

Virtual Learning? Autonomous learning?

Students, learning styles and the impact
of ICT.

Virtual learning? Autonomous learning?

Concepts and contexts

Learning and ICT

Underlying issues

What ICT contributes to learning

Supporting and developing learning

Issues for education

Ways forward

Virtual learning? Autonomous learning?

Concepts and Contexts

Virtual learning? Autonomous learning?

The background

As the use of a new technology changes human practices, our ways of speaking about that technology change our language and our understanding. This new way of speaking in turn creates changes in the world we construct.

(Winograd & Flores, (1988) Understanding
Computers and Cognition

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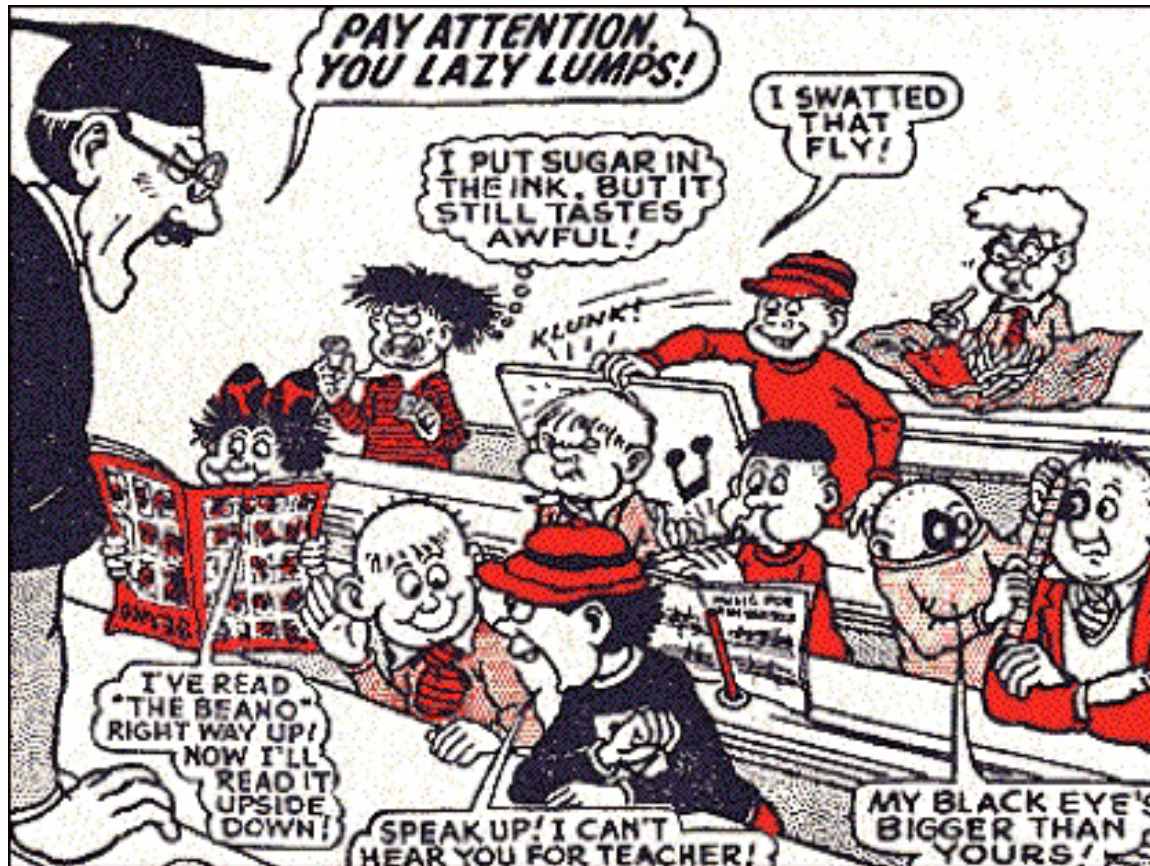
What you *ought* to be learning at school

“... is that you don't need to be taught in order to learn ... recognizing the importance of the teacher is very different from reducing learning to the passive side of being taught. This is the fundamental cleavage between theories of education: empowerment of the individual versus instruction and being taught.”

