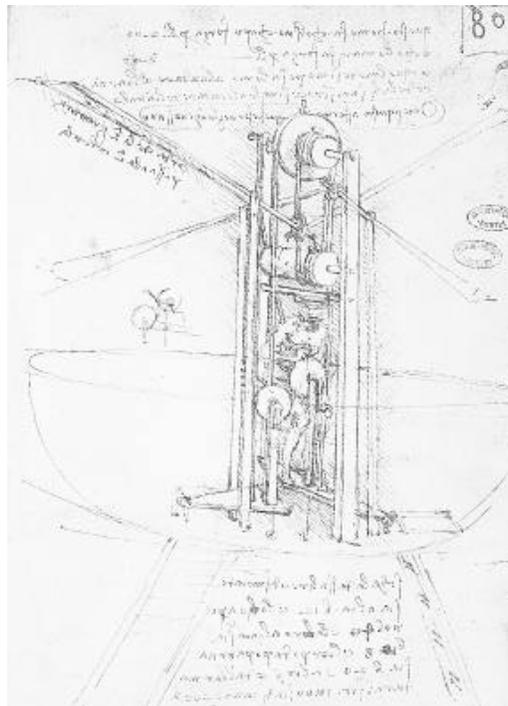


# *E*ducation for Europeans

*Towards the Learning Society*



*A report from the European Round Table of Industrialists*



## *Acknowledgements*

This report has been prepared by members of the ERT's Education Policy Group, chaired by François Cornélis. The research was conducted by Professor Philippe de Woot and Philippe Cochinaux at the University of Louvain-La-Neuve, Belgium, in cooperation with the CRE (Conférence des Recteurs Européens). The full research *Moving towards & Learning Society* will be published later in 1995, under the auspices of ERT and CRE.

This report was approved by the ERT Members at the Plenary Session of 14 November 1994. It does not claim to represent a unanimous view of ERT Members.

The publication is available in English, French, German and Dutch and is distributed free of charge.

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# *Education for Europeans*

## *Towards the Learning Society*

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# Preface

*European society today faces economic and social problems that will not easily be solved. These problems are difficult, complex and often interlocking, and nothing less than a major process of social evolution will be needed to bring them under control.*

*But one thing is clear. In tackling these problems of society, the human dimension is the most important of all – the ability of each individual to face up to personal challenges and so to contribute to the overall process of change.*

*For this reason the education and training of the individual is the most important single tool available to society today.*

*The aim of this paper is simply to present the views of working industrialists as to how they believe the education and training process as a whole can be adapted to respond more effectively to the economic and social challenges of the day.*

*The ERT hopes that by adding a practical business view to the many cogent and well-documented opinions of specialists in this field it can help bring about the changes in European education which we believe are now urgently required.*



*François Cornélis*  
Chief Executive Officer, Petrofina SA  
Chairman, ERT Education Policy Group

February 1995

# *The Message in brief*

The countries of Europe have undergone radical transformation this century – politically, economically and socially. Up until the present time they have each been able to adapt at their own speed. But now the pace of change is accelerating brutally, forced upon them by the external economic pressures of global trading, global politics and the immediate world-wide application of radically new technologies.

Europe's industry has had to respond quickly to these changes in order to survive and remain competitive. It has transformed its processes of management, production and distribution and has learned fast to exploit the opportunities of new technologies. Consumers have rapidly modified their daily patterns of work and living and are making the most of multi-media leisure technology.

But the world of education is too slow to respond. All the evidence indicates that, for a variety of reasons, many teaching institutions react less quickly than the business world to the need for change.

In nearly all European countries there is an ever-widening gap between the education that people need for the today's complex world and the education they receive. Too many disillusioned young students drop out of educational systems through failure or rebellion, or come through with only minimal skills. This is a major economic and social concern, since it leads to the waste of human potential. It is particularly acute at a time when fewer new people than before are available to enter the labour markets.

It is time to raise a cry of alarm to alert society to this educational gap. Action is needed now.

*First*

As industrialists and members of the European Round Table, we believe it is necessary for everyone to adopt a new all-in-one view of the education process. We offer the concept of the Education Chain which unites and interlinks five principal stages:

- Link I Pre-school education (including crèches and kindergarten)
- Link II Basic school education (the first 9 – 10 years at school)
- Link III General and/or vocational education (finishing off school education)
- Link IV Higher education (tertiary education: universities and technical colleges)
- Link V Adult education (life-long learning)

*Second* We believe that the product of this Education Chain should be well-rounded individuals with a wide rather than deep knowledge and skills base, trained to learn how to learn and to be motivated always to learn more. The practice in several European countries of early subject specialisation at lower secondary school level no longer meets current needs and should be abandoned. School leavers should have a palette of skills covering both numeracy, literacy, critical judgement and a knowledge of the basics of all three disciplines:

- maths/science/technology,
- humanities,
- economics and social sciences.

School leavers should already have received some training in communication skills, taking on responsibility and team spirit. The European dimension of basic education should be enhanced to prepare the future citizens of an ever-converging Europe. Vocational education should be the recognised start of specialisation, leading either straight to the first job or to a place in an institute of higher education. It should not be a cul de sac, blocking people from further development.

*Third* Two stages in education have been much neglected in most European education systems, though have been developed extensively in a few countries: pre-school education which gives the foundation of social and learning skills, and adult education, which is necessary for adults to update or upgrade their knowledge base or to acquire new knowledge and skills. We believe these two links in the Education Chain are as vital as the other three. Access to pre-school education should be open to every young child in Europe. Society in all European countries must recognise the value of adult education and guarantee access to all adults.

*Fourth* It is high time to transform the classroom with the same benefits of technology and management techniques that have revolutionised every workplace in industry and business. The whole task of teaching could be made easier with the widespread introduction of multimedia and computers easily accessible to every school pupil. The Commission's Delta project is providing valuable research results in this field and deserves support.

*Fifth* Further improvements in education without entailing much extra costs are possible through monitoring and controlling the quality of education by viewing it as a service supplied to students, business and society, rather than as a weight on the public purse. The practice of benchmarking should be introduced to identify weak and strong points of educational systems and to identify the best practices that could be promoted throughout Europe. The decentralisation of administration and curricula development, and leaner, more imaginative management of human and financial resources, would also be valuable steps to take.

*Sixth* To create the momentum to achieve these necessary changes in an intelligent way over the next twenty-year span, we believe that partnerships should be formed between schools and local business, and also with social and cultural organisations. Different types of partnerships between schools and industry have already been tried with success in some countries, and existing partnerships between training

colleges/universities and industry should be strengthened. A great deal can be done at local level.

*Seventh* National governments should be ready to accept that education is a "cradle to grave" process, has influence extending well beyond national frontiers, and is intimately linked to national prosperity, culture, democracy and quality of life. It is also a process in which individual citizens and local business and communities should be ready to take an active part.

We do not advocate a single harmonised system of education across Europe – but levels of achievement must be made compatible across Europe, and open access guaranteed. This can be done by continuous consultation of all the stakeholders, including both educators and employers, and by keeping education at the top of the political agenda. At European level, the European Commission's programmes such as Socrates and Leonardo all need to be supported more widely.

