isolate people; it allows them to communicate like never before. Fifty billion emails are despatched every day. The average mobile phone user sends 37 texts a month. Sometimes we do so much communicating, we don't have time to do anything that we can then communicate about (perhaps this is why the number one topic on blogs is blogging itself!). Technology also empowers people to do things for themselves that they previously might have left to the professionals – take pictures and make movies, compose music and, most importantly of all, publish your views to the world at large, using simple web pages, blogs, podcasts and forums. As Rupert Murdoch knows well, we're approaching the stage where everyone is a publisher. And we quite like it that way. On top of all this, modern media technology seems to be making us cleverer, not dumbing us down. IQ scores have been steadily rising by 0.31 points a year since 1943. According to Steven Johnson, author of *Everything Bad is Good for You*, "The culture is getting more intellectually demanding, not less."

Consumers are empowered by the wealth of information they can find on the World Wide Web. Much of this information comes from other consumers, not from advertisers. In this way, web shoppers can co-operate to drive down prices and find the best suppliers. Whoever said that content was king was way off the mark. In the 21st century there's only one claim to the throne and that is coming from the customer.

Slowly but surely the expectations of e-learners are rising. Rather than just receiving information as gospel, they would like to add their own comments and debate those points with tutors and other learners. Rather than answering questions in isolation, they'd like to compare their responses with those made by other learners. And, as they do with the books on Amazon, they want to provide a rating to each module they take – and to see the ratings left by other learners. In time, the content contributed by the community of learners becomes as important, if not more so, than the formal content. If you doubt whether this can work, see www.wikipedia.org, where users have been creating their own encyclopaedia.

So, is your e-learning like this; as interactive, as participative, as empowering? I thought not. You do have a good excuse, in that the majority of the authoring tools and management systems currently available don't make it at all easy to build in this functionality. They're 20th century tools, built by unreformed relics of the CBT era. It's time to see some new tools, built to give learners what they really want.

According to Dell, "There's no turning back. The market will become more fragmented, customers' needs will get more diverse, and sophistication and empowerment will continue to grow." So, listen up all you trainers. If we are not responsive to the individual needs of learners, if we don't allow them to fully participate in the learning process, if we don't allow them to make their own contributions to the learning content, then they will exert their power as reigning monarchs; they will banish us from their thoughts and do it for themselves. You have been warned.

Why design comes first

Surveys tell us that many new users are scared of e-learning, but that when they get some experience, they are fine. So, why are they so scared of something that to us seems so innocuous? The reason is that, in their experience, almost everything that you try to do on a computer (particularly if you're doing it for the first time) is either unfathomable, counter-intuitive or the cause of inexplicable breakdowns. Classroom training might be slow, expensive and, for some, a little intimidating, but you generally have no trouble getting to the venue, you know roughly what to do when you get there and it hardly ever breaks. Now, unless you're Bill Gates and can actually make the changes necessary to help computers become more user-friendly, there's not a lot you can do to stop users being afraid of e-learning. What you can do is make the experience a pleasant one when they finally take the plunge.

Think for a minute. If you wanted to create a software application that was a real pleasure to use and which would help users to achieve their goals with the minimum of effort, who would you get to help you? You could try graphic artists, but their motivation is so often to make things obscure – like modern art – for the sake of effect. You could ask the programmers, but their efforts are almost always based on the assumption that the user will be extremely logical like them. Most programmers simply have no conception of how real users relate to computers. User testers and usability experts can be helpful, but their efforts usually come when it is too late – the product is already completely off-beam. It makes sense to consult your customers, but of course they simply don't know how to design your product – they are experts on the problems, not the solutions.

Design is a job for specialists and it is a job that absolutely has to come first, at the very beginning of the project, and to dominate from that point on. The purpose of design is to help real users to achieve their everyday goals as simply as possible (which, in the case of e-learning, means the acquisition of knowledge and skills). Good design is not aimed at experts (i.e. other residents of the technical ghettoes) and it is not aimed at absolute beginners (the ones you often have to demonstrate to). The best designs are the simplest, with the least knobs on, but which still allow users to achieve powerful results. In twenty years of computer-assisted learning, nobody ever used those extra buttons in the interface – the ability to take notes on-screen, to consult glossaries and obtain help – at least not if they could possibly avoid it. They use the back, forward, menu and possibly the print buttons. They won't be using their e-learning every day like they do Word, so they want to use their time acquiring job skills rather than learning another interface.

A typical Hollywood film spends months in pre-production, honing the script and planning every detail of the shoot, but a relatively short time in production. Planning is everything. With software, pre-production is so often skimped on the basis that things can always be fixed later. As a consequence, far too long is spent in production as attempt after attempt is made to rescue the original vision. In practice, it is almost impossible to change the fundamental assumptions once software is in production.

Smart software designers, and that includes those in e-learning, such as John Harris at Capita, are turning to new methods to ensure their products deliver what users really want. Taking a lead from Alan Cooper's excellent book on interaction design, *The Inmates are Running the Asylum*, they are placing an increased emphasis on understanding how their users behave and what it is they want to accomplish. They develop elaborate user personas to represent their target audience, provide these hypothetical archetypes with fictitious names, and then direct their design efforts wholly at what these imaginary people would want. They appreciate that their product might have to support users with differing goals, but they realise that a product that is designed for too many audiences ends up suiting none.

E-learning has an advantage over most other forms of software in that the instructional designer rules supreme over the artists and the programmers. They should keep it that way. They can then exploit this happy situation by focusing more clearly on their audience, making sure they understand exactly what their users looks like and what it is that they are aiming to achieve. Just imagine, the end result might be software that delivers on the promise, helping users to achieve their learning objectives rather than challenging them to master the beast, the computer.

