The 21st century presents an enormous challenge to British society. Unprecedented technological, economic and social change makes urgent the search for an appropriate education which will enable young people to lead creative, purposeful, and responsible lives. Our education system has a long proud history; British scholarship is renowned world over, but increasingly we realise that this is not sufficient. For too many young people education has been a passive act; they have been subject to but uninvolved in the process. The essential challenge facing education today is to ensure that youngsters become active learners, involved and committed to tasks they understand and taking an ever increasing responsibility for their own learning, and ready for a lifetime of continuous relearning. Our social and economic survival will depend on our ability to create a Learning Society, sufficiently flexible and fleet of foot to embrace and master change. It calls for fundamental changes in our school system, in the way we view learning and in the relationship between teacher and student.

Education 2000 was founded in 1982 by a group of individuals from industry, commerce and education concerned that the normal mechanisms for change within education were insufficient to meet the challenge. 'A Consultative Document on Hypotheses for Education in AD2000' published by Cambridge University Press the following year articulated these concerns, and postulated a number of solutions. A sense of urgency, and frustration, permeated the Trust’s thinking. ‘There is a real danger of the emergence of two societies within our nation - one with work to do and familiar with all the advances and advantages of new technologies; and the other without work, knowledge or hope…. We believe that the free society which we know today cannot sustain too marked a division of this kind…. The education of our youth must be such as to give them hope and confidence in themselves and the society of their future, as well as to provide the skills and knowledge on which the smooth functioning and development of society depends.’

The Trustees saw the need to establish a small number of ‘pace setter’ projects, in collaboration with Education Authorities and local communities which, drawing upon the very best educational thought and practice available, would seek to provide appropriate schools for the needs of the 21st century. As an independent and charitable organisation the Trust believes that it can help forge partnerships between various normally disconnected groups and provide - for strictly limited periods - additional resources to enable such partners to discover new ways of working together.

The first such project mounted by the Trust is in Hertfordshire, in the town of Letchworth.
THE HERTFORDSHIRE PROJECT is a bold initiative made possible by a partnership between Education 2000, the Hertfordshire Education Authority and the Letchworth Garden City Corporation. It is designed as an initial example, which could later be replicated, of how a group of schools, together with the communities which support them, can be helped to make fundamental changes in the curriculum, in their teaching practices and in their organisation. Letchworth is a relatively self-contained community of 35,000 with a wide range of employment; the six secondary schools of the town - four maintained comprehensive schools and two independent boarding schools - are all involved as equal partners within the Project; together they have 3,500 pupils in the age range 11 to 18 and 250 teachers. The Project builds on a strong tradition of cooperation both between the schools, and between schools and local industry.

The Project, which started with a year’s exploratory activity in September 1985, will last 4 years. In addition to the normal resources of the schools the Trust is pledged to provide additional funds for an enhanced level of teacher retraining, and to finance the installation of computers and associated equipment, each at a level not so far attempted in the United Kingdom.

The Project’s Overall Aim: An Exemplar for Schools in the 21st Century

The Project aims to vitalise the schools, helping them to develop in young people the capability for lifelong learning. This aim recognises that:

(a) The future, while largely unknown, can be shaped by personal and community decision;
(b) Continued rapid technological development will bring great changes in economic and industrial organisation, making new demands on personal capabilities;
(c) New challenges will require the development of positive social attitudes and values, especially towards work and leisure;
(d) Only a partnership between all sections of the community - the home, employers, voluntary organisations and schools - can achieve and support the necessary changes.

Developing human resources: a new sense of priorities

The Project seeks changes in the schools that will better develop in young people:

(a) Knowledge of a broad span of human experience to enable them to show an informed awareness of possible alternative futures;
(b) Skills of dexterity, analysis, invention, problem solving, communication and decision, to help them to be effective in their working and personal lives;
(c) Attitudes of cooperation, responsibility, optimism, enterprise and courage leading to their self-confident participation both in the creation of resources and in community development at all levels from the local to the global;
(d) A sense of values encompassing truth, justice, freedom, beauty and compassion to enable them to make their own judgements about the uses of knowledge, skill and wealth.

