

Tomorrow's college 1998

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World-class performance: learning in the 21st century
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The learning economy: economic competitiveness and colleges
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The people's choice: social cohesion and colleges
© FEDA 1998

All three papers are based on lectures given in FEDA's
Tomorrow's college series. 'World-class performance' is a direct
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Foreword

In 1997 FEDA launched a major new lecture series on the theme of ‘tomorrow’s college’. The series aimed to engage colleges and national bodies in strategic thinking about the future world for which the FE sector needs to prepare. We felt strongly that the world of day-to-day decision-making, responding to immediate demands and new government initiatives, must be linked to the longer-term strategic direction of further education in delivering its core business – learning.

The lectures aimed to stimulate such strategic thinking by providing opportunity for imaginative and creative reflection with leaders from both inside and outside the college sector, about the future of learning and the curriculum.

The series also aimed to help raise the public profile of further education and to improve understanding about its potential in the context of policy agendas for the future such as lifelong learning, social cohesion and inclusivity.

The patron for the first series was Baroness Blackstone, Minister of State. In offering her support for the series, the Baroness wrote:

The Government supports the promotion of imaginative thinking about the role of further education in the next millennium. We recognise the important role that further education will play in helping us to achieve our policy objectives especially on lifelong learning, social cohesion and economic competitiveness. We wholeheartedly support the focus of the series – locating further education in a wider arena and developing clear connections with our policy agendas.

FEDA is very grateful to the sponsors of the events. The Gatsby Charitable Foundation and Oxford, Cambridge and RSA Examinations Boards enabled us to mount the events in central London; to provide receptions afterwards to enable informal discussion and networking; and to make admission to events free. Their contributions have been crucial.

The first series of lectures brought speakers from the worlds of the arts, higher education and business: David Brown on ‘World-class performance: learning in the 21st century’; Professor Kevin Morgan on ‘The learning economy: economic competitiveness and colleges’ and Lord Puttnam on ‘The people’s choice: social cohesion and colleges’. National figures from the BBC, FEFC, AoC and FEDA also took part in chairing and hosting the lectures.

Over 100 people from colleges across England and Wales and national agencies attended the lectures. We wrote to all participants at the end of the series to gather their views. Feedback confirmed the success of the series and the need for this forum to continue and be developed. We are therefore developing plans for the next series.

To capture and consider the key messages of the lectures, we ran a small seminar on the emerging issues and debates that would inform future series and our wider programme of research and development.

This publication combines a summary of the debates and research issues with versions (full and edited) of the lectures themselves. I look forward to taking these debates into the next series and into other aspects of FEDA’s work.

Chris Hughes
Chief Executive, FEDA

Emerging issues and debates

This section captures the themes and issues explored in the discussions at the lectures and the challenges identified for colleges. The next three sections of this report provide a transcript of David Brown's speech and summaries of David Puttnam's and Kevin Morgan's speeches.

Tomorrow's learner

Raised expectations among learners were identified as one challenge – it was suggested that learners will demand perfection from providers as they do from other services they buy. Learner satisfaction will require that learning is enjoyable and challenging – learners need to be exhilarated, and learning needs to be demand-led.

However, another set of challenges relates to learners whose motivation to learn has been switched off, leading to the need for teachers to enhance the natural instinct for learning, to switch back on, or keep switched on, the facility for learning. David Brown spoke of the need for learning to become an automatic lifestyle purchase if visions of *The learning age* are to be achieved. New policy agendas also raise the need to inculcate the learning habit.

Thus a future of extremes was presented – on the one hand, learners prepared to challenge the quality of provision and on the other, those still needing to be nurtured and motivated to learn.

Tomorrow's teacher

The range of learners' needs points to the crucial importance of first-class, well-motivated teachers. There was discussion about whether teachers should focus on the process and content of learning rather than on the technology or whether they should drive the technology. There was also some questioning the future role of teachers – will they be facilitators, motivators, technical support or managers of learning?

It was noted that inadvertent learning through media and games was unexploited and unrecognised, and this poses the need for creative alliances between the entertainment industries, technologies and teachers.

Some concerns were raised about whether teachers and providers will be able to reconcile the demands of learners with the demands of regulatory bodies. While qualifications and curriculum regulation are becoming increasingly focused at national level, other government policies favour a strong regional agenda. Should the

curriculum be driven by the local, regional or global economy, or by the individual learner?

Tensions are likely in the medium term between the efforts of colleges to meet local economic and social needs and the national regulatory framework.

Tomorrow's college – tomorrow's business

In a competitive world, colleges must become demand-led rather than supply-led; listening and responding to customers, not providing set menus. New competitiveness will be built on new skills and values – cooperative relationships, relational assets, associational capacity, networks of trust. Trust is an asset with value but no price – you cannot buy it. Knowledge and knowledge flows will also become key to competitiveness. These changes take us away from the current subject-based curriculum towards greater emphasis on skills. How should this be reflected in the curriculum?

Colleges will be operating in a new regional environment and have a critical role within the local economy to support regional regeneration. However, there is some doubt whether further education will be invited to the economic development top table, and a need for colleges to establish their role in this context. Should colleges focus on local, regional or global economies? What level of choice exists? The fit between regional economic development, globalisation of the economy and the role of further education needs to be explored further.

Tomorrow's society – an inclusive society

New technology and faster, more competitive industries may only exacerbate the gap between the 'haves' and the 'have nots'. Social inclusion must be a requirement in taking forward the technological opportunities – it must be part of a national vision designed at the centre and driven by government. Colleges felt strongly that there is a continued role for public subsidy to support inclusivity.

What should the learning age look like, and should it model itself on industry? Discussion suggested that an industry model will not necessarily deliver the social inclusion agenda. There was a strong view in favour of government intervention and a continued role for public funding as a feature of the learning industry.

We need a paradigm for describing the learning industry. Increasingly, there have been moves to describe it in terms of industry, applying concepts that have been developed for industry and commerce. The language of education also reflects this approach with clients, customers, learning as a lifestyle purchase, learning as retail, etc. However, an evaluation is needed of how far the constructs of the commercial world can be imported into the world of education and training, and into the FE sector in particular.

World-class performance: learning in the 21st century

Speaker: David Brown, Chairman, Motorola Ltd

It is a huge honour to be invited to deliver a lecture in the *Tomorrow's college* series – the more so because, unlike so very many of you, I am not an educationalist.

