Learning technology – a backward and forward look

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For those who are not connected with ALT, I stopped being Chief Executive of ALT in May.

This, my twelfth ALT conference – I took part in the first two (in 1997 Telford and 1999 Bristol) as an employee of a member organisation – is the last one in which I will have had any kind of production role (and a minor one at that).

I and ALT’s Trustees had planned for some years that I would stand down when I hit 60, to such an extent that this now expired (and doctored!) credit card began to symbolise for me everytime I used it the fact that by July my working life would have changed.

So back to this talk. Earlier this year I rashly agreed with ALT’s Director of Development John Slater to do a personal reflection as a talk at ALT-C.

My overall aim is, as the abstract says “to draw out, in a personal reflection, some of the main things I have learned, over the last 20 years and to say what I think we (that is, people active in the field) now need to do”.

The talk is intended to work in 4 broad sections:
Structure

1. What got me into the field of Learning Technology?

2. Things I have learned

3. What we now need to do

4. Discussion

[Credits and references will follow later]
What got me into it?

The older I get the more important I find it is to know about people’s antecedents.

Here are mine.
Antecedents

Berlin, Cape Town, Maseru (in Lesotho), London - 1946
Conchillas (in Uruguay), Buenos Aires, London - 1945
West London, Cambridge, Sheffield - 1976

My Jewish dad fled Germany in 1936, via South Africa, Lesotho, and finished up in London in 1946
My half Russian mother came to England via Argentina from Uruguay in 1945
I was born outside London in Hillingdon, and finished up in Sheffield in 1976

Both my parents were deeply involved in the book trade, spending nearly all their working lives in England at Penguin Books, when it was an independent business run by the entrepreneur who founded it. Penguin Books was at the centre of the paperback revolution, which, like the Web, has been a force for the democratisation of knowledge and culture.

In 1976 I followed friends to Sheffield and got drawn in to the work of the British Society for Social Responsibility in Science’s “Science for People” to help workers do something about ……..: 
…… the hazards of work.

While training as a Further Education teacher I discovered that there was a field of education called Trade Union Studies.

I got involved in running evening and day-release courses for the WEA and for trade unions and for the TUC about workplace safety and health.

In 1979 I got what for me was a dream job as a Trade Union Studies Tutor at Granville College in Sheffield.

On May 1st 1981 the college was …..
….designated by the TUC as Sheffield Trade Union Studies Centre.

If any of you have worked or work for Sheffield Hallam University, on the left in the background is Councillor Bill Owen, Chair of the Sheffield Education Committee, and Chair of Governors at Sheffield Hallam, after whom you Owen Building is named.

Centre stage is Len Murray, TUC General Secretary.

In the background is some 1981 learning technology.

Here are some of my students.
Pipe-fitter Maurice Birch, in the Centre, by this time convenor on the building of the huge flue gas desulphurisation plant at Drax Power Station, talking to Greg Douglas, an official in the Construction Engineering Union. Maurice went on to study at Northern College, then did a law degree at The University of Sheffield, and then joined me as a colleague in Sheffield Trade Union Studies Centre.
NUPE shop steward Betty in the laundry at Northern General Hospital talking to her manager.
Kay Burgin of NALGO (now part of UNISON), who led a strike against the uncontrolled introduction of “visual display units” – quaint term - in Sheffield Council. The strike resulted in one of the first collective agreements governing computer use. Those were the days.

And now …..
…. the connection with Learning Technology

This is the mouth of the 5km Viehla Tunnel – at one time the most dangerous road tunnel in Europe, and until 1964 the longest road tunnel in the world. It runs under Aneto, which at 3,404m is the highest peak in the Pyrenees. I biked to it and through it in May 1985 with my friend and wonderful colleague Andy Fairclough (who later died of cancer in his early 40s) on a Spanish and French bike trip between Bilbao and Barcelona. At that time I and Andy were both working in trade union education – he at the TUC, me in Sheffield. I’d just bought an Amstrad PC, and I had begun to “see the point” of IT; so had Andy. (I had written a programme in Basic to analyse audiograms for signs of occupational deafness.)

During the long up-and-down 160 km ride to the tunnel that day we talked a lot about IT in education. Flowing partly from the conversation, later that year I got involved in writing courses for union representatives about how to use computers in union work; and in 1988 I got roped into my first online distance learning project….. This project involved making and running an online course – pre-Web – for shop stewards in Denmark, Sweden, and the UK about European integration.
Here is a posting from that course in our Portacom Conferencing System. I do not know how this compares with your own experience, but I knew, when I read it over 20 years ago, that online learning could change learning in a fundamental way.

I started to bang on about this everywhere I could.

