

Research evidence on the capacity of ICT to transform teaching and learning: a view from a BSF school

*‘Great minds discuss ideas;
Average minds discuss events;
Small minds discuss other people.’*



Ideas

Events

Other People



www.oxcloseschool.net

www.davidhaw.net

<http://www.publications.parliament.uk/pa/cm201011/cmselect/cmeduc/394/10072702.htm>



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Building Schools for the Future and future capital spending - Education

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Examination of Witnesses (Questions 1-49)

TIM BYLES CBE

27 JULY 2010

Q7 Damian Hinds: I realise that you will say that understandably, for some schools, it is early days and too early to measure, but would you say that, for schools that have been part of the BSF programme, education has been transformed as opposed to schools having been transformed?

Tim Byles: Yes. We have seen quite a lot of early information. It is right to say that we cannot test it absolutely at this stage. We have seen leaps forward in performance in schools. For example, at Bristol Brunel academy, the first school delivered by local education partnerships, A to C GCSEs, including English and Maths, went from 17 to 34% in the first year. **The Oxclose Community College refurbishment scheme in Sunderland went from 19% to just over 60%, including English and maths, in two years—same school, same teachers, same pupils, but there was a real impact.**

‘Powerpointless’



THE TIMES

**The next 20 scandals.
So you won't be
shocked**



15 The public sector is chronically incapable even of understanding, let alone managing, large IT projects; and private sector contractors are guilty of daylight robbery.

UK wasting billions on IT projects

22 April 2004

Billions of pounds are wasted every year on new IT systems, according to a report published by the Royal Academy of Engineering and BCS.

Despite many examples of good practice, there is still a lack of professionalism in software engineering that could even be dangerous in safety-critical systems. Britain is failing to produce software engineers and managers with the IT and project management skills to commission and execute complex IT projects.





Digital Natives, Digital Immigrants

By Marc Prensky

From *On the Horizon* (MCB University Press, Vol. 9 No. 5, October 2001)
© 2001 Marc Prensky



Students in our classrooms are changing, largely as result of their experience with technology.

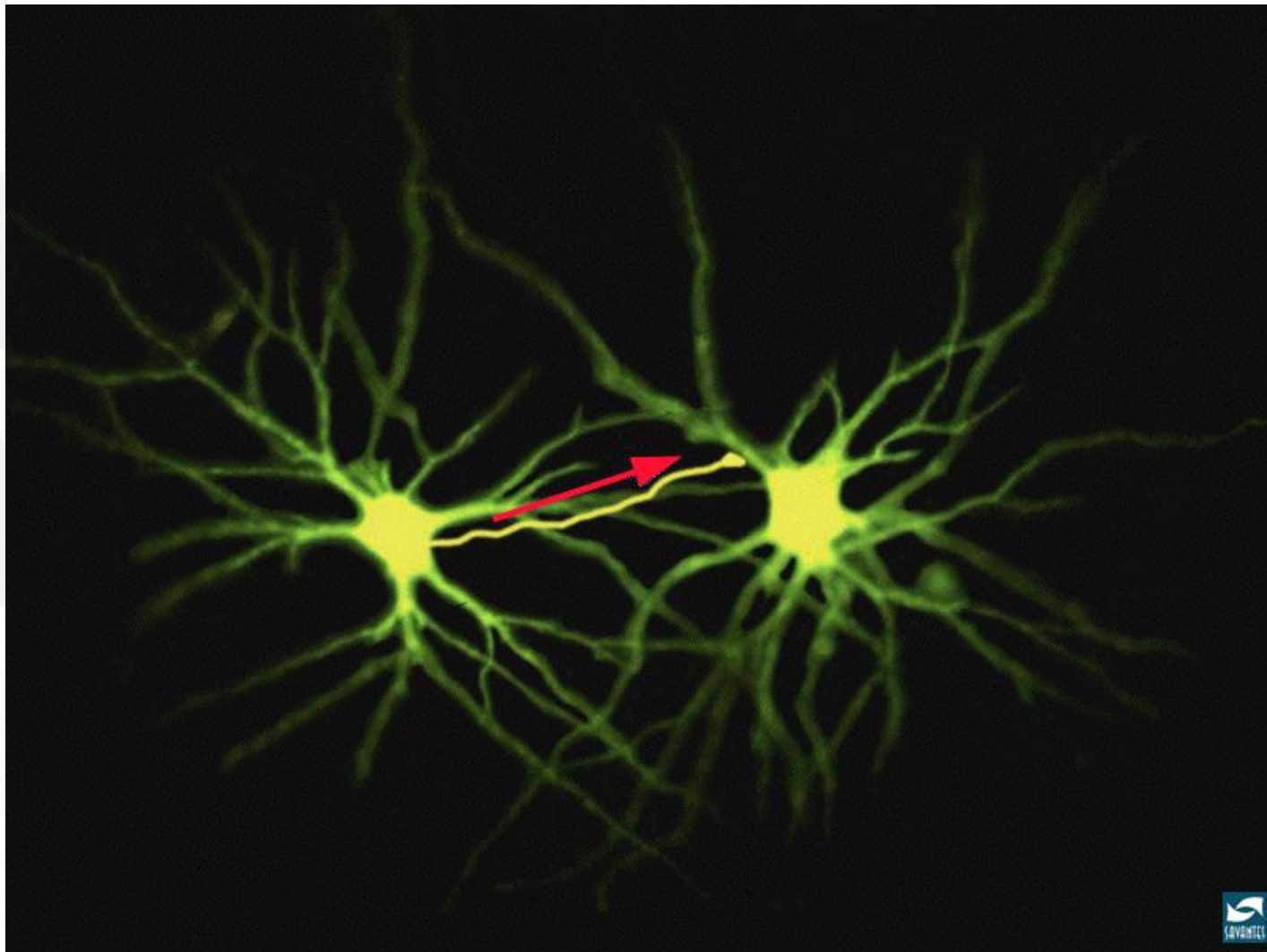
They are no longer satisfied with an education that does not immediately address the real world in which they live.