Papert, S. (1990) *A critique of technocentrism in thinking about the school of the future*, E&L Memo No. 2

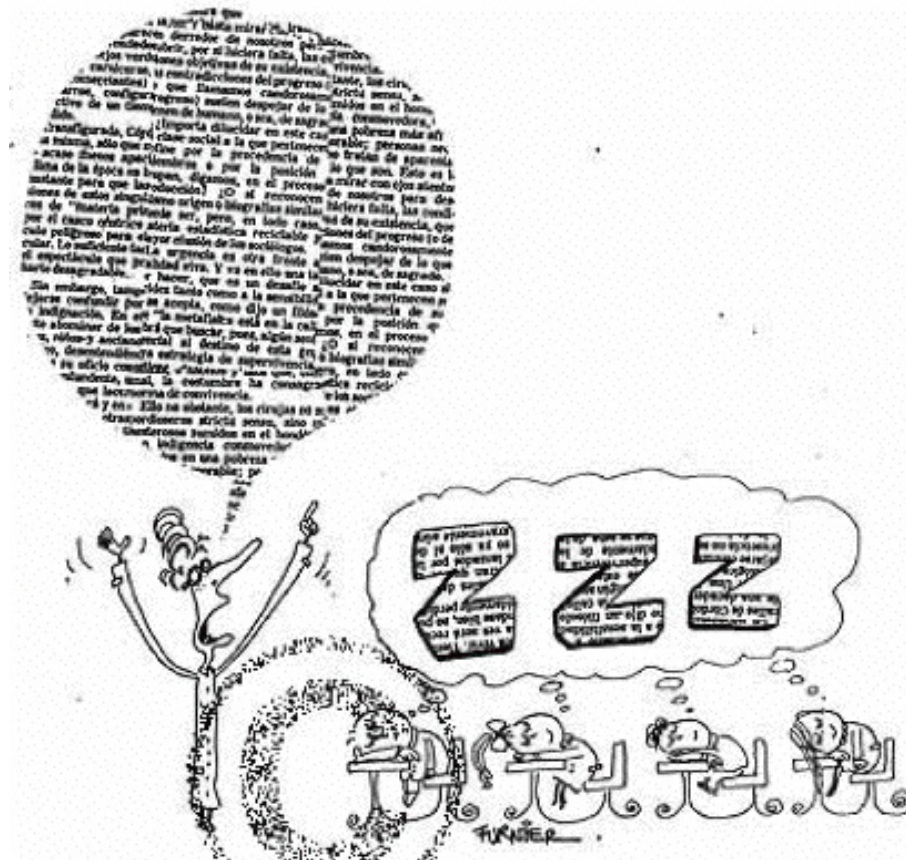
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What you *are* learning at school



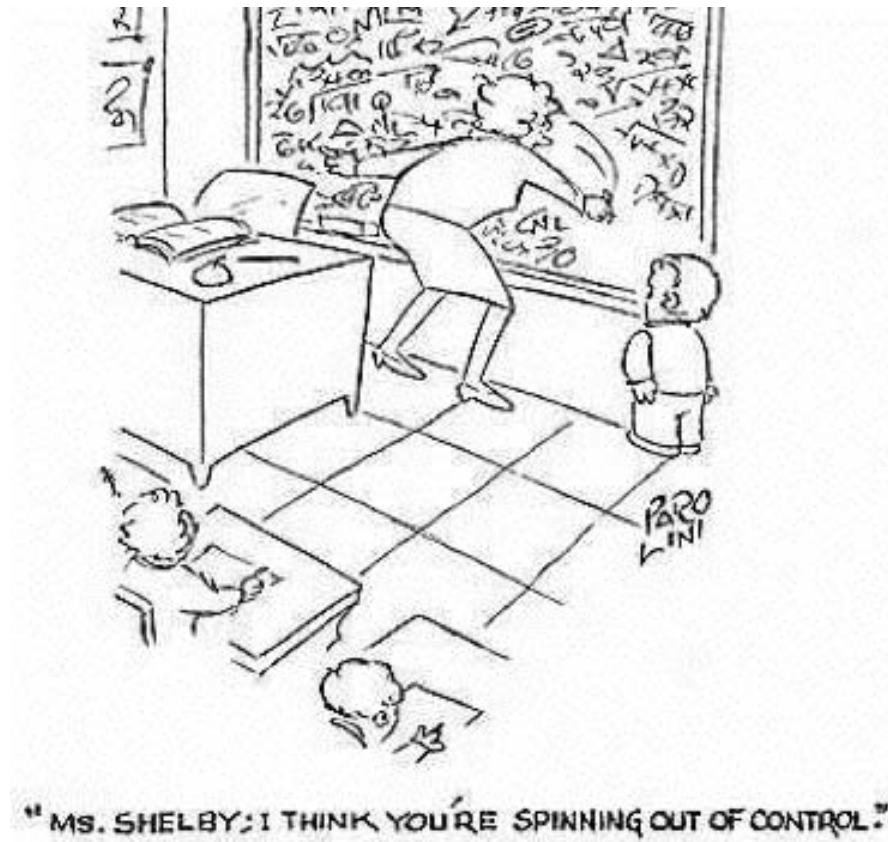
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What you *are* learning at school