Sounding off

Bandwidth is on the up, as organisations upgrade their networks and home Internet users subscribe to ADSL, wireless and cable services. And with an upsurge in multimedia activity on home PCs, whether that's online radio, video conferencing with webcams, DVD playback, 3D games or the downloading of MP3s, static screens of text and graphics are beginning to seem just a little tame. They also provide no sort of challenge at all for the nasty looking sub-woofer that I've just installed under my desk. So, once again e-learning content developers, under pressure from their clients who also have under-used sub-woofers, are turning to audio as a way to enrich their offerings; 'once again', because we've been here before, with videodisc and then CD-ROM.

There's a danger with broadband that we do unnecessary things just because we can, but in the case of audio there do seem to be plenty of strong arguments in its favour. First of all, as we're always being told, learners differ in the extent to which they prefer auditory or visual channels for the receipt of information. The majority may be visual, but a significant minority think differently. And then accelerated learning enthusiasts will argue that we can make learning more effective for all learners by engaging all the senses, which of course includes hearing. Whatever the theory, common sense tells us that computers can be perceived as impersonal and that a human voice, even a little background music, will add warmth and a human touch to the whole experience.

But of course, nothing is that simple. The use of audio in e-learning is full of hazards. First of all, office PCs may not be equipped with the necessary sound cards and speakers or headphones. And if the PC's are up to it, the network may not be, particularly when a large number of people are expecting to access audio at the same time. This requires testing. Home users are likely to have all the right kit, but they may have been sold cheap broadband deals which barely live up to the name. You'll need to set a minimum spec for broadband in terms of kilobits per second – anything under 375 kbps is unlikely to be up to it.

The worst thing that can happen is that a user has to wait a long time after a page appears before the accompanying audio starts to play, so if bandwidth is tight, you'd be advised to drop the audio quality levels a little and stream the sound in. Audio can be digitised at a wide variety of different resolutions and frequencies (you don't need to know more than this, because your audio engineer will) and you can drop several levels below CD quality before the listener is likely to notice. Streaming is a technique which allows audio to be played back as it is downloaded, so the user doesn't have to wait for a complete file to arrive. You need special software to make streaming audio possible, but this will be a worthwhile investment.

Luckily you won't need to break the bank to create the audio you need. Even at the top-end, when you use a professional voiceover artist and a fully-equipped studio, we're only talking a few hundred pounds to create all the sound you'll need. Of course you can do it all yourself, using a low-cost mic plugged into your PC, but your users will notice the difference – maybe not in sound quality, but in the voice. When it comes to authoring the content, the process couldn't be simpler and building in the audio is likely to take much less time than it would to lay out all the text.

So let's imagine that you have sorted out all the technicalities (if only life was that simple). Now what are you going to use audio for? In interactive self-study courses, the obvious answer is to provide an ongoing narration, to replace much of what would have been displayed as text. There's a major advantage here, in that without the text, you have the whole screen available for visuals – photos, illustrations, diagrams and charts. You've got to have visuals, because otherwise the screen would be blank. And don't even think about putting text on the screen to mirror the narration. It doesn't work in PowerPoint, when a presenter reads what's on the screen, and it doesn't work in e-learning. The co-existence of text and sound is mentally disturbing, because the user doesn't know what they are supposed to be doing – reading or listening. If the user prefers reading to listening (and some do, because it's easier to control the pace), then turn the audio off and put the text back in. If there is an exception, it's with questions, where it helps to display the options on-screen in text, so they can be studied at the user's leisure.

So, audio's on its way back in and e-learning can only benefit. More audio means less text and more pictures, a more engaging experience and one that's more likely to stick in the memory. So, if you're wondering what to do with all that bandwidth, it may be time to sound out the IT department.

All learning is change management

While at an e-learning conference in Boston, I was lucky enough to attend a keynote presentation by change management guru Peter de Jager. Now normally this is one of those topics that sends me to sleep, but somehow Peter's approach seemed simpler, more memorable and more applicable to the world of e-learning.

The most striking of the ideas that Peter suggested was that people don't actually resist change; in fact we voluntarily and enthusiastically engage in all sorts of massive and highly risky changes throughout our lives. How about getting married, having kids, moving from one town or country to another, even changing careers? Clearly these are not trivial changes. It seems that what people resist is *being changed*, that is change that they haven't instigated for themselves. After all, change is a threat to the status quo, to the investments we've made in time, energy and other resources to become what we are. Resisting change does not make you a Luddite or a 'difficult person'. Everybody resists some changes, which is only right and proper, because not all change is necessary or beneficial. We would be weak-minded if we simply adopted every suggestion and acted on every order, however senseless.

The fact is that you will not commit to the pain and chaos associated with change unless you understand why it is necessary. So often you are provided with no explanation or one that is either patronising or superficial. Managers so often underestimate the intelligence of their subordinates. If they were more open and truthful about the reasons for the change then they would be a good way along the road to gaining your support. If they'd allow you to participate in the development of the solution, rather than presenting you with a *fait accomplis*, then you'd be as committed as they are.

All very well, but what has all this got to do with e-learning? Well, these ideas have an impact at three levels. At the top-level, they may influence how you gain support for a new e-learning initiative. The key here is not to try and impose a solution but to engage with the key stakeholders and ensure their participation in developing the solution. Consult learners to ensure your proposals provide them with clear-cut, positive advantages compared to their existing training, not just cost-savings at the expense of quality. Work with managers to ensure your e-learning strategy will be easy for them to operate and support. Work with IT to remove the barriers to your success but without compromising the security and reliability of the network. Most importantly, work with other trainers to ensure they have a role to play in the use of technology and are not left on the sidelines without the skills to contribute.

