

English and ICT - How we got to where we are going: An English Experience from the early 1980's to 1999 and future prospects

Good afternoon, I am very pleased to be here in Thessalonika to share some of the experiences we have had in England over the last few years. My talk will trace a personal journey through various British government initiatives concerned with information communication technologies, which I will abbreviate to ICT, considering their impact on teaching and learning styles. I will explore how they are transforming the nature of the subject we teach and conclude with a reflection on current developments and their impact on future learning, in particular the extension of learning beyond the classroom.

I think it was the Cheshire Cat who advised Alice in Alice in Wonderland to begin at the beginning so that is where I will start. I am indebted to Sally Tweddle, who did so much during her time at the National Council for Educational Technology to promote the cause of IT in English teaching for the route map of government initiatives which have brought us to where we are today and which I will use to guide you through the past 18 years.

The Micros in schools programme brought the first wave of computers into secondary schools in 1981 and extended into primary schools in 1982 but it was 1983 that proved to be a watershed year for secondary schools as the Technical and Vocational Education Project (TVEI) provided considerable funding for computers in curriculum areas in secondary schools. Initially computers were located in specialist IT rooms or maths and science departments but it was not long before some English teachers realised firstly, that there was a pot of money out there and it would be worth investigating ways of getting hold of some of it, and secondly, that those resources might have an impact on pupils' reading and writing skills.

At that time I was teaching in a secondary school. One of my classes consisted of 20 disaffected 15-year-old boys who had failed to achieve functional levels of literacy. My attempts to introduce them to the delights of English literature were falling on stony ground; a frequent response to what I had thought was a gripping narrative would be, 'Miss, this is boring, why can't we play a computer game?' I was reluctant to take up that suggestion as, at that time, computer games were rudimentary; I believed that the games were limited in the language demands they were making on the players who were simply required to input monosyllabic words such as pick up and go left. However, eventually I was beaten into submission and the rubber keyboard of the Sinclair Spectrum was introduced into my classroom.

To my surprise, I observed a marked improvement in standards of speaking and listening and thinking skills as pupils began to hypothesise and collaborate meaningfully with each other in an attempt to solve the problems posed by the game. My experience was mirrored in many other English classrooms; anecdotal evidence suggested that, when pupils were working in small groups, computers could support collaboration, creativity, independent learning, and most powerfully provide purposeful, real contexts for talk.

Alongside this, however, there were justifiable concerns that commercially produced software concentrated on drill and practice such as spelling and punctuation programs that required a correct answer and closed down pupil responses. This led to groups of teachers developing software for the BBC computer specifically designed to promote language skills; these were principally simulations like Space Program Alpha, 1984 and Siteseeker, which sought to encourage problem solving and investigative talk. Daniel Chandler's pioneering program, Word Dance, opened English teachers' eyes to new ways of exploring texts, poetry and animated words. Under the aegis of the Inner London Education Authority, Bob Moy created the program, Developing Tray, which enabled pupils to use predictive reading skills to recreate hidden text

just like a photograph is developed in a tray of chemicals. It encouraged pupils to draw upon their knowledge about language to decode a particular text. Pupils used the notepad facility within the program as a means of their pupils' emerging and changing reflections on the text being read as it was disclosed, making explicit their implicit knowledge about language at both whole text and sentence level.

The next breakthrough for English teachers came in 1988 with the Educational Support Grant which provided local education authorities with funding to appoint subject specialists as IT advisory teachers. I was one of these. Our brief was to bring IT into mainstream English classrooms building on the lessons learned from the National Writing, Oracy and Language in the National Curriculum Projects, for example, the importance of drafting and writing for real purposes and audiences was clearly an area where word processors and desk top publishing facilities could enhance the quality of pupils' writing. Local teacher support groups were established which conducted small-scale action research projects focussing on the impact of ICT on teaching and learning styles. Advisory teachers were supported in their work by the then National Council for Educational Technology whose joint publications with the National Association for the Teaching of English did a great deal to disseminate the work.

