Confronted with potentially serious skill shortages in information technology, companies such as AT&T, Microsoft and IBM are devoting significant resources to helping the US education system to provide a steady stream of technology-literate employees for the future.

Telecommunications giant AT&T has contributed more than $500 million in support of education over the last 15 years. The investment is driven by the need for a highly-competitive workforce, but the company also recognizes that education holds the key to improving the quality of life.

The AT&T Learning Network is a five-year $150 million programme to bring AT&T technology and support services to every public and private elementary and secondary school in the USA.

The network, launched in 1995, provides schools with access to the Internet and the World Wide Web. There is also free online help in understanding how to use the new technology. This includes:

- an Internet 101 teacher tutorial on how to use the Internet;
- a Web tour created by education experts to guide teachers through the education-related uses of the World Wide Web; and
- a mentoring programme which provides coaching to teachers, by teachers, on how to integrate technology into lesson plans and classroom activities.

The AT&T foundation makes available grants to help families, schools and communities to use technology to improve teaching and learning. The grants to families aim to encourage greater family involvement in education. There are grants to support teachers’ professional development in the use of technology, and money to promote technology in teacher-training programmes. Some AT&T Learning Network grants are used to build the framework for learning communities, and so to support lifelong learning.

Microsoft believes that the single most important use of technology is to improve

This article is a précis of material which was originally published in “Using technology to strengthen employee and family involvement in education,” a Conference Board report by Susan D. Otterbourg, programme director of The Conference Board’s business and education conference.
education. The company seeks to build an international “connected-learning community” in which all students, educators and parents have access to technology and the tools and skills to support learning.

Microsoft’s Anytime, Anywhere Learning seeks to create a world in which all students and teachers have access to a personal computer and online information 24 hours a day, seven days a week. Such access would stimulate dynamic interaction between students, educators, parents and the community at large.

In a trial of the scheme, 26 fifth-grade pupils and one teacher at Mott Hall School, New York City, were each provided with a laptop computer for school and home use, under a funding partnership between the school district and parents. Each computer was loaded with Microsoft Office Professional and had a modem to link to the Internet.

The teacher reported that students gained a new excitement for learning, working to master each class assignment. School attendance among pupils in the trial reached almost 100 per cent.

Anytime, Anywhere Learning has now been extended to 52 US schools. Teachers consistently report that the scheme has a powerful impact on what they teach and what students accomplish. Students are taking more responsibility for their own learning, while teachers are able to customize instruction to fit each pupil’s individual needs.

Through a resource book and Web site, Microsoft provides the schools with ideas, best practices, strategies, models and case studies, plus connections to potential solutions for hardware, financing, insurance and training.

IBM has a similar Wired for Learning programme which aims to improve communication between parents, teachers, community members and students. The programme enables information to be delivered through the World Wide Web, while ensuring that sensitive information remains confidential.

Wired for Learning provides registered users – parents, teachers, community members and students – with a customized online setting from which they can obtain information on student learning.

Parents can take a more active and supportive role in their children’s education without setting foot in the classroom. Parents can communicate in private with their children’s teachers in the evening or at weekends. Parents can also examine their children’s completed and evaluated assignments and gauge how their children are performing in relation to specific criteria by viewing a special databank on local academic standards. There are also details of forthcoming classroom activities, school events and lunch menus.

Teachers logging on to Wired for Learning can use the “instructional planner” to develop lesson plans online. A standards database helps teachers to ensure that their lessons meet performance standards, while a databank of resources makes it easier for teachers to use the Internet for information to enhance their lessons. Teachers can also easily develop lessons with colleagues in other classrooms or schools. A “mark-up” feature allows teachers to link student performance with academic standards in the district.

Students can use Wired for Learning to work on their assignments outside the normal school day and school year. They can also work from different locations to collaborate on the same project and gain experience of teamwork.

Interested members of the community can contribute their expertise to their local schools through Wired for Learning. A database can be established of approved mentors for a given topic or as online tutors. Mentors and topic experts can work from their homes, offices or other networked locations at their convenience, so eliminating constraints of time and distance that can act as barriers to people volunteering.

The future success of developed economies depends on the ability of today’s pupils to become technology-literate workers, consumers and citizens. Students who are comfortable with technology can create new products, solve problems and deliver quality work which is instrumental to national prosperity.

But the acquisition of technology literacy requires guidance and support systems that are too costly and complex for most schools to co-ordinate and manage on their own. Schools need partners to help them to achieve their goals. Business, with its wealth of practical experience in applying technology, can fulfil a valuable partnership role and gain the benefit of ensuring a steady supply of skilled workers in the future.
Maytag makes the grade on employee development

Newton, Iowa (population 15,000) is not the first-choice destination of many new Harvard MBAs or Stanford engineering graduates despite the fact that it has been home for more than a century to an international player in appliance manufacturing, the $4 billion Maytag Corporation.

The company therefore relies more heavily than most on home-grown talent. But Newton, in rural Iowa, was 40 miles away from the nearest centre providing engineering degrees and 100 miles from the nearest MBA programme. Newton did not even have its own community college. Local people wanting any kind of post-secondary education had to leave the town to get it. Many of them never came back.

Now Maytag has combined with other local employers to set up a joint training facility which offers a four-year engineering programme from Iowa State University and an MBA from the University of Iowa.

Maytag chairman Leonard Hadley approached the president of Des Moines Area Community College in 1992 with a proposal to create a local unit of the college at Newton. Maytag gave an empty 52,000 sq.ft warehouse next to its headquarters, plus 1.5 acres of land and $1 million. The company later helped to cover the cost of expanding the warehouse by adding a second floor.

Today the facility is Maytag’s main training centre. The company leases 27,000 sq.ft of classroom space and has relocated a factory-training programme from Cleveland, Tennessee, to Newton. In addition, ten other local employers, including 3M, use the college as a joint training facility.

The college is also widely used by a wide range of Newton residents, for courses from art history to engine repairs. The facility also attracts people from a wider area, and a Marriott hotel conference centre now adjoins the college.