The squeaky wheel gets the most oil, and in 1996 I got a new job in the Sheffield College as Learning Technology Development Manager, reporting to the Principal of what was then supposedly the largest FE College in Europe.
With a £16,000 grant from one of the predecessor organisations of LSIS, and in partnership with the other South Yorkshire FE colleges, and with help from Julia Duggleby, Dick Moore and from Fred Pickering – all of whom have played key roles in ALT since, each of whom have since been involved in ALT in various ways (Dick and Fred as Trustees) I got involved in the creation of LeTTOL, an online web based course about how to be an online tutor.

This proved a success, as well as a money spinner. It still runs.

It was unusual at that time, and not just for FE, having tutors in the UK, Australia, and Canada, and a proper case-loading system where tutors were paid or given time according to the number of learners they were supporting.
LeTTOL had what at that time was an uncommon content license – an Open Content license - based on a very early precursor of the CC license that had been developed by David Wiley in Utah.

Despite the success of LeTTOL, as far as I know no-one reused the content, though they could have done, convincing me that the risks of “going Open” are misunderstood as well as over-stated.
There were some spinoffs from LeTTOL. A Sheffield College team led by Julie Hooper successfully developed a suite of wholly online accredited courses from Level 1 (that is pre-GCSE) to Foundation Degree, in some cases with stunning success.

This year’s GCSE English Online results at the Sheffield College – where I am now a Vice-Chair of the Governing Body – continue to be unprecedented: 90% grade A*-C; 75% at A*-B; 37% grade A*/A. As Dick Moore pointed out to me immediately after giving this talk, it would be extremely interesting to examine the academic and career paths of those who took the course.

Yesterday, when making this talk (up!??) I found the data on the screen in the first issue of my “Fortnightly Mailing”, which I had begun it in 2002 having been dismissed as redundant – semi-amicably – by The Sheffield College that summer, and whilst beginning to ply my trade as an independent consultant.
But within a couple of months of leaving The Sheffield College a half time job came up that I knew I fitted my experience like a glove. From January 2003 I started working for ALT.

I’m not going to talk about that here except to say ……
Meanwhile

..... that many of the things I’ve learned stem from my having had the luck to work for ALT.

But I do want to provide some snapshots, literally, and very quickly, of what was also going on in my life over the whole period covered by this talk.
Mountain walking

This was my first proper walking/climbing trip to the Pyrenees in 1979

The dog with the snow-goggles was owned by the manager of the hut.
I’ve done as much Nordic skiing as possible.

This is Glitterheim, Norway’s second highest mountain, in Easter 2010.

I’m at the front, but keeping (and this is good bit of advice for any manager) very clear of the edge.
My two children turned into men, and, oddly, given their parents, into artists and performers.
Policies of the Government have varied widely and, how shall I say? been only good in parts.
Moore's...
In 1965, Gordon Moore sketched out his prediction of the pace of silicon technology. Decades later, Moore’s Law remains true, almost exactly to the unaltered original prediction. Copyright © 2005 Intel Corporation.

…. Law – here is Moore’s original 1965 sketch – that the number of transistors on a chip that could be economically produced would double every 2 years

has been ticking away

showing no signs of not continuing so to do for the next 10 or 20 years at least

And it is the fact of Moore’s Law that enables us to do so many of the things we are now doing

Not least……
“It takes about the same amount of computing to answer one Google Search query as all the computing done -- in flight and on the ground -- for the entire Apollo program.”


our interaction with the Web.

This is an extract from a recent reaction to the death of Neil Armstrong by ex Nasa Peter Norvig and Udi MePher of Google.
Some things I’ve learned

What follows is a pretty disconnected list.
The “terms of engagement” really do matter

Thus – “dignity for the doers”
Credit and attribution (it pains me that Stephen Downes and George Siemens get insufficient credit for getting MOOCs – one kind – to happen)
Pay when pay is due
Rarely be unbending if you are a manager
Learning is life-wide and lifelong

Source: NSF LIFE Centre

Learning is lifewide

This diagram by Professor Roy Pea at Stanford summarises shows elegantly how, from a citizen's point of view such a tiny proportion of life is spent in a formal learning environment, and how relatively more important (in time terms) is the informal learning environment.
There are some very bad models of learning around.

Learners not teachers not content create the learning

**Herb Simon**

“Learning results from what the student does and thinks and only from what the student does and thinks. The teacher can advance learning only by influencing what the student does to learn.”

**Dylan Wiliam** (at the 2007 ALT conference)

“….. the big trap is that teachers do not create learning. That’s true—teachers do not create learning, and yet most teachers behave as if they do. Learners create learning. Teachers create the conditions under which learning can take place.”

Two terrific quotes. One via Peter Norvig last month. The other from Dylan Wiliam in 2007.

Each of them spoke at the 2007 ALT conference.
There are such things as “cornestone ideas”. Find them!

