Web Page Assignment

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Poster Assignment

The First task within this module is to create a Poster detailing 3 key issues in the world if Educational ICT and to discuss how these are affecting "Freedom and Constraint". In addition, discussion should refer to learning theory and pedagogy.

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How has education reacted to the introduction of Information or Learning Technologies?

Where did it start and what has influenced the development of pedagogy and resources?

 Issue 1:   The challenges of rapidly developing computer technologies.

Links to Issue 2 / Issue 3 / Definitions

How has the rapidly evolving world of Technology affected the world of education in terms of freedom and constraint? The discussion here will focus on the developments in computer and networking technologies when viewed against trends in learning theory:

Development of, and competition in "computer technologies"

Initial take up of equipment constrained by cost until the introduction of grant schemes from a number of sources (DES, DoI) throughout the 1980's (Collins et al[1] 1997:18; Boyd-Barrett[2] 1990:8)

- Department for Industry "Micros in schools" grants helped overcome this to an extent. ([Collins et al][3] 1997:18; [Boyd-Barrett][4] 1990:8)
- Grant funding freed schools to purchase equipment

- Hardware functionality initially constrained schools to teaching basic Computer science - ([Collins et al][5] 1997:12)
- Lack of guidance from the Government in defining a specification for educational machines may have prevented a standardised approach and therefore limited development & support. ([Boyd-Barrett][6] 1990: 15)
- Demand for more Vocational oriented learning, which required Content free software solutions. ([Collins et al][7] 1997:13)

[It can be argued that the first hardware and it's associated limits of functionality constrained teachers to the Instructional paradigm ([Collins et al][8] 1997: 16). The introduction of content free solutions freed teachers and students to adopt less passive learning and a more situated approach, where the tasks had to be completed as if the student were working in an office environment.]

1980's - Proliferation of manufacturers caused a problem with two major
- educational players (Research Machines and Acorn) not being used in business - limiting consumer base, and restricting software development. ([Boyd-Barrett][9] 1990: 15)
  - Many schools bought into the Educational suppliers products - constraining choice of software, but, conversely , from my experience; providing access to much higher quality resources.

■1990's - Constant increases in speed and power, the continuing development of media (CD ROM / DVD / Video on demand) coupled with decreasing cost, I believe freed schools to diversify away from Educational machines (Collins et al[10] 1997: 22).

■Late 1990's - Research Machines move to Industry standard equipment - and retain their position in the education field. Schools which stuck with RM equipment are now freed to purchase Industry standard software solutions.

■Acorn computers effectively disappear.

■Access to more and cheaper peripherals (Laser printers / scanners / graphics tablets / digital cameras / video cameras) encourage more creative approaches to learning. (Personal experience)

[I theorise that the introduction of multimedia hardware (CDROM) and associated software freed teachers to move even further away from the Instructional paradigm of learning and begin exploring the Revelatory and conjectural approaches. The hardware enabled suitable software and equipment to be used to target the different types of learner, as expounded by Gardner's (Multiple Intelligences) and Lave's (Learning styles) research. I will discuss this in more detail later]

■Late 1990's - early 2000. I would argue that the improvements in technology for networking, coupled with the governments National Grid for Learning (NGfL) initiative (and funding) have had the greatest impact in the past few years - see next section (Leask & Pachler [12] 1999:210).

Development of networking technologies

The following draws largely on my own experience:

- Initial systems were stand-alone. Data was backed up and shared via tape.
- The earliest form of networking was know as sneaker net in American parlance.
  - Involved copying data onto tape / disk on one computer and then carrying the disk to another computer for output purposes.

- Modems were developed (earlier than most users were ready for) that would have enabled a telephone based network to exist. They were ahead of their time and mostly gathered dust in cupboards (Collins et al[11] 1997: 18)
- 1994 - Tim Berners-Lee develops the first model for the internet. Office networks are developed that utilise coaxial cable, allowing file and print sharing.
  - Universities pioneer use of internet-type connectivity with JANET.
  - Internet connectivity bandwidth has increased from 56Kb/s in the mid 1990's to 2MB+ today (home and school). Much greater speeds are available through SONET connections.
  - Schools constrained by connection costs and lack of site wide connectivity - only one or two machines have internet access.