Across Europe we are moving towards a Learning Society as a response to the emergence of the Information Society. This will develop into a well-informed body of citizens with many cultures but able to integrate fully into any working environment in Europe. It is our hope that society in general will recognise the essential nature of "cradle to grave" continuous learning and will demand it everywhere.

We call on industrialists to take an active part in education along the lines indicated in the report. We appeal to governments to give education high priority, to invite industry to the table to discuss educational matters, and to revolutionise teaching methods with technology. We support the current Commission education programmes, but ask for additional Europe-wide monitoring and quality control systems.

The next decade is the first of a new century and millennium, when daily life will be immersed in new technology and we shall be facing intense competition requiring enhanced skills. Four-fifths of the workforce we shall be needing then has already finished basic schooling or is coming out of our education system now. We have no time to lose.

# 1. *The Pressures for Change*

## 1.1 *The Transformation of Society*

The world is changing rapidly. Sweeping changes – technical, economic and social – have transformed the way we live and the way we earn our living. The globalisation of trade, of politics, of finance and the immediate exchange of images and information technology have all caught Europe up in a whirlwind of change. It can take just one decade to transform society completely.

In the relatively slow-moving past, Europe moved progressively from agricultural to manufacturing economies and is now moving towards service economies. This has been done country by country according to national and regional needs. But in the constantly changing present, it is impossible for any country to stand alone against the pressures of the external world. Indeed the pace of change has accelerated brutally.

The pressures of global trading are driving all European countries towards a knowledge economy founded on highly developed skills and a high degree of technology. New patterns of work requiring a greater knowledge base, broader skills, more responsibility, increased mobility. The shift from regulated economies to those that are liberal, open and highly competitive is making itself felt, and also the emergence of newly industrialising countries from former Third World status. Trade in the new post-GATT era has shrunk the world to a single arena for trade.

### 1.1.1 *Industry's transformation*

Industry has had to respond quickly in order to remain competitive. By modernising

production and distribution processes, introducing new technology and searching wider abroad for new markets, it is almost unrecognisable from what it was twenty years ago. There are corresponding changes in management styles, turning from top-down "Fordism" to bottom-up empowerment. This means the flattening of management hierarchies and the disappearance of many levels of middle management that used to form part of the promotion ladder. This puts additional pressures on company human resource departments which suddenly have to retrain and remotivate employees who had grown up with the old systems to become more like entrepreneurs.

The new ways of structuring and managing businesses to ride through times of economic recession have also rendered obsolete the concept of life-long employment in large companies. Life-long learning, on the other hand, opens the door to allow people to move easily to another job, and industry endorses this concept wholeheartedly. New values are emerging for today's workers. The evolution in organisational models clearly has implications for employees, who are asked to be flexible and mobile, to show initiative, to take greater responsibility and to work in teams. They in turn seek for balance between work, the family and leisure. People are crossing national frontiers in search of work and better opportunities for themselves and their families. Patterns of management are also changing, with an evolution of management models that go across national cultural frontiers in response to the new mobility of workers.

The modernisation of industry has inevitably meant that many traditional ways of doing things have disappeared, and so the low-skill jobs have gone too, or have been exported overseas where cheaper labour is available. To have strategic capability, companies need to be able to train their workers in new techniques that will be used for tomorrow's jobs of which we have no notion today. Production line companies that stand still in their technology are going to find it difficult to survive.

This demand for increasingly skilled and trainable workers – even for former blue collar manual jobs – means that many workers with less training or lower paper qualifications find themselves excluded from well-paid jobs. Without qualifications, the risk of unemployment is high. Europe's population is ageing as fewer young people are being born to enter the labour markets to earn the taxable income which must meet the growing pension and welfare costs. A pool of unskilled unemployable workers is a burden on the welfare state and a threat to social stability. It is unthinkable to consider a model of competitiveness for Europe based on low wages and low skills. Europe's future relies on skills and striving for ever-improved research, innovation and quality.

### 1.1.2 Society's transformation

It is not just the economy that has changed. There has been a revolution in society too, with fragmentation of the traditional family group and of family values. Our culture is in the process of being fundamentally reorganised: our social habits, our lifestyles and, most important, our beliefs and values are being radically transformed and redefined. As a consequence, a number of roles traditionally allotted to the family have today been attributed to other institutions. For instance, schools today have to act much more *in loco parentis* and are much more focused on the needs of the individual.

Consumers have changed their lifestyles almost beyond recognition over the past twenty years, with a marked new emphasis on leisure activities on which they spend increasing time, technology and money.

National horizons have widened with travel and easy cross-border contacts with other countries, particularly for young people.

Broadcasting and other media, supported by ever-changing technology, are increasingly playing the role of an uncontrolled "pirate-teacher" and their strong influence should not be underestimated. In France, for example, statistics indicate that children spend almost as many hours per year watching television as attending school. The opportunities for television to provide many hours of high quality educational programmes have generally been missed.

#### ANNUAL STATISTICS IN FRANCE

*Primary school pupils:*  
850 hours at school,  
790 hours watching TV.

*Secondary school pupils:*  
960 hours at school,  
930 hours watching TV.

source: Le Monde de l'Education n° 205, June 1993, page 41.

Progress in science and technology in Europe has had an impact on every part of our daily life and created fantastic new opportunities in so many fields: health care, telecommunications, broadcasting, education and shopping. But these developments also reinforce the complexities of today's world. For some people, this brave new world is incomprehensible and they have not yet learned how to cope. There are no easy solutions. This is a world of instability with very few benchmarks – a challenge to Europe as a whole and to all the individuals in it.

### 1.1.3 Education must also change

As the ERT said in its December 1993 report *Beating the Crisis*: we need to

*"completely rethink and redefine the priorities for European education – directed towards the needs of the future, not the legacy of the past. In the long term, Europe's only real resource lies in its own people. They need the very best of education and training. The teachers and professors are entitled to ask for a clear statement of society's objectives and for help in achieving them. But society is entitled to ask them in return to be more aware of how the world is moving and more open to changing needs."*

European businessmen are concerned that education is still not entirely meeting the needs of either the European economy or modern society or the individual. Some changes in the educational system have been introduced here and there over the past 20 years, but these efforts are fast overtaken by new developments in technology and new trends in society.

The gap between the education that people need and what they receive is wide and risks getting wider. That is why we are raising a cry of alarm.

## 1.2 A Cry of Alarm

### 1.2.1 What industry sees as inadequate in education

In 1993 the ERT Education Policy Group conducted a survey of a number of ERT Members and senior directors, investigating the skills they deemed necessary for the world of work. A number of main areas of inadequacy were identified from experience in the labour markets generally and within their own companies. The ERT carried out further extensive research to delve into all stages of education. The resulting picture is sufficiently bleak that all parties concerned in education should sit up and take note.

Detailed figures, charts and explanations relating to this research may be found in the report produced jointly by ERT and the CRE *Moving towards a Learning Society* (Philippe Cochinaux, Philippe de Woot, to be published in 1995).

The evidence from our research strongly points to the need to change the strategic direction of our education systems in Europe.

- The world of education is highly complex but deeply entrenched in national systems where priorities are much determined by political expediency and the need to balance national budgets.
- Educational institutions spend a great deal of their time organising how they teach, not learning how to teach differently, and their connection with the realities of working life often seems weak or non-existent.
- In many European countries schools are part of a centralised state system with a great deal of bureaucracy, and this makes them slow to react, or even impenetrable to external demands for change.