The continuing drive to establish what real value IT has for teaching and learning led to a succession of government initiatives relating to ICT: CDROM, interactive video, portables in schools, integrated learning systems and information superhighways projects. One school in the latter project, Highdown School in Reading, has implemented a connected learning community where the school hub which holds curriculum information and resources may be accessed by its pupils, parents and partner schools. All these initiatives represent a continuing investment in ICT by governments although it would be true to say that their impact on schools over the years has been patchy; there are pockets of excellence but also large numbers of schools in which pupils receive an impoverished experience of ICCT applications in curriculum areas.

This is about to change: we are now at a point in England where the technological revolution will impact on all schools.

The first Education White Paper of Tony Blair's Labour Government stated that:

"We are determined to create a society where, within ten years, information and communications technology has permeated every aspect of education."

The structure set up to deliver this objective is the National Grid for Learning or NGFL for short. Its objectives are 3 fold:

Firstly, the creation of a profession of over 400,000 teachers who can personally use the technology effectively while understanding the pedagogic issues surrounding its use. (This is being provided under funding from lottery money, which gives each teacher a training entitlement from a set of vetted training providers. This is not ICT skills based but firmly located within the subject discipline)

Secondly, providing learners, teachers and institutions with access to educationally viable content and services. (This will be delivered through the virtual teacher centre on the Internet, whose content will grow to meet the needs of a growing and diverse educational community)

And thirdly, providing an infrastructure of resource that allows a widening community the opportunity to effectively access the educational value of the NGFL. (already some pupils access their work at home, local public libraries and community centres are being equipped

with communications and digital broadcast technology to create an extended partnership between home and school which should raise educational standards)

We are not, however, starting from a blank sheet of paper. From our early experiences we have learned an enormous amount about the difference ICT use makes in terms of teaching and learning styles in particular the effect on the teacher pupil relationship when the pupil is both more confident and competent with the technology than her teacher. So what do we know?

We know that ICT applications in English can promote the integration of reading, writing, speaking and listening. Pupils' talk can be focused and the precise oral communication of ideas and decisions is encouraged. When pupils are writing collaboratively on screen, they continually read aloud what they have written, explore alternative versions, discuss suggested alterations in detail, listening closely to suggestions and responding to them. When pupils take part in a computer simulation or an on-line newspaper day during which they have to receive and act on information in a specified time, the tight deadlines by which they have to respond to a computer instruction gives a clear focus and sense of urgency to their debates.

Action research studies undertaken by practising teachers in the early 80s have demonstrated that pupils' learning skills are enhanced through the use of ICT applications; pupils show greater willingness to redraft work, explore more than one information source and synthesise information because ICT makes redrafting, information retrieval and data analysis easier by reducing the labour involved.

Pupils' reading may be supported in many ways through the use of ICT. In the early years of schooling beginning readers can be helped through the use of interactive story CDROMs which read the text aloud; more experienced readers can develop their skimming and scanning skills through searching CDROMs or the Internet. Furthermore, ICT can support and enhance the study of literary texts, for example by researching the social, historical and cultural context of a pre-twentieth text using CDROM or the Internet or by using the Internet to find out about living writers and emailing them with questions about their work or joining an on-line conference to exchange opinions about a text with readers from around the world. .

ICT allows pupils to work with texts and explore their meanings in ways which would not always be possible through a paper-based activity. Pupils can quickly explore what happens to the meaning of a text when verbs are changed from the past to the present or from active to passive. Texts may be redrafted with ease allowing explorations in genre such as editing a prose description into a poem, an interview into a news report, a description of an activity into a set of instructions

Pupils' writing may be enhanced through the use of ICT, as well as computer generated writing frames which assist in the structure of a text by providing paragraph prompts, the use of spelling and grammar checkers, integral dictionaries and thesauruses allows them to focus on the content of their writing. All pupils are able to produce polished presentations of their work, poor handwriting is no longer an impediment to the production of professional quality publications. Writing skills can be extended beyond chronological and linear writing to those which encompass multimedia authoring through constructing a branching narrative in which different aspects of the story are told in words, images and sound by different characters.