But I am a learner. So are the other 140 000 Motorola people around the world. Together we have created a learning organisation. And it is our willingness to learn – indeed our strong desire to learn – that lies at the very heart of our culture. It drives personal and corporate renewal, competitive advantage and the prosperity of all our stakeholders.

The connection between learning and industrial success is of the utmost importance to all of us. As we stand on the threshold of a new century, we must understand the nature of that linkage and engineer tomorrow's college to exploit that understanding. The result will be world-class performance, both industrially and educationally.

And that's the ground that I'm going to explore during the next 40 minutes or so – the relationship between learning and industrial success, and the ramifications for tomorrow's college.

I'll begin by turning back the clock more than 40 years, to 1956, when William Whyte coined the term 'organisation man'. He used it to describe people who conformed to the 'company way'. People who followed systems, procedures and policies designed by managers who believed that one of their roles was to ensure that everyone was engaged in a task which was well-defined, measured and controlled. It had been that way for most of this century.

Organisation man's industrial culture was predicated on the belief that capital is the company's most valuable resource, and that the role of people is simply to lever the company's investments in machinery.

Now, in the information age, it's understood that the most valuable industrial resource is knowledge.

Information, intelligence and expertise residing in people.

In a fast-changing environment, the ability to use knowledge is what gives companies – and countries – their competitive advantage.

And, unlike capital, knowledge is most valuable when it's used freely by those in the front-line – not meted out by those in head office.

So industry's focus increasingly is on unlocking the knowledge, stimulating creativity and encouraging initiatives throughout the organisation.

'Organisation man' is extinct, or fast becoming so.

The industrial landscape is changing for a second reason which we must take into account. Globalisation. A word you are unlikely to find in your dictionary. A word fabricated to embrace the diverse consequences of the increasing economic interdependence between countries, which is resulting from the liberalisation of markets, the emergence of developing economies, the erosion of trade barriers and the quickening pace of technological change.

Globalisation is manifest in the cross-border flows of goods, services and capital. Flows which are growing rapidly. In the pharmaceutical industry, for instance, the proportion of worldwide production which is channelled into cross-border trade rose from 17.5% in 1980 to 27.3% in 1994. Ten percentage points in 14 years, yet almost certainly that signals only the start of massive globalisation in that industry. Because in the same period, annual cross-border investment, the forerunner of cross-border trade, more than tripled.

Every sector of industry is globalising. For some, such as pharmaceuticals, globalisation is dramatic. For others, so far, it's barely perceptible. But the phenomenon is industrywide – it's only the pace that varies.

For industries everywhere, world-class performance means the ability to compete in a globalising market.

Globalisation is something industrialists should welcome – and most of us do – because the more global an industry becomes, the more advantage a company can derive from leveraging its technology, its intellectual property, its brands and its manufacturing prowess.

But to realise that advantage, more than goods, services and capital must be made to flow across borders. Knowledge – that most valuable of industrial resources – must be made to flow too.

That's what 'leverage' really amounts to – creating competitive advantage by causing knowledge to flow through the organisation, rather than leaving it lying in stagnant pools.

And the vital role of learning in industry is to enable knowledge to flow. Indeed, that's the distinguishing characteristic of a 'learning organisation' – the flow of knowledge.

In a world of globalising industries, that flow of knowledge has to be cross border. It follows that learning itself – the means of enabling, stimulating and managing the flow – must globalise.

To explore the significance of this for those of us engaged in the business of learning – for tomorrow's college, indeed – it's important to see learning not as an industrial function, but as an industry in its own right. It should globalise in a way and at a pace of its own choosing. And that pace could, and I argue should, be faster than the pace of globalisation of the industries which learning serves.

I said that a measure of the pace of globalisation is the ratio of cross-border flows to total worldwide output. That ratio can be driven faster and further in the learning industry than in very many others through the application of information and communication technology – ICT for short.

The vital relevance of ICT to the learning industry is its ability to decouple the flow of learning from the flows of learners and of learning providers. And once an ICT-based flow of learning starts, it's much more difficult for governments to regulate than is a cross-border flow based on people and tangible products. Electrons, photons and electromagnetic waves do not respect national boundaries.

Global ICT-based learning is poised for take-off. Only one thing is holding it back – the lack of a global standard. A standard which comprehends access and content as well as connectivity – the trains as well as the tracks.

The standard – which surely will come – has an opportunity to break new ground. To recognise that, at present, we are a society of technology 'haves' and technology 'have-nots', and that personal computers (PCs) might not be the answer for everyone. Indeed, a recent survey with which I'm particularly familiar because it was published by Motorola, revealed that only 46% of us are comfortable with the idea of ICT-based learning.

In setting the global standard we must reach out to the whole of society, by laying the foundation for a rich diversity of access methods. The technology is there – waiting for us to harness it. It offers all the processing power we need, and then some in reserve. It enables us to contemplate worlds of learning – virtual worlds which learners will be able to carry around with them; entering and leaving

whenever they wish; and inviting into them whomever they wish.

I live my life in close contact with these technologies. They provide my daily bread. Still, every time I touch a silicon chip – little more than sand – I am filled with a sense of awe. And I remember four lines written by William Blake in the age of tallow candles and gas lights, which seem to foreshadow this modern miracle.

*To see a World in a grain of sand,
And a Heaven in a wild flower,
Hold Infinity in the palm of your hand,
And Eternity in an hour.*

Well, we modern engineers receive a broad education!

So, we have in prospect a globalising learning industry, fuelled by information and communication technology, based on a global standard which might not be focused on the PC as we know it today. A set of discontinuities that point to an opportunity so great that we might see the emergence of a globally dominant ‘learning system’. Will there be a ‘Microsoft’ of ICT-based learning delivery? All the necessary conditions are present. And could Britain be the seedbed of that enterprise? Why not? In the globalisation of standards, at least, often the race is to the swift.

We have begun the race well. The University for Industry (Ufi) is in a class of its own. Nowhere else in the world is there an undertaking of such a nature, on such a scale. Not only does the Ufi promise new learning opportunities to 600 000 people a year by 2002, delivered increasingly by means of ICT; but it promises to do so by creating partnerships between learning providers across the land. Those partners will face the learning market with a single brand. The Ufi is likely to become the most powerful learning brand in Britain.

That said; could the Ufi become a global brand, with a brand strength in the learning market equivalent to Coca-Cola in the drinks market, BMW in the automotive market, Visa in the financial services market and, of course, Motorola in the technology market?