Change management works at a more tactical level as well, such as the implementation of a new training programme. Mandated programmes (other than those that provide you with the essential skills of your job) are naturally going to be resisted. If they really have to be mandated for compliance reasons, then at least be prepared to explain why, with absolute honesty. You may not be able to guarantee that employees will be motivated enough to learn more than they need to pass the test, but at least they'll make an effort to comply.

I believe that change management operates at a micro level as well. After all, learning changes the brain, for good. If it doesn't, then it hasn't happened. The learner is the gatekeeper to their brain. No amount of lecturing, instructing, prescribed reading or showing of videos will make any difference if employees are not convinced that they want their brains changed. For the gates to be opened, learners have to recognise that they have a gap in their knowledge or skills that they believe is worth filling. And they will be much more committed to the process - and the learning will be much deeper - if they have discovered the learning for themselves. The humanist psychologist Carl Rogers once said that 'nothing worth learning can be taught', which is probably going a bit far, but there's little doubt that learning by doing, conversation, reflection, discovery and inductive (non-directive) questioning will be more effective than simply telling. Actually that's not really such a micro issue for trainer - it's MASSIVE!

E-learning at the movies

I was introduced to the dubious joys of computing back in 1980, by a video engineer that I had employed to set up and run a production studio within the training department for which I was responsible. He wanted an Apple II computer to generate titles for his videos. I bought the computer, but for some reason or other the titling never was possible. What did seem possible, according to articles appearing in American training publications at the time, was to connect the Apple, via an add-on board (which cost much more than the computer) to a VHS videocassette recorder and to make interactive training programmes that employed video and computer graphics. Let's get this straight – this was 25 years ago, and although the graphics were basic and it took a while to search the tape for the next video scene, we had media-rich e-learning. More than most of us have today.

I was hooked, particularly when videodiscs players replaced the VCRs. Now we had 24 minutes of video on each side of the disc (or 36000 stills!) plus two channels of audio, all full-screen and full-frame rate, and all with near-instant access. If it wasn't such an expensive solution in terms of hardware (around £6000 a station), it could have made a massive impact. But by the late 1980s, CD-ROM had taken the place of videodisc, media went digital, and they took our video away. The CD was designed as a music carrier and had neither the bandwidth nor the capacity for decent video. We had to wait for many years for video windows to grow larger than postage stamps and for frame rates to speed up to a level that did justice to the word 'movie'. In fact, only recently, with DVDs and MPEG 2 compression, can we say that we've equalled the quality that we took for granted with videodisc.

As an interactive media producer I wanted video. Why? Because video does some things that other media can not. Yes, it is an attention grabber and is capable of engaging the learner, but then so is good writing, meaningful interactivity and compelling imagery and animation. Where it stands out is that it can represent dynamic, real-life events and activities, in pictures and sound, roughly as they are in the real world. You can see and hear an interaction between a salesperson and a customer, how products are assembled in your factories, the eruption of a volcano and how the chief executive comes across in front of the camera (for better or worse). It is difficult, maybe even impossible, to represent these events using text and graphics. It can also be more expensive.

Anyway, back to the story. Interactive video was dead, multimedia had arrived and video was beginning to play a role again in self-study education and training programmes. Then Tim Berners-Lee created the World Wide Web, the Internet emerged from academia to capture the public's imagination, anything that wasn't nailed down went online, and – once again – they took our video away. If you thought early CD-ROMs were bandwidth-constrained, the Internet established new records. Even graphics were only allowed on the World Wide Web after considerable debate.

Fifteen years on and video has once again emerged as a serious contender in what is now called e-learning. Many of the obstacles have been removed. Companies have upgraded their networks, almost everyone can now have broadband access at home and very many do, and technologies such as video streaming have emerged to smooth the deployment of online video. As importantly, with the arrival of high quality, low-cost digital camcorders and PC-based video editing software, the creation of video, once the exclusive domain of professionals, is now a commonplace activity. Unless you're shooting drama, it's quite possible that you won't need a writer, a director and a full production crew. You can probably do it yourself.

A word of warning. Even if you have overcome the obstacles of bandwidth and can now seriously consider video as an option in your e-learning programmes, that doesn't mean you should use it indiscriminately. Remember, video is hard to customise or maintain, so it's best used for generic and non-volatile content. It's also a passive medium, so use it in short chunks and provide all the controls that learners will need to rewind, replay, fast forward and so on. And don't be tempted to use it to impart reams of technical information; this is much more easily digested using text and graphics. Use it for depicting real-world events and activities and you'll be adding something no other medium can achieve. Buy yourself one of those director's chairs and spread the word: video is back.

Carrying off the prizes

At the time of writing, the award season has once again come to a close and entrants are either licking their wounds or polishing their trophies. Having experienced these events for just about twenty five years now, it seems fitting to reflect on what they have contributed to the training industry, in particular that branch now rather ambiguously labelled e-learning.

Perhaps a good place to start is to ask why it is that we need award ceremonies at all. After all, haven't we got enough pressures on ourselves to deliver on the promises we have made to our employers and our clients, without pitching ourselves into the heat of battle with our peers in other training departments or with other providers? Isn't the very purpose of training to foster collaboration rather than fuel competition? And anyway, how can anyone judge whether one training project or programme is any better than any other – surely it depends on the objectives, on the audience and, let's face it, the budget?

All good excuses, but all miss the mark. Even if, as was attempted in the UK in the 1980s, we try and suppress the competitive instinct by having our children play games where everyone wins, we are only delaying the inevitable. The world out there is hard and to be a survivor you have to have the confidence to at least try to be a winner, even if that means that others inevitably lose out. And, as any sportsperson will tell you, competition can be extremely stimulating, not least to standards, as well as attracting a lot of attention from spectators, who are gunning for one or other of the combatants. We do training no favours by trying to isolate it from the competitive world for which it is charged with preparing the participants.