The link between audience, content and presentation may be easily explored through the use of ICT as it extends the range of options available to writers; work may be presented in ways which could not easily be attained using pen and paper for example by integrating graphics in word processed documents, sound and moving images in multimedia presentations. The range of audiences for their work may be extended and enhanced through the use of ICT; direct contact with real audiences beyond the classroom and the local community is achieved through

by providing access to the Internet or by using fax and email. One class of five-year-old pupils in a Reading school has been in regular email contact with a similar class in America. Their messages have had a clear focus on language, through questions posed and the responses given these pupils are gaining an understanding of the differences between UK English and US at a very early age. The presentation and organisation of pupils' writing may be easily adapted to meet the needs of different audiences for example information about the school may be produced as a video tape for use at a prospective parents' evening, a booklet aimed at primary school pupils or as a web page on the school's site.

From that brief list we can safely say that it is difficult to identify a single development which has the potential to be more influential on the quality of teaching and learning than the use of ICT in curriculum subjects. So I will move to consider the future and its impact on the nature of the subject we teach.

English as a subject is essentially a curriculum of communication between speakers and listeners, readers and writers using language to develop and facilitate the exchange of thoughts, feelings, ideas and information in the most effective way. We are now living in a multicultural, multilingual society, albeit one where the lingua franca of the Internet is English, where technological developments, in particular the global expansion of media technologies, are making increasing demands on the literacy capabilities of readers and writers. The nature of text, the processes of reading and writing and contexts and purposes for reading and writing are changing as a direct result of ICT.

Recent communications technologies have shown their potential to transform the nature of the subject of English. As electronic communications become much easier to use, pupils are already reading texts, which may only exist electronically in another country. Texts written and read are no longer solely printed texts composed of words alone with a few illustrations. The range of texts and how people access them has widened; a visit to a library may be made either in person to select a book, video or CD from a shelf or from home, office or cybercafe in the local supermarket using a computer and modem to access the libraries on the Internet. Electronic texts are composed using a number of modes integrating text, image, icons, sound, animation and video sequences. These texts are often non-linear in format, often multi-authored, interactive and the path the reader takes through the text may not be the same on a subsequent rereading. All electronic fiction provides an element of interactivity; it is commonplace for a multiplicity of narrative threads to be built into a text and for no two readers to take the same path through it.

Images are becoming increasingly dominant as a form of communication often with the written text used as the medium of commentary on the images. This does not mean that printed text in book form is redundant; it remains eminently portable, requires no power source and allows readers to re read it and find it unchanged. Neither does this mean that there is no place for hand-written communication, pencils and pens are themselves powerful word processors. Perhaps, most importantly, the traditional distinction between author and reader is now less clear; there is a new, closer, more immediate interface between writers and audiences; through the Internet anyone may publish easily and reach a potentially world wide audience in seconds. That one text held on one server is then available to others to use, combine with others, redraft and publish again. We are becoming a community of writers.

What we understand by writing and the writing process has also changed dramatically; developments in multimedia have moved the computer from being a paper based presentational tool to creative one which takes account of the differences in contexts and purposes for reading and writing appropriate to today's publishing landscape. The computer facilitates the composition of texts, which combine words, images and sound. A further effect of the technology is that collaborative writing is easily possible. The classroom is unbounded in both time and space; collaborations can take place not only between writers in the same

classroom but between writers across the world. Pupils in England studying Arthur Miller's play *The Crucible* engaged in video conferencing sessions with pupils in a school in Salem, America to clarify their understanding of the text.

Forms of writing have been relatively stable but electronic mail (email) and conferencing reduce the distance between readers and writers thus developing a different form of writing in which the grammar and syntax is more akin to that of speech than that of writing. Email is often not composed in complete sentences, the language is much more informal and errors of spelling, style and syntax are tolerated in a way, which they would not be in a printed text.