- Far too often, schools encourage specialisation, hemming young people into a line of study at too early an age from which they later find it difficult to escape. Science and teaching equipment in schools and colleges is often considered poor in quality, or simply inadequate, largely due to underfunding.
- Educational standards vary enormously across Europe and inside each country in Europe. The structural inequality in final educational qualifications obtained by the mass of European pupils is disturbing and raises questions about the different levels of achievement of education systems in each country. This inequality alone could give rise to the possible creation of discriminatory situations between young European citizens.
- We should also recognise those situations where schooling and formal teaching are rendered impossible by the need to keep order amongst unruly pupils. This problem is particularly acute in inner cities and reflects the severe social problems of marginalisation and culture clashes.

### 1.2.2 Missing Links

New and higher levels of skills are needed today just to be a citizen in modern society, not to be overwhelmed by new technology. Broader competencies are needed in the workplace to meet all technological revolution in industry. The 1989 ERT Report *Education and European Competence* highlighted the question of competence and showed specific examples of successful company training programmes for employees.

However, specialised knowledge, once acquired, rapidly becomes obsolete and needs to be updated. Filling gaps in basic education and broadening knowledge by stimulating multi-skilling and developing

new competencies such as technical ability and foreign language proficiency, have become absolutely vital.

The key to remain competitive is to have a workforce that is continuously upgrading its knowledge and learning new skills, but in so many places in Europe the necessary facilities do not exist or are inaccessible. This places an immediate training burden on industry, which raises costs. Furthermore, the quality of available education may be excellent in some places but sub-standard in others.

But education should not be aimed purely at training future workers. All future members of society, working or not, need the skills that any good education should provide.

Recent surveys show that approximately 40% of the population of several European Union countries can be considered as effectively illiterate: that is, they cannot read with understanding either a written note or an article in a newspaper. Other countries have made similar surveys. On average across Europe more than 25% of school leavers have left without completing upper secondary school, and therefore may easily be barred from finding a job. In some countries this percentage is far smaller, in other countries far higher. In our view this degree of illiteracy places far too high a burden on modern welfare states.

The ERT members and senior directors interviewed in 1993 identified a number of basic skills which in their view are not taught adequately in educational institutions, neither in schools nor in colleges of higher education. All these skills were considered fundamentally important to the preparation of a future member of society who would be a citizen contributing to "public opinion" and empowered to vote:

- mastery of one's native language, including the basics of spelling and sentence structure;
- understanding of the basics of maths and science, particularly to cope with new technology;
- critical thinking: ability to think through a problem or situation, distinguishing between facts and prejudices;
- learning techniques for picking up new skills and adapting to new situations;
- communication skills, including speaking another European language.

These industrialists also felt that the possession of a diploma was no guarantee of a job if interpersonal skills were lacking. Many school and college leavers have not been trained at all in basic behavioural skills that are essential for success in the world of work:

- ability to work in a group, team spirit;
- a sense of responsibility and personal discipline;
- decision-making, sense of commitment and willingness to take risks;
- a sense of initiative, curiosity, creativity;
- a sense of professionalism, achieving excellence, gaining competitive edge;
- a sense of service to the community, civic mindedness.

### 1.2.3 *The curriculum gap*

Change is faster than many people realise. The information revolution is happening all around us yet, in general, education curricula and teaching methods do not adapt fast enough.

There is an enormous diversity of curricula, teaching methods and types of institution that have nurtured generations of creative and highly skilled Europeans who find jobs worldwide. But we cannot continue blindly to turn out masses of people focused on traditional jobs (which are now disappearing) rather than large numbers of highly adaptable individuals able to turn their hands to anything.

The problem is that of supply and demand. Students who have been educated by these systems expect to find work immediately. But if what they have been taught does not match up to what business is asking for in its new recruits, and if their qualifications are dismissed as "too low" or "irrelevant", then something is seriously wrong. There has been a breakdown in communication, with one side not letting the other know what was wanted or what was realistically on offer. Disillusion with the system sets in, and the disappointed graduate may have spent time and money on a diploma that will have no value in the new working environment.

Education is about learning, not about being taught.

The education system should be turned around to train "people" not "economic human resource". People who are educated with "all-round" skills and taught to learn how to learn more may readily take it upon themselves to resolve any mismatch. They will find their own ways to take up further training or adult education in some form. But the choice must be there for them. It is not for society to run individual lives, but to provide opportunities for the individual to contribute fully to society or become economically productive by choice.

### 1.2.4 *The financial gap*

Society is asking a great deal of education systems nowadays, and will be asking more, yet the corresponding funding is not flowing in the right direction towards the educators. OECD studies show that in nearly all European countries public spending on education in terms of percentage of GNP has been steadily declining, largely constrained by nationwide political and budgetary needs, which may lead to short term policies. But as funds diminish, the demands for additional services increase.

In the current economic climate it is doubtful that educational public spending will show a marked upturn, so attention is turning towards private investment in education and the better management of education budgets. From their own experience in restructuring for greater competitiveness, industry believes that it is better to spend available funds more effectively than to spend more. It is possible to achieve a great deal over time by making small improvements consistently and step by step.

The best financial management will stem from within the organisation, inspired by the people at all levels who are involved in the day to day business of the enterprise. Areas of obvious inefficiency can be rapidly identified and dealt with, followed by in-house brainstorming sessions into how to do things better, safer, and more effectively, which often end up cheaper.

As industrialists we believe that educators themselves should be free to conduct the same kind of internal searches for efficiency without interference or undue pressures exerted from the outside. The emphasis should be on the introduction of innovation rather than the brutal tool of cost-cutting that many public authorities wield today.

*All these gaps in skills, curricula and funding are dangerous as they threaten Europe's ability to meet the new and complex challenges of today's world. They put at risk European competitiveness and democratic ideals, and foster unemployment and social marginalisation. For all these reasons, the transformation of education should stand high on every political agenda.*

## 2. Policy Priorities for Europe

### 2.1 Creating the Learning Society

The central message of this report is that learning goes on throughout life. We extend the principle of the learning individual to the Learning Society. This Learning Society has been defined by Sir Christopher Ball, Director of Learning at the Royal Society of the Arts, as one in which:

- "- learning is accepted as a continuous activity throughout life;*
- learners assume responsibility for their own progress;*
- assessment is designed to confirm progress rather than to sanction failure;*
- personal competence and shared values and team spirit are recognised equally with the pursuit of knowledge;*
- learning is a partnership between students, teachers, parents, employers and the community working together."*

Education should be a "cradle to grave" continuous process whereby the whole individual is trained in knowledge, interpersonal and learning skills. This will help him to integrate into the Information Society. People at all ages and in all classes of life will be better equipped to meet the changing needs and challenges of the 21st century, which is fast approaching.

Europe is in the making, and it is important that its citizens should learn to become citizens not just of their countries but also of Europe and of the world. The needs must be realised now, and the first steps taken now to bring together all the actors, all the stakeholders, and to launch plans for action.

### 2.2 Educating Citizens, not Robots

There seems to be a misconception in the world of education about the type of person that industry wants to employ. Successful candidates for traditional posts can certainly be produced through early specialisation at school, perhaps followed by an apprenticeship. But there has to be a guarantee that the same posts will be there year after year. This system was fine for the slow-moving past, but is not sustainable today.