I suggest that the answer is, Yes. The Ufi has extraordinarily broad demographic and sectoral appeal, an in-built transnational capability, and it will be the first such brand in the market – that always helps!

Indeed, it's possible that the Ufi is one of those rare brands with such potential strength that it is destined to find itself operating in a

global market unless it acts decisively to restrict its trading. This contrasts starkly with the usual default condition, in which a brand finds itself trapped inside a particular geography unless its owner takes action to break out into the global market.

So, to globalise quickly and effectively, the learning industry must invest in both technology and brand. Making those investments will not be straightforward, I'm sure. But the learning industry has to face something considerably more difficult – structural change in the relationship between the learning industry and the other industries which are its customers. Change which reflects the increasing importance which industry is attaching to learning.

To take stock: industry regards knowledge as a highly valuable resource. Its value translates into competitive advantage when it is used by those in the front line. To get to the front line and, indeed, everywhere else in the organisation, knowledge must flow. And learning is the process by which that happens.

To be wholly effective, that learning process must embrace the entire organisation. The flow must reach every part of the body corporate – every last capillary. It must be continuous, with a pulse rate matched to the demand for learning.

Those requirements can be met only if the learning process is integrated intimately with the business, at a day-to-day operational level as well as at a strategic level.

It's this drive to institutionalise learning that has brought about the phenomenon of the ‘corporate university’.

When Motorola University was founded in 1981, corporate universities were something of a rarity. It began life with a simple, highly focused charter: to help the company build a quality culture. We were facing a marked quickening of the pace of our globalisation. It didn't take us long to realise that we could be the most competitive everywhere only if we were totally satisfying our customers everywhere. That meant setting the highest quality standards anywhere – and applying them everywhere. Not just where we were facing competitiveness problems which were rooted in poor quality, but everywhere.

In 1981, our Chief Executive called for a five-year, 10-fold improvement in the quality of every product and service. A goal so ambitious that it would require the commitment of every single person in Motorola. So every single person needed to be trained in state-of-the-art quality improvement techniques. And that's what Motorola University did – ensuring that every single person got the

‘quality’ knowledge they needed, where and when they needed it.

In the course of fulfilling its charter Motorola University built a global network which today reaches every one of our 140 000 employees, and has a physical presence in 29 sites in 17 countries on six continents. It uses that network to meet objectives which have developed somewhat since its beginnings 17 years ago. Those objectives are threefold:

- First, to provide training and education to all Motorola employees to prepare them to be Best-in-Class in the industry.
- Second, to be a catalyst for change and continuous improvement to position the corporation for the future.
- And third, to provide added value to Motorola in the marketing and distribution of products throughout the world.

In 1997, Motorola University spent 95 million dollars, and employed a permanent workforce of 400 professionals and a flex force of 700 writers, developers, translators and instructors.

But still, a vital ingredient in the recipe for Motorola University’s success is its academic partnerships with institutions around the world. They are a *sine qua non* for any corporate university which aspires to be the strategic learning organisation of the corporation.

That seems to be a commonly held view. A recent survey of 100 corporate universities as far afield as the USA, France, Germany, the Netherlands, South Africa and Venezuela, found that almost two-thirds have academic alliances in place, and that the number is likely to rise to 78% by the end of 1999. Interestingly, half of those corporate universities have alliances with distance-learning vendors and, specifically, 16% have links with Internet-based universities. For those already employed in industry, at least, it seems that ICT-based learning has come of age.

The survey revealed also that the criteria used by corporate universities for selecting partners is changing. Once, the corporate universities settled for a nearby college or university which they knew. Now they are more concerned with ‘flexibility and responsiveness’, ‘technology for learning’, ‘performance measures’, and the willingness of their prospective partner to share risks.

It’s not hard to imagine the kind of risk-sharing the corporate universities have in mind. The survey gives us a heavy hint: it says, ‘The desire to become a profit centre for the organisation has surfaced among a growing number of corporate universities’. Financial performance is likely to be an important dimension of the risk. Flexibility, responsiveness, appropriate technology, performance

measures and financial risk. The message is clear. Corporate universities expect their academic partners to adopt a businesslike approach to the relationship. The relationship must be structured accordingly. So, what are the alternatives?

Certainly not arms-length. When industry is placing a high value on the integration of learning with the business, it makes no sense for supposed partners to position themselves as mere traders of off-the-shelf learning products – selling whatever they happen to have, to whoever can pay the price. Instead, they must engage directly with their customer’s business, at several levels. They must stand alongside their customers throughout the learning cycle.

Each relationship must be tailor-made, but here are some classic patterns.

- Outsourcing: a form of relationship in which the company owns little or no learning infrastructure and, instead, buys the full service from the academic partner.
- Facility management: the company owns the learning infrastructure and embeds it into its operations, but looks to its academic partner to manage the whole in-house learning facility.
- Implants: the academic partner opens a branch of its own business inside the company’s business, on the company’s premises. The branch could be anything from a single office, through teaching facilities, to a research laboratory.
- And reverse implants: a few years ago, Motorola opened an on-campus office at the University of Illinois. The relationship has benefited from Motorola’s daily interactions with the academic staff, students and administrators. Important joint projects have resulted.

I know I am going to regret saying this: Motorola has no reverse implants in Britain – yet.

I emphasise that there is no ‘one size fits all’. Companies and their academic partners both should review fundamentally the structure of their relationship. It may be the case – indeed it is likely to be the case – that radical change is necessary to prepare them both to be world-class in the 21st century.

I intend that observation to apply to industrial and academic enterprises of all sizes – not only the larger ones characterised by Motorola and its partners. But I recognise that small and medium enterprises (SMEs) face particular challenges. The time and management focus required to put in place the basic processes

between industrial learners and learning providers can be a distraction they can ill afford.

The University for Industry will help. It will offer to all enterprises, large and small, the mechanisms for connecting learners to learning providers. Mechanisms which can be used to structure unique relationships. That's another of the reasons I consider the University for Industry to be, perhaps, the most important educational and industrial initiative we are likely to see in our lifetimes.

To remind ourselves, from an industrial perspective, the objective in forming these 21st-century relationships is to turn companies into learning organisations. There can be no exceptions. The rule includes tomorrow's college.

So I propose to turn now to the matter of what constitutes a learning organisation, and how to create one. Again, I draw unhesitatingly on my industrial experience. I am convinced, as I have said, that learning is an industry in its own right.

