

# The Use of new Technologies in Language and Literature Teaching in England

Marilyn DEEGAN and Moira MONTEITH

## Introduction

The UK education system has been undergoing radical reforms over the last ten years, and while many educators and educationalists deplore some of the changes (underfunded expansion, for instance), it must be admitted that some interesting opportunities have arisen alongside them. One of the benefits we have seen is the increase in and widespread acceptance of the use of new technologies at all levels of education and in all disciplines. This paper looks at some of the uses of new technologies in literary and linguistic subjects in general and in English Studies in particular.

In England and Wales formal education for the student occurs in three phases: primary, secondary and further or higher education. Primary and secondary schools educate pupils from 5–16 years of age, the years of statutory schooling, years of education which every child has a right to claim and the state a responsibility to deliver. Secondary schools usually teach pupils from 11–18 years although some schools take pupils from 11 to 16. The majority of schools are generally comprehensive in the kind of education they provide, that is, a balance

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✉ Marilyn DEEGAN; Director of CTI (Center for Textual Studies); University of Oxford; 13 Banbury Road; Oxford OX2 6NN (U.K.).

Fax: + 44 865 27 32 21

E-mail: ctiss@uk.ac.ox.vax

✉ Moira MONTEITH; Head of Centre for Information Technology; School of Education; Sheffield Hallam University; 36 Collegiate Crescent; Sheffield S10 2BP (U.K.).

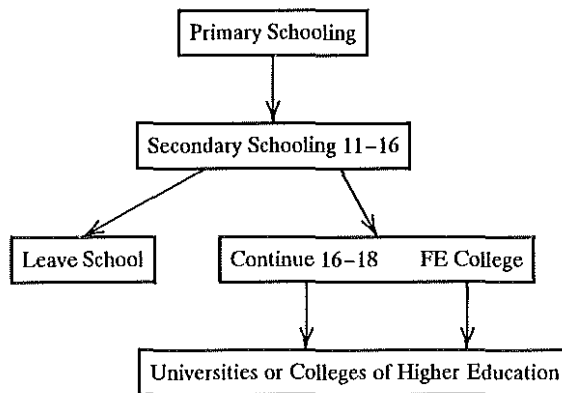
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**KEYWORDS:** Computer, computer aided learning, CD-ROM, courseware, English, information technology, hypermedia, hypertext, national curriculum, new technologies, textual studies, educational technology.

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### A brief survey of the education system



of academic and vocational learning, although they may be called high, grammar or technical schools and indeed may select their own intake of pupils.

After 16, a student may stay in school for another two years or go to a college of further education. Most students enter higher education after they are 18 or older and an increasing number are considered to be “mature” students, that is over 21 and often in their late twenties or early thirties.

## 1. IT in Higher Education

### 1.1. Higher Education Changes

Higher education in the United Kingdom is currently undergoing enormous changes. It was previously divided into two sectors, the universities, funded by the Universities Funding Council (UFC), and the polytechnics and colleges of higher education, funded by the Polytechnics and Colleges Funding Council (PCFC). Universities have always been institutions which were allowed to award their own degrees; polytechnics and colleges awarded degrees approved by the Council for National Academic Awards (CNAA) and which had to be externally validated by the CNAA and its advisors. These two sectors have now merged and polytechnics (but not colleges) are allowed to award their own degrees, and to call themselves universities. From 1 April 1993, the two funding councils will cease to exist and three new bodies will take over their functions: the Higher Education Funding Councils for England, Wales, and Scotland. The British Government has also stipulated that the number of students in higher education has to increase

massively without a commensurate increase in funding. In the past two years student numbers have grown by about twenty-five per cent and are still growing. This is putting enormous strain on resources: for instance, it is difficult to find accommodation, classroom space, or refectory space for these students.

## 1.2. The Computers in Teaching Initiative: A Brief History

In 1982 the Nelson working party set up by the Computer Board for Universities and Research Councils [now known as the Information Systems Committee (ISC)] identified serious shortages in the provision of computer facilities in British universities when compared with our major competitors.<sup>1</sup> The Board therefore established a number of pilot projects to investigate the use of computers in teaching and to develop software suitable for use in higher education. Some £ 9.5 million was spent on 139 projects over five years; more than forty per cent of the projects were outside the area of natural science and engineering. This programme of development was phase one of the Computers in Teaching Initiative (CTI). The main objectives of the CTI when it was established were: to familiarise academics with the use of computers in teaching; to expose students to new technologies through the medium of their own disciplines; to encourage the institutional change needed for large-scale adoption of the use of computers in teaching; to foster the development of professional standards in the production of courseware; and to promote collaboration on the use of computers in teaching.<sup>2</sup>