Following recent acquisitions Maytag has 13 manufacturing sites in the USA, and only 2,500 of its 19,000 employees work in Newton. But the company retains strong relationships with its “home” community. To

Keywords
Community relations, Education, USA

Abstract
Describes the joint training facility set up by Maytag and other local employers in Newton, Iowa, USA.

Electronic access
The research register for this journal is available at http://www.mcbup.com/research_registers/tdev.asp
The current issue and full text archive of this journal is available at http://www.emerald-library.com

This is a précis of two articles. The first, entitled “Social capital,” was originally published in Training, Vol. 35 No. 11, 1998. The author was David Stamps. The second, “Gearing up for tomorrow’s workforce,” was originally published in HR Focus, February 1999. The author was Stephenie Overman.
some extent, Maytag has succeeded because of, rather than despite, its rural location. Newton provides a captive workforce, whose dependence on the success of the company breeds dedication and loyalty. The prevailing attitude is “We’re in this together.”

But such close bonds between employer and community could also turn out to be a risk, if the pressures of globalization eventually mean that manufacturing has to be switched to a low-cost country.

Maytag is not alone in investing in partnerships with its local community. Other companies are involving themselves in initiatives ranging from career talks with students, career fairs and workplace tours to internships, apprenticeships and co-operative education programmes. By doing so, they see the benefits in terms of a future flow of well-trained workers, and community goodwill.

Bell Atlantic has refitted an old vocational-education school in Newark, New Jersey, with state-of-the-art laboratories and teaching rooms. The facilities at the centre are now so good that Bell Atlantic uses them in the evenings to train its own workers, after the day pupils have gone home.

Bell Atlantic also sponsors 11 other technology-education centres in New Jersey. These prepare students and people re-entering the employment market for jobs in the communications industry. Bell Atlantic hires around 80 per cent of the students, so saving thousands of dollars in training and retraining. The other 20 per cent quickly find jobs elsewhere.

Lucent Technologies and the Ford Foundation have given $15 million to seven elementary schools in Newark to improve teacher training. In addition, each student in the area who completes high school and shows willingness to learn gets a $6,000 higher-education scholarship.

The Prudential Mutual Life Insurance Company has issued a million-dollar challenge, promising to match any other organization that invests in the Newark school system. Meanwhile, Anheuser-Busch decided to adopt a school after one of its executives took part in the Newark education district’s “principal-for-a-day” programme.

In Rochester, New Jersey, multinationals Kodak, Xerox and Bausch & Lomb are part of a local business-education alliance which two years ago initiated a certificate of employability to supplement the high-school diploma.

Students collate evidence that they have met specific requirements concerning core subjects, applied learning, attendance and citizenship. The student’s portfolio is reviewed by a committee of school staff and business representatives towards the end of the 12th grade, to determine if he/she is eligible for a certificate of employability. Some 142 students earned the certificate last year.

The multinationals do not promise jobs to such students, but emphasise that those with the certificate will have an advantage in the job market and in life.

This year, employers are being asked for feedback on how well the certificate predicts a good employee. The certificate may be refined in the light of the findings.

Robert Legge, president of a local HR consultancy, heads the initiative. He talks with students about the certification process and the world of work. He emphasises that the days of well-paid production jobs that require little training are numbered, and pupils who want to make good money need to do well in school. Teachers report that these talks, from a business person, help to motivate the students.

The US business community appears to have realized that the fight for long-term competitiveness ultimately will be won or lost neither in Congress nor in company boardrooms, but in the classroom.
Almost every discipline is represented in a modern car plant – from electrical and mechanical trades through to computer operators. Vauxhall, part of the giant General Motors, keeps in close contact with the communities around its plants, to make sure that top talent is attracted.

At Ellesmere Port, Merseyside, teachers visit the Vauxhall plant for one week to “work shadow” in areas of interest. The experience gives teachers a better understanding of the job requirements and variety of careers available. School pupils are also invited to the plant to learn how it operates. In addition, the company makes regular presentations at careers conventions, schools, colleges and business forums.

During a “Tomorrow’s managers” event, groups of pupils from local schools compete in an exercise to design, manufacture and market a new vehicle. The event emphasises the range of skills needed in today’s motor industry.

Vauxhall has refined its selection process to meet the needs of an ever-more-sophisticated industry. People wishing to become production operators must be able to show not only literacy, numeracy and manual dexterity, but also the ability to adapt to new ideas and to accept change as well as flexibility. Above all, they must demonstrate that they are team players. The selection process includes psychometric testing.

The two-year junior-operator training programme is open to anyone aged 16 with the relevant aptitude. The programme leads to a job in materials handling and control, vehicle assembly or the production of finished components. Those successfully completing the programme achieve at least Level 2 of the national vocational qualification (NVQ).

Junior operators who have reached the required standard progress to the basic-operator grade at 18. Employees can progress further by taking advantage of Vauxhall’s commitment to training. Junior operators who show the necessary skills can apply to transfer to an apprenticeship scheme.

Vauxhall recognises that apprentice training remains among the best ways for the company to get the right people and for the individual to start an engineering career. A Vauxhall
Each work station. This can be achieved only with teamwork where individual operators take full responsibility for their particular function.

An integral part of lean manufacturing is a procedure known to Vauxhall as “Andon”. This empowers individual operators to stop the production line with a special control if they are unable to complete their task, for whatever reason, before the car moves to the next station. This might happen if there is a component shortage, an equipment failure or even if the function cannot be performed in the time allowed.

For this previously-unthinkable process to work, operators must have the full support of their team, and an implicit understanding of the system as well as their role and that of others.

If a problem needs to be resolved, operators and support personnel will have the knowledge and confidence to find a solution as a direct result of training.

Every member of the workforce must operate to a common set of messages. The principles and philosophies delivered through skill training therefore form the basis of management training.