The telling and testing pedagogy being used in our schools has become less effective.

A better pedagogy is needed; it is available and usable.

Digital technology can help make our students' learning real, engaging and useful for their future.









Like many of you in this room,
I'm a digital immigrant... My
two young daughters, on the
other hand, will be digital
natives. They'll never know a
world without ubiquitous
broadband internet access...

**We may never become true
digital natives, but we can and
must begin to assimilate** to their
culture and way of thinking.

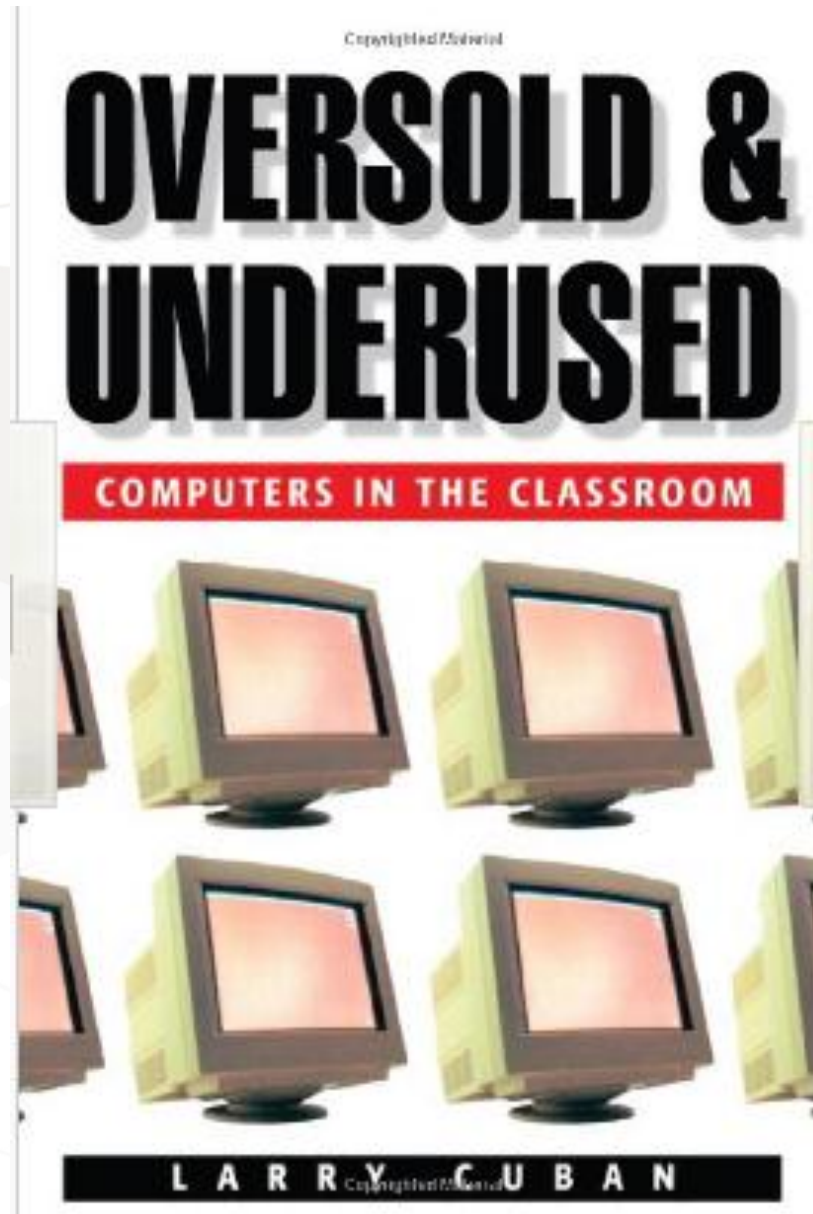
- Rupert Murdoch, April 2005

Eurasia Journal of Mathematics, Science & Technology Education, 2009, 5(3), 235-245