The Mechanism for Change: A Staff Development Programme

To effect significant change within secondary schools there is, nationally, a pressing need for a massive retraining programme for teachers, nearly 80% of whom will still be teaching in the year 2000. The Project addresses this key issue by working within existing schools so as to demonstrate, quite pragmatically, how schools can undertake change on a scale, and at a pace, which has been seen previously to be impossible; it will demonstrate how the first steps towards fundamental change can be taken by a fully supported and reinvigorated group of teachers.
Traditionally the secondary school curriculum has been described in academic subject terms; teachers are trained primarily as subject specialists. To implement the changes accepted within the Project, teachers have to be assisted to use their subject specialisms for the development of that range of essential skills, attitudes and concepts that should be all pervasive throughout the curriculum: communication skills - both written and oral; problem solving; determination; enterprise; the appreciation of modern industrial society...

Do the working practices of schools - the things they value most - equate with those outside the academic world? Academic success involves largely solitary study, generally uninterrupted work, concentration on a single subject, much written work and a high level of analytical and critical ability. Success in the commercial world contrasts strongly - the ability to work collaboratively, coping with distractions, working with a variety of specialists, with emphasis on verbal and interpersonal skills, and the ability to synthesise and make decisions. The cultural gap which this represents between school and the outside world is dangerously wide: this fundamental difference the project seeks to resolve.

Initially the Project is concerned with four specific, but inevitably interrelated, aspects of staff development, appreciation and retraining.

**Community Involvement**

- An essential feature of the Project is to challenge the established pattern of separation between school and community, learning and living, education and life, the theoretical and the applied.

To this end the Project is opening up an active dialogue across the community. Teachers will be given the opportunity to spend time within industrial and commercial organisations both to observe what is required of young people just after leaving school and to experience the specific demands and expectations within commercial cultures.

**The Development of Young People in contemporary and future society**

- Teachers will be encouraged to examine how young people make the transition from youth to adulthood in education and contemporary society. The project aims to establish a better understanding of those challenges and difficulties which face young people, and which shape their personal and social development. It will look at the part played by education in the future in preparing young people to achieve adult identity in times of rapid and complex change and the ways in which they can be assisted by formal and informal education.

**Information Technology**

- Information Technology is a central component of the Project. These technologies can be used greatly to improve learning and enrich and extend current curriculum practice. Ultimately they have the capability to transform the ways in which we learn and how we communicate and apply our knowledge. Initially their introduction into schools may be used as a catalyst for significant change in shifting the curriculum focus from teaching to learning - a prime objective of the Project.

In providing such a wealth of resources, the Project will demonstrate the potential of Information Technology at an intensive level within secondary education.

**Curriculum Re-appraisal and Re-orientation**

- Central to the entire Project is the need for a thorough and continuous re-appraisal of the curriculum. This re-appraisal, in the spirit of the Project, must involve the community, and must be fully aware of the needs of the young themselves. As the Project develops so the emphasis on re-appraisal will increase; it requires all those involved to embark on a stimulating yet demanding period of professional enquiry of a kind frequently considered but not so far undertaken in this country.

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'The educational system has outlived the society which created it, a society in which an 'educated' minority managed a barely literate majority, who thought it enough to have a job and a living wage.'


'It is of crucial importance that as many young people as possible become productive, as few as possible become dependent. It is not a vast number more academics - or even a vast number more Nobel prize winners, excellent as they are for national morale - that we need. We need versatile, practical people, capable of managing their lives, contributing to the lives of others, earning their living and enjoying their leisure.'

'The test of a successful education is not the amount of knowledge that a pupil takes away from school, but his appetite to know and his capacity to learn. If the school sends out children with a desire for knowledge and some idea of how to acquire and use it, it will have done its work. Too many leave school with the appetite killed and the mind loaded with undigested lumps of information. A good schoolmaster is known by the number of valuable subjects that he declines to teach.'