In fact, there are far more winners than losers in any award ceremony. First of all, the industry as a whole benefits from an annual showpiece that attracts plenty of publicity. The attendees benefit from the opportunity to dress up as if they were at the Oscars, swank around in posh hotels and to let their hair down cheering, drinking and dancing. Of course the organisers benefit too – the more awards on offer and the more nominees, the more tickets they can sell to companies wanting to celebrate their success as front of as many witnesses as possible.

Those who expected to do well but didn't get the opportunity to make their victory speeches, may be questioning the equity of the whole process. Did money change hands? Perhaps it was a political decision. Maybe it just wasn't our turn to win. It's easy to be cynical about how the prizes are awarded, but in my experience serving as a judge at various industry events over many years, there are no scandals to uncover. I have never known an event organiser to successfully prejudice the judges' decision, nor for the judges to be unduly influenced by political pressures. I've seen plenty of plain daft awards, but that's because judges are human beings and the process is essentially subjective, and because sometimes they disagree with me.

So, should we take training awards seriously, or can we laugh them off as just a bit of harmless fun? Well, there's no doubt the receivers of awards take them seriously, to the extent that they will issue press releases within twenty-four hours of their hangovers subsiding and then hang the awards with pride in their reception areas. An award may even keep them in a job, by demonstrating to their employers and clients just how favourably they compare within their particular profession.

And don't doubt that the industry as a whole takes them seriously. I was at a plush do held by the corporate video industry in the late 1980s, hosted by a well-known TV presenter now best known for challenging contestants to win a million. He was, understandably I felt, tempted to snigger a little at the titles of some of the nominations for video awards: 'Insolvency: Your Opportunity in Adversity'; 'Meet the JX25A Switchboard', and so on. Hardly the BAFTAs, that's true but Chris Tarrent learned the hard way never to make fun of a person's career. A rather elderly gentleman, much the worse for drink, stormed on to the platform and ranted at the outrage he felt at the ridicule being heaped on his beloved corporate video industry, when they should instead be celebrating a year of outstanding endeavour and achievement, by talented and committed professionals. Phew. A few minutes after he was escorted back to his seat, the man collapsed and an ambulance arrived to take him to hospital.

It isn't just the celebs who deserve to dress up and strut in the spotlights. We're putting in as much effort for much less reward. Let's enjoy our nights out.

Rethinking computers in the classroom

E-learning can be reasonably defined as any use of computers and computer networks as a channel to facilitate learning. One application of this channel that gets less than its fair share of attention, particularly in the corporate world, is the use of computers in the classroom. Sure, the IT trainers among us use computers extensively to demonstrate software and to allow students the chance to practise with that software. I mean more than that.

Let's take a moment to reflect on what computers can offer as a platform for the classroom. First of all, they obviate the need for any other sort of media playback device – VCRs, audio players, slide projectors and overhead projectors. Your computer can provide all the facilities you want for playing back audio, video and still images, from hard drive or from DVDs and CDs. That includes training 'films' and all that baroque music so loved by the accelerated learning enthusiasts amongst us. A word of warning, however. Your laptop speakers cannot compete with a TV or ghetto blaster, let alone a proper public address system. You really will need extension speakers or a video projector with audio capability.

Computers also have their fair share of unique offerings, such as animations, games, simulations and 3D virtual worlds. I know – for most of us these are far too expensive to produce from scratch. But some of these can be bought off-the-shelf, some created from templates and some produced in conjunction with a self-study e-learning programme. If you are connected to the Internet, then your options increase: provide access to millions of websites (including those specially established to provide online teaching resources), communicate live with other groups or with experts from around the world (it's a lot cheaper to get them to spend half an hour in front of their PC than to fly over specially); and if you are lucky enough to have a PC for every student (and for IT trainers this is normal), your options extend to online assessments, and networked games or simulations.

Before we get carried away, it's worth considering where the computer sits in relation to what you might regard as more 'spontaneous' devices – flip charts, blackboards and whiteboards. As we all know, these are easy to use, require very little set up and allow you to respond with a great deal of flexibility to what learners do and say. Ideal for discussion leading, brainstorming, quick sketches and important terminology that delegates need to note down. You can even stick flip charts around the walls and take chunks out of the paintwork. All this is great and long may it continue. But you can't easily store what you or your delegates have created, print it out or copy it around in digital form. With an interactive whiteboard, however, connected to your laptop, you can, without sacrificing the spontaneity.

So much is possible, but all too often what we get is the trainer's own lethal strain of death by PowerPoint, worse than you'll experience at a conference because it can go on for days rather than the usual 20 minutes. You know, the endless slides full of bullet points recited from the screen, decorated with the occasional piece of irrelevant clip art. Sorry Microsoft bashers, but the problem lies not with PowerPoint, which allows you to create just about any sort of visual aid you can imagine, but with the trainer, who uses this software to make their lesson notes visible to the entire audience. I remember being taught many years ago that any word on a visual aid was an admission of defeat. A bit harsh, perhaps, but a sentiment that is just as relevant today.

Used well, I have no doubt that computers can enrich the classroom experience but, as ever, technology should be kept in its place and we must resist the temptation to hide behind it. For the majority of the time in class, the focus of the group's attention should be on other humans – not least the trainer – rather than the screen. Classroom time is expensive and the more of this that is spent in the process of face-to-face collaboration the better – something no other medium can offer.