Barriers to the Successful Integration of ICT in Teaching and Learning Environments: A Review of the Literature

Khalid Abdullah Bingimlas
RMIT University, Bundoora, VIC, AUSTRALIA



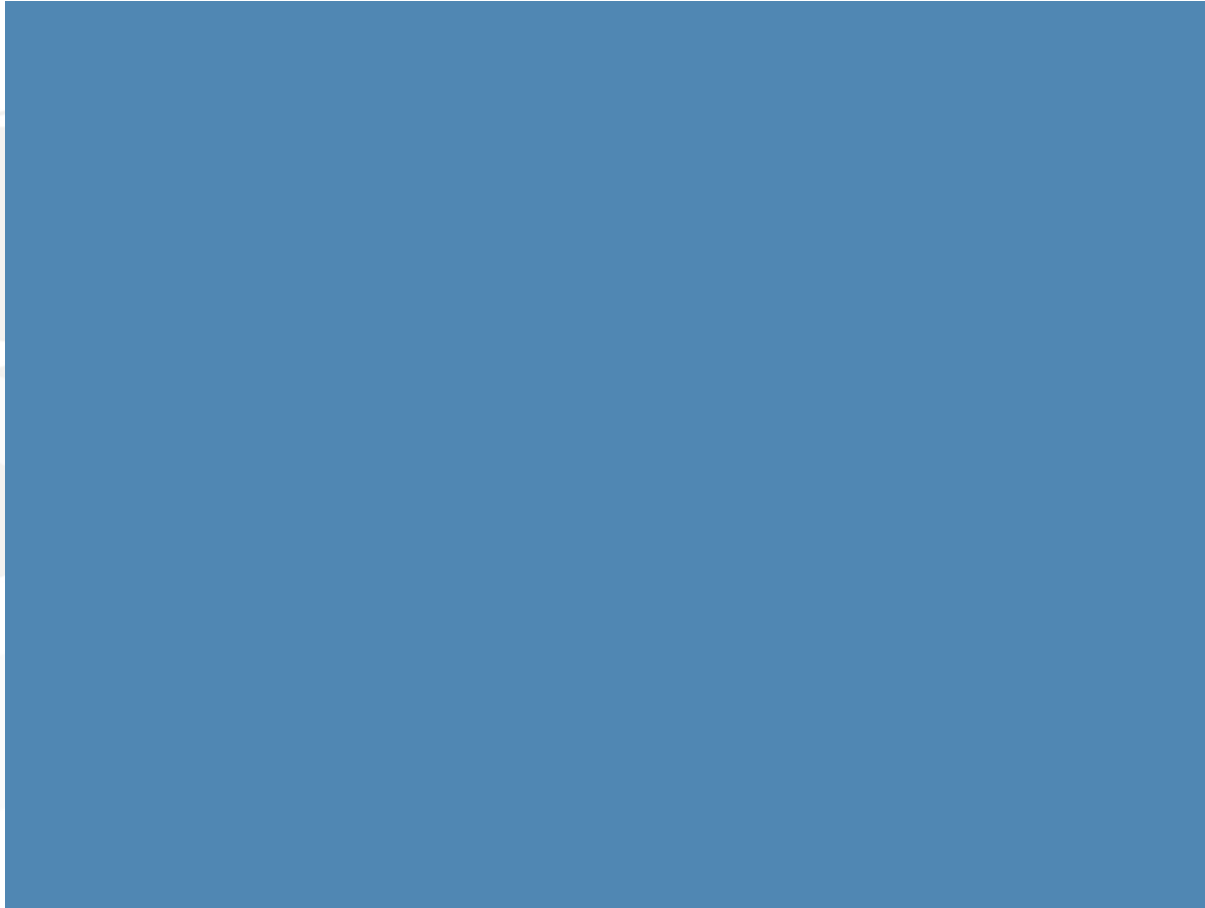
British Journal of Educational Technology

Vol 34 No 2 2003 151–167

ICT—the hopes and the reality

David Reynolds, Dave Treharne and Helen Tripp

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McKinsey&Company

Education

How the world's
most improved
school systems
keep getting
better 😊

The researchers came to three conclusions.

These were that in the top school systems what mattered was:

- getting the right people to become teachers;
- developing them into effective instructors; and
- ensuring that the system is able to deliver the best possible instruction to each child.

The **IMPACT** of ICT on **LEARNING** and **TEACHING**

A literature review by Dr. C. Paul Newhouse for the
Western Australian Department of Education.

Educational transformation: Is it, like 'beauty', in the eye of the beholder, or will we know it when we see it?