In 1988, phase one of the CTI came to an end. While many of the individual projects had achieved their stated goals, the Initiative as a whole had not had quite the impact which had been hoped for. What was missing was large-scale delivery of courseware products throughout the system: both those developed by the CTI projects and also those obtainable elsewhere (from commercial suppliers or overseas). Phase two of the CTI was therefore established in 1989 for an initial three-year period. This period has now been extended: current funding runs until 1994 and may be further extended yet. An entirely different approach has been taken in phase two of the CTI: instead of funding more courseware development projects, the Computer Board established twenty subject-specific Centres, reasoning that as academics do not readily accept advice on how to teach from people outside their own discipline, Centres staffed by subject specialists had a greater chance of success. These Centres disseminate information about

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<sup>1</sup> Nelson report.

<sup>2</sup> Gershuny and Slater.

the use of computers in the teaching of their own disciplines by producing newsletters, resources guides, and other publications; running workshops and conferences; visiting university departments to demonstrate software and advise on computers in teaching; and answering individual queries. The CTI nationally is managed by the CTI Support Service (CTISS).<sup>3</sup>

### 1.3. Other National Initiatives

In 1990 the ISC decided that, while the CTI was performing well in the dissemination of information about the use of computers in teaching, there was a need for more training of academics in basic and more advanced IT skills. It therefore established the Information Technology Training Initiative (ITTI), a three-year programme aimed at producing teaching and training materials for use in higher education which funds twenty eight projects throughout the UK. In 1992 the Universities Funding Council (UFC), attempting to help academics to cope with the massive increase in student numbers, set up the Teaching and Learning Technology Programme (TLTP). This has been allocated £ 7.5 million for its first year and it is planned that the Programme should run for three years. Forty three projects have been funded under the TLTP and these break down into two main types: courseware consortia and single institution projects. The courseware consortia group together a number (sometimes a large number) of academics from different institutions but the same discipline. These then work together to produce courseware which will be implemented, used, and evaluated at all the associated sites and, hopefully, others too. Single institution projects aim to develop and implement computer-based courseware across as many disciplines as possible in the same institution.

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<sup>3</sup> Further information about the CTI Centres and about all previous CTI projects can be obtained from CTISS, Oxford University, 13 Banbury Road, Oxford OX2 6NN; E-mail: ctiss@uk.ac.ox.vax

## 2. The Computers in Teaching Initiative Centre for Textual Studies

The CTI Centre for Textual Studies started in October 1989 with the appointment of the first Research Officer. Originally the CTI Centre was known as the CTI for Literature and Linguistic Studies. The initial brief was to address the use of computers in the teaching of literary topics in all languages and covering all periods, including classical and medieval. Although the CTI Centre was a new operation, it built upon very firm foundations: Oxford University Computing Services, the home of the Centre, have had a reputation for excellence in literary and linguistic computing research for many years. After a year of operation, the Centre received additional funding and expanded its areas of operation considerably. The CTI Centre for the Humanities in Bath, which incorporated within it the Office for Humanities Communication (OHC) a British Library-funded centre, was closed down and its responsibilities were shared between Oxford and the Centre for History in Glasgow. The OHC was amalgamated with the Oxford Centre, although it retained an office in Bath. The new arrangements resulted in the change of name to Centre for Textual Studies to reflect the new range of subjects taken over from the Centre for the Humanities. These included philosophy and logic, drama and theatre studies, and theology. Archaeology and art history were transferred to the Centre for History. As part of the expansion the Centre acquired two new research officers. In 1991, the Centre was awarded a grant by the Information Technology Training Initiative for the development of hypermedia teaching and research materials for literary and linguistic studies.<sup>4</sup>

### 2.1. The Use of Computers in Textual Studies

The use of computers in textual studies still seems to some scholars an inappropriate conjunction, but many have in recent years realised the enormous benefits and are adopting the technology with enthusiasm. Even in the earliest days of computing, when text had to be entered via punch tape or cards, some textual scholars were so instantly convinced of its value in their work that they were prepared to put up with the initial inconveniences for the benefit of the results. Now the advent of cheap, powerful, and easy-to-use personal computers and high speed communications networks have made new technology both

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<sup>4</sup> Those who wish to receive the Centre's publications or to find out more about our work should write to Caroline Davis or Stuart Lee at the CTI Centre for Textual Studies/Office for Humanities Communication, Oxford University Computing Services, 13 Banbury Road, Oxford OX2 6NN; E-mail: ctitext@uk.ac.ox.vax; Phone/Fax: + 44 865 273221.