The reason that an organisation wants to become a 'learning' organisation is to increase its competitiveness, of course. But it isn't just any kind of competitive advantage which the organisation seeks. It is sustainable, competitive advantage – the kind which comes from adding value and satisfying customers.

The matter of what constitutes customer satisfaction in the learning business, and how to measure it, might be the subject of a lecture in its own right. It's likely that 'outcomes' would figure in the discussion. Acquiring competences, having them certificated and, in many cases, increasing employability as a direct result are important – very important. For many learners, crucially important.

But many would argue that the measurement of learner satisfaction should reach beyond these classic outcomes: that whether the learner returns, to buy more of the same, and even perhaps from the same learning provider, is a truer measure of satisfaction. Certainly it must be the case in post-compulsory education that the learner would not return if he or she did not believe that it was the right thing to do. If that were the only motivation, then marketers would view those second and subsequent purchases as 'grudge purchases'. Hardly the pinnacle of customer satisfaction.

The aim of the learning industry, surely, must be to generate in its customers such exhilaration that for them, buying learning has become an automatic lifestyle purchase. That's the kind of customer satisfaction to which a learning organisation aspires. It would not

be inappropriate to call it 'total customer satisfaction'.

I know, from discussions I have had with learning providers in the course of my engagement with the University for Industry, that some believe that this level of customer satisfaction is not reasonably achievable. That it is simply not possible to exhilarate learners.

I disagree. I recognise that it is a sizeable challenge. Made harder because we start from behind, so to speak. An opinion poll carried out for the Campaign for Learning found that 18% of adults and 17% of 11–16-year-olds did not or do not enjoy school. That's quite a legacy to hand to tomorrow's college and, indeed, to industry generally.

To dwell on the upside, learning providers across the land are rising to the challenge. They are creating new learners who are discovering that learning is fun, and who are returning for more for that reason. The learning providers and the learners together are demonstrating a truth captured by John Hillier in his contribution to *For life: a vision for learning in the 21st century*, when he wrote: 'If a sense of wanting to learn is provoked, it is unstoppable.'

Every one of us could cite an example of that maxim. I choose Michael Faraday, the father of electrical engineering. One of my lifelong heroes.

In 1813, he wrote the following account of himself:

I was formerly a bookseller and binder, but am now turned philosopher, which happened thus: Whilst an apprentice, I, for amusement, learnt a little chemistry and other parts of philosophy, and felt an eager desire to proceed in that way further.

Eighteen years later, Faraday discovered the means by which we now generate electricity continuously. And he didn't stop there. He went on to lay the foundations for radio, television and the whole of modern communications technology. All from learning a little chemistry.

Learning a little leads to learning a lot. The learning habit can be inculcated easily.

So I argue that, for the learning industry, totally satisfied customers must mean exhilarated learners. Tomorrow's college must settle for nothing less.

The question, then, is how to create an organisation which exhilarates learners?

- First, by recognising that change is required. In many cases – perhaps all cases – quite radical change. The ambition is so great, and the measure of success so uncompromising, that they are unlikely to be attained simply by extending current practices.
- Second, by engaging every last person in the organisation in that process of change.
- And third, by listening and responding to the voice of the customer.

Consider the three imperatives as a set. Change which is in direct response to the voice of the customer is most effective when it is driven by those in closest contact with the customer. They can hear the customer's voice most clearly, can interpret it most accurately, can map the required changes most knowledgeably, and can implement far-reaching changes most sensitively.

Probably there are as many ways of engaging everyone in this process as there are learning organisations. One of the ways that works for Motorola is to invite people to join together in customer-focused teams to solve problems and institutionalise solutions. Whether the people are in the factory, the office, the laboratory or the field. Whether the issues relate to a product or to a service. Whether the customer is external or internal.

This way of working has become so much part of our culture that more than 5000 such teams exist around the world at any one time.

In the space of a year, we expect that upwards of 50 000 people will have served in one of these teams. That's more than 35% of our total workforce.

By the way, you might be able to guess what we call these teams. Total Customer Satisfaction teams – TCS teams for short.

The TCS teams form themselves. They decided which skills and experience they need in the team. They persuade people with those skills to volunteer, regardless of the department in which they work normally.

They decide their goals. They agree a way of working. They commit company resources. They keep on going until they have solved the problem and institutionalised the solution.

No-one tells them to. They just do it.

That's what true empowerment is. Just doing it, and doing it in a way that makes a difference.

But even that is just the beginning. Doing things differently creates insights which generate new knowledge. As the knowledge

flows through the organisation, learning takes place.

Evidence exists in plenty that a universal secondary effect of learning is to increase the learner's self-esteem. And the increased self-esteem gives people the confidence to participate in empowerment processes such as Motorola's TCS teams.

So a cycle is set up. A cycle which I think of as the 'empowerment cycle'. To go round it again: learning increases self-esteem, which empowers people to do things differently. That results in new knowledge being generated, which fuels more learning – and the cycle spins around again.

Empowerment cycles are rarely self-starting. But an empowerment cycle can become self-sustaining when everybody in the organisation is engaged in it.

It's at that point that an organisation reasonably might claim to have become a 'learning organisation'.

And, if at that point the organisation is listening attentively to the voice of the customer, at least two messages will be being heard, and will be resulting in profound changes in the way the organisation works.

First, customers want perfection. No defects in the product or service. Ever. No product is exempt. Learning products are included.

An impossible dream – particularly for a service industry? On first examination we might be excused for thinking so.

After all, everyday service activities such as doctors' prescriptions, payroll processing, wire transfers, restaurant bills, and airline baggage handling all benchmark at around 6000 errors per million opportunities for error. The evidence might suggest that we have become comfortable living and working in a society with a built-in 0.6% error rate.

And that's an uncomfortable thought next time you board a plane, isn't it?

Well, relax. If flying exhibited that error rate, the entire world fleet of aeroplanes would be wiped out in a few weeks.

Since we demand a safe journey, the many inter-related materials and processes are designed and controlled to yield a very low defect rate in the overall service called flying. The odds are 2.5 million to one that the flight will be uneventful.

The air travel industry is on the way to achieving perfection. So very, very low defect rates can be achieved – if we not only hire the best people and give them the best tools, but also set high expectations of what those people will achieve.

Industries in all sectors – manufacturing and service – are setting expectations as tough as those being achieved in the air travel industry. The learning industry should too. Learning may not be as headline-grabbing as air travel, but it's just as worthy of our attention.