It is more likely that the introduction of new technologies, new management structures or even market conditions will render

this narrowly focused education inadequate. Early specialisation may be the recipe for future marginalisation, even unemployment. The object of education must surely be to teach people how to think and learn, not just to accumulate facts.

*What industry and businesses really need is people at all levels who are entrepreneurs, not robots.*

Employers need people with self-discipline who can adapt to continuing change and meet endless new challenges.

The qualities that are sought in new recruits are exactly the missing skills that we identify in the section above. The best chances for success for new recruits will go to those who have received a balanced basic education which produces "all round individuals" rather than specialists. In in this report we strongly recommend polyvalency.

*The primary purpose of education is to develop each individual to become a whole human being, not just to become an economic resource. Acquisition of knowledge and skills must be accompanied by character training, cultural awareness and social responsibility.*

## 2.3 Forging the Education Chain

As education is a project for life, it makes no sense to keep the successive stages of education separate in rigid compartments. One needs to develop the whole human potential.

But it makes a great deal of sense to see and manage the whole education process as a chain, an open interconnected system in which every element is important and influences the others.

To this end we put forward the concept of the Education Chain. (See figure 1.)

### Link I - Pre-school education

The foundation of language and social behaviour

### Link II - Basic school education – the first 9 –10 years at school

- formation of the future citizen
- development of all-round capabilities

The learning of basic values is vitally important for arming people to rise to the challenges they will be facing in the course of their lives. The citizens of today are increasingly required to exercise their judgment when voting on key issues of fundamental importance to the future of society. The proper exercise of the democratic vote is not possible if the citizen is not able to assess critically the value of the various options proposed and to resist extremist propaganda. In short, education is the most effective key to democracy.

### Link III - General education and vocational education

- the final two years at school
- acquiring special skills
- preparing for the first job

### Link IV - Higher (tertiary) education: universities and technical colleges

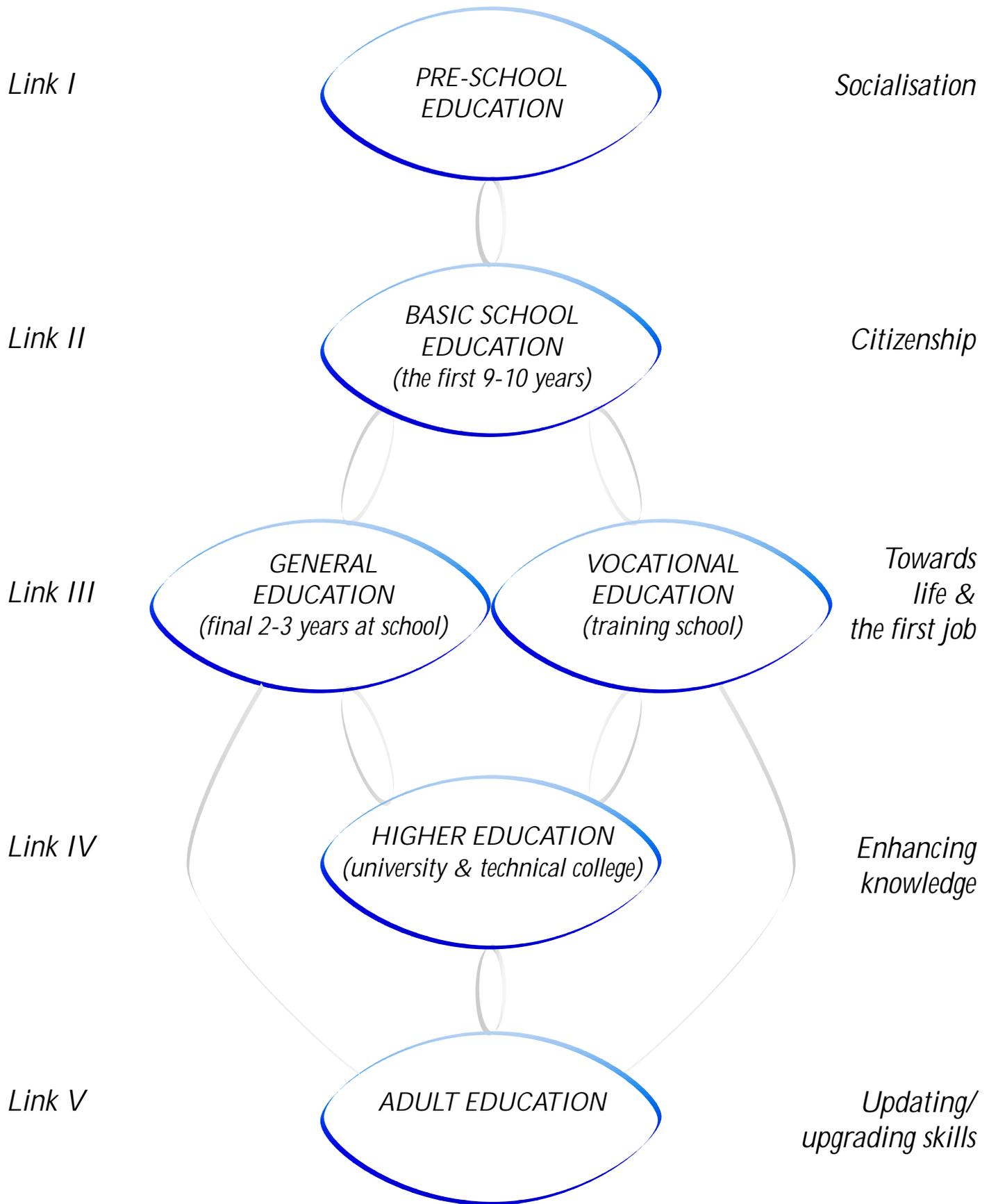
- intensifying knowledge
- training for the first job

### Link V - Adult education

- updating/upgrading skills and learning new competencies

What is new about this idea is the belief that :

- *formal education for every child must not end after the second link of the chain – the third link must also be completed;*
- *the pre-school (first link) and adult education (fifth link) stages have equal importance with the other three links in the formation of the whole citizen.*



*Figure 1.  
The Education Chain*

A chain is only as strong as its weakest link, therefore each of the five links must be well developed. Instead of seeing barriers between each link, we should forge strong lines of communication between them, built through partnerships and shared responsibilities.

Recent business experience has shown that in times of chaotic change, the centralisation of administration of any complex system can become a veritable obstacle to adapting to new circumstances. While the existence of central national institutions is

necessary to guarantee social equity in education and to supply guidelines and expertise, it is essential that educational institutions at every level should have autonomy to implement the changes they see as necessary.

National programmes of education may be implemented with greater relevance, accountability and effectiveness if educational institutes can themselves start the process of innovation in order to improve the quality of their services.

## 2.4 *Enhancing the European Dimension*

Although subsidiarity is a principle enshrined in the Maastricht Treaty, this should not provide any excuse to educators to teach purely national material. In fact, they should take every opportunity to train young people for a society where the new dimensions are: regional, national, European and global. Many studies have been published on this subject.