accessible and desirable. As mass storage devices, computers offer academics and students access to resources on a scale never before possible. The *OED on CD-ROM*, for instance, published by Oxford University Press, not only presents the entire multi-volume work on one small disk, it also allows it to be searched in ways hitherto undreamed of. Conventional dictionaries can only yield information under the category of headword, the electronic resource can be searched under quotation, meaning, etymology, and many other possibilities. We now have available large corpora of literary and linguistic materials which can be instantly searched for occurrences of words, phrases, or collocates, enabling us to make definitive statements where previously we could only make informed guesses. Oxford University Press is, for instance, currently bringing out a large range of English authors in electronic form—the complete works of Jane Austen; the Riverside Chaucer; the complete Milton; Wordsworth; selected novels by Dickens. The English Poetry Full-Text Database shortly to be released by Chadwyck-Healey will contain all of the works listed as poetry in the New Cambridge Bibliography of English Literature by some 1,300 authors. And it is not only publishers who are providing large-scale resources of this kind: in Old English, the Dictionary of Old English project at the University of Toronto has produced the entire corpus of Old English in machine-readable form. The Women Writers Project at Brown University is producing a corpus of texts in English written by women between 1330 and 1830. These are then being made available in either printed or electronic form as whole texts or customised anthologies, making new and exciting research and courses of study possible. Project Electra, based at Manchester and Oxford Universities, is extending the textbase of women's writings in the period 1795–1815, adding a bio-bibliographical database and high quality graphics, and producing a hypertext front end to manage access to the materials. Scholarly studies can now be carried out on a broader range of texts than ever before. For instance, in researching women's writings for processing by the Women Writers Project, it was discovered that in the Romantic period some hundreds of women published at least one volume of verse. This fact alone changes the literary scholar's perception of what constitutes Romantic poetry. Having all of these volumes available electronically so that themes and concepts can be traced is nothing short of revolutionary.

The projects mentioned above are all providing scholarly research tools, but computers can also offer a great deal in the teaching of literary subjects. In areas where it is appropriate to use computers in teaching, the benefits can be enormous. Textual analysis and retrieval using concordancing and free text retrieval software, can, for instance, allow the student or scholar to find all instances of a particular word or concept in a range of contexts and thus offer some informed critical judgements about a text. For students working

with medieval or classical languages, Computer-Assisted Language Learning techniques developed in modern language situations are equally useful and possibly easier to apply. Current learning of these languages in higher education is generally passive acquisition so the intensive teaching needed to produce active competence is not required. With a little imagination, drill packages can be produced which instil the rudiments of grammar without boring or frustrating the learner. Given the lack of traditional grammar teaching in schools in the UK, these aids are needed if the students are to have any understanding of the texts they are expected to read. The STELLA Project described below uses these techniques for the study of Old English.

Much help can be given to the students with courseware prepared and presented using hypertext or hypermedia authoring systems: difficult texts can be embedded in a range of supplementary materials which can be explored and retrieved flexibly. Good examples of this include the *Beowulf* Workstation, which contains almost everything a student would need to understand the Old English poem *Beowulf*; the CD-ROM disk of Shakespeare's *Twelfth Night or What You Will* produced by the Art of Memory company; and *Shakespeare's Life and Times*, produced by Michael Best. At Brown University, the *Intermedia* hypertext system has been used in teaching English literature for some years, with great success. George Landow, its principal proponent, has produced hypertexts for a number of courses at Brown: a literature survey course, a course on the life and times of Charles Dickens (*The Dickens Web*), and a course on Tennyson's *In Memoriam*.

For linguistic studies of text, the collection, tagging, and analysis of large corpora has become a popular methodology. The Brown Corpus of American English; the London-Oslo-Bergen Corpus of British English; and the London-Lund Corpus of Spoken English have been available for some years and have provided scholars and students with much valuable raw data. The recently established British National Corpus Project aims to collect one hundred million words of contemporary British English, both written and spoken. This will be the largest such corpus ever collected.<sup>5</sup>

## 2.2. Computers in Teaching: Practical Experiences

Many language and literature departments have experimented with using computers for teaching limited aspects of one or two courses with good results.

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<sup>5</sup> Details of most of the projects and products mentioned above can be found in the latest issue of the *Resources Guide* (March 1992), edited by Caroline DAVIS, Marilyn DEEGAN and Stuart LEE.

Few have as yet radically reshaped their whole approach to teaching to incorporate new technology as a central and necessary part of it. One of the few units which have is the STELLA Project at Glasgow University. Their experiences are worth recounting in some detail, so we offer them here as a case study.