All of this creates new demands on teachers of English and requires a rethinking of what it means to be literate and how to teach those literacies. The key questions to consider are: what do pupils need to be taught about different ways of reading and writing texts in the light of newer technologies and how can those learning opportunities be provided? Pupils need to understand the strengths and weaknesses of the new forms of text and their appropriateness for particular purposes and audiences. This will require them to broaden their understandings about texts in relation to the medium in which they are written (text, graphics, sound, multimedia), the mode of transmission (print or electronic) and the form (email, web page)

There is a blurring of the distinction between schooling and learning, the recognition that learning takes place not only outside the classroom but also throughout life. Out of school literacies are dominated by the moving image media of television and the non-linear narratives of computer games. We are living in an information rich society in which people have greater access than ever before to vast amounts of information available across the world. If a literate person is one who is able to maximise the opportunities for reading and writing texts which are afforded by the technology of the day, then we need to look at what opportunities are offered by the technologies of today and build those into our teaching programme.

There is, however, always a gap between the rhetoric and the reality. ICT within all subjects has not always delivered what it has promised. I can recall Professor Stephen Marcus of the University of California talking about hardware, software and what he termed vapourware, in other words ICT applications that have the potential to transform teaching and learning yet which exist only as a vague idea in the heads of software developers. Consequently many teachers have yet to be convinced that ICT can or will make a difference to teaching and learning, let alone enhance it.

For English teachers this is often bound up with their views of what constitutes the teaching of English. Deeply rooted cultural views of many English teachers are at odds with the visionaries of ICT. Many English teachers believe that the purpose of teaching English is to enhance the individual's personal growth through the study of literature to develop pupils' imaginative and aesthetic lives or that the teaching of English should be primarily concerned with imparting the cultural heritage of the richness of English literature. In fact the range of reading demands of our English National Curriculum reinforces that position requiring the study of pre and post 20th century prose, poetry and drama with Shakespeare deemed a genre in his own right. We cannot therefore be surprised that teachers see little relevance in enabling pupils to become authors themselves to a potential worldwide audience.

Furthermore, pupils' own competence in ICT often outstrips that of their teachers. This can be extremely disturbing for those teachers who have positioned themselves as imparters of knowledge or as the interpreters of great literary texts. The purpose and role of the teacher has yet to be clarified and refined in the context of using ICT but it would seem that a change of role is needed requiring the teacher to move from being seen as a conduit of knowledge towards her becoming a partner in learning, an investigator, a guide and supporter in scaffolding pupils' thinking and a challenger in developing their critical literacies.

In conclusion, I would like to believe that classrooms in England are filled with teachers and pupils who are making full use of ICT in their lessons but this is far from the case. As recently as 1997 the Technology Colleges Trust Survey showed that fewer than one-fifths of teachers had sufficient confidence and competence in the use of generic IT applications to enable them to apply applications or to develop IT capability in pupils. Why have the majority not embraced the opportunities? There are four main inhibiting factors: schools' lack of resources teachers' lack of basic skills, teachers' ill defined understanding of the pedagogical issues, strategy overload and teachers' conservatism. Teachers in England are overwhelmed by government initiatives aimed at raising standards: we have national strategies for numeracy and literacy, a revised National Curriculum to implement so, for many teachers, embedding ICT in their teaching is the lowest priority. Access to ICT resources at the point of need either within the classroom or in a dedicated ICT suite is essential but it is the lack of basic skills which is the key factor. The ability to make appropriate decisions on why, when and where to use ICT depends in some degree on teachers' knowledge and practical use of the technology.

Countering this is the three pronged approach of the NGFL to which I referred to in the opening of my talk seeks to address all three barriers to teachers' acceptance of ICT and this is why I think the Government strategy of NGFL has the potential to succeed in all schools and thus reach all pupils. The encouraging factors are: financial investment in resources leading to improved access in the workplace and at home; an extensive programme of teacher education for all teachers which is providing guidance on how best to integrate ICT in subject areas ; expectations from pupils who use ICT daily at home; and teacher enthusiasm when they can see the potential.

The government's NGFL vision is ambitious; it is for schools and teachers to make it happen, to demonstrate the added value to learning given through the use of ICT, to make ICT use indispensable in the curriculum. The pupils we teach are keen to embrace the new technologies and it is essential that we as teachers explore with them what is on offer and help them develop a critical literacy.

Thank you.