Made to measure

If you're a woman or a cross-dresser (and I'm happy for you to express yourself in any way you see fit) and you need a new dress for a special occasion, you essentially have three choices. You could have one made to measure, a reasonable choice if it's a really big day, such as a wedding, you've got a hefty budget and can afford to wait. If you have the dress-making skills, or are prepared to learn, then you could buy a pattern and the material and make it yourself; an economical option, if you don't count the cost of your own time, but risky in that you may find it hard translating good intentions into action. Your third option is to buy off-the-shelf. If you're an average sort of shape or size, then you may strike lucky, you'll have what you want in no time at all (unless you're one of those people who have to explore every possible choice in every possible shop, at least twice) and the cost is likely to be manageable. Fine, but what if you're not average shape or size (or have very peculiar tastes). have only a modest budget and can't wait for ever? You need what many shoppers need – a modifiable, off-the-shelf solution; something you can buy right now and adjust to fit by making some quick alterations yourself.

Just in case you thought for one minute that you'd picked up a copy of Women's Weekly by mistake, something I often find myself doing, then let me reassure you that this story does have some relevance to training, and e-learning in particular. If you have decided that some form of interactive, self-study programme (what we once called CBT) is what's needed to meet a particular training need, then you are faced with a similar set of choices to the person hunting for a suitable dress. Bespoke courses, created by a professional developer, are great when you have specific requirements, substantial potential benefits, a large audience, pots of money and the time to wait. Unfortunately, many of our tasks as trainers don't fall into this category – we have limited time, a relatively small audience and a heavily-constrained budget. We may well not yet have the skills to do the job ourselves and probably haven't got the time anyway. We'd like to buy a well-produced, off-the-shelf product but can't find one that quite matches the way we do things here.

This is where the concept of content organised into discrete, reusable learning objects finally comes into its own. What we need are content suppliers who have built their content for the real world – where every need is unique and where everything is in a state of flux. We want content which is highly modular, so we can delete the chunks we don't need, add some of our own and sequence them to our own requirements. We also want an easy-to-use editing programme (no raw HTML or Flash ActionScript please) that allows us to get inside the chunks and alter any text and graphics that don't quite fit the bill or have become out-of-date (it would be nice if we could alter any animations, simulations, audio and video as well, but it's important not to lose touch with reality). We are probably happy with the look and feel, and the overall instructional design. What we need are our own examples, anecdotes and case studies; reference to our own unique policies and procedures; and links to email addresses and intranet pages that allow users to follow up on what they've learned.

Ideally, all trainers would be sufficiently skilled to customise an off-the-shelf course to meet their organisation's needs. And equally ideally, all content would be generated in an easily-modifiable form. In the meantime, the very least you should expect is that your content provider is able to make the mods for you. This will take time (because first they have to acquire the organisation-specific knowledge that you already have) and so it will also cost a fair bit. In the end, you are almost certainly going to be better off getting your hands dirty and doing the job yourself. Tinker, tailor, soldier, trainer.

The trainer as storyteller

Over the past year I have devoted a great deal of energy to the design of a new course. In blatant disregard of all the usual constraints of time and budget, I set out to design a programme that was both highly interactive and media rich, engaging as many of the senses as possible. As the course was nearing completion, I came up with the idea of introducing the programme with a short story, adapted from a classic fairy tale. Because the moral of the story seemed to echo the main message of the course, I added this in, even though I was concerned about starting a course in such a passive, linear manner. Some time later, I met with a colleague who had been reviewing the course. She had showed it to several managers in her firm and got some feedback. I asked if anything stood out that they found particularly enjoyable or memorable - perhaps the games, the multimedia, the illustrations? No, you guessed it, it was the story. It made the point, it stirred the imagination, it stuck in the mind.

You may not be surprised, but I was. Can stories really be more powerful than interactivity in bringing about learning? I investigated further, and asked Google. According to storyatwork.com, "We are story-making machines. Cognitively speaking, every experience, every relationship, every object is stored in the mind as a story." OK, but any website that calls itself 'story at work' is going to be biased. What about the science? Well, Jerome Bruner, the father of cognitive psychology, believes storytelling is hardwired into our brains. The primary reason infants are motivated to learn to speak is because they have stories inside them that they want to share with others; simple stories like "I fell over" or "I had a bad dream and I'm scared", but stories nonetheless. In his book *Tell me a Story*, psychologist and AI expert Roger Schank argues that "knowledge is stories" and that intelligence may be more or less equated with the ability to tell the right story at the right time. Even the old timers agree. According to the old Hopi proverb, "He who tells the stories rules the world". Hollywood already knows that.

When you go on a really good classroom course, the one thing you can guarantee is that the trainer will have some good stories. Perhaps a few are just good jokes, but many will be extremely relevant to the subject in hand. They illustrate a point, they stimulate discussion. That's why it's so much more difficult to run a course for the first time – it can take quite a while to come up with all those anecdotes and examples that bring a course to life. It also explains why your average trainer's guide is never quite enough of a foundation on which to run a course – however thoroughly it lists all the steps involved in preparing and running the event, it's inadequate if it doesn't also provide you with a repertoire of interesting and illuminating anecdotes.

There's a clue here as to why so much e-learning is dry and boring. The typical instructional designer will work with a subject expert to define the learning objectives and list the important learning points. They will structure this information and support it with visual aids and practical exercises. If they're not careful, what they will end up with is the online equivalent of the trainer's guide. What they should have done is spend hours in conversation with the subject expert, wheedling out their favourite stories on the topic – the successes, the horror stories, the amusing incidents. Even if you don't fancy yourself as a budding David Letterman, you are unlikely to encounter much opposition. Subject matter experts will find it much easier to tell stories than to articulate what they know in terms of neat and tidy abstractions.