### The STELLA Project (by Jean Anderson)<sup>6</sup>

STELLA is an acronym for Software for Teaching English Language and Literature and its Assessment. The project was set up in 1987 with a grant from the Computers in Teaching Initiative. Three departments which have been traditionally separate at Glasgow came together to work on the project: English Language, English Literature and Scottish Literature and Language. The director is Desmond M. O'Brien, lecturer in English Literature. The aim of the project is to integrate computers into existing courses in the three participating departments. It is not to teach students about computers, but to teach them English using computers. It is obviously important that the pedagogical content of courses is not constrained by the tools used.

The project's first task was to buy the hardware. A sixteen-station network of PC near-compatibles was chosen. An inexpensive multi-user system with a mainframe connection and a printer was needed; it had to be robust and reliable as classes would depend on it and there had to be appropriate software. The choices made were satisfactory, but the machines are now at the end of their useful life and some new software will not run on them. The next step was to evaluate the available software. It was soon done; there was none. There was no one producing tertiary-level English packages which could be used. There were some multiple-choice question packages for secondary school pupils and quite a few games for younger children, but nothing which fitted the relevant courses. The programs needed, therefore, had to be produced in-house.

Not surprisingly, those subjects which could be treated like Computer Aided Language Learning (CALL) were the easiest with which to start. *The Basics of English Metre* by C.J. Kay was the first package produced. Metrics at an introductory level is a repetitive exercise, few students study it at school and the staff were having to spend too much time before they could go on to more interesting, advanced study. It has proved a useful package and is used not only in the three departments at Glasgow, but also in other universities and colleges. *Exercises in Old English* by Dr. J. J. Smith is based upon methods now widespread

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<sup>6</sup> This study first appeared in Marilyn DEEGAN, Stuart LEE and Christine MULLINGS, "Computing in Textual Studies", *Computers in Education*. See also Christian KAY and Jeremy J. SMITH, "Is There a Teacher in this Class", *Literary and Linguistic Computing* 6 (1990).



in the teaching of modern languages. It was the second package produced and has more responsive comments, and a grammar and glossary in the on-line help. Similar packages have been produced for *Older Scots* and *Old Icelandic*. Students have access to *The Historical Thesaurus of English*, a thesaurus of English from Old English to the present and to various literary texts including Shakespeare, Chaucer, Renaissance sonnets, and modern poetry.

A more recent development for the project is the use of hypertext to produce annotated texts for students of Old English, Middle English, Old Icelandic and Older Scots. Hypertext enables instant, in place access to supporting information, whether of a direct informative kind or of a more background nature—as, for instance, in D. M. O'Brien's *Piers Plowman*, which incorporates extended remarks on the nature of Medieval Law, or the Liturgy. The hypertext packages are conceived of as being more like learning environments in which the user can browse than conventional scholarly texts.

The programs are not designed to replace the teacher of English. Rather, the project team has found that they have freed the staff from teaching basic information in order to do more interesting things with students. The availability of the programs also makes it easier for students to revise at their own pace. STELLA classes alternate with ordinary tutorials. At the end of the year students are asked to fill in a questionnaire rating the computer part of the courses and listing complaints. So far, an average of 80 % comment favourably in spite of the fact that we had found that less than 10 % had any computer experience, not even with games or word processing. This percentage has improved only slightly over the last four years. The programs, therefore, have to be easy to use and the students must first be given an introduction to computers. A “getting to know the STELLA lab” class was introduced for each new intake in which students play games, do some word processing, and draw pictures to learn to use the mouse. The numbers of students of English has risen and they are increasingly making use of the STELLA resources in their own time as well as in scheduled classes.

Since the project began the team has learnt that computer packages take more time to prepare than standard teaching materials and that time for design, programming, and testing must be carefully estimated. While courses are in preparation the use of computers adds greatly to the work load of the staff involved and it is not until the second year that the benefits are seen. All are, however, entirely convinced of the great benefits to be derived from Computer-Based Learning and would not now willingly abandon this style of teaching.<sup>7</sup>

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<sup>7</sup> In June 1991 STELLA held a Symposium on the use of computers in teaching and research in English. Many different styles of computer use were demonstrated by the participants and all

### 3. Introduction of IT in schools

#### 3.1. Early Initiatives

The introduction of information technology into schools, both in terms of equipment and skills' training, has been carried out via a mixture of government directive and local implementation. The impetus from the centre has always been important, usually because some funding has accompanied any new initiative. Organisations such as the Micro-Electronics Programme (MEP) and later the National Council for Educational Technology (NCET) which have overseen such initiatives and continue to do so are themselves linked closely to government control and policy. This centralised approach to the introduction of IT in schools appears common throughout a number of European countries. No doubt the financial implications of funding new technologies tend to encourage a centralist approach.