Twenty-first century learners should expect perfection. And tomorrow's college should learn how to deliver it.

I said that a learning organisation will be hearing at least two messages from its customers. The first is a demand for perfection. The second is a demand for old products to be improved and new products to be introduced at an ever-faster rate.

Ever-shortening cycle times in product innovation will drive the learning organisation's empowerment cycle too.

Indeed, the rate at which organisations learn and then do, may become the last sustainable, competitive advantage.

Chair, I set out to explore the relationship between learning and industrial success, because I believe that it holds the key to world-class performance – for industry and for tomorrow's college.

Along the way I have argued that the vital role of learning in industry is to enable knowledge to flow.

That in a world of globalising industries, the flow of knowledge will be increasingly global. So learning itself must globalise.

And that the globalisation of learning will be fuelled by information and communication technology, the building blocks for which exist. We lack only a global standard.

I have argued that in a global market, branding is hugely important. And that the strength of the University for Industry brand gives Britain a headstart – if we choose to use it.

I have argued, too, that in the 21st century, the integration of learning processes with the other industrial processes will become increasingly intimate. Radical structural changes are inevitable. Changes which won't be easy for any of the partners. Changes which require them all – learning providers too – to become learning organisations.

I have dwelt on the nature of a learning organisation. On the need to focus every last person in the organisation on satisfying the customer totally. And on the appropriateness of pursuing perfection.

These are substantial challenges.

Challenges which might be daunting but for the prize we have in prospect.

A 21st century characterised by exhilarated learners, creating runaway demand for learning. Demand which will be met by a growing, vital learning industry with a global outlook.

A 21st century into which industry and learning must march confidently, arm-in-arm; they must resolve to be inseparable; they must prepare to be indistinguishable.

A 21st century that could see Britain leading the global learning industry. The opportunity to be world-class is there for us to seize. The auguries for tomorrow's college could not be better.

Further education and economic development

Kevin Morgan

This paper develops three themes:

- the role of further education in economic development strategies
- the regional renaissance in the EU, including the UK
- changing sources of competitiveness in today's learning economy.

Last theme first. References to the learning economy, the information age, the knowledge-creating company, are commonplace today. Where they mean anything, they are used as a shorthand to signal some fundamental trends in the contemporary economy like, for example, the accelerating pace of technological change, the growing superannuation of existing skills sets, the growth of knowledge intensity of both goods and services, and the heightened need for innovation, product process and indeed organisational and institutional innovation.

These trends have created unprecedented levels of risk and uncertainty – for capital, for labour, for public authorities; the past ceases to be a reliable guide to the future, if it ever was; knowledge becomes the most important resource and learning the most important process. These trends have changed the very meaning of competitiveness, as demonstrated by a new model of innovation that is gripping all the advanced OECD countries.

In this model in the learning economy, it is argued that innovation is becoming more and more dependent on the 'associational' capacity of the firm – its capacity for striking co-operative relationships between management and work force. It depends on forging new, cooperative relationships between firms in the supply chain and on firms crafting more cooperative, more robust interfaces whatever their institutional milieu, local, regional or national. This new model of innovation recognises innovation as a collective and iterative process between many actors in the public and private sectors. This applies as much to big firms and to small and medium-sized enterprises (SMEs). Today, even big firms know that they are only as innovative as their supply chains – a lesson the Japanese taught the Europeans and the Americans.

For small and medium-sized firms the problem is not that they are small, it is that they are isolated; they are not embedded in rich information flows. There are many examples of European firms in the regions of Italy, in Southern Germany, in Northern Denmark, that are small but highly innovative because they are nested in dynamic, innovative networks.

Innovation in this new model still depends on physical and human capital but it is becoming ever more dependant on social capital; the norms and networks of trust and reciprocity which help to forge collaboration and coordination in the economy – 'relational assets'. Unlike a temporary technical or price advantage which can easily be emulated by competitors, relational assets are difficult to erode. For example, trust – the confidence that the parties will work for mutual gain and forego opportunistic behaviour. Like those other relational assets, loyalty and good will, trust is an asset with value but no price. You cannot buy it; you have to earn trust by discharging your obligations to your partners. Trust confers three fundamentally important advantages in the learning economy. First, it allows you to economise on time, and market economies are systems of time economies. Second, it allows us to reduce risk and uncertainty by disclosing possibilities for action that would have been unavailable in the absence of trust. Third, trust expedites learning. If we are embedded in high-trust relationships, we are party to richer and thicker information flows and just as in our private lives we divulge more information to those people we trust, so it is in the worlds of politics and business. Trust-based relationships make for more rapid and more effective learning.

And it is worth saying when talking about learning in the modern economy, that geography matters. Geography matters because all the research on trust-based economic systems shows that they are more likely to be created where the parties expect to meet again and in face-to-face interactions. Which brings us to the second theme – the regional renaissance in Europe.

The 'gurus of globalisation' suggest that the world is becoming a placeless mass; people like Nicholas Negroponte, the director of the MIT Media Lab, who claims in his book *Being digital* that 'the digital planet will look and feel like the head of a pin'. In response I cannot do better than quote the director of technology of Ford who replied that electronic communications will never be as good as face-to-face communications, even among people who know each other well. Many of the most robust, innovative regions in the EU, regions like

Baden-Württemberg in Southern Germany, Emilia and Romagna in central Italy, both top-10 European regions, are very competitive but also have a judicious balance between competition and cooperation. Many local, small and medium-sized enterprises are based in these rich networks of cooperation; with larger firms, with other, smaller firms, certainly with technology transfer and technical training institutions in their regions.

The strategy of the Directorate General 16 in recent years has fully acknowledged the force of these relational assets and indeed uses them in redefining regional policy in the EU. The new generation of regional policies for the millennium will focus innovation, the information society, environment and equal opportunities – regional innovation strategies. These are radically different priorities from building a road. You could build a road and you could measure it; when you build a network, it becomes part of an intangible relational asset which is difficult to evaluate and that is part of the problem with the new regional policies.

These regional innovation strategies have been trialed in Wales, Scotland, Yorkshire and Humberside and in the West Midlands. They are about creating inter-organisational, learning networks, and trying to build social capital – the norms and the networks of trust and reciprocity. If there is a secret to development, it is the disposition to collaborate for mutually beneficial ends and this is what is so exciting and indeed unnerving about the new regional policies coming from Brussels

In this new regional agenda, devolution becomes very important because the European Commission recognises that regions need to be empowered to act on their local knowledge. Regions need to design and deliver policies that are attuned to their regional circumstances, not some centralist template, in Whitehall, Athens, Lisbon or Madrid... This is fundamental to the new way of thinking.