Funnily enough, learners won't be any different. Try as you may to come up with clever mnemonics to help them remember the five stages in this, or the seven elements in that, they're much more likely to recall the time when this happened, or the experiences of so and so. They'll also waste no time in passing these stories on to their colleagues. After all, they're only human, and if the scientists are to be believed, simply story-telling machines.

In praise of the fifteen-minute tutorial

There are two criteria which any trainer is going to bear in mind when determining how to allocate their scarce resources – not least their own time. One is the size of the audience for the required training; the other is the potential shelf-life of any solution. Typically, trainers will dedicate the majority of their resources to meeting the needs of large audiences over long periods, as this justifies the effort they will have to put in designing appropriate solutions. This is particularly true of e-learning, where high development costs and long development cycles make delivery to small audiences uneconomic. A pity, perhaps, because many of the needs an organisation has are short-term and localised – and sometimes these needs are much more important to business performance than the long-term and generalised.

In this situation it seems strange to turn to that most traditional of techniques, the tutorial. The Concise Oxford Dictionary defines a tutorial as "a period of teaching or instruction given by a tutor to an individual or small group." This hardly sounds like an efficient way of bringing about learning; indeed, only a select group of universities are still prepared to go to this much trouble for their students, and trainers are no different. Luckily, the same dictionary provides another definition: "A tutorial is an account or explanation of a topic, printed or on-screen, intended for private study." This is nearer to what we're looking for, but with some of the interactivity, perhaps, that we might find in the face-to-face tutorial.

Self-study tutorials have been a key element of computer-assisted learning for much longer than we've had the term e-learning. Typically, however, these have been elaborate affairs, covering complex topics over many hours, and requiring sophisticated interactivity and rich media to ensure the learner stays engaged. This type of tutorial takes 100-300 hours of preparation for one hour of end product and something between £5000 and £30,000 in hard cash if you decide to have the job done outside. Unsurprisingly, for many trainers life is simply too short (and budgets too meagre) to contemplate anything like this, particularly when the need is short term and the population small.

Recently I have been privileged to try out a different kind of e-learning tutorial; something altogether less ambitious and certainly less expensive, created by trainers in relatively small organisations in just a few hours. These fifteen minute nuggets of self-study material could be deployed on the sort of intranet that just about every organisation has, without the support of a learning management system, and immediately available to every employee with access to a computer.

So, how is this possible? Firstly, you need authoring tools that really are dead easy to use, based on simple templates and completely devoid of programming opportunities. The best ones are browser-based and enable a small development team – the trainer, plus perhaps a subject expert and someone who likes doing graphics – to work together online. However, almost any tool is capable of doing the job and technology is not really the key. The answer is to keep it short.

Short tutorials suit everybody. They suit trainers because they are really quick to produce and don't need gimmicks to keep the learner's attention. What they do need are simple explanations of key principles, plenty of relevant examples, appropriate illustrations and regular, meaningful opportunities for interaction. They should not attempt to teach detail, because that can be accommodated by linking to in-depth documents for those who need them. They can be distributed for next to nothing, because they are unlikely to require much in the way of human support. They also suit learners because they can be delivered at the desktop, alongside all the interruptions, and don't require a trip to the learning centre. They are also much more likely to be digestible and easily applicable to real work situations.

Most trainers are capable of producing usable fifteen-minute tutorials. Some may need help with the writing, with developing interactions or with graphics, but that help is likely to be available somewhere in the training department. These skills can also be learned – perhaps even with fifteen-minute tutorials, you never know.

The new IT training

If you're a soft skills trainer, you can look forward to a career of relative stability, where little ever really changes. True, you have little annoyances come along like e-learning, which you can choose to ignore or integrate somehow into your existing methodology, but the needs don't really change. Soft skills are soft skills are soft skills.

Chance would be a fine thing for the IT trainer, particular if you are responsible for end users. Not only do the applications themselves change every couple of years or so, but the underlying nature of the need is evolving too. Let me explain.

In the beginning – phase one in IT user training – the needs were pretty fundamental: the majority of users weren't users at all – they either had no idea about computers or were terrified of them. These people had to be gently encouraged to overcome their fears in order to become comfortable with performing basic tasks using the new technology. Much hand-holding was required and trainers had an important role to play in the process.

Eventually people realise that operating a PC is not such a big deal and they want to flex their new muscles a little and try out all the gadgets that Microsoft and others have developed for them. Phase two in the evolution of IT training is the development of power users, who know the right button to press in any situation. Phase two users are more self-confident and may even be able to develop their new skills through self-study, using books and e-learning. They are much better supported than ever before by the help tools that are built-in to the products and provided online. And joining this quest are all those new, young employees for whom there never really was a phase 1; the next generation for whom technology is a given.

Phase two is where we are now. Unless they work in a backward industry where phase one is still a major obstacle, then IT Trainers have probably adapted to the fact that users need them less and less. However, new opportunities are arising and here's why. Phases one and two have been about the *efficient* use of new software; efficient in the sense that the minimum input is required to obtain the desired output. Huge cost savings can and have been made by helping users to understand and employ the wide range of productivity tools that are now integral to all IT applications.

Phase three – the new IT training – is not about efficiency, it's about the *effective* use of IT applications. It's about using software to do the *right things* in the *right way*. In many ways, it's about encouraging users to do *less* things than before but to do them more effectively. That's less PowerPoint presentations assembled using templates, clip art and auto content, and so full of text bullets that they send their audiences to sleep. That's less emails, reports and web pages that are poorly structured, written and presented, that leave a poor impression of the author and which fail to communicate. Did you know that for every sentence published in print, there are 30,000 sentences published on computer, many of which are unreadable and unusable? You do now.