At all levels a European dimension is needed, not merely to teach the languages and history of other countries, but to help students to a practical understanding of how to communicate across cultural barriers, how to learn from other points of view and how to value and work with the diversity that is Europe's greatest asset.

Education in Europe must take into account global problems such as environmental protection, sustainable development, demography, security and interdependency of global trading.

This expansion of national horizons should start in schools, but is particularly important at the level of higher education, where there are greater possibilities for acquiring experience through living, studying or working for a short period in another country.

*More encouragement should be given to:*

- *greater mobility of students and staff*
- *the use of more European languages*
- *making greater use of networking amongst European universities and colleges*

It is not certain that knowledge of all the European schemes promoted by the European Commission penetrates to all the educational institutions concerned.

### 3. *Strengthening the Education Chain*

Fundamental improvements may be brought to each link to strengthen the whole chain. We offer these recommendations as a basis for discussion. We also cite examples of successful cooperation between educational institutions and industry. Further occasions

are to be encouraged where businessmen may be invited to sit round a table to discuss these issues with the principal actors: teachers, administrators, local authorities, educational boards and sponsors.

#### *Link I - Invigorating Pre-school Education*

Education starts early in childhood, well before the start of primary school at the age of five, six or even seven years in some countries. Children start learning the basics of sensory development, social awareness, foundation of reasoning and intellectual curiosity on average around their second birthday. What they learn at this moment will have a strong and permanent impact on the development of the whole person later in life.

There is a strong link with the socio-economic condition of the child's family. Recent studies show that, in many cases, exclusion from good jobs can be traced back to a lack of both preschooling and training by parents in fundamental social skills. The human and financial costs of exclusion present an increasing threat to society.

In many countries there is good provision of pre-school education in the state system, while in others it is either available but prohibitively expensive to parents, or is not widely available.

*We recommend that all children in Europe should have access to nursery school education as part of the normal educational system.*

A good education at this stage will give children the best possible start for developing their later potential. At crèches and nursery schools children interact with others and it is already possible for teachers to start working on behavioral or speaking deficiencies. This requires that all staff should receive a full professional training.

Nursery schools have a number of goals for educating children: sensory development, language, development of elocution and new vocabulary, the foundation of reasoning through game-playing and of socialisation, creativity and taking initiatives. Such programmes are excellent social levellers and thus remove the handicaps that would otherwise lead to children developing into second class citizens later on.

All this fully justifies the expense of setting up compensatory programmes and partnerships between schools, families, cultural associations and professional bodies.

## Link II - Basic School Education

### The first 9 – 10 years at school

During this crucial period the character and knowledge base of the future European citizen are formed. Yet across Europe schoolchildren are presenting disappointing results, either retaking a whole school year or dropping out through failure or rebellion. Some children see education as irrelevant to real life, others show real reluctance to make any intellectual effort. Thus the school, which should be the place of learning, can destroy that desire to learn which is the natural endowment of any young child.

The whole situation could be turned around if school education underwent the same transformation as the workplace. Pupils should come to school ready to learn, to acquire their knowledge through an active process of research rather than the passive process of having knowledge pumped into them in measured doses. Teachers would be transformed into coaches and tutors. They could do this if equipped with the same multimedia and computer technology that has revolutionised the workplace.

*We recommend that early specialisation should not be allowed before pupils have completed their basic schooling, including the "three cultures".*

This should also cover sport, foreign language skills and hands-on experience with computers and other available technologies.

The "three cultures":

- 1 maths, science and technology
- 2 humanities
- 3 economics and social sciences

1 Mathematics training enables the student to follow abstract ideas, to grasp the principles of statistics and problem-solving. Even more important, maths can be applied to everyday situations which are more and more set out in terms of numbers.

Science provides training in observation and in deduction and satisfies a child's natural curiosity about his or her surroundings. Every child leaving school should be able to understand the main concepts of the laws of physics, chemistry and biology: this will remove the mystery from new developments in technology and add understanding to environmental issues.

Technology should be integrated into curricula as it enters every facet of our lives today. School leavers who do not understand what computers and other facets of technology can do are faced with exclusion in the world of work from all but the most manual jobs.

2 Humanities studies provide not only a knowledge of literature and language but also open the minds of students to discerning between facts and subjective values and prejudices. An interdisciplinary approach is needed for studying history, philosophy, literature, sociology, arts and ethics. All this is our common heritage. The study of history gives additional insight into the common background with other European countries and promotes intercultural understanding.

3 Economics and the social sciences prepare the future citizen to live and vote responsibly. At a time when political decisions almost always have an economic dimension, and when propaganda is so

easily spread by advertising and public media, it is essential that school leavers should be able to read a daily newspaper with some understanding of the economic situation of their country and of the world context.

**Sport:** Gymnastics and solo sports are widely taught in schools. But this should not be allowed to replace the playing of team sports altogether. Participation in team sports teaches pupils to recognise their own limitations and to learn to work with others to achieve common goals. It also allows them to develop a sense of healthy competition.

**Foreign languages:** The study of the language and literature of foreign countries is the key to understanding the rich cultural diversity that is Europe, and also to communicating well in other countries round the world. It is best to start the teaching of second languages as early as possible in basic schooling to build in the basic language learning techniques that can be developed further later in life when studying additional languages. As English is becoming the de facto common language among Europeans, it should be taught from an early age to all European children who do not speak it naturally.

## *Link III - Balancing General and Vocational Education*

All European citizens should complete their years of compulsory secondary education with the acquisition of the essential basic skills we identified earlier in this report.

*It is not the age factor that decides the end of compulsory schooling, but much more the level of attainment which should be the criterion.*

These skills may be obtained either by staying on at the same school or by moving to a specialised vocational schools teaching specific skills.

In either case, general or vocational education, students are prepared for their first job or may use this new knowledge to gain a place in an institute of higher education. The competitiveness of Europe depends on the quality of this stage of education.

### C A S E S T U D Y

#### *CONTACTS BETWEEN MANUFACTURING INDUSTRY AND SECONDARY SCHOOL PUPILS: PETROFINA, BELGIUM*

*Since 1993, Petrofina has offered training for one day to general secondary school pupils and their teachers. They are shown how real-life research centres and pilot production units work, and are taught the basics of chemistry, biology and physics as applied in oil companies and in the petrochemical industry. That is not all. Teachers in secondary and higher education institutions are offered three-day training courses in-house to allow them to update and improve their own teaching methods and to help them motivate their students.*

### *IIIa - General Education: the final 2-3 Years at School*

Having learned the fundamentals of the "three cultures" in basic school education, pupils may now start to specialise in one of them, but without dropping all classes in the other two disciplines. During these final years at school studies should be directed into the art of debate, enhanced problem-solving, and provide initiation into the learning of specific skills and the use of other languages.

The ability to lead a successful active life and to secure immediately either a good job or a place at a higher education institute of choice will depend on some additional skills: team-work, decision-making and analytical skills, loyalty, service to the community, and willingness to take risks and accept personal responsibility.

### *IIIb - Vocational Education*

Vocational education involves a close partnership between the world of industry and the world of education, and is offered in both specialised training schools and industrial companies. This type of education should enable young people to acquire state-of-the art competencies, to find jobs and to perform them at the highest level of which they are capable.

In Europe vocational education has developed considerably and there is an amazing diversity of opportunity. But it is not always well organised.