The Government has made some progress in trying to reform the old centralist template, given that the UK was the most centralist-minded state in the EU. The parliament in Scotland, the assembly in Wales, the new assembly, I hope in London, and beyond that, the regional development agencies and hopefully the regional chambers are all part of Prescott's design for the regions. We have to remember one thing: the future is partly in our own hands. The pace of regionalisation in England will be determined not by the top-down predilections of Whitehall, but by the bottom-up pressures

from the regions. The northern region, Yorkshire and Humberside, seems to be in the vanguard of regionalisation in England with some interesting currents in the South West although they are often stymied by the inability of the South West to overcome its internal tensions. Key people in England sometimes say 'We can't act and work regionally because we are not a natural region.' As if something called a natural region exists in Europe! Most regions in Europe are 'artificial creations' but once you create regional institutions and budgets, regional action, focus, and identity follow. That's very important, but the key point, I think, on the pace of regionalisation, is that it will be determined and dictated not by top-down policies but by bottom-up pressures from the English regions.

The Regional Development Agencies (RDAs) in England are a very welcome step, but they have been created 21 years after the development agencies in Wales and Scotland – 21 years it has taken the English regions to come up to the mark. There will be two basic issues around which the RDA debate will revolve. The first is resources: they are limited and many are committed already. This issue lies at the heart of all the tensions and the battles in the Cabinet between John Prescott, Margaret Beckett and David Blunkett. Blunkett and Beckett have a key interest in not devolving, their budgets, Prescott and Caborn have an interest in allying themselves with Donald Dewar and Ron Davis in Scotland and Wales to create a genuine regional set budget for the RDAs. The second big issue will be governance. The issue here is not whether the RDAs will be accountable upwards to Whitehall, the key issue today, is to what extent will they be accountable downwards to the communities in which they operate? After 21 years of experience with quangos in Wales, we are only now coming to terms with it and the key point is that public accountability, far from being a luxury, is actually a vital ingredient in the recipe for sustainable economic development strategies. Public accountability is vital because organisations which are in, but not of, the region will never deliver. That's the key lesson of the Welsh development agency under 18 years of Conservative rule. Because the WDA was used by the Conservative government for political purposes, it became a surrogate for attacking the government and lost a good deal of staff and morale by being the butt of public jokes. We are trying to now reform the Welsh Development Agency, making it publicly accountable downwards to the sub-regions of Wales and upwards to a democratically elected Welsh assembly.

The third issue is further education. I have worked with further education in Wales since 1989 because I believe that further education is a vital part of the regional infrastructure for economic development for at least three reasons. First, further education is the primary delivery vehicle for vocational educational training which is where the big deficit between the UK and its OECD partner shows up. The deficit is in vocational training, particularly intermediate, technical skills, yet the very vehicle for delivering these skills, further education, is the Cinderella of the system.

Second, of course, education and training are, or rather should be, a process of lifelong learning although, sadly, lifelong learning is more soundbite than substance – even for New Labour.

Third, unlike higher education, further education is a locally rooted and focused institution with a major stake in the vitality of the local economy. This is not generally true of higher education, although some HE institutions, particularly the new universities, are engaging with their regional economies.

Despite these three vital points, further education has never been deemed worthy of a seat at the high table of the economic development community except in exceptional circumstances, on an ad-hoc or needs-must basis. One example was when British Airways came to Wales. They would not have come if there hadn't been an FE infrastructure that could help them to design a first-rate engineering training centre for aircraft maintenance. The second example was when Robert Bosch came to Cardiff. Further education 'walked on water' to quote one Bosch manager, to service Bosch's needs. The third, more recent example, is LG, Lucky Goldstar, which seems to be going ahead – the biggest single foreign investment, we hope, in Europe, it couldn't have been done without further education. In all those cases, the WDA was forced to bring further education to the top table.

The WDA had to learn that although it didn't have a brief for education and training, nor a brief for delivery of vocational education training, it still had an important role as broker or ambassador of these networks, feeding back the skill needs of firms into the FE sector. The RDAs will also have to learn this role.

The problems with further education being ignored by the top table have been compounded by problems within further education itself. The chief executive for the two Welsh funding councils, John Andrews, has always said that his problem is the funding formula: it is a funding council and not a planning council. In other words, the

funding methodology is driven by student preferences and not by regional needs. So where there is a local need, for example for engineering courses, it is still difficult to steer the system to deliver courses that are much more expensive. We have only been able to do it with alliances between development agencies and big firms, like British Airways, Bosch and LG in a sense, steering the system, so that it can begin to address some of the needs of the regional economy.

The status of further education is beginning to change in Wales for two reasons. First a political reason and then an economic reason. The team at the Welsh office, Ron Davies and Peter Hague in particular, has given a new set of strategic guidance to the Welsh Development Agency instructing them to give parity of esteem to local, indigenous SMEs and big foreign plants and that has forced the agency into thinking about new, more imaginative ways of stimulating the indigenous economy. The second reason is that the nature of foreign, inward investment in this country is changing rapidly. The most important mode of foreign inward investment today, accounting for 60% of foreign, direct investment annually in Wales, is repeat investment, i.e. re-investment in the existing site.

Why is that important? Because the locational factors that help to capture repeat investment are not the same factors that enabled us to capture the initial greenfield site. Firms know the region, they are beginning to ask questions about sustainability; the supply, robustness, and the completion rates of technical skills in the FE sector. Fifteen years ago multinationals only seemed to ever ask how bolshie the trade unions were and how cheaply could they get land. Now they ask: What is the quality of the digital links? What is the staying-on rate in further education? Repeat investment means that the FE sector takes on an added significance and so, for both these reasons, political and economic, the role and status of further education are beginning to change.

A good example of the new indigenous thinking of further education is the work by Pembrokeshire College. Pembrokeshire is a very beautiful place but rural Wales like much of rural Britain is in deep crisis for many reasons. Pembrokeshire College has taken the lead in creating a regional partnership whereby it can begin to define a new, organic, more sustainable future for farmers, growers and other food-related SME's. Given the enormous opportunities in our agri-business chain, we have barely begun to tap the potential. Our food system is unsustainable: 80% of organic produce today in Britain is imported. Yet everyone wants sustainability, organics,

safety, healthy food that is traceable to local areas. Food is a very good example of what we might call deglobalisation. Pembrokeshire could become a premier, organic-supplying region of Europe and Pembrokeshire College has taken the lead in providing these new skills.