Tony Fisher

From the issue entitled "Imagining the future for ICT and education"



Report on a Joint DG JRC-DG EAC
Workshop held in Seville,
20-21 October 2005



ImpaCT2

The Impact of Information and Communication Technologies on Pupil Learning and Attainment

A report to the DfES by Colin Harrison, Chris Comber, Tony Fisher, Kaye Haw, Cathy Lewin, Eric Lunzer, Angela McFarlane, Di Mavers, Peter Scrimshaw, Bridget Somekh and Rob Watling

British Journal of Educational Technology
doi:10.1111/j.1467-8535.2006.00624.x

Vol 38 No 1 2007

158–160

Colloquium

**Putting staff first in staff development for the effective use
of technology in teaching**

Christina Mainka



Embedding ICT in schools – a dual evaluation exercise

ICT made an indirect impact on standards through improved opportunities for collaboration, creativity and to problem solving. Pupils were interested, enthusiastic and curious about ICT and this contributed to their engagement and motivation. This drove them to explore the potential of ICT, helped them to sustain their concentration and promoted their independent learning.



education

Improving Scottish

ICT in learning and teaching

Oxford Review of Education
Vol. 34, No. 6, December 2008, pp. 701–712



Realising the potential of new technology? Assessing the legacy of New Labour's ICT agenda 1997–2007

Neil Selwyn*

Institute of Education, University of London, UK

Learning with ICT : The Challenge of Changing the Way We Teach

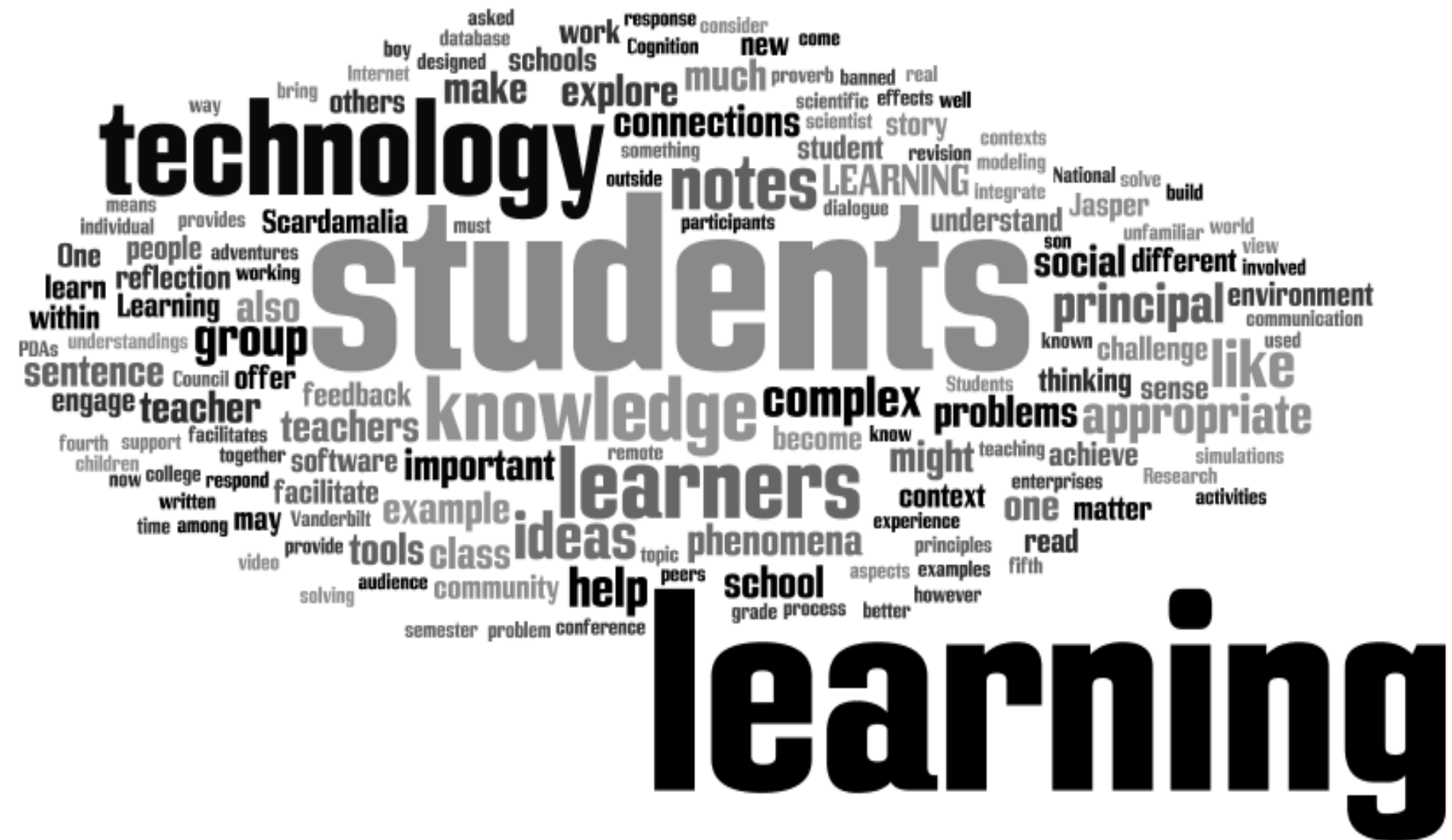
Kar Tin Lee
Hong Kong Institute of Education
Email: ktlee@ied.edu.hk