- Since 1994 - networking technologies have developed in parallel with hardware. Speeds have increased from 10Mb/s to 1Gb/s+ in just 4 or 5 years, impacting on

both administration and pedagogy.

- Most schools now run some sort of network freeing them to operate Networked ILS, VLE and MLE.
- Most schools (98% - DfES figure 2002) now have Internet connectivity.
- Government funding for Broadband (NGfL) allows many schools to purchase higher bandwidth lines and subscription services.
- Higher bandwidth connectivity frees schools to start experimenting with Videoconferencing and Web-based learning. (eg. Online Latin course run at my school in association with Cambridge University)

Discussion of Learning Theories

There is much published on the effect of ICT on learning. Pachler identifies a 'paradigm shift':

"fundamental changes to the role of the teacher are taking place, in John Higgins' terms, from 'magister' (instructor) to 'pedagogue' (facilitator of pupil learning)"

(Higgins 1998 in Pachler & Leask[13] 1999:7)

The context suggests that ICT is responsible for this change but I would argue that this is difficult to prove. It may be that ICT has helped to accelerate change but it would be very difficult to prove it to be solely responsible. The change could equally be down to better understanding of learning theory and a change of focus in Initial Teacher Training. I do believe, personally, that ICT

has enabled teachers to move away from the Instructional paradigm (the paradigm shift referred to by Pachler) to more revelatory and conjectural and even emancipatory learning.

Within the context of hardware - it is difficult to discuss learning theory specifically, as much pedagogical development comes from the software tools side of the coin. I will attempt to explore this issue more fully in the next two sections.

Poster Issue 2

Issue 2: The effect on Learning of Educational Software development.

Links to Issue 1 / Issue 3 / Definitions

Early days (1980)

When the Micros in Schools programme was in its early days the main focus of learning was on the mechanics of computing, which I believe severely constrained early pedagogical development. (Collins et al [14] 1997:12/13)

[As already mentioned, the pedagogy of early computer science was based on the instructional paradigm with students being shown and repeating tasks.]

This was soon determined to be unsatisfactory.

A disastrous effect on gender balance began to be seen - girls not taking up places.

The desired vocational benefits weren't achieved (Collins et al[15] 1997: 13)

Early educational software solutions were often developed by keen teachers and tended to be amateurish. (personal reflection)

- Software development moved away from computer science and into repeat and drill or drill and practise type applications. (Collins et al [16] 1997: 13 / 16)
- Many packages were determined to be poor quality -(view sample review)
- Development was constrained so severely that in the 1980s it was actually being questioned as to whether there was a market (Boyd-Barrett & Scanlon[17] 1990: 19) .
- Much of it was lamented as being too teacher centred, constraining flexibility in pedagogy (Collins et al[18] 1997: 13)
- Much was believed to be too difficult to use constraining teachers by discouraging them from using it. (Boyd-Barrett & Scanlon[19] 1990: 5)

[Collins point that much early software was too "teacher centred" is a subjective view I believe. Again, this suggests an Instructional approach. From my own experience, as with all tools, the nature of the experience is determined by the character and experience of the teacher. During my O' level computer studies in the mid 1980's we were encouraged to explore the software ourselves, even if it was written for teachers - a much more revelatory / discovery based way of learning. In the Interactionist sense - the focus was to what use the teacher and learners put the software and what the outcomes would be. (Collins et al[20] 1997: 18). At this stage there was no thought given to styles or types of learning or whether the experience was situated. It was too new and too Novel! It provided the learner with a sense of freedom in discovery and a willingness to learn

*independently and solve problems as they occurred. In this sense alone, I feel it
was a successful exercise.]*

A heavy focus on content-free software was developed at the end of the 1980s
with schools developing use of office type applications which allowed freedom for
the student to develop vocational skills and the teacher freedom to develop their
schemes to meet their needs. (Collins et al[21] 1997: 15; Boyd-Barrett & Scanlon[22]
1990: 19)

