

## **DISTANCE EDUCATION AND TECHNOLOGY: A LONG MARRIAGE**

Alan Tait  
Professor of Distance Education and Development  
The Open University  
United Kingdom

### **Abstract**

In this keynote I want to remind us of the very long heritage of technology in educational contexts, and the impact it has had in all its variety on our experience of the world. My overall theme is that while the current wave of innovation in technology for innovation is radical - I am in the radical camp and believe that Higher Education will for the most part look very different in ten years time. We should at the same time take cognizance of the earlier waves of innovation. Why? Firstly, this should support an appropriate level of modesty, and prevent the natural propensity of innovators to think they - we- are the first generation to do radical things. Secondly, we can when we look at earlier waves in innovation learn about the ways that - and this is core to my thesis – over a very long period technological innovation has very significantly changed the ways in which we experience and understand the ways in which we learn. This will give us confidence to accompany our modesty!

### **A Historical Perspective**

#### **Early Days**

I want to take us back to 3500 BC, or BCE in the more correct usage. The clay tablets from the Babylonian period are the first use of writing in the Western world (I cannot speak for Chinese history). They record amongst other things on a yearly basis statistics on wheat harvest. Why is that worthy of note now? I suggest that the use of technology, which includes both an alphabet and its associated symbols, is here providing a basis for learning. It allows the managers who work for the royal family and the aristocratic landowners to analyse the progress or otherwise that they are making in their agriculture. It also, and importantly for our discussion, provides a dimension of distance that changes human experience. The dimension of distance that is introduced into human experience here includes that of time. For the first time instead of human experience being informally held in memory and reproduced only orally, it was recorded and was available for learning and consultation from one year to the next. The concept of data was invented, which objectivises the human experience and removes it from the sole prism of the subjective. A more objective perspective becomes for the first time available, with the possibility of an appeal to recorded facts. Human experience had changed. And human potential to manage and improve its society had also changed.

### **Middle Ages**

We can move on to the book in the medieval period. This introduced a further dimension of distance to human experience. The first books introduced the notion of portability. In other words, they could be carried from one monastery to another and, using the European lingua franca of Latin, meant that scholars could communicate across very wide spaces, from Bologna to Paris, from Cologne to London, from Madrid to Munich. The book at this stage in technological terms was a craft product, written by hand and often richly decorated on the page and a thing of high value. It was rare. But it represents a very important step in the impact it made on the distancing of knowledge and scholarship from the individual who generated it. You didn't need to go to meet Dr X to learn what he (and it was a he) had to say. With Gutenberg and the printing press we have a further acceleration and intensification of this trend with the ability to make multiple copies quickly of a book or pamphlet. This of course made the potential number of readers much greater and brought cost down. The cost of books did not substantially reduce for much wider social availability until advanced industrial processes of printing, binding and commercial distribution arrived in the 19th century in Europe, accompanied for the first time by widespread literacy. However we can see that the intimate relationship between technological innovation and the movement of knowledge through space and time, is already well under way before industrialisation made it so much more widespread.

### **Coaches and Trains**

The stage coach network with regular routes came into being in England through the seventeenth and eighteenth centuries, carrying people, goods and the mail. In France an entire genre, the epistolary novel was created out of the stage carried mail service, with the novel *Les Liaisons Dangereuses* allowing us for the first time into a world of social relations that were intimate and brutal. Anyone reading Jane Austen will remember the journeys that were taken for leisure to the spa town of Bath, and to London, and the letters that came to and fro conveying the most intense and intimate of interactions. The mail created an intimacy in sharing experience for people who were not in the same place that changed the ways human beings were able to relate to each other.