Between 1981 and 1984 the Department of Trade and Industry (DTI) established a three phase programme, "Micros in Schools Support Scheme". The aims of the Scheme (published after its implementation) were: "(a) to promote awareness among school children of information technology; (b) to encourage the use of computers in education not just for computer studies, but as an aid to the teaching of all subjects; and to do this in the most cost effective way."<sup>8</sup>

This scheme certainly increased the number of micros in schools and stimulated the demand for more. It also resulted in a concentration of choice, since the computers had to be British made and most schools chose the cheapest viable option, the Acorn "BBC" computer. In 1991 Acorn machines were still by far the most commonly available microcomputers in schools, comprising 74 % of the total in primary schools and 56 % in secondary schools. One fortunate effect of having what was virtually a "schools computer" in the BBC computer was the growth of locally designed software for schools, often by computer units established by Local Education Authorities (LEAs). For example, one widely used program, *News Room Extra*, was developed by Shropshire LEA for use in schools on BBC computers and achieved national sales and prominence.

Undoubtedly commercial factors are also important and large companies do lobby education departments to sponsor particular developments. Tom Conlon and Peter Cope argue effectively that educational values have come rather far down the list of priorities when introducing new technologies nationally and

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involved enjoyed the exchange of ideas. The proceedings have been published and are available from the CTI Centre for Textual Studies.

<sup>8</sup> *D.T.I. Micros in Schools Support 1981-4 — An Independent Evaluation*, 1988, Centre for Applied Research in Education, University of East Anglia, p. 1.

political and industrial pressure and motivation have been highly influential factors.<sup>9</sup>

Training staff in the use of computers proved to be patchy. The government introduced "Education Support Grant" monies to train advisory teachers in IT "across the curriculum". Robert McCormick has calculated that the whole cost of this training programme meant that less than £ 50 was spent per teacher "much less than would be spent on teaching someone to drive".<sup>10</sup> LEAs established advisory teacher posts, usually releasing teachers for one or two years from their normal duties. The original DTI initiative in 1981-4 often resulted in teachers with Maths and Science backgrounds organising new courses in "Computer Studies", usually for pupils aged 14-16. A comparatively small number of students and teachers were involved in these courses, using all available computers in a school, with the result that initially the advent of microcomputers had little effect on the general curriculum undertaken by the majority of students. In a recent survey of students entering higher education in 1991 to train as teachers 10 % had never touched a computer and only 49 % had ever used one at school.<sup>11</sup>

### 3.2. The National Council for Educational Technology (NCET)

NCET was set up in 1988 from an amalgamation of two previous bodies: the Council for Educational Technology and the Microelectronics Support Unit. The amalgamations of existing institutions and the creation of new educational bodies which in turn become amalgamated or discarded, have created a shifting pattern of influence and responsibility during the late eighties and early nineties. No institution is given enough time to become fossilised in terms of its educational aims or practices. One characteristic of these developments remains paramount: that of government influence, direct or indirect. Possibly, as some critics and researchers aver, the latest thinking of the DES is evident from noting which

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<sup>9</sup> CONLON T. and COPE P. (eds), *Computing in Scottish Education: the first decade and beyond*, Edinburgh University Press, 1989.

<sup>10</sup> Robert MCCORMICK, "Curriculum Development and New Information Technology", *Journal of Information Technology for Teacher Education*, 1992, Volume 1, Number 1, p. 35.

<sup>11</sup> Survey of 251 students entering Sheffield Hallam University in the Autumn of 1991. These figures coincide almost exactly with those of the previous year, 1990. The PGCE students in 1991 (who already had degrees) still revealed that 8 % of students had never touched a computer even though they had spent at least three years in higher education. Half the PGCE students (50 %) had worked with a computer during their degree course but only 16 % had used one at school. These figures indicate that schoolchildren have had better access to computers at school in the last three years or so.

agencies are given responsibility for further developments and which are not, as well as which funding is dropped or further continued. The Project for Initial Teacher Education and New Technology (INTENT) is one example: "INTENT was funded to tackle an area perceived in 1990 to be of considerable importance, high on the political agenda... There was a discernible sense [in 1992] that the political agenda had moved on and IT was no longer a major concern of politicians".<sup>12</sup>

The NCET describes itself as "an independent company limited by guarantee, registered as a charity and supported by government". It looks on education technology as "learning technology". It currently has four priorities:

- to identify, promote and spread good practice in the use of new technologies,
- to provide professional guidance to teacher trainers so that they can help teachers and schools in managing IT and in applying it to all new technologies,
- to develop high quality curriculum materials and encourage other publishers to do the same,
- to give particular support for those concerned with children and young adults with special educational needs, including the handicapped.