*[The introduction of "Office type" or "Vocational" applications like Word processors
and spreadsheets allowed both teachers and students to experience a "Situated"
style of learning and move away from the Instructional style of skill and drill. This
style, expounded by Lave, argues that learning is a result of the context or situation
in which it takes place. Collins cites a criticism of Behaviourist theory by suggesting
that there is a danger of incorrect learning propagating through a student group
(Collins et al[23] 1997: 14). I would argue that this can take place in any learning
environment, including an Instructional approach.]*

Up to date

Early 1990's sees the introduction of the CD ROM

A proliferation of software titles is seen. Many are American. (Collins et al[24]
1997: 23)

Fewer teachers invest time in developing software for the Acorn platform as
commercial options become available (Collins et al[25] 1997: 23)

DfEE put funds into schools for purchasing multimedia (Collins et al[26] 1997: 22)

Quality of resources is variable leading to development of groups like TEEM

(Teachers Evaluating Educational Multimedia)

▪BESA (British Educational Software Association) develop a database - now
searchable on the internet.

*[Some teachers in the 1990s held on to obsolete hardware, simply because of the
software they could run. It was effective, simple to use and, in many cases, not
replaceable. ((Boyd-Barrett & Scanlon[27] 1990: 15)]*

▪Late 1990's sees the Internet providing similar high quality multimedia resources
to CD ROM promoted investment in the development of Revelatory learning.

▪Simulation type software (crocodile clips) encourages the conjectural learning
approach.

▪Development of Integrated Learning Systems and Managed or Virtual Learning
Environments allow, I suggest, learners to explore learning through a hybrid of
Instructional and Revelatory approaches.

*[Behaviourist approaches tend to fall in to the instructional paradigm (Pachler &
Leask[28] 1999: 8) and can:*

"potentially create a passive mentality which seeks only the right answers"

(Bonnett 1997: in Pachler & Leask[29] 1999: 8)

*However, self-guided and independent learning suggests a more revelatory or
interactionist approach. Pachler & Leask argue that such hybrids are proving
difficult to develop in several ways. I disagree and believe the systems my students
use successfully draw together the ability to learn through discovery and to
develop what is learnt through drill and practice. I do concede, however, that the*

individualisation offered by these systems is less sophisticated than it seems.

([Pachler and Leask](#)[30] 1999: 8)]

In Issue three I will discuss Learning theory more specifically and how it is being used in ICT pedagogy.

Issue 3: Catering for Learner diversity.

Links to [Issue 1](#) / [Issue 2](#) / [Definitions](#)

Many Learning theories exist, some of which have been touched upon in the last two issues. In this section the focus will be on critiquing some of these issues as they relate to learning with ICT.

Learning Paradigms

A paradigm is defined as 'a pattern, example or model' by the Oxford English Dictionary.

Instructional - Instructional dialogue approach or skill and drill.

Break the task down into specific sub tasks each with their own objectives, etc. ([Collins et al](#)[31] 1997: 16)

- Revelatory - Learning by Discovery

  - Learning matter and underlying theory gradually revealed to the learner.

- Conjectural - Learner collaboration

  - Learning through problem oriented / experiential tasks.

- Emancipatory - Relief of mental drudgery

  - Use of the computer as a slave to relieve tedium.

[As generally accepted models, or paradigms of practice, these issues are not really debatable. However, is the emancipatory paradigm a learning model, in truth? A tool used for relieving tedium is useful, it may release time for learning, but does it actively result in learning. Collins debates the issue of authentic and inauthentic learning. (Collins et al [32] 1997: 17) But in the text the discussion is of whether the labour saved impedes or clutters up the learning process - not in how the paradigm, itself, results in learning]

- Learning Theories

  - Two main schools of thought are evident in the literature.

    - Behaviourist - passive learner, formal learning styles (Pachler & Leask [33] 1999:

7) seems to use the Instructional paradigm.

- Interactionist / cognitive / humanist / progressive - learning as discovery, active learners and informal learning style. ([MacGilchrist et al 1997 in Pachler & Leask](#) [34] 1999: 7) perhaps more focused on the revelatory and conjectural paradigms.