The new IT training is about providing the IT user with skills to really take advantage of the new technology. No longer are business people surrounded by secretaries, accountants, assistants and designers to organise their time, create their presentations, write their reports and prepare their spreadsheets. They need to be all-round communicators, with a sense of style, who know how to achieve results using the technology sitting on their desks.

The new IT training is more about communication than IT, so you may wonder why the soft skills trainers aren't already doing it. The answer is that soft skills trainers constitute a unique slice of the business population that is still genuinely technophobic; still at phase one. And therein lies your opportunity.

The big read

If you want to insult the designer of an e-learning course, you claim that what they've produced is no more than a page-turning exercise. If you told a best-selling author that their novel was a real page turner, they'd be chuffed, but e-learning designers, no. According to what people who should know tell us, e-learning is supposed to be an interactive experience, exploiting all that processing power to have us answering questions, completing exercises, playing games and immersing ourselves in simulations. So why, all of a sudden, is there all this fuss about online books?

Even cyberpunks have to admit that the screen is not the ideal place for reading text: the resolution's much lower than print, making the characters less well-defined; it's easy to lose your place, particularly in a long document; the scrolling is tiresome; and computers don't look, feel or even smell as nice as books.

Perhaps surprising, then, that major content providers should have launched their own libraries of online books and are recommending them as an important adjunct to their formal course offerings. SkillSoft was first, acquiring Books24x7 and integrating the service into its e-learning offering. Books24x7 offers over 500 titles and 2 million pages from 164 imprints, including all the major publishers. The library includes specialist collections for IT, business and finance professionals and *Office Essentials* for desktop software users. NETg have linked with Safari Online to offer a comparable library.

Where these services score is that they capitalise on what computers can do and hard copy books cannot. You can search across the whole library or within a particular book; you can email what you find to a colleague or create a collection of bookmarks to favourite pieces. The books are reformatted as HTML in sections short enough to read online, although I'm sure many readers will print out anything they want to reflect on in more detail. To find the sections you want, each book has a comprehensive table of contents. But perhaps the greatest advantage is the sheer volume of books at your disposal – however much you may prefer the printed page, there's no way you could find space for a library this large.

You're probably wondering what's in it for the publishers? Well, these are not free services – you could pay as much as $399 for an annual subscription to the Books24x7 ITPro service (although corporate licenses are undoubtedly considerably cheaper). Publishers are compensated according to the number of hits on their content and benefit further if a user likes what they see and decides to purchase the book.

SkillSoft claim that ITPro is dramatically reducing the time it takes to solve technical problems. A user can type in an error message or code and be taken instantly to relevant explanations. Other users are exploiting the service as a follow-up to an instructor-led event or an e-learning course. And business books are being integrated into management development programmes.

Some trainers may claim that books are just for reference and are not a substitute for real learning. That may be true to an extent, but books have been used as a component in education and training since the printing press was invented. They can provide a richness of detail and a multiplicity of perspectives that no structured training programme can achieve. And in the hands of learners who are independent and motivated, there are plenty of circumstances where no formal training is required at all.

In the end what matters is that learners themselves find the resource valuable and employers see that reflected in productivity. By all accounts, users can't get enough and usage figures are phenomenal, so there's no reason to delay in joining in the big read.

Maintaining standards

Anything that calls itself the Sharable Content Object Reference Model can be fairly accused of taking itself far too seriously, but in 1999, when the first SCORM was launched, the situation was pretty serious. With everyone jumping on the e-learning bandwagon, and new learning management systems and content libraries being launched practically every week, something had to be done to make sure all these predominantly proprietary products (try saying that after the office Xmas party) were able to communicate with each other.

SCORM served a useful purpose. Although it was primarily an initiative of the US Department of Defense, it was soon adopted generally within the public and private sectors, across the world. It acted as an umbrella for a range of specifications and standards (AICC, IMS and others) and this allowed the e-learning industry to talk with one, albeit rather impenetrable, tongue. Heads were banged together, people talked earnestly about metadata and APIs, and soon conformance to SCORM became a necessity for any reputable supplier of e-learning systems and content.

Four years on and it would be fair to say that the vision of SCORM has yet to be realised. Clark Aldrich, reporting on the VNU Supplier Summit reported that customers ask for SCORM but don't know why. Incredibly, 90% of the American military is not on SCORM, because they don't know what it is. In a survey of developers by the eLearning Guild, in May of 2003, only 17% felt that the guidelines for developing reusable learning objects were sufficiently clear and generally accepted industry-wide. The head of e-learning for one of the world's largest telecoms companies was heard to say that he had experienced so many problems getting content up and running that he was thinking of giving up on tracking altogether. Now, clearly there has been a failure in communication.

There are many organisations for whom SCORM is an irrelevance. Either they don't need to know who is doing what to whom and when for their e-learning, or they have managed to achieve communication between their learning management system and their content through the use of proprietary tracking technology or something that IT knocked up for them. For now, these organisations can ignore all the fuss and enjoy their content. The rest of us cannot afford to bury our heads in the sand – we need to make SCORM conformance a reality. Why? Because the compliance training we do means that we need to know who has and who hasn't successfully completed their health and safety or FSA training. We need to know what sort of return we are getting on our e-learning investment. We need to make content from hundreds of different sources available to our employees worldwide. We need this content to work on the variety of different learning management systems that we seem to have acquired.

If your organisation develops content, then there really is no reason to be afraid of the big, bad SCORM. From my own recent experience I can assure you that, if you're prepared wade through the mountains of paperwork (or better still, get someone technical to do this for you), you'll find that what you actually have to do can be summarised on the back of an envelope. Although the SCORM makes it possible to keep track of every learner's response to every question and to create elaborate metadata about every graphic on every page, you are not *required* to this. What you do have to do is get your content to say hello and goodbye to the learning management system and to package up your content in such a way that the learning management system knows what it is, what it does and exactly what is supposed to be in the package. On the surface the specification is complex; in reality you just copy the examples they give or use an authoring tool that automates the process for you.