At the Ellesmere Port and Luton plants, managers and supervisors are involved in a range of behavioural and team-building training. This includes exercises designed to help managers to develop self-awareness and leadership skills. Team-manufacturing training also gives managers the skills and knowledge they need to guide new processes on the manufacturing line.

Another way in which managers can broaden their understanding and knowledge of the business is to take an exchange assignment. This experience, which is typically for three years, ranges from a move to a similar function in a different area of the plant to an international assignment at one of the General Motors facilities around the world.

International assignments are particularly beneficial because they make it possible for managers to learn and experience best practice at other world-class facilities. At any time, there are as many as 100 Vauxhall people taking part in these exchanges.
St John Ambulance puts youngsters on the fast track

Some might argue that 21-year-old Daniel May is rather long-sighted for his age. The youngest manager ever with UK optical-retailer group Dollond & Aitchison, he believes that his management success is largely because of the leadership training he received in his teenage years.

Leadership training is normally associated with expensive courses that only top executives taste. But in May’s case, the training came from St John Ambulance, a national charity.

He joined the organization at the age of 11 and has stuck with it into adulthood, despite his busy working life. Now he helps to train cadets and writes training material for young people.

It has not all been plain sailing for May, however. His plans to attend university were wrecked by an accident. He explains:

I took a year out after A-levels. Then the day before I was due to go to university I had a back injury resulting in an operation. It was a severe blow to have all my plans overturned. While waiting for another place the following year, I took a temporary job with Dollond & Aitchison.

I never escaped and never wanted to.

May says that his fast-track management promotions are continuously supported by the work he does for St John Ambulance. The early interviews were crucial. He comments:

Most young people do not have experience on which to draw during interviews. Because Dollond & Aitchison is modern in its approach as an employer, it uses criteria-based interviewing. At the age of 19, I was able to give solid examples of problem solving at every level, because I had gained real experience from the age of 11.

At the age of 20, he was entrusted to manage his first store, in Tamworth, Staffordshire, before moving on to manage a larger branch based in Shrewsbury, Shropshire. He works with a team of 16 people.

He continues:

Employers are familiar with other youth-training schemes, but they often do not know enough about what a wealth of proficiencies the St John Grand Prior award – a cadet-award scheme – brings with it. In an interview, where all other things are equal, the chances are that someone with this kind of training will have the edge on the other candidates.

The St John Ambulance senior youth-development officer, Yvonne Gilligan, comments:

Material for this article was supplied by St John Ambulance. It was originally published in Training Strategies for Tomorrows, November-December 1999.
Daniel is an extraordinarily mature and charismatic person and a marvellous speaker and presenter. I am sure that his St John experience has stood him in good stead in his career.

Matt Holton, a student undertaking teacher training at Nottingham Trent University, similarly believes he has benefited from his St John Ambulance experience.

He explains:

Unfortunately, competition is no longer restricted to the highest-paid graduate positions and training schemes. With more young people than ever applying for university and college, there is a huge amount of competition associated with all jobs and even university and college places. These days, you need more than academic ability to stand out.

To be accepted on a teacher-training course, for example, you need to have experience of working with children – something not everyone appreciates when they decide to go into teaching. Fortunately, I was able to show that I had many years of experience, not only of working with children, but also of being responsible for their safety and welfare.

Matt was encouraged to join St John Ambulance as a cadet by his mother, who had been with the organization since the 1960s. By the time he was in his late teens, he was running a group of 35 six to ten-year-old volunteers, which involved teaching children first aid and a host of other skills, games and leisure activities. Matt knows that this experience helped him to get accepted for teacher training, but also believes that it will help his career once he has graduated.

He comments:

St John is about more than first aid and uniforms.

I have learned many skills, including leadership and management. I have also learned how to bring out the best in children under my guidance.

These are skills which many of my contemporaries will not yet have had chance to develop. In an interview, where all other things are equal, my practical experience should give me the edge over other candidates and should help me to secure a job more quickly.

Also, classroom management is a complex task and my St John experiences have helped me to develop my communication and organization skills – making me better equipped to face the challenges of a classroom.

Jo Jacobius, for St John Ambulance, concludes:

Volunteering is not only an altruistic activity; it is also a great way to enhance one's job prospects. We believe that this is a compelling argument for those engaged in busy careers, or embarking on work in a particular field.
Able students get a little help from McDonald’s

Being able to prove their business acumen and academic credentials, write about their organization and provide detailed references from their school, college and manager qualifies students working at McDonald’s Restaurants for an award of £1,000 to spend on their studies.

In 1998 McDonald’s ran its second scholarship scheme, developed from a decade of work supporting various educational activities. Of the 216 student workers who applied, 50 high achievers from all over the UK made the award and planned to study a wide variety of subjects from medicine to music when they returned to their studies in the autumn. Their scholarship awards were spent on fees, books, living expenses, repayment of loans, and various projects and schemes ranging from computer-equipment purchase to paying for field trips or semesters abroad.

Chief executive of McDonald’s, Andrew Taylor, said:

We value our employees highly and hope that our scheme will help those working with us to complete their studies without suffering too much financial hardship. Students increasingly are having to rely on their own resources to get them through college. This new scheme builds on education programmes for employees which we have run over the past ten years. We are well aware that a well-educated workforce has benefits for not only our own company, but for the workforce of the UK as a whole.

Many of the scholarship winners’ tutors commented on the valuable experience which they have gained through working at McDonald’s, particularly in the areas of leadership and teamwork. This is a reflection of McDonald’s research into the attitudes, lifestyles and values of students working for the company. Recent research among the students found that nearly half aspire to a management job in a large company, including many who plan to apply for McDonald’s own management programme. More than half felt that getting commercial experience should be mandatory to obtaining a university degree.

Last year’s certificates were awarded by Taylor and Alex Ferguson, manager of Manchester United football club, who commented:

Material for this article was supplied by McDonald’s Restaurants. It was originally published in Training Strategies for Tomorrow, January-February 1999.
Our track record of investing in young British football talent mirrors the commitment McDonald’s has shown today in the youth of tomorrow.