Government funding is crucial and the NCET must alter its priorities in certain respects, to meet the requirements being laid down in current legislation before Parliament. For example, if teacher training takes place mainly in schools then the student's entitlement as regards IT skills will rest with the schools not higher education. Also, if schools are to receive virtually all the money granted for education 5–16, and the LEAs hardly any, then the training of "IT advisory teachers", a "major aspect" of the NCET programme will clearly have to change. Bodies such as NCET have to be flexible not only to the ever changing nature of educational technology but also to the changing educational infrastructure in the UK.

### 3.3. Current Situation

The present generation of children has greater access to computers in schools, with teachers who are "more confident" in using computers than they were. The DES Statistical Bulletin, 1991,<sup>13</sup> states "nearly all pupils had "hands on" experience of microcomputers in primary schools, compared with 84 % in secondary schools." Pupils may well be using computers more frequently

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<sup>12</sup> *Project INTENT: Final Report*, September 1992, Bridget Somekh, University of East Anglia.

<sup>13</sup> *Statistical Bulletin*, June 1991, Department of Education and Science, Darlington.

but are less likely to use them in language and literature lessons than in some other subject areas. For example, 27 % of all English staff used microcomputers regularly (at least twice a week) compared with 69 % Business Studies Staff, 92 % Computer Studies staff and 50 % of the teachers of Craft, Design and Technology. Headteachers reported that at least half the English departments in schools used "central computing facilities", that is a room of computers as opposed to having one or two distributed in their teaching rooms. This last comment implies that English teachers are using the general IT facilities in schools which therefore, are no longer entirely the province of Maths and Science specialists.

## 4. Recent Reforms in English

### 4.1. Kingman and Cox Reports

Both reports have influenced curriculum requirements for the teaching of English. They were set in train by government directives and indicate continuing government concern. The Kingman Committee was "established to advise the Secretary of State on what children should know about language". However, the Committee in their Report (1988),<sup>14</sup> defined the language needs of children as going beyond their school years: "People need expertise in language to be able to participate effectively in a democracy" (2.2). Committee members considered the impact of new technologies on language: "Round the city of Caxton, the electronic suburbs are rising. To the language of books is added the language of television and radio, ... the processed codes of the computer. As the shapes of literacy multiply, so our dependence on language increases" (2.7).

*English for Ages 5 to 16* commonly known as the Cox Report,<sup>15</sup> which formed the basis for English in the National Curriculum followed hard on the heels of the Kingman report. The terms of reference state that the subject area of "English comprises both language and literature, including poetry and drama", and the supplementary guidance to the terms of reference (cited 9.1) refers explicitly to IT: "English teaching will provide one appropriate context ... for developing information handling skills ... The practical use of word processors in developing writing provides an introduction to information technology." The report does not neglect the social aspects concerned with the introduction of new technologies (9.5). It indicates that machines within our culture are often regarded "as

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<sup>14</sup> *Report of the Kingman Committee of Inquiry into the Teaching of the English Language*, (The Kingman Report), 1988, London, DES HMSO.

<sup>15</sup> *English for Ages 5 to 16*, (The Cox Report), 1989. London DES and The Welsh Office.

a male preserve, and girls may need opportunities and encouragement to show that they can be just as expert as boys in such areas.” It even suggests single sex groups to “develop a confident and active understanding”. The Committee also points out that new technologies may be introduced only “to reinforce a traditional bias”, so their application does not always result in new learning situations. Different social classes may well have differing levels of access to educational technology and as far as possible schools should offer opportunities and benefits to all students.

The report suggests five areas where IT can be used advantageously in English lessons: to encourage writing for different audiences, to send and receive messages by electronic mail (particularly to other countries, a “powerful” way of creating “real audiences” for children’s writing); to give and respond to precise and accurate instructions, to comprehend systems of filing and classification, and gain an understanding of some of the ways in which information can be manipulated and therefore show increasing discrimination in their interpretation of such information.

The Cox Report particularly singles out the wordprocessor as offering opportunities for reflection and describes this software as “tools of creativity”. Reflection occurs in the writing up or reporting on any aspect of the English curriculum, including drama. Wordprocessing can aid analysis and review if wordprocessed work is discussed collaboratively and perhaps redrafted subsequently. The Report reinforces the notion that IT must not be regarded solely “as the province of mathematics, science and technology”.