If you are a user of other people's systems and content, then you would be advised to insist on conformance to SCORM. There may still be teething problems in making the model work in the real world, but these problems can be solved. Some of these problems are a result of retro-adapting legacy content and systems; the majority are the failure of those responsible for SCORM to employ someone who knows how to communicate technical concepts to the population that has to use them. There's a lesson in there somewhere.

Is the world ready for self-study?

As trainers, for whom the imparting of knowledge and development of skills may well be our life's work, it's dangerous to assume that either learners or their managers view what we do with anything like the same commitment. We're optimistic enough to believe that, once a learner has taken on an obligation to a self-study training programme, they are duty bound to see it through, and their manager is equally bound to make the appropriate time available. We fully expect that, as a result, we will be able to exploit the full benefits of self-study, not least flexible scheduling, self-pacing and reduced travel costs. We forget that short term priorities always crowd out the long-term, that the urgent takes precedence over the serious and that homework is only ever completed last thing on a Sunday evening.

Hard experience demonstrates that the average learner finds it hard to impose a timetable upon themselves and stick to it. Maybe in time, as organisations allow their employees more scope for decision-making, and as individuals become less dependent on institutions to manage their learning for them, then we will achieve that happy situation of truly learner-centred training and a culture of individual responsibility for personal development. Until then, we have to deal with the situation as it is.

In the early days of online learning, I was personally involved in tutoring two online courses. In the first case, I assumed that learners would wish to have no deadlines and to manage their own schedule. They did, indeed, quite like the idea. The trouble is that the course went on, and on, and on. With no deadlines, the work could always be put off to tomorrow. In the second case we had a strict timetable of events over a six week period. Keeping everybody moving at the same pace was a struggle but it worked and nearly everyone finished on time. As a Theory Y manager (who believes that employees need no encouragement to work) I was yet again disappointed by the necessity to mix in a little Theory X (which is all about carrots and sticks). It's the trouble with being a child of the sixties.

As if motivational issues weren't enough, there's also the problem of isolation. Learners tell us they like to learn with others. Social constructivists (as if anyone knows or cares about them) tell us it's essential. If you learn as a group you get support and encouragement as well as peer pressure. You can celebrate your successes together. You can steal each other's ideas. This may not be an issue with a short course (say 2-3 hours), but it certainly matters as the programme becomes more substantial.

From all this, it might seem that self-study is a second-rate option when it's compared to the classroom, to one-to-one coaching and other methods that involve real human beings. However, if you're committed to a training strategy that centres on self-study methods, you should not despair – there are solutions. First, the problem of structure. Impose it and then enforce it. Don't just have a finish date, but milestones along the way. Punctuate the course with deliverables and real-time events for which these deliverables are pre-requisites. Deliver these events as chats, as virtual classroom sessions, as phone calls, perhaps even face-to-face. You'll be amazed how much work gets done when it's required by a specific date. Don't be too concerned that you're taking away a degree of self-pacing – this shouldn't cause your students too many problems, as long as you leave sufficient time for the slower students to get the work done on time.

Then start community building: schedule group assignments, use discussion forums for group debates, mix in some live events. Don't get stuck on one channel, particularly e-learning. Use whatever channel is most appropriate for the subject, for the audience, your circumstances and your budget. Don't be afraid of blended learning – it might seem like a fad; in fact it's a necessity.

Self-study can deliver on its promises, but not as the only ingredient in the mix and certainly not when the student determines when the learning gets done. Be firm on structure and flexible when it comes to collaboration; that way you'll start to fulfil some of your promises to the Board and your Finance Director will smile at you as he passes you on the way to the bank.

Clive Shepherd is a consultant specialising in the application of technology to education, training and employee communications. With more than twenty five years of experience in this field, Clive is acknowledged as a thought leader in all aspects of e-learning and blended learning.

Clive developed his interest in interactive media at American Express in the early eighties, where he was Director of Training and Creative Services. He went on to co-found Epic, a leading content developer, in which he played a variety of management roles.

Since 1997, Clive has worked with a wide range of public and private sector organisations on the application of technology to learning and employee communications. In 2003 he received the Colin Corder Award for services to IT training, and in 2004 the award for Outstanding Contribution to the Training Industry at the World of Learning conference.

In the last few years, much of Clive's work has concentrated on the training of trainers to take an active and enthusiastic role in the implementation of e- and blended learning in their organisations.

Clive is also an active and enthusiastic designer of e-learning and blended learning interventions. His course *Ten Ways to Avoid Death by PowerPoint* won the prize for best generic e-learning programme at the World of Learning Awards 2004. His blended learning design for an international management development programme at Plan International won a National Training Award in 2008.

Clive's writing on e-learning can be found in his books and more than 100 published articles. He has a monthly column in IT Training and e.learning age magazines and posts regularly to his blog, *Clive on Learning*. He is also a regular speaker at UK and international conferences.

Clive is Chair of the eLearning Network and a founding director, with Barry Sampson and Phil Green, of Onlignment Ltd.

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Also by Clive Shepherd:

E-learning's Greatest Hits
ISBN: 0-9545904-0-6
Above and Beyond, 2003

Learning Object Design Assistant
ISBN: 0-9545904-4-9
Above and Beyond Ltd, 2003

The Blended Learning Cookbook
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The Blended Learning Cookbook Ed2
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Clive's Columns Vol 2 (e-book)
Fastrak Consulting, 2009

What every learning and development professional needs to know about e-learning
(with Laura Overton)
Towards Maturity Enterprises, 2009

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