The Outcome: A New Dynamic in Schools

For teachers...
The Project is essentially dynamic; it is feeding resources to a community to enable it to develop its own best thinking. It is unprecedented in providing such a significant level of further training. The Trust’s support for the Project is, however, strictly finite; currently it is expected that additional funding for both staff and equipment will cease in 1989. By that time schools and community will have learnt to work in close collaboration; staff will have benefited from a very high level of professional development; learning strategies should have changed fundamentally as pupils become increasingly responsible for their own development, and the power of information technology to support the process should have been effectively demonstrated. The combination of these changes should make it possible for the schools to absorb the continuing staff development programme within their normal staffing quotas; necessary if schools become institutions also responsible for developing the human resources of their own staff. An exciting prospect...and one which, once replicated, would result in a radical re-vitalisation of secondary education.

For pupils...
The changes which the Project will bring to the staff of the schools will have an ever increasing significance for the pupils. For staff the twenty first century may still be at a distance but for pupils in nursery schools today, the year 2000 is likely to be the year they leave school.

Amongst the outcomes will be:

More varied approaches to learning.

(a) Pupils will be given every encouragement to learn how to manage their own learning, how to use resources effectively and how to work collaboratively. The intelligent introduction of information technology will have released teachers increasingly to become the pupils’ advisers in their individual learning.

Ability to synthesis.

(b) In order to encourage not only critical thinking (one of the more successful achievements of traditional liberal education) but the ability to synthesise and solve problems, teachers will set pupils new tasks and will be better prepared to cross subject boundaries. It is envisaged that there will be a modification of the present curriculum not so much by the creation of new subjects, as by showing the inter-action of existing disciplines.

Progressive introduction to adult activity.

(c) Helped by the Project’s initiative Letchworth pupils will be introduced to the world of work involving frequent observations along the lines successfully developed in Sweden in their Work Orientation Programme (‘The office and the factory are the laboratory of the school’) education for the future will it is expected be underwritten by a contribution ethic, instead of the narrower work ethic.

Self-discipline and co-operation.

(d) Changes in the organisation of schools and the objectives set by teachers will lead to increased personal confidence in pupils based on their self-discipline, their readiness and ability to work co-operatively and to give, and accept, support. Allied to this will be an increased emphasis on developing in pupils a wide range of communication skills - oral and visual - as well as time involving writing and new technology.

Relevance of the disciplines.

(e) While recognising the value of academic and ‘pure’ studies, the balance in our schools will be changed to give greater emphasis to the application of knowledge. Thus pupils will be encouraged to see the practical relevance of Maths and the Natural Sciences and their relationship to technology which, with the help of the Projects’ industrial sponsor, will have an enhanced place in the curriculum. Developing awareness of
economics and business organisation will be an aim for all pupils - the Humanities and Creative Arts will be emphasized for their own sake and to enable young people to make appropriate judgements based on a proper sense of values.

The Pilot Scheme: September 1986 - July 1987

Exploratory work undertaken during the first six months of Phase One showed that it would be beneficial to mount a twelve month Pilot Scheme in advance of the main programme scheduled for Phase Two, which will now run from September 1987 to August 1989.

The Pilot Scheme commenced in September 1986 with a budget of just over £350,000. The equivalent of two full-time teachers have been appointed to each of the six schools - a 5% enhancement of staffing levels which will be increased to 10% during Phase Two. Some £150,000 has been allocated to the purchase of computers and associated equipment and to the cost of installation. Two part-time consultants have been appointed.

To ensure the coherence of the Project all aspects of the staff development programme have been included in the Pilot Scheme but with a higher priority being given to the development of staff skills in the use of information technology, and the progressive introduction of this technology to all pupils in their first year of secondary education. This will enable work on curricular re-orientation to proceed more rapidly, subsequently in Phase Two.

Spicer and Pegler Associates, in a Consultancy Report for the Trust in June 1986, set out an Implementation Strategy for Information Technology within the Project. It assumed a three-phase introduction of some 500 computers over a two and a half year period. The Trust approved the purchase of 103 RML Nimbus 16-bit computers for the Autumn term to compliment the 60 computers already within the schools. A further 200 computers are expected in the late summer of 1987, and 200 more in 1988. The Report, drawn up after detailed consultations with the Project, recommended that the Pilot Scheme should concentrate on the introduction of word processing to all first year pupils across, if possible, all curricular areas in the school.