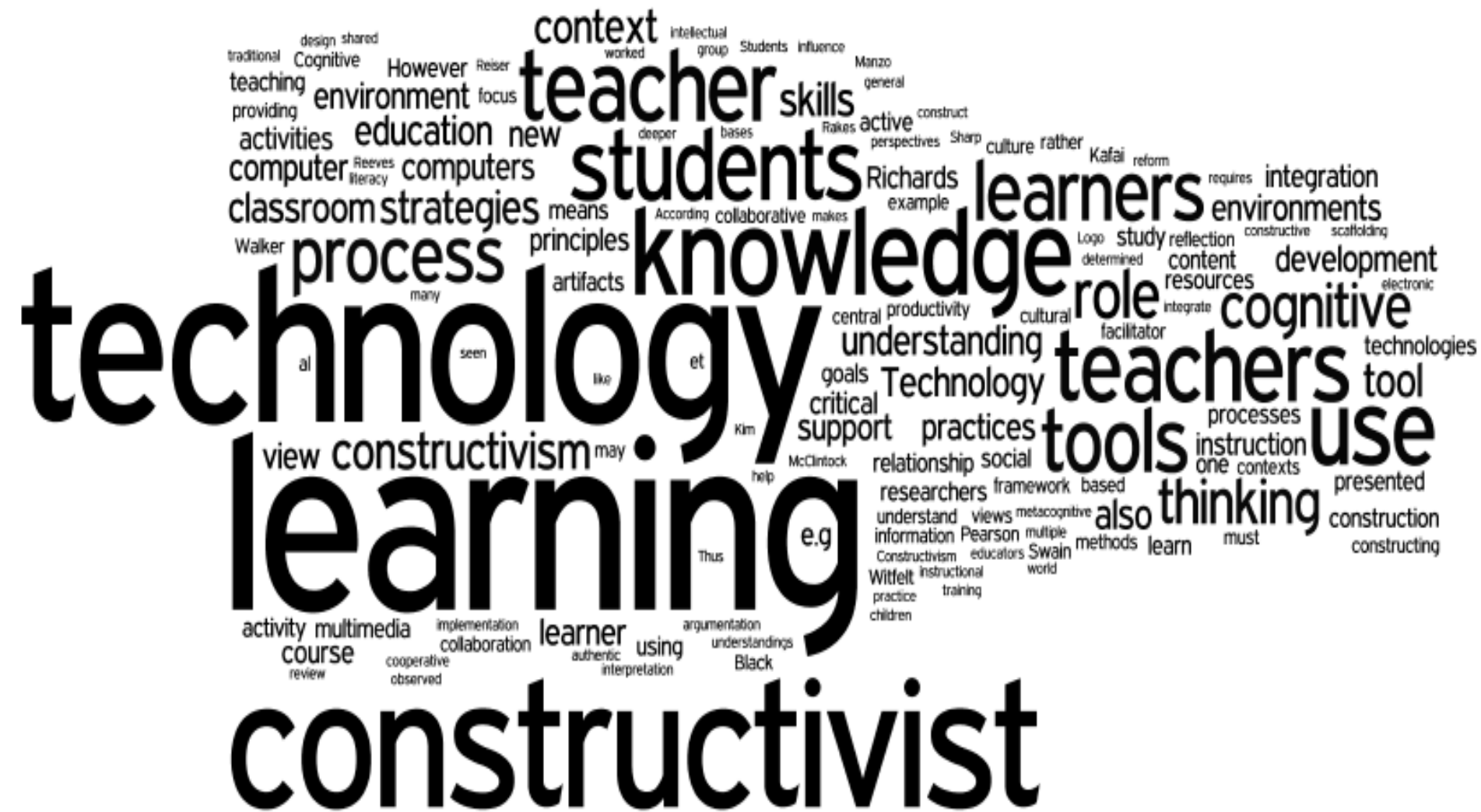
Factors Affecting Teachers' Use of Information and Communications Technology: a review of the literature

SHAZIA MUMTAZ

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- Reliability
- Availability
- Quality Resources
- Teacher Confidence
- School Vision
- Leadership of Learning
- Planning