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What you *are* learning at school



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Learning and ICT

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Changes in ICT use by young people during the past 15 years:

move from productivity tool to digital
recreational prosthetic;

ICT is part of the landscape of the home;
the real cost of digital tools continues to fall.

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Access to information and resources

provide powerful and interactive tools for
learning;

learners are liberated: Institutions are alienated.

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Digital tools provide:

An encyclopedia and reference set for the
twenty-first century;
tools for a digital economy;
individual education;
a learning machine.

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Lessons from young users (Year 6)

(May 2010)

94% have the use of a computer at home:

42% have one of their own,

the others share a computer

They use their computers for a range of activities, many of them creative.

Most use their computer daily.

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Lessons from young users (Year 6)

(n=93)

How did you learn how to use your Netbook?

'Help' tells you how to use it	I worked it out myself	My friends and I worked together	We had a demonstration in an ICT lesson	We had lessons on how to use it
3%	51%	36%	48%	61%

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Underlying Issues

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Plagiarism

Attribution

Style vs. Substance

Technology as a means of
production

Critical Thinking

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Approaches to learning

Conventional stages of learning (Piaget; Bruner):	A New Paradigm?
Sensori-motor;	There are no mistakes;
Concrete;	Use
Iconic.	Edit: Undo;
	Edit: Clear;
	Exit: Don't Save.

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How did (do?) teachers learn?

They listen;
they make notes;
they practise;
they use reference books;
they ask questions;
they listen;
they make notes;
they etc ... etc ...

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How do students learn?

They watch;

they have tasks to complete;

they zap;

they wander around;

they leave things;

they collaborate;

and go for best fit.



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A New Paradigm for Learning: Bricoleurs in Cyberspace

New learning patterns;

ostensiveness;

cyber-semiotics;

making-do;

allusion,

reference

and quotation.

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They use the tools at hand:

Computers;

Digital cameras;

Cell phones;

Social networking;

File sharing;

Pirateware;

The Web.

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What ICT contributes to learning

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Personal (digital) learning technologies facilitate:

Visual learning

Activity learning

Language-based learning

Logical and mathematical learning

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Supporting and developing learning

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Student awareness

Teaching styles are correlated with teachers' preferred learning styles.

Mis-matches, between learning style imposed by the teacher, the lesson and the individual's preferred style.

Successful learning identified with skills and bodily-kinaesthetic intelligence, or musical-rhythmic intelligence.

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Developmental trends

Strong base in perception of learning as skill-based.

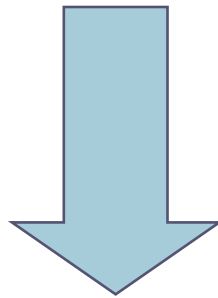
Range of learning references increases as students move through school.

Skills reduce in importance.