McDonald’s scholarship programme is open to hourly paid employees who have worked for a minimum of six consecutive months for the company or have displayed a regular commitment to work for the company during term/holiday times. All must be currently studying or about to start a course at a formally-accredited centre of further or higher education. Hourly-paid employees are invited to apply for the scholarship by completing an application form, including a personal essay with recommendations for hiring and retaining the best employees for the company’s future success. In the UK, McDonald’s employs 55,000 staff in 870 restaurants. The vast majority of these are aged under 21.

In the spring of last year, McDonald’s carried out research into the attitudes and lifestyles of the students who work for the company which revealed that today’s students are hard-working, studious, admire business and political leaders more than pop stars, and aspire to management jobs in large companies.

In a poll of over 200 students working for McDonald’s, around the country, the overwhelming majority chose Virgin boss, Richard Branson, as a role model from a list which included Liam Gallagher, Cherie Blair and Zoë Ball. Other students nominated heroes ranging from Martin Luther King to Princess Diana and Jonathan Porritt.

Tony Blair came top of the list of politicians whom students would be most keen to meet, with the majority wanting to question him on why students have less money to live on. Second most popular politician was Margaret Thatcher, perhaps reflecting the impact of the UK’s first female prime minister on this generation. Reasons for wanting to meet her ranged from her having been a great influence on politics to her having girl power. William Hague and Paddy Ashdown received only two votes each.

When asked what they wanted to do on graduation, almost half of the students wanted a management job or to apply for the McDonald’s management programme. A few wanted to become teachers, but there was little desire to follow other professions such as the law, accountancy, nursing, merchant banking and software development. Student funding topped the list of issues they were concerned with (followed by violent crime, drugs and world peace).

Taylor said:

Because we are a very flexible employer, we have always had many student employees. However, as this research shows, students are increasingly focused on financial concerns and paying their tuition fees, rather than on traditional student pursuits. The students who come to work for us while they complete their degrees are an important and vibrant part of our workforce and many stay with us and enrol in our management programme.
**Bayer trainees seek out “best value” MBAs**

Students from multinational pharmaceutical and chemical giant Bayer were keen to know that the price was right before deciding where they wanted to undertake their year-long full-time MBA. They helped the company to benchmark programmes from universities across the world.

The 16 students are part of Bayer’s management-apprenticeship scheme, which annually attracts around 1,500 applicants for only 20 places. They must win the sponsorship of their Bayer division in order to progress to the MBA.

One of the students, Alex Zimmer, of Leverkusen, near Cologne, was part of a team consisting of nine people – six students and three members of the human-resource management team – which finally opted for the Management Centre at the University of Bradford, UK.

He commented:

> We very much liked the content of the Bradford course, and in particular the wide range of subjects on offer. That gives us the chance to brush up on topics we have not covered in depth, or to devote more time to the subjects that interest us most.

In addition, Bayer liked the international flavour of the Management Centre and the fact that we would be mixing with students of many different nationalities. Having spent all our working lives in Bayer, we relish the fact that we can exchange experiences with students from other parts of the world. That will stand us in good stead for the next stage of our training – a foreign posting which each of us will undertake within two years of returning to Germany.

Alex works in Bayer’s animal-health division. His latest position was as an assistant to the marketing director, and he will continue in animal health when he returns to Germany.

Marcus Fetten, also of Leverkusen, said:

> One of our projects was to benchmark the various MBA programmes according to how useful they would be to Bayer as a company, and to us as individuals. As students of marketing management, we were also very keen to get value for money.

In the end, these were the factors that weighed most with us, rather than traditional rankings of universities.

Marcus worked in corporate planning and control before going to Bradford. In future, he expects to play a key role resolving disputes...
between Bayer departments and preparing documents for committees and board members.

Company managers met Management Centre staff, both in Bradford and at Bayer headquarters, during the vetting process. A Bradford student who had recently completed the MBA was flown out to Germany to provide a student’s-eye view.

George Luffman, who chairs Bradford MBA programmes, commented:

I, too, met the students during an hour-long question-and-answer session. I gained a very favourable impression of them as serious-minded and intelligent young people who are keen to learn and to advance their careers. This impression has been reinforced during the time they have been at Bradford. They have proved to be very able students indeed.

Rike Johnsen, of Cologne, worked for Bayer’s German sales division before beginning her MBA. She will continue to work in sales when she returns, but covering more divisions. She is also an assistant to the managing director.

The students joined the staff at Bayer headquarters at Leverkusen at the age of 18. For the next three-and-a-half years, they combined full-time work with general apprenticeship training and studying for their first degree.

Ferdinand Rammrath, of Essen, worked in marketing for coatings and specialized raw materials. He explained that the general traineeship covered subjects ranging from procurement and logistics to marketing, and took place within several Bayer departments.

The first degree, a BSc in business management, was completed at evenings and weekends at Essen Polytechnic University of Applied Management Science. This is a private university which takes only students in full-time work.

Christoph Bremen, of Leverkusen, commented:

It is a lot of hard work, but that is part of the selection process. Twenty-one trainees began the course, but only 16 remain. The rest have dropped out – for various reasons.

Christoph worked in marketing at Bayer’s crop-protection department – a job he will resume after returning from Bradford.

The progress of the students – most of whom are fluent in three languages – is closely monitored by Bayer managers throughout the programme. Bradford, too, monitors its various MBA programmes on a regular basis.

Dr Luffman said:

We strive to meet the needs of those who will be managing in the early part of the twenty-first century. Recently, for example, we have introduced a process to help students to examine their own competencies and identify and monitor their own specific outcomes for the course.

Our full-time MBA recruited 60 students from 30 different countries last year. A most pleasing aspect of this national diversity is the excellent way in which students work and socialize together.
Friends in the North?

You can almost imagine it on a car sticker: “Public sector managers do it in partnership”. Or at least that could become the norm.

Newcastle City Council (NCC) and Newcastle Business School (NBS), based at the University of Northumbria, are engaged in a joint venture which may change the often uneasy relationship between public and private sectors for good.