British Journal of Educational Technology
doi:10.1111/j.1467-8535.2006.00693.x

Vol 38 No 6 2007 1056–1071

Teachers' mindsets and the integration of computer technology

Karthigeyan Subramaniam



www.gtce.org.uk

Research for Teachers

Transforming teaching and learning with ICT

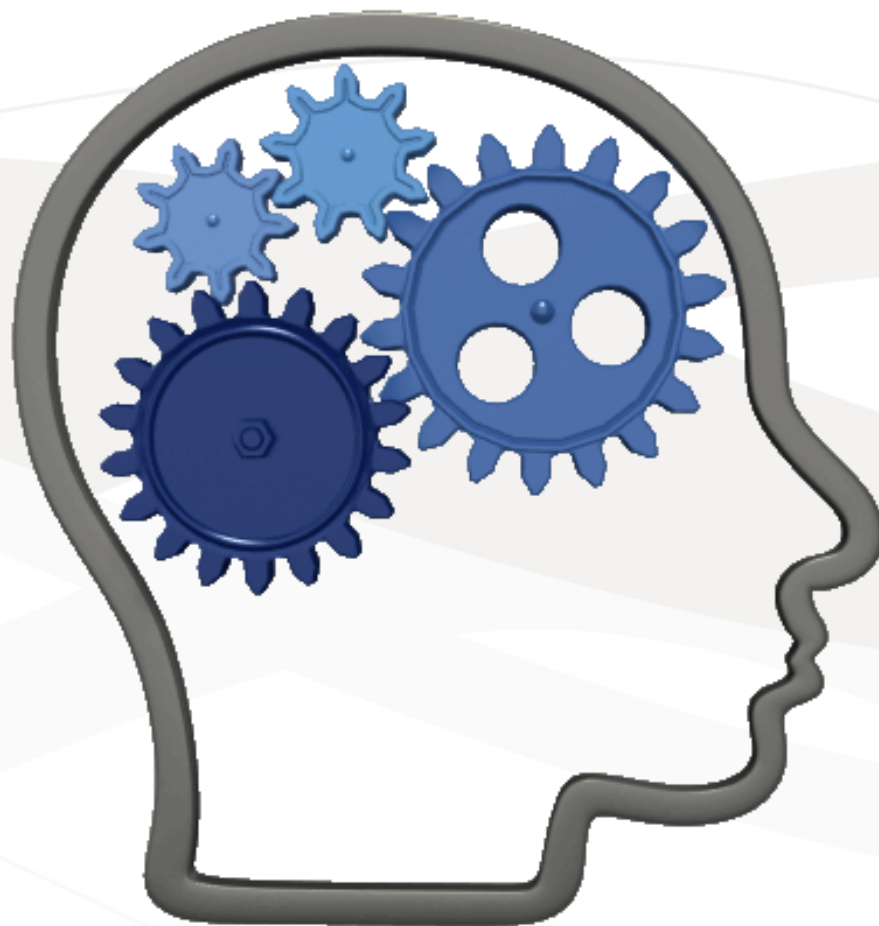
published: Thu Nov 01 18:02:14 GMT 2007



Constructivism

Tell me, I forget.
Show me, I remember.
Involve me, I understand.

A Chinese proverb



Learning occurs in context.

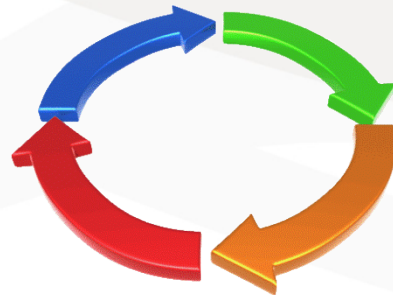
Learning is active.

Learning is social.

Learning is reflective.

"The notes were sour because the seams split."

"The notes were sour because the seams split."



Tell me, I forget.
Show me, I remember.
Involve me, I understand.

A Chinese proverb

“And using technology tools "to think with" facilitates working with ideas and learning from that process”.

Technology tools provide "the means through which individuals engage and manipulate both resources and their own ideas"



Multimodal Learning Through Media: What the Research Says

Tell me, I forget.

Show me, I remember.

Involve me, I understand.

We remember...