#### **4.2. National Curriculum**

Legislation for the National Curriculum was included within the Education Reform Act, 1988. Programmes of Study for all areas of the curriculum were not completed for two years and change is continuing. Already, new changes are under discussion for both English and Technology subject areas. The National Curriculum is the first such curriculum devised for all state schools in England and Wales, although previously the vast majority of schools included a core of similar subjects. The NC is prescriptive in terms of attainment targets for each subject area and for 10 levels for each attainment target. The English section, a foundation subject, builds on the findings of both the Kingman and Cox Reports. English has 5 attainment targets (1 Speaking and Listening, 2 Reading, 3 Writing, 4 Spelling, 5 Handwriting/Presentation). The first four all have 10 levels, and Handwriting/Presentation has 7 levels. Statements of attainment are given for

each level and examples of what pupils and students can do to achieve that level of attainment. For example:

Attainment target	Level	Statement of attainment	Example
1 Speaking and listening	4	(c) take part as speakers and listeners in a group discussion or activity, expressing a personal view and commenting constructively on what is being discussed or experienced.	Draft a piece of writing with others, on a wordprocessor; contribute to the planning and implementation of a group activity.
2 Reading	6	(d) select from a range of reference materials, using appropriate methods to identify key points.	Research a public figure, using posters, interviews, publicity materials, databases, etc.
3 Writing	7	(d) demonstrate an increased awareness that a first draft may be changed, amended and re-ordered in a variety of ways	Change the form from a story to a film script; restructure text on a VDU or alter sentence structure or choice of vocabulary
4 Spelling	3	(d) in revising and redrafting their writing, begin to check the accuracy of their spelling.	Use a simple dictionary, word book, spell checker or other classroom resources.
5 Handwriting/ Presentation	6	(d) Show some ability to use any available presentational devices that are appropriate to the task, so that finished work is presented clearly and attractively.	Handwriting, typewriting, computer printout, artwork, computer graphics, desktop publishing.

The use of IT is always suggested in terms of exemplary use, as one of several examples. In this way, no one is contravening the law if a pupil never uses a computer in English. On the other hand, the frequent examples do indicate a view that some knowledge of computer applications is both helpful and desirable. Programmes of study, (POS), "the matters, skills and processes which are required to be taught to pupils", set out the "essential ground to be covered to enable pupils to meet the attainment targets". Again, all inclusions of IT are phrased carefully:

POS Reading (3) The reading material should include material which relates to the real world, such as labels ... notices ... diagrams, computer print-out and visual display.

POS Writing: general provisions (25) pupils should have opportunities to "produce writing and proof-read on a word-processor".

The latter statement sounds as if it is a definite requirement but is in fact less impressive since it is the 7<sup>th</sup> item in a list of 18, for all of which "pupils should have opportunities".

Both the Cox Report and the NC focus on the use of generic software such as wordprocessors, databases and desktop publishing which are content-free. E-mail and spell checkers are cited as being useful for specific tasks. The "content" comes from the English programme of study which, of course, is the primary focus. Wordprocessing for example is suggested at varying levels and various key stages. Redrafting and editing written work are important considerations in the NC as they have been in English teaching for the last decade. Public examinations at 16 (the age of leaving school) had moved towards 100 % assessment of coursework with acceptance of a proportion of word processed drafts.<sup>16</sup> Now the situation is changing. "Instant death" examinations are coming back into fashion so wordprocessing may feature less as an integral part of written work. Revising and redrafting are still included within the NC but may not continue as a significant feature of work if pupils are to sit down for a one off written examination paper.

### 4.3. Parallel Developments

Alongside the central directives local initiatives have flourished, particularly where a group of interested teachers coincided with a local authority offering some funding. For example, Cambridge LEA, The Eastern Arts Association, Cambridge University and the NCET<sup>17</sup> together funded a very imaginative e-mail project. They resurrected the epistolary novel. Two professional writers in the guise of (a) a retired explorer, (b) a prisoner in jail, asked children to write letters about their explorations or prison experiences. These pieces were commented on by the writers and collected within a book form. In Derbyshire the local authority funded the development of two simulations, HIJACK and MURDER,<sup>18</sup> which involve large groups of pupils with a variety of stimulating oral work as well as the development of newspaper articles. Newsday simulations have been a feature of e-mail networks notably CAMPUS 2000, where news was transmitted downline to schools who completed the newspaper to a deadline, paralleling the actual situation in a newspaper office. A number of correspondence projects took advantage of e-mail, such as "Friends Across the World", in Sheffield, where pupils in a number of different countries sent letters and information to each

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<sup>16</sup> Universal agreement to accept wordprocessed drafts took some time to come into being. The various examination boards accepted (or refused) different proportions of wordprocessed text for assessment. See Moira MONTEITH, *English and Computing*, 1988, Sheffield City Polytechnic.

<sup>17</sup> See an account of this project by Brent ROBINSON, 1993 *Language and Computers*, ed. Moira MONTEITH, Intellect Books, Oxford, pp. 71–78.