The UK public sector has altered drastically in the last decade. Security of employment and career progression are things of the past. Managing that change, encouraging staff commitment and promoting effectiveness have become prime skills. Are there proven methods in private-sector management culture which could help?

In a sense, the greatest hurdle has already been overcome. The sharper business focus which the public sector has had to adopt means that organizations now recognize the need to invest in training with an emphasis on continuous professional development. Given that organizations know which type of training will best suit their needs, the answer could lie in creating a “learning environment”: an approach to developing management skills which will cascade through an organization.

Certainly, recent research by the Industrial Society has shown a trend to using universities as external providers. Although buying-in expertise will necessarily be more expensive than providing training “in house”, the range of development opportunities is generally greater. A partnership where both parties benefit seems a reasonable solution.

What, then, do NCC and NBS have to offer one another, and can the collaboration between them provide the blueprint for a more widespread partnership culture?

NCC, in common with public-sector organizations throughout the UK, was encouraged by the 1996 Government White Paper, Development and Training for Civil Servants, to look at its own development programme. Its “strategy for training and development”, approved in November of

Keywords
Business schools, Management, Development

Abstract
Describes the partnership between Newcastle City Council and Newcastle Business School to enable managers to develop their own skills within a corporate structure.

Electronic access
The research register for this journal is available at http://www.mcbup.com/research_registers/tdev.asp
The current issue and full text archive of this journal is available at http://www.emerald-library.com

This is a précis of an article entitled “Newcastle Business School and Newcastle City Council: a developmental partnership,” which was originally published in Industrial and Commercial Training, Vol. 31. No. 6, 1999. The author was Sharon Mavin, senior lecturer in the Newcastle Business School, University of Northumbria, Newcastle, UK.
that year, acknowledged the need for a corporate approach, with fewer managers and a new emphasis on accountability and teamwork.

An incremental training and development programme, or “pathway”, was seen as the best method. In creating this pathway, NCC sought a balance between two things: enabling managers to develop their own skills within a corporate structure, and cost-effectiveness. It realized that a partnership could achieve both these goals. External providers could offer economies of scale and ensure a common approach to management. Moreover, an academic institution could provide development training linked to nationally-recognized qualifications.

The pathway options were designed to be as flexible as possible, including an open-learning route, a taught route, a vocational route or a combination of these. To ensure this breadth of provision, NCC developed partnerships with the Open University, the University of Newcastle and the University of Durham as well as NBS. Employees can now gain qualifications ranging from the NEBSM certificate, through NVQ levels 3, 4 and 5, to MBA. Entry level depends on current job position. In all, NCC estimates that up to 3,000 members of staff are involved in some way in the corporate pathway.

This does not mean that NCC has made its partners solely responsible for staff development and training. The council’s training and development department negotiates and monitors all external programmes. After all, the development of the pathway has involved considerable investment in time and money. The hope is, however, that NCC will see a return in a more flexible, motivated workforce who can respond to change.

For its part, NBS is the largest business school in the north of England, with 150 academic staff. Its main contribution to the partnership has been the introduction of the postgraduate Diploma in Management Studies (DMS), a programme first instituted in the 1970s.

Essentially, DMS aims to present managers with new and alternative concepts of management and business, while allowing individuals the opportunity to build on existing experience. Twenty-six managers with NCC were accepted for the DMS programme in 1998, as part of a cohort of 70 from across the region. Far from being a day-release programme, DMS encourages managers to look at their working environment, and predict what skills they will require to manage change. One-to-one feedback sessions allow them to discuss and articulate these needs. A residential element during the first semester fosters team-building competencies, and this is supported by a requirement that those taking the course receive feedback on their ideas from colleagues in the workplace.

The benefits of the partnership for NBS are clear. It has a foothold in the public and service sectors, working alongside an organization operating a substantial budget; its staff have access to experienced managers with a variety of experience; and it is in a position to influence attitudes within NCC.

Both parties have gained from the cross-fertilization of ideas which the partnership has brought about. Both NCC and NBS agree that new and better ways of working are becoming part of the management culture within the council. Most importantly, the partnership has convinced NCC how limited the in-house option would have been.

There have been unexpected results, too. A significant proportion of DMS students are women, who have had the opportunity to discuss and analyse their experience of being women managers. This has had a direct impact on leadership styles and the development of strategies for cultural change. A second result has been an emphasis on benchmarking. NBS has a research centre which promotes best practice. NCC has provided a useful model of public sector practice and has benefited from NBC consultancy in this field.

The partnership began in 1998, and already there are strong indications about where it might take both partners in future. First, the number of NCC managers who have been forced to leave the DMS programme for reasons of time and other commitments (one fifth) has provided both organizations with a clearer set of expectations. Furthermore, the induction process has convinced both NCC and NBS that the NCC cohort in future years should be considered as a separate entity from other students because of the nature of their work.

That said, these are early days. Potential difficulties remain. Not the least of these is
whether there is a case for running a completely separate DMS programme for NCC managers. Another concerns communication. Are NCC and NBS both clear about what each wants from the other? There are worries, too, that NCC has expectations of the programme which NBS cannot meet. Furthermore, gaps have appeared between the aspirations of individual managers and those of NCC itself.

The partnership is fast becoming a three-way process, where NBS, NCC and its managers all have a stake. Whether the programme lives up to its early promise will depend on the ability of all three to communicate and compromise.
Lessons in how to set up a corporate university

By 2010, corporate universities could outnumber traditional universities in the USA. They have become more and more popular: in 1988 there were 400 in the USA and there are now 1,600.

Although most companies still opt for a training department, other companies have come to realize that a corporate university has two advantages. It can offer continuous learning to workers at a time when new products increasingly dominate the marketplace and knowledge quickly passes its sell-by date. It also helps to promote the organization to its potential and existing employees and can help a company to become the employer of choice in a given field. In this way the corporate university helps to attract the best people and works to ensure that they remain the best.