But railways I propose represent the next substantial step towards the reshaping of human experience through separating place and time. The development of a rail network in the UK from the early nineteenth century made a remarkable difference to the ways in which people experienced the world. Firstly people could travel great distances more quickly than ever, developing suburbs in the countryside round towns, i.e., you could live in one place and work in another and separate your working life from your personal life. It made journeys of discovery possible, and more mundanely made seaside holidays possible for the urban masses. It allowed Charles Dickens to visit his mistress whom he set up in another town, but whom he could easily visit using the train. This distanced his marital home from his mistress' home, which represents a new kind of distancing of experience for him and of course for the women involved. And it was the rail

network that carried the mail so quickly from village to town and back, and made the development of the rapid dispatch of correspondence teaching materials possible from 1840 or so with Isaac Pitman's course on shorthand. The railway compressed time across distance and compressed the sense of geography. It changed human experience and understanding of the world.

### **Phones and Radios**

Let us think next about the telephone, the device for speaking at a distance. Invented by Meucci of Italy or Bell of Scotland, both working in the USA in the second half of the nineteenth century. It changed human experience radically. For the first time you could speak to someone who was not physically present. This extraordinary new experience became widespread through the 20th century in towns and then villages in Europe. I can still remember people of my parents' generation who were very uncomfortable on the phone, feeling inarticulate when their personal relationships were mediated in this way. And just recently on *The Archers*, the radio soap programme about country folk on BBC radio that has run for more than 60 years, I heard one character having romantic problems say to his partner, "I can't talk about this on the phone: it's too distant." But we should not underestimate the ways in which the telephone has changed the experience we have of human relations, diminishing the immediacy of geography as the controlling parameter of all live interaction. And of course it was incorporated into distance teaching from the 1980's on, diminishing the need for students and teachers to be in the same room in order to interact.

Let us turn briefly to radio. In 1922 the BBC started mainstream radio broadcasting. As the technology spread, and it spread quickly though the purchase of what were called wireless sets, this meant that a national culture was accelerated into a dominant position. National and international news was disseminated immediately. The first educational experiments took place in that decade of the 1920's, both formally and of course informally with the propaganda potential of national radio recognised very early on. The BBC accent began to push its way into greater dominance of local accents. The availability of national and international performers live on the radio diminished home entertainment. We became more and more consumers, and not creators, of culture. Thus more and more people began to feel a sense of national identity, as well as, or in some cases instead of, local identities. Television after the Second World War in the UK drove that process further, with the compelling addition of video to audio. TV was seen as a core component of the new Open University in the UK, with the original title of the institution being the University of the Air.

### **Today—Computers and Beyond**

The advent of the easily portable computer, initially a laptop and now very widely a tablet, has again changed human experience. We should mark too the invention of the search engine from the 1990's which was as radical in its potential for changing the dimensions of time and space as Gutenberg's invention of moving print. The capacity of the search engine to make available all the products and

sources of information on a global scale is truly staggering. It has already become so familiar in just over 20 years that we take it for granted. Now combined with wireless and laptops or tablets, it has depressed the limiting character of geography, and fascinatingly so for education. We don't have to go TO school or college anymore. And it has brought in a whole range of new practices for learning and teaching, with Gilly Salmon's work on e-moderating now a classic account of how the teacher no longer needs to provide the content but to guide the learner to and through the content.

Wifi combined with laptops and tablets is breaking down at great speed the conventions of social geography that we grew up with. As we come to expect wifi as we expect electric light, in stations, buses, airports, cafes, shops, hotels and holiday homes, we can access people, resources, learning from wherever we are and wherever they are. The reason for being in a particular place has changed. It is a remarkable privilege to live through this revolution, and observe oneself changing habits of a lifetime, e.g., in my case no longer buying a paper newspaper.