<sup>18</sup> See an account of this by Chris WARREN, 1993, in *Language and Computers*, pp. 79–93.



other. E-mail use may decrease in the near future since schools are trying to cut down on expenditure and may well not view e-mail as a priority.

Publications concerning computer applications in English have proliferated in the last few years. NCET includes an "English Newsletter" among its wealth of publications. This gives notice of forthcoming courses and conferences, examples of good practice and suggestions for classroom applications. The National Association of English Teachers has also published a number of documents on English and IT, usually of a very positive nature. LEAs have produced numerous guides and newsletters for their local schools in order to publicise good practice within their area.<sup>19</sup>

Currently the NCET is organising a new national initiative in schools, involving the use of CD-ROM resources. An evaluation of the first stage has been written by staff at Sussex University, detailing a number of projects in different schools. Newspapers again seem to furnish an undiminishing resource: "I know that several [pupils] read more newspaper reports for that one piece of work than in all the weeks I had been encouraging them to read".<sup>20</sup>

## 5. Teacher training

No specific funding was made available for teacher training in IT although a government report made definite recommendations regarding student access to computers and staff development.<sup>21</sup> The NCET has circulated most efficiently information concerning good practice among teacher training establishments. All established their own staff development programmes with what funding they could and incorporated the use of IT within the student curriculum. The NCET also set up its own project, INTENT, in which five institutions collaborated in a staff development programme. The staff involved analysed their experiences as part of an action research study and the findings have been published and circulated to other teacher training institutions.<sup>22</sup>

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<sup>19</sup> Examples of publications include: *IT's English*, 1988, (reprinted 1990) NATE publications, *Computers in English*, edited by Rosetta MCLEOD, Grampian Regional Council, *The Mouse and the Muse*, Trevor Millum, RESOURCE, Doncaster.

<sup>20</sup> Stephen STEADMAN, Colin NASH, Michael ERAUT, *CD-ROM Evaluation*, 1992, Sussex University, p. 28.

<sup>21</sup> *Survey of Information Technology in Initial Teacher Training: report of the Expert Working Group* [Trotter Report], 1989, London, HMSO.

<sup>22</sup> See INTENT Strategy cards, discussion documents plus 5 booklets: *Developing Information Technology in Teacher Education* (DITTE), available from NCET, Sir William Lyons Road, Science Park, Coventry CV4 7EZ, UK.

The Committee for the Accreditation of Teacher Education published particular requirements for student teachers: they should be able to (i) make confident personal use of a range of software packages and IT devices appropriate to their subject specialism and age range, (ii) review critically the relevance of software packages and IT devices to their subject specialism and age range and judge the potential value of these in classroom use, (iii) make constructive use of IT in their teaching and in particular prepare and put into effect schemes of work incorporating appropriate uses of IT and (iv) evaluate the ways in which the use of IT, changes the nature of teaching and learning.<sup>23</sup>

In the case of English this would mean undoubtedly a good working knowledge of at least one wordprocessing package with the potential of transferring these skills to other wordprocessing software which might be found in schools. English teachers would be expected to know of the potential of other packages, for example, simulations such as HIJACK and new hypertext software such as *Twelfth Night*,<sup>24</sup> work with e-mail, and with a range of desktop packages to produce class newspapers or magazines.

## 6. Conclusion

New commercial productions, for example CDI, which may well become very common in the home will doubtless have a considerable impact on education. Current moves in HE towards the use of more open learning or distant learning systems in order to increase the number of students entering higher education may be paralleled in schools for rather different reasons. Indeed NCET has built up already a body of expertise and material on this approach. Such developments will encourage student-centred and even autonomous learning. In the case of HE, students may study at home or certainly at some distance from the university campus. However, school education from 5 to 16 guarantees a certain amount of social control (truancy statistics are to be published as one of the checklist items of a school's rating). In the case of schools, learning packages could release teachers (in the best sense) for small group teaching and tutorials while many of their pupils follow individualised curricular pathways.

Differentiation between HE and school-based learning will probably become less distinct during the next few years. Students will take up educational

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<sup>23</sup> DES Circular 24/89: *Initial Teacher Training: approval of Courses*.

<sup>24</sup> CD-ROM exploration of play by Shakespeare, incorporating text, history of the theatre, contemporary history, glossary with sound, graphics and animation.

courses at different times in their lives, not only in their late teens and early twenties as has been traditionally the case. New technologies in a multiplicity of forms will encourage this “drop-in” or “up-date” approach to education. As practitioners in this field, we believe students and pupils of all ages have much to gain and hope that these opportunities for learning and research in english studies will be fully realised and not channelled into comparatively narrow pedagogical ends.