We should build on the merits of the vocational dual system that is in operation today in several countries, but develop the system further to ensure competence, flexibility and strategic capability for tomorrow's workforce.

We propose a new Triad System which would consist of the three following stages conducted in parallel:

1. continuing General Education - to ensure flexibility and future adaptability to change;
2. acquiring the theoretical knowledge necessary for application in career chosen;
3. acquiring hands-on work experience through:
  - a) special training workshops
  - b) traineeships in industry
  - c) use of simulator systems and sophisticated software.

These three stages are interlinked, not consecutive. A hands-on approach to future working conditions is important for people to realise the need for manual dexterity and practical know-how as well as theoretical knowledge and computer skills. However, the complexity of the costly high-tech equipment installed on the factory floor is frequently too much for the inexperienced trainee to handle, therefore we see the need for more computer simulation and systems software (such as virtual reality) to be installed in training schools or industry to allow students to gain confidence and operating skills.

Vocational training schools should be ready to cancel their courses for traditional factory and manual skills and to set up new courses for the future, organised on the above integrated system. The high standards of vocational education will be then recognised for themselves and will no longer be regarded as a second best opportunity following general secondary education, with possible underfunding as a consequence. Indeed, industry can help to restore the balance in prestige by being as ready to promote their employees with qualifications from the vocational education system as those with university diplomas, and by helping to set national skills standards.

We recommend that:

- industry and educators should offer vocational education in the integrated Triad System to ensure the necessary skills for future competitiveness;
- greater access should be ensured to simulation systems and specialised software in both training schools and industry;
- vocational education should be seen in all countries as a vital stage in technical training leading to future promotion.

## *Link IV - Opening up Higher Education (Tertiary Education)*

### *The Complementary Roles of Universities and Technical Colleges*

Higher education should be closely relevant to the needs of society. Technical colleges should be centres of excellence for state-of-the-art knowledge and the application of the fruits of research while universities should be centres of excellence for research (including precompetitive research) and the acquisition of non-vocational knowledge. Universities and technical colleges have complementary functions and should be able to cooperate efficiently through forming partnerships with one another to share facilities in order to avoid rivalry.

As universities have this research role, the academic staff are often caught between conflicting needs to conduct their research and to teach students. Even so, universities must become more involved with the other links in the Education Chain. They have a role to play in the diffusion of new technologies throughout the education chain, and should be seen as the normal base for training all teachers. Universities should also be active agents of research & development in educational science, for example by

testing new teaching methods, and also defining more clearly what prerequisite skills and knowledge they want from the school leaver.

University-industry partnerships exist in many regions, but not in all. In 1992 ERT produced a short report *Lifelong Learning* in cooperation with CRE<sup>1</sup>. The longer academic version of this report contains 29 case studies of successful university-industry partnership and many detailed recommendations for lifelong learning in Europe addressed to governments, industry, the universities, employees and professional societies. The advice is there: it just has to be followed.

Yet in many cases the cooperation is rather one-sided, with universities and technical colleges only agreeing to offer new courses or adapt existing ones if additional funding is forthcoming. A more useful way to keep curricula and equipment up to date would be if industry-business cross-over partnerships were more generalised. Constant investment is needed to ensure the

<sup>1</sup> CRE - the Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities. It published the longer version of this report *European Approaches to Lifelong Learning: Trends in industry practices and industry-university cooperation in adult education and training*. (CRE 1992).

resource for teacher training, involvement in adult education programmes and to guarantee the excellence of their research programmes, but both the resource and the benefits should be spread as widely as possible. The academic staff should be well resourced, with access to electronic libraries and electronic means for the transmission of lengthy documents (far faster, cheaper and more efficient than by fax).

Universities, like schools, should be encouraged to design their degree courses with broader context, constructing course profiles that will allow the student some choice in putting together different modules that will build a balanced degree. Narrower and deeper specialisation is more fitting to the post-graduate (PhD) stage for experienced students and academic staff.

We encourage industry to play a more active role in favouring academic staff mobility between universities and the private sector and thus to avoid segregation and therefore communication difficulties

between the worlds of business and of learning. Initiatives for industrialists and academics to sit on each others' management boards should be encouraged.

*ERT members reassert their belief in the value of university–industry cooperation. We therefore call on our colleagues in industry – business leaders in and outside the ERT – to set an example by taking these positive steps:*

- 1. forge partnerships with institutes of higher education where everybody can share responsibility for developing academic curricula and systems of assessment;*
- 2. participate in professional initiatives at national and European level to foster Lifelong Learning;*
- 3. encourage and recognise learning achievements.*

## *Link V - Launching a European Strategy for Adult Education*

Continuous learning is a day-to-day need of society, yet this important link in the Education Chain is the least developed. Adult education takes many forms – evening classes at colleges and universities, dayschools at weekends, residential courses, part-time study with open and distance-learning institutions, and company training schemes, which may include any of the above methods.

Adult education is seized upon by many people as a chance to open up new intellectual horizons. The start of academic studies

will enrich their lives and may often lead to changes in employment or lifestyles. It is also a second chance to make up for opportunities lost earlier in life to obtain qualifications.

The responsibility must be shared between individual, employer and state, with special attention paid to retraining programmes for people displaced by large-scale restructuring. To be truly competitive, Europe needs a policy of sustainable adult education on offer everywhere.

Most medium and large sized industrial and service companies have developed in-house training programmes for their employees. Small and medium enterprises are not usually sufficiently well resourced to offer the same opportunities in-house. Adult education offered by educational institutions can be the most cost-effective way of filling this training gap, allowing companies of any size to upgrade and update the competencies of their workforces.

*We urge governments and industry and the European Union to create the necessary framework for promoting:*

*– the availability of adult education programmes: multiple sources and variety of means;*

*– the possibility of obtaining grants and financial loans for all study programmes;*

*– the possibility for tax credits for individuals paying for their own adult education;*

*– a reliable Europe-wide system for transferring study credits between institutes of learning; course subjects to be offered in modular form.*

We would also encourage a multi-faceted cooperation between learning institutions, business and local authorities to facilitate access to the adult education system

Companies should collaborate with higher education institutes to obtain recognition for their company training courses and to share their experience and know-how in the field of adult education.

Open and distance learning (ODL) is spreading fast throughout Europe. It is one of the most important means available for educating adults and large numbers of

people of any age, young and old, who for some reason have not entered vocational or higher education systems after leaving school.

ODL is flexible, uses several media that allow for regular updating, allows students to study at their own pace in isolation from peer pressure and is readily adaptable to the needs of disabled students.

Without any need for regular absence from work or the strain of frequent travel to teaching centres, ODL is increasingly incorporated into regular company training schemes and should be integrated harmo-

#### C A S E S T U D Y

##### *PERMANENT TRAINING OF BLUE-COLLAR WORKERS: CARLSBERG, DENMARK*

*To prepare its manual workers to undertake more complex tasks in a new factory scheduled to open in 1996, Carlsberg has worked with a private educational establishment to draw up a special training programme of general education lasting 15 weeks. It is divided into 3-week modules, alternating with periods back at work for the same length of time. As well as teaching mastery of written and spoken Danish (the mother tongue), classes are given in English, mathematics, science, information technology and some practical work. 40% of the workers eligible for this education programme accepted the challenge. Those who took part in the first four sessions readily expressed their delight to have overcome their former fears of new technology and feelings of helplessness when required to learn new theoretical knowledge. The education thus acquired opens the way to taking on new control, training and supervisory functions that often involve the use of computerised equipment.*

niously with other tertiary education institutions for sharing staff, facilities and knowledge.