Behaviourist Theory

- Repeated exposure to the same material is beneficial to learning ([Warschauer 1996 in Pachler & Leask](#) [35] 1999: 8)

- Computers ideal for carrying out repeated drills ([Warschauer 1996 in Pachler & Leask](#) [36] 1999: 8)

- Computers can present such material on an individualised basis ([Warschauer 1996 in Pachler & Leask](#) [37] 1999: 8)

[These opinions invite some debate. Repeated exposure to the same material is going to beneficial to some students, yes - but to all? This is a quite magnificent generalisation. Some students will be unable to work with material on effort 1 and repeated exposure may only reinforce their lack of understanding, let alone damage their morale and motivation. It is true that computers don't get bored and are good for repeated drills but the third comment is, I believe, untrue. No computer program will be able to cater for the needs of every student. You can program a series of responses based on normal distributions of ability, etc - but the human machine is too complex for a simple binary program to respond to. What they can do is cater for some diversity in learning and manage a small amount of differentiation.]

Interactionist Theory

Cognitive theories see learner as active, not passive (Pachler & Leask [38] 1999: 9)

Two main schools

1) Information processing - explains learning as a system reliant on rules and models of behaviour (Pachler & Leask [39] 1999: 9)

Multiple Intelligences, as researched by Howard Gardner, suggest learners can develop 7 (now 8) forms of intelligence. (Pachler & Leask [40] 1999: 9, Mitchell [41] 2001)

Linguistic, Logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and naturalist (Mitchell [42] 2001)

[These learning styles, linked to split brain theory are generally accepted. From my experience you can clearly see students who have high levels in one even if they are very low in another area. A classic example would be the student who has real difficulty with language (linguistic), but is exceptional at art or craft (a combination of spatial and bodily-kinaesthetic).]

2) Constructivist - concerned with personal experience and construction of understanding through experience. (Pachler & Leask [44] 1999: 9)

Piaget suggested cognitive development was a process of maturation. A balance between what is know and what is being experienced is developed. (Williams & Burden 1997 in Pachler & Leask [45] 1999: 10)

- Piaget sees children as builders of their own intellectual structures, developed through experience and exposure to environments and processes. ([Papert] [46] 1993: 7)

- Content free software (Word processors, etc) fall into the cognitive model ([Pachler and Leask] [47] 1999: 11)

[I am happy with the idea of cognitive development as it reflects how we know children learn, say, their own language. I do disagree with Papert's statement:

"If you wish to learn to speak French, he argues, you go to France"

([Papert] [48] 1993: 6)

This suggests that this is the only way of learning. It denies the plausibility of the Instructional model, developing literacy through drill and practice and learning rules of grammar. Full immersion can be a successful model, but again it won't be suitable for everyone. Someone with a low degree of Linguistic intelligence may struggle for years in a full immersion, Papert style environment and still not progress.]

- **Learning Styles** are a cognitive model that have been investigated by several researchers. (Kolb, Ellis 1994, Reid 1987)

- Visual learners (reading / studying charts)
- Auditory learners (listening to lectures / audio tapes)
- Kinaesthetic learners (physical responses)
- Tactile learners (hands-on learning)

- Willing 1987 suggests a slightly different model

- Concrete / analytical / communicative / authority oriented (Ellis 1994 in: Pachler & Leask [49] 1999: 12)

[Again, my experience demonstrates that students do, indeed have preferred styles of learning. Action research into this issue in my school shows a definite motivating and apparent benefit (not yet quantified) from students recognising their own learning style and teachers catering for it. It could be argued that multimedia ICT has really helped to diversify learning approaches to cater for their pupils preferred styles. As Pachler says:

"New technologies offer one of many possibilities to provide varied learning opportunities"

(Pachler & Leask [50] 1999: 12)]

And Finally..

- **Situated Learning** - another cognitive model

- Knowledge is situated, being in part a product of the activity, context, and culture in which it is developed and used (Lave in :Seely-Brown

- Social interaction - where learners are part of a community of learning

- They start as beginners and end up as experts or 'oldtimers'

[Again this cognitive model sits comfortably with my own experience. Many students do benefit from the prior learning of their peers and draw on Social

interaction to help develop their own learning. I would argue, though, that this depends on the inter and intra-relational skills of the student. Like group dynamics, there are leaders and followers - my conjecture is that some students don't have sufficient social skills to ever be an Oldtimer in a socially responsive sense, even if they do develop understanding.]