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Developmental trends

Concrete perceivers & active processors



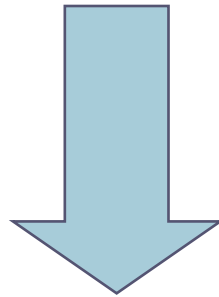
Abstract perceivers & reflective processors

(Kolb)

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Developmental trends

Concrete operations



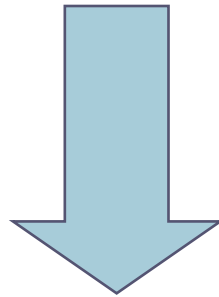
Formal operations

(Piaget)

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Developmental trends

Iconic representation



Symbolic representation

(Bruner)

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Institutional learning



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Experiential Learning



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Part A

YOU NEED TO KNOW HOW TO:

- **Identify your strengths and discuss:**
 - what you learned
 - how you learned
 - what feedback you want and how and
- **Identify the targets you have met, by checking your path to see if you have done what you set out to do**
- **Identify your achievement**
- **Check what you have to do to enhance your performance the quality of your work, the way you work**

Improving own learning and performance: level 1

Part A

YOU NEED TO KNOW HOW TO:

- Work with an appropriate person, such as your fellow, supervisor or adviser, to:
 - identify what you learned and how you used learning from one task to meet the demands of another task
 - identify the targets you have met, by checking your plan to see if you have done what you set out to do
 - identify evidence of your achievements
 - identify ways you learn from your perceived learning styles and methods of learning and how to improve your performance (the quality of your work, the way you work)

Improving own learning and performance: level 2

Part D

YOU MUST:

Improving own learning and performance: level 1

Part D

YOU MUST:

Improving own learning and performance: level 2

Student comments

When I'm taught people tell me the things I am learning, but when I am learning I do it myself.

Y7, F

You're taught by listening and you learn by practice.

Y8, F

Learning is something you do for yourself. Being taught is something the teacher does for you.

Y9, F

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Student comments

Teachers shout at you. I don't shout at myself.

Y7, M

They talk, we listen.

Y9, M

When you're taught they tell you and you still don't know. But when you learn you know what it is.

Y10, M

You learn at your own rate but you are taught at somebody else's pace.

Y10, M

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Student comments

People will say something and if it makes sense to me I remember it. My brain is quite organised into sections and new facts usually slot in nicely where they should be. If I don't understand things first time then I usually find a pictorial explanation helps.

Y10, M

Student comments

I display all the things I need to know on my bedroom wall. When I learn I am alone with all the info. displayed.

Y12, F

When I want to learn I push harder for information. When I have to I just take the information in. I learn things through different note styles, such as spider diagrams, bullet points and using a dictaphone.

Y12, F

Student comments

I have learned how to help children ... put makeup on and shave my legs etc. I have learned how to change the style of my hair ... how to horse ride.

Y10, F

Issues for Education

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Implications for education

Students' preferred learning styles correlate with multiple intelligences (Gardner).

HOWEVER -

Predominant medium for transmission of knowledge is language.

Learning is correlated with 'facts' and memorisation of information.

School-based learning & failure synonymous.

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Implications for education

Students recognise importance of discovery in learning.

(‘Working heuristic of discovery’ - Bruner.)

Students stress activity and fun as central to learning.

BUT

Institutional indicators of success measured through logic and language.

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Success through logic and language



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Issues for education

Within the straight-jacket of curricula and examinations, can education modify its praxis?

Content is of less significance than the processes and interactions of learning.

SO

Does ICT provide students with the tool for autonomous learning - and set them free from institutional limitations?

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ICT and learning

Combines:

- iconic representations - GUI environment;
- ostensiveness - point and click;
- ludic elements built into programs;
- constant feedback from error messages;
- automatic correction facilities;
- built-in user support;
- collaboration.

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Our students need technical knowledge



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Cyborgs sitting in the classroom

A man-machine system ...

routine checks and monitoring undertaken
automatically ...

setting humans free ...

to create ...

to think ...

to feel.

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Digital tools and online access

Enable learners to communicate with each other
across the world – effectively;
enable students to publish their work to a vast
audience – instantly;
enable learners to find and fetch information from
every corner of the earth – painlessly;
enable organisations to communicate with young
people and educators – efficiently.

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Digital tools and online access

Link students with others;
with ideas;
with involvement;
with success.

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There are no certainties



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There are no certainties



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Ways forward

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Can Autonomous Learners:

Understand why they are learning as well as what they have to learn

Choose appropriately from a range of activities

Find and use resources independently

See whether their learning is progressing or not, and change what they are doing to bring about improvements

Change what they are doing in response to changing circumstances

Exploit opportunities for working in groups as well as working alone

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Dilbert.com DilbertCartoonist@gmail.com



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