If higher education institutions wish to remain competitive tomorrow, they should incorporate open and distance learning – or cooperation with ODL institutions – into their current structures today. Education as a lifelong programme is an investment of the individual and also of society. Greater emphasis should be placed on the modernisation of all teaching methods and media, particularly for self-study.



## C A S E S T U D Y

### PART-TIME UNIVERSITY TRAINING FOR FULL-TIME WORKERS: SAINT-GOBAIN, FRANCE

*In collaboration with the Paris I Sorbonne Panthéon University, Saint-Gobain has set up a general education programme equivalent to a university degree. This programme is aimed at employees without any degree qualification who will be going on to managerial positions. The course leads to an official degree diploma and is given in short periods alternating with full-time work. It is mostly made up of team work and practical exercises. The teachers involved are mostly university professors together with private sector tutors and project leaders selected by the company. Each student is allocated to an inhouse tutor who ensures that the training meshes well with professional duties. Following the first trial with 12 trainees in 1993-1994, the university working with Saint-Gobain plans to raise the level of the course to that of "Bac + 5 years" which will be recognised across Europe.*

# 4. *Innovating in Media & Management*

## 4.1 *Introducing Technology to the Place of Learning*

Teaching is an art and nothing can entirely replace face-to-face tuition. Yet the media revolution is there and we should use it to our best advantage. New technology has created a host of new tools for use in the classroom, in laboratories, at home and on the move:

- computers of all sizes and sophistication;
- cable and satellite TV education broadcasting;
- multimedia equipment;
- interactive information exchange systems, including electronic mail and on-line access to libraries and public databases;
- computerised simulators ;
- virtual reality systems.

Using these tools, both students and teachers are equipped to become researchers. Teachers then coach their students to evaluate and use effectively the information they have gathered for themselves. This is far closer to real life situations than the older styles of teacher transmission of information to students. A new partnership is developing in the classroom.

*Knowledge is no longer transmitted, it is shared.*

New technology will introduce greater flexibility in learning time and encourage individual students to study on their own,

either at school or at home. As each student learns at his or her own pace, this will lead to a more effective development of competence in solving problems, and will enhance natural curiosity and creativity through the need to search out information rather than have it handed to them.

### 4.1.1 *Use of computers and multimedia*

An OECD study published in 1987<sup>2</sup> has shown that when all other methods have failed, a computer can remotivate bored pupils. Those who find it hard to concentrate more than a few minutes on a normal task may spend hours absorbed in a computer application.

Computers also enable the pace of teaching to be adapted to the pupil's own rate of comprehension, and thus allow a class of mixed ability to retain full attention on the subject in hand. It is not rare that children from less-favoured backgrounds with slow progress in conventional studies may suddenly distinguish themselves in the new field of technology, where they have a fresh start and equal opportunities. The increasing digitalisation of information and constant research into miniaturisation will make hand-held PCs cheaper and available to every pupil as normal equipment.

<sup>2</sup>Information Technologies and basic learning, reading, writing, science and mathematics. Centre for Research & Innovation in Education, OECD 1987, p 116

PRIMARY SCHOOL EDUCATION: ITALY  
INNOVATION THROUGH NEW MEDIA

*During 1994 Olivetti gave training in interactive language teaching to some foreign language teachers who came from Ivrea, home of the Olivetti HQ. Priority was given to the teaching of English, given the market dominance of English-language multimedia packages using CD-ROM technology. The 25 teachers who received this training confirmed that the multimedia approach was easy and practical to use as a teaching tool. They will now participate in pilot projects launched in eight local primary schools and three local secondary schools. Olivetti will lend personal computers to the children allowing them to teach themselves (still in English only.) It is planned that this project will later expand to cover other languages, other disciplines and will be installed in more schools, and also be applied to distance learning.*

Education policies should lead towards the long-term objective of funding computer access for every child in school. The long-term goal must be that each pupil would have access to a computer.

*This is not solely a question of government funding. The principal hardware systems and software programmes made available for educational purposes should be fully interoperable across Europe.*

Compact disc technology has already made an entrance into some classrooms. CD-ROM technology enables an enormous amount of data to be fitted onto one compact disc. In a further development, Compact Disc Interactive (CD-I) systems, which requires no special computer knowledge and no previous technical knowledge,

will be one of the standard learning/teaching tools of the future.

The use of CD-I can bring a whole subject alive and full of interest. This is particularly true for teaching science, when images can be shown on micro and macro scales and experiments shown that could not normally be demonstrated in a classroom or school laboratory. Interactivity allows the user to ask questions, engage in role play, and take part in demonstrations. Individual classes or solo students may elect to skip over details or research further into particular subjects. Science laboratories, at the very least, should be equipped with CD-I equipment as basic apparatus.

The use of CD-I really comes into force for vocational training in technical skills, or teaching workers in a factory how to use a new machine or process. The possibilities are endless.

The European Commission's DELTA programme of extensive research into learning through new technologies needs to be translated into real life. Refusing to admit these possibilities would be like asking classes to return to using slates and pencils. A modest investment in interactive teaching

*Compact Disc Interactive systems (CD-I) can handle large amounts of interrelated data in real time. The result is a combination of perfectly synchronised audio, video and text information. CD's can be played on simple equipment that is cheaper and with fewer cable connections than a computer linked to video players and audio playback systems. The available effects include full motion, full-screen video, computer graphics and animation, with full sound effects, and screen text overlays make updating possible. The system can be used by one person or by a classroom watching on several monitors. International standardisation has ensured an excellent degree of compatibility between compact discs and all disc players.*

equipment would allow existing teachers to provide greatly enhanced classes with a higher guarantee of retaining the attention and interest of their pupils. Moreover, much of the equipment now being suggested is becoming widely available on the business and home consumer markets and should soon be as commonly found in the home as the television set or walkman.



#### C A S E S T U D Y

##### ANTARCTIC SCIENTISTS REPLY LIVE TO QUESTIONS POSED BY SCHOOL CHILDREN: USA

*In December 1993 NASA scientists working near McMurdo Station in Antarctica cooperated by satellite link in three 40-minute TV programmes publicly broadcast in the USA. They answered questions on their research posed live by school pupils in Hawaii, Virginia and California. On-line personal contacts with individual scientists were also made via modem. In 1994, new contacts were established with scientists working at the South Pole.*

*We recommend that action be taken:*

- to implement newly available technologies as common practice in European learning infrastructures;*

- to stimulate the production and diffusion of education programmes through new technologies in schools and higher education institutes.*

### 4.1.2 Information on tap

The ERT has already recommended that access to information highways should be available to every educational institution. (described in ERT report *Building the Information Highways*, June 1994).

Information can be treated as a new form of utility like water, electricity and gas, and be "piped" into homes on low cost-per-unit basis. Therefore a common European backbone is needed – not a set of gateways between countries – to provide low-price standard connections across and beyond Europe. The network should be easy to use, allowing the cheap transmission of data, voice and images, with standard connections, no national boundaries, and working 24 hours a day. This would allow everyone to communicate in a standard way.