Herb Simon’s and Dylan Wiliam’s and Roy Pea’s points are examples of these.

But also Bloom’s “No significant difference”. Laurillard’s “Conversational framework”. Mazur’s peer-based learning.

For your own world it is worth being on the lookout for them.
Openness matters

There is something wrong in academic publishing when the “paid for by others” labour of researchers and reviewers is so central to the business models of big, very profitable, concentrated, academic publishers.
There is something wrong when institutions are being “bled” by the disproportionate rises in the costs of resources, as this chart from Hal Abelson’s “From Computational Thinking to Computational Values” at the 2012 ACM SIGCSE conference shows. The previous chart is from the same source.

http://www.webcitation.org/6AgBDvior

http://groups.csail.mit.edu/mac/users/hal/hal.html
There is something blindly and obviously wrong with closed access scholarly publishing, when those who would use things if they were free are prevented from doing so by paywalls, and.........
.... gouging prices to read things

Why should it cost twice as much a the price of a paperback to download a 15 page PDF?
Some kinds of change are unstoppable, so switch to influencing and shaping not preventing.

Examples -
Publishers will have to get used to Openness
We have to get used to the encroachment of the private into the public
  (Google/Libraries? Coursera/Pearson/Higher Education)
People whose views you disagree with can be a huge force for good

http://en.wikipedia.org/wiki/Jimmy_Wales has more (last accessed 13 September 2012)
There is no escaping the fact that the private sector is an engine for innovation....
... but by no means the only one

MOOCs originated in the public sphere, with Stephen Downes at the heart of things, but the term has been colonised and taken over.
The Digital Divide matters a lot

Data provided by OII in the course of writing the Scaling Up report for ufi.co.uk.

Biggish rump of determined non-users as well.
Who wrote the following and when?

"The kind of organization we wish to aim at is one where all relevant information should be available to each research worker and in amplitude in proportion to its degree of relevance. Further, that not only should the information be available, but that it should be to a large extent put at the disposal of the research worker without his having to take any special steps to get hold of it."
A brilliant polymath who had a vision for how things ought to turn out.
There are such people as “deep and leading thinkers”, who are worth seeking out and reading/listening to.

[Try]


Alive
David Weinberger on the impact
dana boyd on social networks
Wiliam and Laurillard again.
Stevan Harnad and Peter Suber on Open Access
Peter Norvig on Artificial Intelligence
Aaron Sloman on the biological and computational basis of learning
Hans Rosling on economic and social development
Natasa Milic-Frayling on network analysis!
Hal Abelson on the teaching of computer science or on the role of the academy

Dead
Robin Mason
Richard Skemp
The appeal of the brain in the popular press

[Light relief] “People find brain images and neuroscience language more convincing than results that make no reference to the brain.”
The conditions for open production are complicated and different kinds of content differ in their susceptibility to open methods. [Open Software is not the same as OER.]

I am thinking here of Stephen Weber “The Success of Open Source, which I reviewed in Fortnightly Mailing http://www.schmoller.net/mailings/20051228.shtml#2 and from which there is a small extract here:

http://www.schmoller.net/mailings/tsoos.html
Networks of trust transcend organisations, friendships, contracts. They are very durable. You can get a lot done through them. But slowly.

The CAMEL model that arose serendipitously is about forming and sustaining them.

ALT sometimes functions as one.
What we now need to do

Another pretty disconnected list.
Start caring and doing something about the unseen ends of our use of IT

Digital dumping ground in Agbogbloshie in Ghana - http://goo.gl/OVIDj
Production in China - http://goo.gl/ovCMt NYT article “In China, Human Costs Are Built Into an iPad”

Rare earth mine; Ghana dump; Chinese factory conditions
Patiently wait for the drive for “world-class competiveness” as a policy objective to dissipate.
Push instead for world-class collaborativeness........
Be determined in bringing our community’s knowledge and experience to bear on the wider educational world.
Do things at the right scale.

Do not try to replicate locally things that require large scale to work – recommender systems, AI based personalisation etc. That’s why use of “standard cloud services” from large players like Amazon, Apple, Google, or Microsoft probably make more sense than trying locally to match them.
Finally, I made this diagram prompted by a discussion of a thought experiment by the biologist John Maynard Smith in “The Craftsman” by Richard Sennett.

I include it to show how trivially short is the period covered by this talk, compared with the time since the last big jolt to the way in which knowledge is distributed, when Guttenberg invented printing.

It took centuries before print-based dissemination techniques become properly established.

We in this room feel we are in the middle of something when in reality we are only at the start.

Meanwhile, the “we” are a species (who evolved as hunter gatherers, not a book readers or Internet users) have not changed cognitively or biologically for hundreds of thousands of years.

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