Virtual Learning?
Autonomous learning?

Students, learning styles and the impact of ICT.
Concepts and contexts
Learning and ICT
Underlying issues
What ICT contributes to learning
Supporting and developing learning
Issues for education
Ways forward
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.


Virtual learning? Autonomous learning?
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

Virtual learning? Autonomous learning?
What you are learning at school

Virtual learning? Autonomous learning?
What you *are* learning at school

Virtual learning? Autonomous learning?
What you *are* learning at school

Virtual learning? Autonomous learning?
Learning and ICT

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
Access to information and resources provide powerful and interactive tools for learning; learners are liberated: Institutions are alienated.
Digital tools provide:

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

Virtual learning? Autonomous learning?
Lessons from young users (Year 6)
(n=93)

How did you learn how to use your Netbook?

<table>
<thead>
<tr>
<th>Method</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Help' tells you how to use it</td>
<td>3%</td>
</tr>
<tr>
<td>I worked it out myself</td>
<td>51%</td>
</tr>
<tr>
<td>My friends and I worked together</td>
<td>36%</td>
</tr>
<tr>
<td>We had a demonstration in an ICT lesson</td>
<td>48%</td>
</tr>
<tr>
<td>We had lessons on how to use it</td>
<td>61%</td>
</tr>
</tbody>
</table>

Virtual learning? Autonomous learning?
Underlying Issues

Virtual learning? Autonomous learning?
Plagiarism
Attribution
Style vs. Substance
Technology as a means of production
Critical Thinking
Approaches to learning

Conventional stages of learning (Piaget; Bruner):
- Sensori-motor;
- Concrete;
- Iconic.

A New Paradigm?
There are no mistakes;
Use
- Edit: Undo;
- Edit: Clear;
- Exit: Don’t Save.

Virtual learning? Autonomous learning?
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 ...

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
A New Paradigm for Learning:
Bricoleurs in Cyberspace

New learning patterns;
ostensiveness;
cyber-semiotics;
making-do;
allusion,
reference
and quotation.

Virtual learning? Autonomous learning?
They use the tools at hand:

Computers;
Digital cameras;
Cell phones;
Social networking;
File sharing;
Pirateware;
The Web.

Virtual learning? Autonomous learning?
What ICT contributes to learning

Virtual learning? Autonomous learning?
Personal (digital) learning technologies facilitate:

- Visual learning
- Activity learning
- Language-based learning
- Logical and mathematical learning
Supporting and developing learning

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
Developmental trends

Concrete perceivers & active processors

Abstract perceivers & reflective processors

(Kolb)

Virtual learning? Autonomous learning?
Developmental trends

Concrete operations

Formal operations

(Piaget)

Virtual learning? Autonomous learning?
Developmental trends

Iconic representation

Symbolic representation

(Bruner)
Institutional learning

Virtual learning? Autonomous learning?
Experiential Learning

Virtual learning? Autonomous learning?
Improving Own Learning & Performance

Virtual learning? Autonomous learning?
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

Virtual learning? Autonomous learning?
Student comments

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

They talk, we listen.

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

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

Virtual learning? Autonomous learning?
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.

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.

Virtual learning? Autonomous learning?
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

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
Success through logic and language

Virtual learning? Autonomous learning?
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?

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
Our students need technical knowledge

Virtual learning? Autonomous learning?
Cyborgs sitting in the classroom

A man-machine system ...

routine checks and monitoring undertaken automatically ...

setting humans free ...

to create ...

to think ...

to feel.

Virtual learning? Autonomous learning?
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.

Virtual learning? Autonomous learning?
Digital tools and online access

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

Virtual learning? Autonomous learning?
There are no certainties

Virtual learning? Autonomous learning?
There are no certainties

Virtual learning? Autonomous learning?
Ways forward

Virtual learning? Autonomous learning?
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

Virtual learning? Autonomous learning?
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