The public sector should use information networks as a tool to improve education and training for people of all ages and at all levels. Universal Information Technology literacy is needed for the emerging information society. This includes the training for widespread future availability of competent IT designers, suppliers and operators.

## 4.2 Introducing Management Techniques

We are not advocating a single school education system across Europe. This is not a desirable goal and in any case the existence of different cultures and national characteristics would make this goal impossible to achieve.

However, Europe will suffer if no effort is made to improve educational standards overall or to make educational systems compatible across the continent. Education should be regarded as a service supplied to students, society and business. Like any

service its quality should be evaluated and constantly updated. We believe that benchmarking and quality assurance, tools widely used in industry, should be used in education systems as a matter of course.

### 4.2.1 Benchmarking

Benchmarking has been used by successful industries to help them achieve competitiveness. As described in the 1994 ERT report *European Competitiveness: the way to jobs and growth*, it means:

- examining the competition in the widest context (global, European);
- deciding how to measure performance;
- identifying the best performer;
- implementing improvements;
- monitoring performance.

Benchmarking is not a one-off exercise; it is all-embracing and continuous. Its results should be used in the formulation of new policies, not forgetting the necessary stage of continuous monitoring of subsequent performance. To find the most efficient and workable systems of education at any level, educators should seek to learn from each others' systems, to examine what works well in other countries (and vice versa) and to learn from each others' experiences.

The best practice in European countries, and in other countries round the world, must be studied to see what could be adapted and used. Innovation should be locally driven but based on Europe-wide comparisons. In all European countries there is a need for more information on how well the education systems measure up to their goals. Much of the data on education now being published by OECD and a multitude of other sources is insufficient and usually too out of date for the needs of researchers. Their analysis and conclusions could be valuable tools to define corrective policies and improve overall quality.

Benchmarking may be particularly useful to help resolve the human and economic waste involved in failure and dropout rates in tertiary institutions such as universities and technical colleges. Current statistics are alarming in a number of European countries. The facility with which students may repeat courses may lead to some of them spending six years to complete a course that should have taken three years only. The quality of the resulting diplomas is suspect and new entrants to the world of work may already be in their late twenties, competing for jobs with much younger graduates from other countries.

### 4.2.2 Quality assurance

Total quality management – TQM – is a concept widely used in business to design failure out of a system by motivating and empowering all persons involved in the productive work to take steps to prevent failures happening in the first place and to ensure continuous improvement.

In a mass education system a redefinition of the concept of quality is required to meet the diversity of the systems of education on offer at every level. It is not just a question of minimum standards but also concerns the highest levels of excellence and perfection that are achievable.

*It has therefore become a matter of urgency to set up a European Education Information and Monitoring System in order to record experience, evaluate results and improve the quality of education on a European level. The task could well be entrusted to the European Commission.*

## 4.3 Remotivating Teachers

Human resource management is a key element in improving performance and reliability.

At the centre of managing people is the need to listen, to delegate, to train or retrain, to encourage, to reward and to sanction. The remotivation and retraining of the workforce has helped to reinvigorate industrial production and we regard it as essential for revamping our educational systems in every country in Europe.

We must consult teachers and listen to what they have to say before implementing new education policies on a permanent basis, particularly those that modify national curricula or examinations. Consultation will provide clear indications of what would be needed in the way of retraining, resource reallocation or revision of the policy itself.

Teacher training should cover both intellectual training and the practical skills of communicating knowledge to future pupils. Teachers should be assessed regularly on their pedagogic skills, the content of their courses, their willingness to undergo further teacher-training, and on the results of their students. Good teachers should be rewarded, able to progress in their careers beyond those that perform less well or not at all. In two European countries, teachers' salaries are fixed by age and the ceiling is reached at the age of 46 years. Significantly, in these and other countries, teaching is frequently seen as a last-choice career, when all other avenues have been explored. If all teacher-training were raised to university level, this would ensure an effective selection of candidates with greater motivation.

*We recommend that :*

- the governments of European countries that have not already done so should have education policies that ensure university-level training of teachers at all levels, from nursery school to upper secondary school;*
- teaching career structures and pay policies should reward competence and encourage greater commitment and achievement; this should be done as part of regular assessment procedures;*
- systematic retraining and further training programmes should be available to all teachers to provide a boost to their careers;*
- systems of making teaching appointments for life should be reviewed;*
- exchange programmes with teachers in other countries should be encouraged to promote and enrich culture and competence.*

# *Face to Face with the Learning Society*

European companies are (or are rapidly becoming) learning organisations and are benefiting from this process. Society as a whole, undivided and entire, must adopt the idea of learning as a natural and continuous process. Yet learning must be enhanced, accelerated and redesigned to handle ever-increasing quantities of information.

Education should restore the individual's self-confidence and ability to adapt to change.

The best actions to be taken are positive ones:

- to provide an efficient system where people are at ease and motivated to learn;
- to provide education for all-round individuals;
- to use the best available technology and to remain open to innovation in teaching techniques.

The Information Society is part of the Learning Society, and learning can be fun as well as fruitful. The technique of using hi-fi entertainment media for educational programmes has received the hybrid name "Edutainment". This is only one of many ways of reaching out to young people to remotivate them to learn.

At all stages of the Education Chain two-way action is possible for the trainers and trainees to interact and develop the education of tomorrow.

Given the diversity of European cultures and the number of actors and stakeholders in education, a slow but steady progress in achievements should be possible if an enormous effort of political will is made to start concerted action at all levels. No agent will be effective if working alone.

The need for qualifications and knowledge-based skills for daily life and ordinary work should drive the whole of society forward in the learning process. But, marginalisation is always a threat – those who are deprived of good education from the start may find themselves permanently on the side-lines, permanently in the dole queues, permanent "second-class citizens". In a Learning Society, this should not be happening.



# List of Members

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February 1995

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European Competitiveness: the Way to Growth and Jobs, *December 1994*  
Beating the Crisis, *December 1993*  
Rebuilding Confidence, *December 1992*  
Reshaping Europe, *September 1991*  
Changing Scales, *June 1985*

## Single Market:

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Towards a Single European Export Control System, *June 1991*  
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Opening up the Tax Frontiers, *December 1988*

## Education:

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Lifelong Learning, *June 1992*  
Education and European Competence, *January 1989*  
Education - a strategy for Life, *January 1989 (book)*

## Employment:

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European Labour Markets - An Update on Perspectives and Requirements for  
Job Generation in the Second Half of the 1990's, *October 1993*  
European Labour Markets, *March 1990*  
Making Europe Work, *September 1986*

## Technology/Environment:

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## Infrastructure:

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Building the Information Highways, *June 1994*  
Growing Together, *June 1992*  
Missing Networks, *May 1991*  
Need for Renewing Transport Infrastructure, *March 1989*  
Keeping Europe Mobile, *November 1988*  
Clearing the Lines, *October 1986*  
Missing Links, *December 1984*

## North - South:

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European Industry and the Developing World, A Dialogue between Partners, *January 1994*  
European Industry : A Partner of the Developing World, *September 1993*  
Survey on Improvements of Conditions for Investment in the Developing World, *April 1993*

## Recent reports produced by ERT Conferences for young managers:

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