10% of what we read

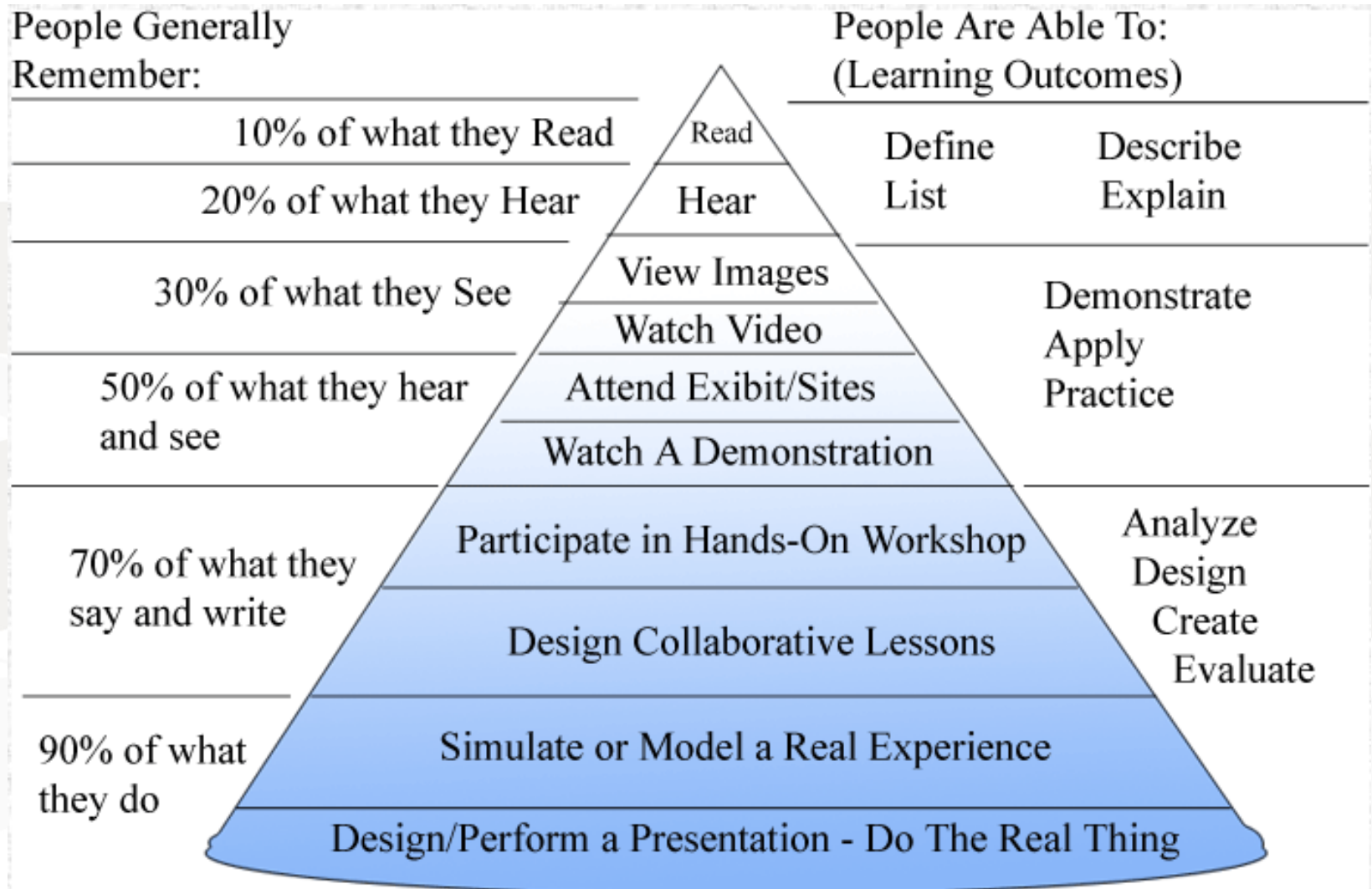
20% of what we hear

30% of what we see

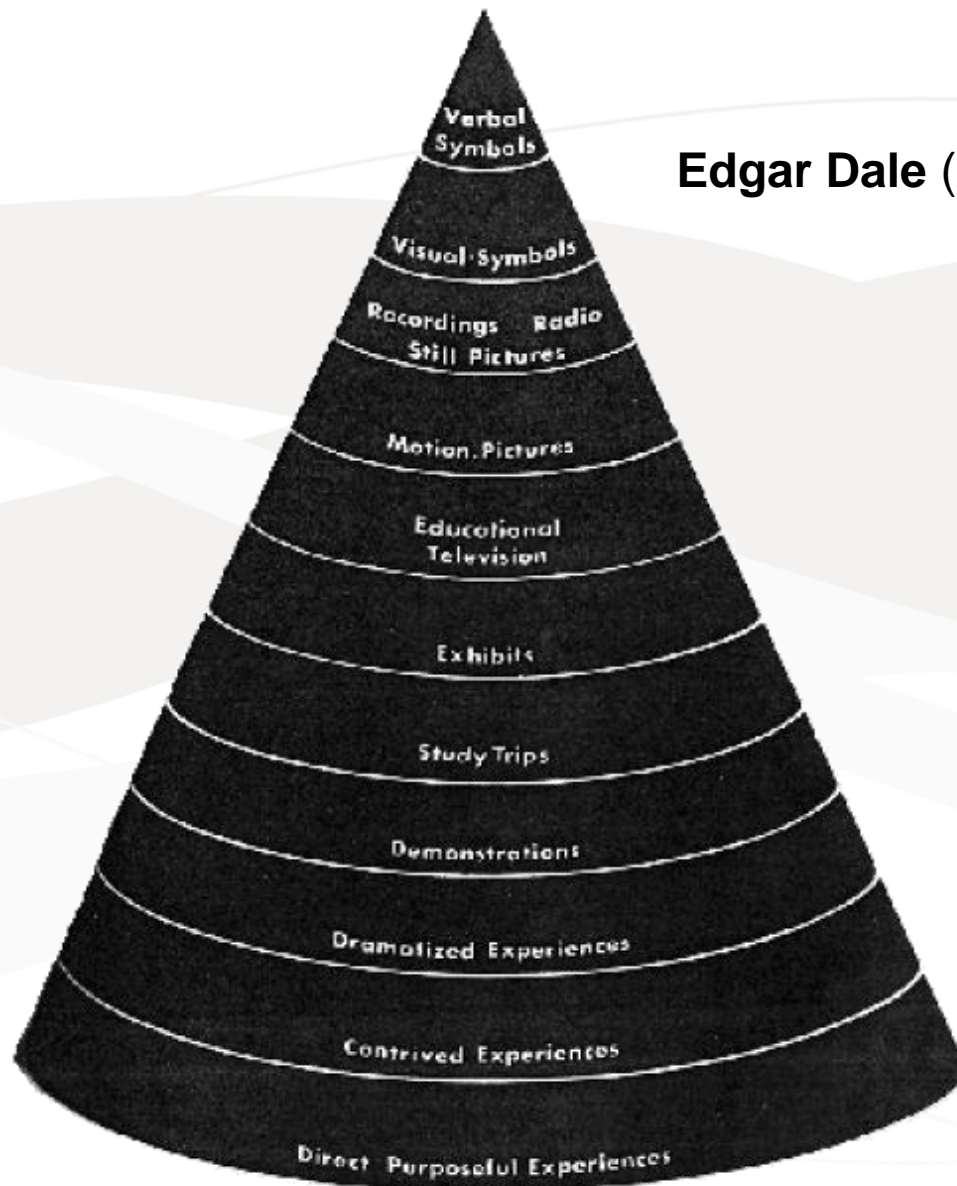
50% of what we see and hear

70% of what we say

90% of what we say and do



Dale's Cone of Experience



Edgar Dale (April 27, 1900 – March 8, 1985)



1.

Key Stage 3:

- A statistically significant positive association between ICT and National Tests for science was found at Key Stage 3, but there were no other clear-cut associations at Key Stage 3.

Key Stage 4:

- There is no consistent relationship between the average amount of ICT use reported for any subject at a given key stage and its apparent effectiveness in raising standards. It therefore seems likely that the type of use is all important.

2.

ICT made an indirect impact on standards through improved opportunities for **collaboration, creativity and to problem solving**. Pupils were interested, enthusiastic and curious about ICT and this contributed to their engagement and motivation. This drove them to explore the potential of ICT, helped them to sustain their concentration and promoted their independent learning.

3.

Effective use of ICT enhances the learning experience by providing a collection of learning and teaching materials that make lessons more attractive and visually or aurally more stimulating than many more traditional forms of resources. Effective use of ICT enriches the learning experience by exposing learners to a wider range of learning opportunities and modes of study than heretofore available. Importantly, effective use of ICT by learners encourages independence in learning.

Teachers who successfully made use of ICT had the following characteristics:

4.

A positive rather than negative attitude towards ICT.

Teachers who have positive attitudes towards ICT itself will be positively disposed towards using it in the classroom.