Task 2

Presentation

Slide 1

ICT: Freedom & Constraint

## A look to the future
by
Paul Norman

Slide 2

The Task

- "Make a presentation, predicting the possible directions for future learning and pedagogy based on computer technology."

Slide 3

Some Issues to Consider

- What do the "experts" think the future of education and technology is?

- What is the current direction of educational change?

- What are the government saying about the future?

- What do I think?
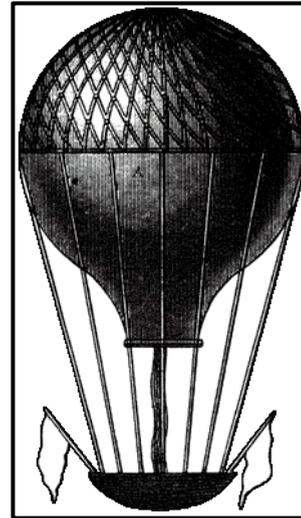
The Future?

Slide 4

The Experts' View

- We will see more "Learning Communities" (Heppel, S in Revell, P 2002) –

- Teachers need to be able to share their practice, reflectively (Heppel, S in Revell, P 2002)

- Schools will have smaller groupwork areas – ICT equipped (Dudek, M in Revell, P 2002)

- Learning will be more "learner focused" (DfES in Morris, E 2002)

- Teachers will not be rendered obsolete. (Cooper, B in Revell, P 2002)

Slide 5

The Experts' View - critique

- Learning communities based around technologies like the Internet and Think.com are already propagating rapidly. A fairly safe prediction – it would be more helpful to predict the main systems of learning that will develop to support those communities.

- Teachers sharing practice reflectively is an important need and is being addressed by projects like SEEVEAZ (South East of England Virtual Education Action Zone).

- Learning may well be more learner focused – from the literature there is a general consensus that the recognition of preferred learning styles and the experiential styles of learning have a lot to offer. But there will always be a place for instructional, behaviourist approaches with some students reacting well to skill and drill exercises. A situated approach with skills and knowledge learned in context, cognitively, combined with resources and activities differentiated by learning style preference is my prediction for future successful models.

- I don't believe teachers will be obsolete, the social interactionist debate about the value of the social experience is key here. The human touch is needed, at least by younger students. At adult level – perhaps less so, but not in my experience.

Slide 6

The Experts' View (cont..)

- Life long learning is the norm – *this depends on social issues other than technologies. Government funding is a key issue, as shown by the Individual Learning Account debacle.*

- Distance learning widespread - virtual universities – *These already exist and look set to continue, in my opinion. Anytime, Anywhere Learning is being promoted by Government and Business alike.*

- Expert systems surpass human learning and logic abilities -

- Real time language translation for print and voice – *already happening*

  - Cochrane & Pearson 1994

Slide 7

The Experts' View (cont..)

- Broadband networked electronic libraries – *again, this is starting to happen with many museums and Libraries putting information and texts online.*

- Natural language home information retrieval and interaction

- Very intelligent knowledge pursuit and consultation

- Systems to understand text and drawings (eg patent information)

- Subliminal learning – *A very controversial prediction – will we welcome this type of psychological programming – how will it be regulated and monitored?*

- Machine use of human memorising, recognising, learning

  - Cochrane & Pearson 1994

Slide 8

Where's Education Going?
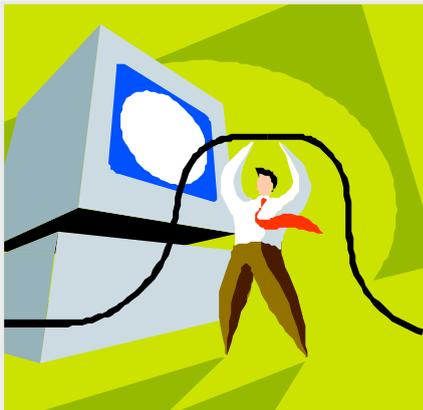
- To see Estelle Morris -Secretary of State's Speech at BETT 2002, 9th January 2002 Link to: http://www.dfes.gov.uk/speeches/index.shtml

- Recent changes to 11-16 education as part of curriculum 2000 include renewed focus on ICT.