Throughout the Autumn term most of the teachers involved in teaching first formers - about one third of the total staff are receiving the equivalent of three days training in the use of computers, in particular for word processing. Each member of staff involved will be loaned a computer on which to practice in the familiar surroundings of his/her own home, for the term. A specially trained information technology co-ordinator in each school is responsible for the training of colleagues and every encouragement is being given to groups of staff to work collaboratively in preparing for the introduction of the technology into specific subject areas. Earlier in the year the six schools (maintained and independent) decided to pool part of their staffing resources and appointed their own Consultant for Computer Based Education who now co-ordinates the programmes being developed in each school.

In the Spring term those computers originally on loan to staff for use in their own homes will be used to equip two further areas - a resource area and a classroom in each school to support the computer classroom already established a year earlier. Staff, working in teams and across the curriculum, will then proceed to introduce pupils to the use of the word processor whenever it may be appropriate. All staff, in fact, will be working both as subject specialists and as enablers to the pupils to develop new skills of communication. Pupils will be encouraged to draft and to re-draft their compositions (be it History or English, French or Physics), and to re-write such compositions to take account of suggestions made by staff when the work is conventionally 'marked'. Pupils will be encouraged to work collaboratively. Single discipline, and multi discipline, teams of staff from across the schools will work in intensive workshop sessions to compare techniques.

"These activities must be undertaken with an understanding that developing new and expanded visions of the role of education and training in an informative society is a responsibility that all educators share...high tech costs are high, but remember: the cost of not educating students is astronomical.'

NSSP

"Oliver Cromwell described the laws of England as a 'tortuous and ungodly jungle'. That seems to be an excellent description of education - at least to our secondary education. What an amazing and chaotic thing it is! One subject after another is pressed into this bursting portmanteau which ought to be confined to the necessary clothes for a journey through life, but becomes a wardrobe of bits of costumes for any emergency.'

Sir Richard Livingstone,

"The British educational system today probably harms more people than it helps. That is not intentional. The teaching profession is, on the whole, both diligent and dedicated. It is the fault of the system, designed at other times for other purposes but now disabling rather than enabling to many who pass through it..."

Charles Handy,
In the long term the computers will be networked both within and across the schools; the Project is anxious to encourage the development of a local area network which could link the schools both to the homes, and to the commercial community.

PHAASE ONE 1985/6
Project Definition

PHASE TWO 1987/8
All staff participating in 
at least one element with 
extended community and 
professional involvement

PHASE THREE 1989
Self sustain development

A schematic representation of the relative, and changing importance of the various elements of the Staff Development programmes to support the shift within the practice of the curriculum for pupils to become more independent, self motivated learners.

The Project places a particular significance on word processing as a valuable communication skill, and as the catalyst to stimulate far reaching curricular innovation. The Project is, from inception, developing particular strengths wherever these can be found and is supporting a number of sub projects in the use of the technology which will later be used broadly across the schools. For the future the Project expects to explore the potential, within the schools, of Electronic Mail, Electronic Conferencing and the use of Compact Disc ROMs.

During the Pilot Scheme three quarters of the staff enhancement is being used within information technology. The equivalent of some three extra staff are being used to support development work in other areas of the Project partly as a result of funds having been provided by the Manpower Services Commission and by the Trust.

Further information about the Trust, and the Hertfordshire Project, can be obtained from The Director, Education 2000, The Garden City Corporation Offices, Broadway, Letchworth Garden City, Hertfordshre SG6 3AB.

On the other hand, we have a formal educational system that has traditionally been turned in on itself and, under the pressure of contraction, is likely to become more so, teaching people what it can teach them rather than what they need to know, preparing them at each stage for the next but not necessarily for life itself.

Charles Handy.

The role of the community is vital - it must be fully involved; provide leadership, ideas and finance; provide security and effect the development of relationships. Industry and commerce must participate in the ‘secret garden’ of the curriculum and then sow the seed of communal harmony.


Education 2000 is a registered charity No. 326388.

This document has been donated by British Aerospace Plc.