Pupil choice rather than teacher direction. Teachers who preferred directive styles of teaching tended to rate their own competence as low and made use of helpers with ICT.

5.

Pupil empowerment as learners rather than pupils receiving instruction.

A preference for individual study rather than pupils receiving instruction.

6.

However, inspectors also found many examples of the use by teaching staff of ICT where there was no clear educational gain.

7.

Many teaching staff do not consider carefully enough how to make best use of ICT resources to gain maximum educational gain from such use in their teaching.

Almost all learners lack the skills of efficient searching, selection and analysis required to make effective use of information accessed through the Internet.

- ‘Powerpointless’
- Random searching
- ‘Edutainment’

8.

Given the top-down nature of this conceptualisation of education it can now be of little surprise that technology based teaching and learning in UK education is constructed predominantly in terms of delivery rather than discovery, and that technology-based learners end up in the position of being recipients of pre-packaged curricula. **In all, the ICT use in most UK educational institutions is very different from the learner-centred social constructivist and socio-cultural models of technology use idealised by most in the education technology community.**

9.

- Senior managers in centres provide effective leadership for use of ICT in learning and teaching.
- Teaching staff take a leading role in the effective use of ICT in their own teaching.
- Learners understand their own responsibility to make effective use of ICT to enhance their learning.

So what.....

- School Vision /Priorities
- Where can ICT support ?
- Planning: School and Department Level
- Leadership of Learning
- Reliability/Availability/Resource
- Review current practice
- CPD and Performance Management

Think and Talk Ideas