There is a fundamental difference between a corporate university and a training department. Training departments tend to react to an organization’s needs, offering job-skill training to employees. However, a university acts as a strategic umbrella, educating and developing employees, but also suppliers and even customers. It also has another crucial role: it disseminates the corporate culture through its learning programmes.

With such ambitious aims, a corporate university will only be successful if it is carefully planned and created. There are ten steps that need to be followed:

(1) Form a governing body. As with so many other corporate initiatives, senior management support and involvement are very important. At First Union Corporation bank, the First University includes a board of trustees that develops the university’s policies, systems and procedures. It also monitors funding. Below the board are ten advisory boards, covering and developing the curriculum for each subject area. Ten business-line managers then run their subject areas.

(2) Craft a vision. A university has to have a reason for existence beyond the teaching of skills which could just as effectively be carried out by a training department. Often this vision is formed by a leading
individual and then honed by the board. This vision often includes a strategic element.

(3) Consider the funding strategy. There are two distinct ways of funding a corporate university: by corporate allocation or by charge-back to the business units. Also possible are licensing training programmes or hiring facilities to outside organizations. At present 60 per cent of universities are funded through corporate allocation budgets.

(4) Determine the scope of the university. In essence, the board members have to decide how the training and education are to be delivered. In practice, cost-efficiencies have to be borne in mind and business goals have to be met. Often, education with a strong strategic element tends to be centralized, as do governance of the university, curriculum design and administration. Other training of a less strategic nature is often delivered at the workplace.

(5) Identify stakeholders and their needs. A corporate university differs from a training department in that it offers education and training to stakeholders as well as employees. Many offer their educational services to the organization’s suppliers and customers. Decisions need to be made concerning who the stakeholders are, what their needs are and how educating stakeholders will add value to the organization.

(6) Develop products and services. The products and services of a corporate university are all the educational opportunities on offer. At the Bank of Montreal’s Institute of Learning a team of people addresses this issue. The teams comprise a client-relationship manager, a subject-matter expert and a learning manager. The learning manager takes the information collected by the other team members and decides on how to offer the learning. This can be in various ways, including in the classroom, offering a distance learning package, and, increasingly, using electronic learning.

(7) Select learning partners. Not all teaching has to be sourced in-house. Corporate universities can opt to use a range of providers from training suppliers, consultants, other educational institutions and not-for-profit educators. Regardless of the provider selected, they all need to work within the criteria set by the university.

(8) Draft a technology strategy. Corporate universities need to have a technology strategy in place. At Unisys University, laboratories are now used as a total learning environment, having been initially set up as a multimedia facility. Now, rather than just being a multimedia centre, the laboratories offer the whole education experience in a dedicated, distraction-free environment.

(9) Devise a measurement system. The whole point of a corporate university is to improve corporate performance. To know whether this is being achieved requires measurement. At the Tennessee Valley Authority University, measurement is both qualitative and quantitative, assessing both actual results and cost savings, as well as opinions about the training delivered and observations about cultural change.

(10) Communicate. In many ways a corporate university is just like a consumer product that has to be sold through communication. Potential consumers need to know what it is and what it can do for them. The head of the university and the board members need to communicate with senior managers, so that they in turn can talk to their staff about what the university offers.

Just as with any consumer product, innovative marketing can do much to sell the idea of the university to stakeholders, both within and outside the organization.

If the investment required in a corporate university seems excessive and unnecessary, particularly if the training department seems perfectly adequate, a fact offered by Sun Microsystems may be persuasive. Jim Moore, director of their university, SunU, points out that in 1996 75 per cent of the company’s revenue was generated from products that were less than two years old. Imagine the knowledge turnover taking place at Sun Microsystems. No wonder it has opted to set up its own university. It really had no option.
Flexible friends trained to become Europeans of the future

Training which involves operating in three languages and three cultures over the course of a single year is designed to prepare people for the increasingly international world of business.

Students on the year-long postgraduate European management programme spend their first term in Spain, their second in France and their third in the UK. Teaching takes place in Spanish, French and English respectively, and the course includes some language tuition.

The students learn the foundations of business and management at the Universidad de Deusto Commercial, Bilbao, Spain. The emphasis is on European management at the École Supérieure de Commerce de Nantes Atlantique, in France. At the University of Bradford Management Centre, in the UK, the students choose three subjects from a range offered in fields such as finance, marketing, international business, production and operations management, human-resource management and management-information systems.

The students spend their final 12 weeks on work placement, most often in a country whose language is not their first. Among the companies to receive the students are Aérospatiale, Banco Bilbao Vizcaya, the BBC, Exxon Chemical International, GEC Alsthom, Honeywell, L’Oréal, Nestlé, Vuitton and Rank Xerox France.

The students are awarded a certificate from each of the three institutions. Bilbao awards them an MBA. Nantes awards them a diplôme. Bradford rewards them with a postgraduate diploma in management and administration.

Most of the students are from Spain, closely followed by France. There are participants from as far away as Peru, Mexico and Guinea. But Heather Rea, Bradford Management Center’s languages co-ordinator and chair of the programme, commented:

Unfortunately, there are very few British students on the course because of their lack of foreign language skills.

Most of the students have a background in sciences or engineering, and use the MBA as a way into management. There are also high proportions of people who have studied

Keywords
Management, Education, Europe

Abstract
Describes the European management programme which involves living in Spain, France and the UK, and ultimately prepares people for the international business world.

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economics and law. The average age of students on the course is 26. Some have work experience while others come directly from higher education.

The course has recruited between 18 and 20 students a year for most of its ten-year history. The 1999-2000 intake has 40 students. Heather Rea explained:

We have now built up a stock of satisfied students, who seem to be passing on the message by word of mouth.

Eva Blasberg de Vos, who works as a regional marketing consultant for BP Oil Austria, recently completed the course. She said:

I grew up in Spain and Germany and had studied for a few years in France. I had also learned English and spoke it quite fluently. The course gave me the opportunity to further improve my language skills.