However, further education still finds it difficult to meet the needs of SMEs compared to the big 'one-off' plant. The needs of SMEs are more fragmented and SMEs find it more difficult to articulate their needs. The FE sector will need to work hand-in-glove with the regional development agencies in England and in Scotland and Wales because the development agencies can act as brokers between demand and supply.

Finally, for further education to get a regular place at this top table, at least three things are essential. First the Government needs to recognise that it cannot continue with this debilitating gap between rhetoric and reality. Half the FE colleges today are in deficit: it is simply not sustainable to go on with so-called efficiency cuts. Further education can never become 'tomorrow's college' unless central government begins to put its money where its mouth is. The second essential requirement is for firms and regional development agencies to recognise that they cannot begin to fulfil their missions unless they work hand-in-glove with further education. Firms and regions will need a more skilled, more versatile workforce to survive the onslaught of new competition from Europe and the world. Further education is a central part of the mission of both firms and the RDAs, themselves. The third big ingredient is further education itself. Further education needs to become a good deal more adept at lobbying and more innovative about provision, about designing courses with, rather than for, firms. It is a vital shift in mindset to thinking of inter-active service provision rather than a computer-driven set menu. If further education could do this, it could go a long way to realising potential, but the key thing is that further education is only one ingredient in the wider recipe for moving towards and creating 'tomorrow's college'. We need equal help from central government, from RDAs and from the firms themselves because the problems don't reside in further education alone.

The people's choice: social cohesion and colleges

David Puttnam

Education is the greatest source of opportunity in life. A decent education can expand the aspirations and abilities of every person whatever their background, income or class. The recent Kennedy report – *Learning works* – sensibly emphasised maximising access to further education for all and its crucial importance as the key to breaking the vicious circle of poor economic performance and an inadequate standard of living.

Further education is certainly moving in the right direction. Participation rates have risen from three to nearly four million students since 1994, with the percentage of adults rising from 71% to 80%; this figure demonstrating (as if it were needed) that FE colleges are the engine that will drive this Government's commitment to lifelong learning.

But it is still a cause for concern that a recent study for NIACE showed that less than two in five adults say they are likely to take up learning in the next three years and only 23% say they are currently learning. Twenty-one million people – that is 62% of the population – do not have a level 3 qualification, and 14 million do not even have a level 2 qualification.

It has become widely accepted that our future prosperity, both as individuals and as a nation, rests, not in our raw materials and our manufacturing, but in our wits, our ability to adapt to change and our willingness to go on learning throughout our lives. The question now facing Government and FE colleges, therefore, is how to produce a radical cultural shift towards becoming a nation of mass learners?

FE colleges are not just the place of second chances – valuable though that is – they are the physical embodiment of the Government's commitment to lifelong learning. If only 23% of adults are learning anything right now, what are the other 77% doing?

Every child learns all the time – the learning facility is switched on at the moment of birth. So a formal learning environment must be provided that does not switch off the natural desire to learn. No child should leave school without the basic skills needed to get a job and, equally, no child should leave school with their natural sense of wonder and thirst for learning in any way dimmed.

These are exciting times, full of change, opportunity and challenge. There is a cultural shift towards a learning future of new technologies and a growing range of ways in which new learning tools can be used.

Ever since I started going to the cinema as a young boy in North London, I have been fascinated by the power of moving images. As a boy I would sit in the darkness and soak up the images and ideas that drove films like Fred Zinnemann's *The search*, Elia Kazan's *On the waterfront* and *East of Eden* and Stanley Kramer's *Inherit the wind* deep into my subconscious. These films formed my real education and had a powerful impact on me. Moving images tinker around inside your brain; they help form or confirm social attitudes. They can help to create a healthy, informed, concerned and inquisitive society or a negative, apathetic, ignorant one.

Now we are on the threshold of a new Information Age, in which the moving image is poised to become ever more pervasive. The most significant development is the potential for increasing convergence between entertainment and education. Interactivity offers the prospect of personally tailored teaching for anyone with the will to learn by means of on-line and off-line services, at home as well as at school, however remote their geographical location, and however advanced or obscure their interest. The possibilities this creates to revolutionise learning, and teaching, are almost incalculable.

The educational potential of the medium has long been recognised – even if not realised. In the early days of cinema, Thomas Edison predicted its primary and most valuable use would be as an educational tool:

It may seem curious, but the money end of the movies never hit me the hardest. The feature that did appeal to me about the whole thing was the educational possibilities. I had some glowing dreams about what the camera could be made to do and ought to do in teaching the world things it needed to know – teaching it in a more vivid, direct way.

The way in which CD-ROMs, the Internet and other new media products are now being used in colleges and classrooms around the world suggests that Edison's vision is finally about to be fulfilled and as information technology becomes more and more essential to the functioning of our education system, the need for software and support materials is going to grow, and at a prodigious rate.

Education is a fast-growing global business. Together with training it accounts for about 15% of the EU's total gross domestic product (GDP). Not only does this proportion look certain to continue rising across the developed world, but the demand for education in developing countries is also increasing exponentially. The UN Development Agency anticipates that in the next 30 years as many people will seek formal educational qualifications as have done since the dawn of mankind. To put the creative and technical skills that cinema has been learning and refining for a century, coupled with some of its business skills, at the service of education, and most particularly information and communications technology (ICT), seems an infinitely worthwhile ambition.

The biggest boom in the global consumer software market last year was in 'home education'; this, with 'edutainment', generated revenues of \$1.5 billion. A recent *Datamonitor* study forecast that in Europe alone, the 'edutainment' market will grow by 80% in 1998, to around \$180 million. These are beginning to be big numbers by anybody's standards.

If the media revolution is to be harnessed to the needs of the education systems, it cannot be treated as 'just another teaching aid' or indeed, just an additional means of realising economic potential. The technology we put in our schools, colleges and other points of learning, must be as future proof, and therefore as adaptable, as possible; it must be easy to use; and, crucially, it must be fast and reliable.

First, the importance of a 'future-proof technology'. There are more computers per head in UK schools than in most other European countries: one for every seven primary pupils compared, for instance, to one for every 50 in France or 45 in Italy but 60% of these computers are obsolete.