We need also to recognize in MOOCs not that they represent necessarily a new and long-term model for education. But they are certainly a symptom of ways in which this set of technological developments, along with social and political contexts; combine in ways that will be powerful for the future. Firstly they remind us of the passion for learning. When opportunities for learning are presented that are easily accessible and with no cost millions of people come forward. Secondly, and more arguably, they may well offer a sign to the effect that the cost of Higher Education at least in North America and England, where the user pays and not the taxpayer, is now starting to give real fear about value for money. In England a new graduate will have a debt of about £ 50000 or nearly 60000 Euros, which can be borrowed from the government and repaid over 30 years. Numbers of school leavers going to university are down by about 10% so far, but numbers of part-time adult students are down by 40%. There are two other points that seem to arise out of the MOOC phenomenon. Firstly that ICT is central to the new solutions for education that need to be found, and secondly that despite all the inadequacies of the pedagogical models that have been pointed out, the Research led universities have taken a deep interest in the potential of ICT to change models of learning and teaching.

As we look back over the past 30 years or more of using ICT in distance education in both the single mode or dual mode or blended institutions we can find an embedded history of these technologies, that leave behind organisational evidence like fossils in a cliff face. A good example of this lies in the regional structure of the Open University across the countries and regions of the UK. Established at the beginning of the 1970's as an integral element of the student support system, to provide services as near to students as could be managed, their function in a world where geography has ceased to be the defining parameter of nearness has been changed, but they still exist between one world and the next.

In pedagogic terms ICT has provided very significantly new possibilities for interaction, making distance learning for the first time able to get students working together in teams, developing oral and presentation skills. But there are important continuities also. Above all I propose the key value must remain to maintain students as subjects not objects in the educational process, that is to say as partners in not consumers of learning. ICT well planned and managed, driven by values that are educational, is well placed to support that.

I want to come to now, having I hope provided an overview of the ways in which technologies have changed the human experience of learning, in particular with the distancing of experience from place and time, to develop an understanding of what is going on under the surface.

I want to introduce, borrowing from Anthony Giddens, the term *disembedding*. By this term Giddens identifies a process he observes of the long term lifting out of individuals from the monopoly of the local. In particular he proposes that mass communications systems have had this effect. This term disembedding captures in my view the long- term impact of technologies on the educational experience specifically that we have been discussing. Its acceleration through ICT is reshaping societies and the ways we experience them as fast as the industrial revolution did in England in the early nineteenth century. Along with all the exciting new possibilities, there remains a challenge of access that can be best understood using this term disembedding. For example the OU is having significant difficulty in serving students in prison, a population whom I can say the OU has served with honour for 40 years. But with our programmes of study being now so significantly online and our students needing to find and use resources on the Internet the very limited access that prisoners have is making many programmes of study that were formerly accessible now inaccessible. The students in prisons cannot disembed themselves, indeed imprisonment can be understood as a hardship precisely because of that. More generally, older people are not being included or including themselves in the online world. The 2011 report from the Nominet Trust says that for the over 65's in 2011 in the UK only 25-35% were using the Web. A range of proposals are made to build on this level of use, which has been relatively static over the last 10 years.

The penetration of the Internet demonstrates both the extraordinary rate of change, and at the same time the regional differences, with for example Africa's population despite the progress of mobile phones being threatened with marginalization due to the population's low levels of engagement in relative terms with the resources and communications affordances of the web.

So along with our excitement about the mainstreaming of ICT in educational as well as other contexts, we have to remember our responsibilities for, as with every development, those who seem to be marginalised.

Our obligations to students present and future as educators must include the recognition that disembedding driven by technology is a long-term process that is independent of us, and we must ensure our students benefit from its liberatory potential. Thus I believe the wise application of ICT in educational contexts creates for students as much of a learning obligation as the subjects studied. The skills involved in the identification of relevant resources and the evaluation of their quality, along with the networking and social skills needed in an on-line world, represent centrally important life skills. I am interested to learn with my grandchildren that research and investigation skills are now taught in primary schools, whereas in my youth it was not really begun until post-graduate level. ICT in the classroom makes this possible.

I hope my overview of the way in which we have used technology over several millennia to adjust the dimensions of space and time, and have thus changed human experience and more particularly how we learn, has provided a valuable framework in which to understand the continuity that the application of ICT in educational contexts represents, rather than being something completely new. That should give us both confidence and modesty in our endeavors!