As well as adapting to a new language with each move, I also had to make a cultural adjustment. By the time I reached Bradford I found this easier to do. The experience proved that I am able to move about and live for short periods in different countries.

I feel confident that I can integrate into a new culture quickly and without too much stress. This mobility is highly regarded by some employers, and I think that it helped me to get my current job.

Whereas as an undergraduate I had carried out theoretical assignments by myself, the MBA assignments were mainly team-based. Great emphasis was placed on interaction and interpersonal skills. We also had to give numerous presentations.

The course gave me a lot of confidence in a number of areas. I have more complete knowledge of the subject areas of the course, such as financial strategy and intercultural management. I also feel I can work more independently and yet can work effectively as a member of a team.

Finally, I now know how business problems can be solved. The practical experience I gained in problem solving on the course has set me up well for my future career.

Boris Godet, information-systems manager for the French bank Société Générale in Prague, qualified as an engineer before taking the course. He commented:

I always wanted to live and work abroad and was keenly interested in a career in international management.

The European management programme lived up to all my expectations. It was very well structured. The teaching which took place in the three different countries fitted together very well. On a personal level, it was an unforgettable experience to live with a group of 21 students from seven countries.

Boris is torn between two options for the future: moving to the Société Générale headquarters in Paris, or working in south-east Asia.

Ralco Monasch, commercial engineer, said:

I had reached the point where I saw no real opportunities in my job as a textile engineer. The time was right for me to do the MBA because I was still only 25, single, with no major commitments.

A main reason for choosing the MBA was to increase my chances of working for a foreign company and being based abroad. My French and English were already reasonably fluent, but I had to brush up on my Spanish. In fact, the first month at Bilbao was devoted almost entirely to languages.

He continued:

I know I made the right decision doing an MBA because it opened my eyes and broadened my horizons, giving me the global awareness I needed to apply for jobs anywhere in the world.

I feel that I know Europe well now and am drawn to the idea of working somewhere like South America.

Heather Rea concluded:

Students are very brave to take on a programme like this. They change cultures three times in a short period of time, and have very little time to settle in. I find this attracts students who are very dynamic, energetic and willing. They are really marvellous young people – and truly European citizens of the future.
Using new technologies to improve training: a case study on Leuven University

Only a few years ago, we relied on the telephone, fax or post to communicate with colleagues remotely. Today we have video conferencing, e-mail and mobile phones. For traditionalists, it is easy to be sceptical about all this change, but the benefits can be enormous.

Training, in particular, can be enhanced greatly by combining the best of the new technologies with traditional techniques. It is no longer necessary to have a trainer in the same room as the students, yet the interaction so essential to training can be retained.

Students can see the trainer, and respond in real time, flagging the trainer or sending written questions and responses. They can enjoy all the benefits of peer-group participation, without actually having to physically share the same lecture theatre or training room. Companies, equally, can benefit by providing the same high-quality training to all participants, at the same time, regardless of location. It is now possible to take the best elements from the old methods of training, and combine them with the benefits that the Internet (or other delivery mechanisms), videoconferencing and computerization can offer.

It was this sophisticated solution that Leuven University chose when it selected IML’s MultiSite distance-learning software.

Katholieke Universiteit Leuven specialises in biomedical sciences and has more than 7,000 university hospital staff. Leuven is now using MultiSite at its teaching hospital to provide virtual classrooms across five different sites in Belgium. By effectively making these remote sites interactive, it can bring back all the benefits of the trainer-led classroom.

The system enables an audience of around 200 part-qualified or postgraduate people to participate in live presentations held at the central site in KU Leuven, without having the inconvenience of travelling to the university hospital. Professor Himpens explained:

Rather than have the attendees spend a great deal of time travelling to Leuven for the lectures, we arranged for them to have tutorials in local hospitals. We rotate the systems throughout the hospitals. So, for example, we might offer lectures in five hospitals, then – after, say, eight weeks – we change and go to four different hospitals.

Keywords
Training, Internet, Distance learning

Abstract
Describes IML’s MultiSite software, which enables distance learning at Leuven University, Belgium.

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The author was Sylvia Ewing, of IML Ltd, Liphook, Hampshire, UK.
The central system remains in Leuven’s teaching hospital, and all the lectures are carried out live by specialists at this site. These could include, for example, presentations by experts in haematology, obstetrics and surgery.

There are two elements making up KU Leuven’s system. First, a videoconferencing system running over ISDN that was already in place. Second, the MultiSite software, which allows interactive communication across the network.

MultiSite comprises four main elements. The first two, the central PC-based management software and presenter touchscreen software, bring together the different technologies: audio, video, PC (PowerPoint) and enable the presenter to manage the entire session. While the question-development software, Question Wizard, enables questions to be easily formatted using any visual medium, it also provides instantaneous calculation and dissemination of responses. Finally, infra-red handsets allow attendees to communicate with the presenter, either by keying in responses on the keypad, or by using the audio facility through the built-in microphone.

The infra-red technology is important for Leuven, as this is safe to use in a hospital environment, where radio-based systems could cause interference with medical equipment. The infra-red signals from the handsets send audio and data information to the local host PC. This, in turn, is connected to the central PC in KU Leuven through ISDN lines.

Using IML’s software, the presenter can view instantly the audience responses to questions asked, and manage the microphone facility. An alert appears on the presenter’s screen when an attendee wishes to speak. The microphone can then be activated and the video-tracking system will automatically display the image of the commentator, so that all the attendees can view, as well as hear, the discussion.

Remote students can ask questions or make comments to the trainer by using the microphone in each voting keypad. This means that at any time the student can communicate with the trainer as if he/she were in the same room. When ready, the trainer simply enables the “press to talk” (PTT) facility and anyone from any of the sites can ask a question. When an attendee asks a question, the entire audience can hear it and the subsequent answer.