With resources in education tight and getting tighter, schools and colleges need to be able to buy into the information society on a progressive and incremental basis. They must have access to equipment that will last. It may not be the cheapest option in the short term, but it is surely worth getting it right now to avoid repetition of such astonishing obsolescence.

Second, ease of use. The anxieties that some teachers have about technology are almost certainly exacerbated by the fear that many of their pupils are more adept with it than they are. This is not just an issue of more and better teacher training. Ensuring the accessibility of basic, easy-to-use software should be an overall priority, otherwise there is a risk that teachers and pupils alike will

be alienated from ICT, swamped by a rising tide of ‘technobabble’. And it is crucial that everyone is able to call on the services of first-rate technical support whenever, and wherever, they may need it.

Third, the importance of speed and reliability. In schools, where time is a hugely valuable commodity, hanging around in front of the computer waiting half an hour, or more, to download a relatively simple webpage is impossible to contemplate.

Likewise, reliability is essential. Every time the computer crashes or malfunctions, learning time is wasted. There are no shortcuts: we have to commit the resources that will deliver the quality of equipment and service we need.

In the context of the hurdles society must overcome to reach its targets and goals, the parable of the sower with four batches of seed came to mind. The first is thrown on the path and gets eaten by the birds. The second gets thrown on exposed rocky ground. Initially it does well, but then quickly withers as its roots run out of soil. The third falls among thorns and is choked as it grows. Only the fourth casting of seed, onto good soil, is truly effective, producing up to a hundred times what had been sown.

This parable was used to make the point about looking but not seeing, hearing but not understanding. Only the believer, the one who hears the word and understands it, produced the crop. It is an interesting allegory for the way we approach education. If we take the seeds to represent learning opportunities that are cast upon the young, here represented by the soil, the thrust of the question becomes less about the cleverness of our initiatives and programmes, and more about the manner of their implementation: how do we ensure that those seeds of opportunity fall on fertile soil?

The new political rhetoric is mostly common sense; it is about lifelong learning and personal responsibility. We all need to update our skills, to keep pace with the increasing rate of change.

If your first learning experience – school – leaves you cold, failing to inspire an interest in learning for learning’s sake, later opportunities for learning are in danger of falling on those paths, rocks and brambles. No matter how many brilliant training and re-training schemes we implement for adults; no matter how much money we pump into FE colleges; and no matter how many rigorous Ofsted inspections we employ to ensure high standards, if we can’t enhance that natural instinct for learning with which all young people are born, the future of our economy and society is in great peril.

So, if I translate the parable of the sower in this way, the key to ensuring that the hearts and minds of our children are open and receptive to learning is teachers. No amount of technological wizardry can, left to itself, change the performance or the opportunities of the next generation. Demand for ICT must ultimately be driven by the teachers because if they don’t have the will and the ability to use it, any investment will be wasted.

The recent history of the learning industry in this country bears witness to the limitations of short-term thinking, to the dangers of trying to skimp on resources and cut corners. The collapse of many companies in the consumer-CD market, and the recent failures of Internet-based firms such as Webmedia are a warning. When it comes to ICT in education, we cannot afford to get it wrong. The stakes – financially, culturally, intellectually – are too high.

Our national vision has to be defined at the centre – driven by government – although implementation will require substantial commitment from the private sector working in partnership with DfEE, the Treasury, the DTI and others.

We need to consider how this coordinated policy can best be accomplished – not a statement of purpose but a practical bringing together of existing and planned initiatives into a coherent and defensible whole.

If the implementation of IT policies is left to individual schools there will be a great and growing divide between those with progressive policies and adequate budgets and those without. It is some years since American Vice-President Al Gore’s pessimistic warning of a society divided between information ‘haves’ and ‘have nots’ but it remains valid. Teachers can break down aspirational barriers and effective use of ICT can bring down geographical and financial barriers but opportunity brings with it the implicit danger that we could create a class of the socially excluded, with little or no access to the information and learning opportunities that will form the future basis of personal and social wealth.

This is no abstract ethical issue – it has specific, concrete implications at every level. The recent DfEE report *Preparing for the Information Age* points out that we need to ensure that those living in small rural communities have access to network services, even if, wiring up their schools and colleges is not a commercial proposition. That is one reason why public-private partnerships are the only real way to guarantee universal access.

The UK has a unique range of assets which could enable us to become a world-beating force in creating all kinds of innovative software.

We have ‘critical mass’ in the form of a sizeable school system with a national curriculum and an FE system that is open, accessible to all and responsive to the needs of local communities and individuals. Our colleges are independent, yet all are ‘linked’ by a common national framework of vocational qualifications. With education policy to a great extent driven from the centre, it should be fairly straightforward to implement a national strategic plan.

It is an area in which we in Britain have enormous competitive advantages, particularly within Europe, partly because of our language, but also because of our rich creative resources – our programme-makers, animators, designers, writers, musicians, to name just a few.

One of the daunting challenges faced by the Government’s Creative Industries Task Force is to come up with some strategies to help us capitalise on these strengths. For the multimedia revolution is not, fundamentally, a technological revolution at all – the technology is simply what makes the revolution possible. In the words of the European Commissioner, Martin Bangemann, the Information Society is about nothing less than new ways of living and working together. As that DfEE report reminds us, ICT is already blurring some familiar oppositions between the academic and the social; between home and school; between the immediately familiar, and people and places on the other side of the globe. It is up to us – as Government, teachers and learners, to ensure that ICT is also successfully used as a way of blurring that haves and have-nots distinction identified by Al Gore.

It’s becoming a commonplace in the film industry to argue that ‘content is king’. But if it is a commonplace, it is one that applies with equal force to the learning society. Neither children nor adults will buy into something simply because of its technological sophistication – what matters is the convenient availability of the most attractive software.

We have already moved beyond a world in which learning only takes place when you are young, or while you’re attached to a formal education institution. The sheer pace of technological change means, among other things, that the knowledge acquired by many graduates soon becomes obsolete. The skills required for almost any career now need to be constantly updated. If FE colleges are to meet the challenges of the next century, they will have to be

very different beasts to those that we see around us today.

The fusion of emerging technologies with an established skills base into an accessible learning resource is really worth fighting for. We must try and make the people’s choice for a vision of the 21st century one of continuous learning – one with which all of us would be proud to be identified.