Add to this functionality the ability for a trainer to get accurate and instant feedback to questions and the training over distance suddenly becomes much more interactive, powerful and effective. Using voting keypads attendees answer questions posed by the trainer. Questions to determine the current level of knowledge, to test on material covered, to check retention of information, to evaluate the course and training can all be pre-scripted or posed spontaneously using the Question Wizard authoring tools.

Responses to voting questions are collated and appear instantly on screen, so the trainer and all attendees can see the results. Results appear graphically or as figures – entirely the trainer’s choice. The trainer can immediately comment on the results of questions asked, or invite a panel discussion on any of the points raised.

Question Wizard automatically saves all voting data to a comprehensive database for comparative data, cumulative analysis and student tracking.

Although at present their use of the system is limited to teaching, Professor Himpens believes that this may be just the start of telemedicine. He explained:

Although it is very early stages, we can see the day where a specialist will examine a patient and use the system to obtain second opinions from other specialists in remote locations. This would be a wonderful system for the patients, as they are spared the inconvenience and time involved in travelling to different hospitals. It also makes for a more efficient use of the specialists’ time.

Of course, this is in the future. But next year there will be an international conference with The Netherlands and South Africa, and we will have professors address the audiences remotely. This is excellent as the audience will have the benefit of their expertise without the professors actually having to travel to the conference!

Professor Himpens concluded:

We are delighted with the system, which has already proved invaluable in allowing us to implement a truly effective distance-learning system. It has allowed us to address a large audience who might otherwise have not been able to attend the lectures, had they just been at KU Leuven. We would definitely recommend the system to others, as it has worked so well for us.
Where next for technology transfer?

The transfer of technology from the university laboratory to the commercial market is a key factor in stimulating innovative product development, and for nearly 30 years Stanford University in the USA has been helping to foster the growth of the nation’s high-tech and biotechnology industries.

Today, the need for academic input into the world of industry and business has become even more urgent as few organizations can afford to finance basic research for themselves. The benefits are mutual, of course: small and medium-sized companies need ongoing access to new technologies and the universities are keen for as much income as they can get from patent licences because of reductions in federal funding.

Stanford’s Office of Technology Licensing (OTL) was founded by Niels Reimers in 1970. While inventions had been licensed to industry before then, up until that time it had been on an ad hoc basis. Reimers helped to create a dedicated organization that could actively market Stanford’s burgeoning intellectual property.

But the idea of commercial gain from academic research was, and still is, controversial; the fear on the part of some being that academia will be tempted to “skew” its research in order to make money.

However, Stanford’s success over the past 29 years is pretty compelling evidence that the mutual-reward system works well. The sum of Stanford’s income from patent licences since 1970 is more than $300 million and the annual revenues of the companies conceived at the University amount to over $100 billion. Thousands of jobs have been created as well. In addition, universities such as Harvard and MIT have based their technology transfer programmes on Stanford’s practices.

At the OTL, each invention is managed from beginning to end by one “associate”, whose task is to determine whether the invention is patentable and, if so, whether it is licensable and likely to generate sufficient royalties to offset the $10,000 cost of filing a patent.

Katherine Ku, director of the OTL, says:
We believe a licensing agreement is the beginning of a relationship that lasts many years,

This is a précis of an article entitled “The innovation incubator: technology transfer at Stanford University”, which was originally published by Stanford University. The author was Lawrence M. Fisher.
so we believe in having one person handle it from cradle to grave. You can’t make a good licensing deal unless you know the market and the technology – its strengths and weaknesses.

Stanford professors have not always been obliged to turn their inventions over to the University. In fact, some still seem to be unaware that they are now required to do so – the University’s policy having changed a few years ago. Technology licensing associates say they are often surprised when a new invention is published in a trade or academic journal before they have had an opportunity to file for a patent and seek a licence. However, at the same time they also believe they are not employed to “police” campus research.

John L. Hennessy, dean of Stanford’s school of engineering, says:

There are two kinds of technologies in the world: stuff that is patentable and broadly applicable and the right thing to do is to give it to the OTL. Then there is the stuff that is more a preliminary proof of a concept. It is not patentable and the real value is in the people and their understanding of that technology and how it can develop into a useful product. The OTL’s role is not to get in the way.

Despite Stanford’s reputation as the birthplace of start-up companies such as Sun, Cisco, Silicon Graphics, MIPS Computer Systems, Yahoo!, Synteni and Pangea Systems, the University does not necessarily favour the development of new companies as licensees over established concerns. However, University inventors who wish to start a company must first turn over their inventions to the OTL, which attempts to find the licensee most likely to succeed with the product.

But of course patents do not last forever and Stanford has been faced with the problem of the expiration of some of its most important and lucrative intellectual property. The Cohen/Boyer patent on recombinant DNA, the gene-splicing science that launched the biotechnology industry, expired in December 1997, and Stanford’s second most lucrative patent for frequency modulation synthesis expired in 1991.

While it took some years for a company to adopt frequency modulation synthesis, in 1975 Yamaha took it on and spent the next seven years developing it into a product which became the first all-digital music synthesizer. But when Stanford came up with a second-generation invention for frequency modulation synthesis it invested around $1 million to develop the technology from a mathematical algorithm into a working prototype. It created a trademark, Sondius, and also partnered with Yamaha for future applications and development.

Stanford is looking to other innovative means to capitalize on its intellectual property. While academics in the humanities departments have not traditionally had the same opportunities to generate and receive wealth as their scientific counterparts, the University has now created an educational ventures office to pursue opportunities in multimedia educational products. These would be co-produced with appropriate software publishers and branded with the Stanford name.

John Etchemendy, Stanford professor and former dean of humanities, says:

Educational technology may develop as a large and significant industry. If that is true, a different kind of intellectual property may develop as a substantial source of revenue.

But what does the man who started the ball rolling 29 years ago think? “The world is awash in technology today. We are going from an information economy to a knowledge economy. For a country to be competitive it needs a workforce that is tremendously intelligent. In the knowledge economy, the most important form of technology transfer is in the minds of the graduate students. It is a fearsome world out there but there are great opportunities.”