- Greater investment in ICT through National Grid for Learning.

- Investment in staff training through New Opportunities Fund.

- Proposed changes to 14-16 education in the Government Green paper 2002 include a greater focus on Vocational education including ICT.

- Inclusion of ICT as a key skill

Slide 9

Government Plans

- As recent changes show and as current proposals (Green Paper 2002) suggest, the Government intend to make ICT a centre piece in their review of the curriculum.

- Development of the first "Digital" curriculum in the world with "Curriculum Online"

- DfES has invested £10, 000,000 in piloting the ideas for the school of the future.

- Comments made by Estelle Morris, Secretary of State for Education at the BETT 2002 show suggest that ICT is at the forefront of their plans for revolutionising learning in the UK.

  "ICT is our DNA, our Internal combustion engine. It is the trigger that can bring about a revolution [in teaching and learning]"

  (Morris 2002)

- There seem to be 2 foci Learning environments and Individualised Learning. As Morris says:
  "If we use ICT right it potentially ends that debate that every teacher has always, always wanted to teach children as individuals and not groups"

  (Morris 2002)

- Other comments promote the idea of remote teachers – perhaps using videoconferencing and mixing learners into groups independent of age or ability, with ICT the tool to address the challenges of the new ways of thinking

Slide 10

Government Plans - critique

- Generally good, research backed ideas, in my opinion.

- High investment already generated – but notably not promised for the future – a vital factor in getting both educationalists and commercial interests to stay on board.

- Too high a focus on environments and the box end of the school – too little on the learner.

- Desire to mix ages and abilities in non-traditional groups is exciting, but slightly controversial. Will Parents support it?

- Promotion of Remote teaching / sharing skilled practitioners by video conferencing, say, may be a stealth way of dealing with shortfalls in recruitment.

- No justification of ideas through discussion of the research is evident, although plenty exists – but this is typical of a focus group led management structure ie. Government!
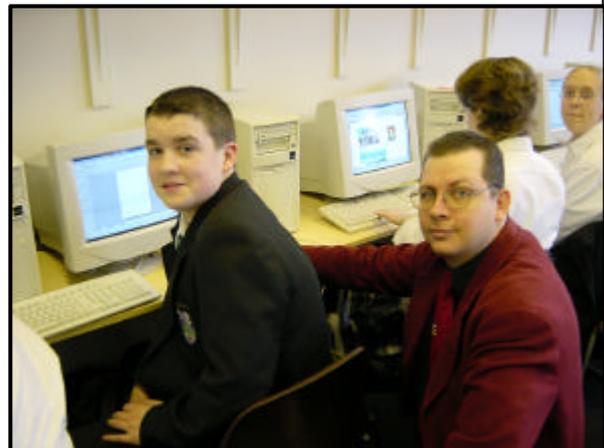
Slide 11

Other considerations

- Increased funding in online learning from public and commercial concerns (Cisco, BBC, Microsoft) – *I believe there is a danger that such large corporate entities may try to monopolise learning as they have technology*.

- Higher numbers of people investing in "Lifelong Learning"

- Greater numbers of schools developing their own online resources

- Rapid development and reduced cost of Broadband Internet access, both in homes and schools. – *already evident*

Start   3:54 AM

Slide 12

My Predictions

- ICT will continue to be a major focus within the curriculum

- Broadband access will extend to all schools with greatly increased PC/Internet ratios.

- Money made available by the government will encourage more schools to pilot and then use online learning resources

- Greater access to Managed Learning Environments will encourage teachers to explore different pedagogies.

- Learning will move away from traditional teacher to class interaction and into "Individualised" learning.

The author showing a student how to create a web page for an English project on Macbeth.

Slide 13

My predictions 2
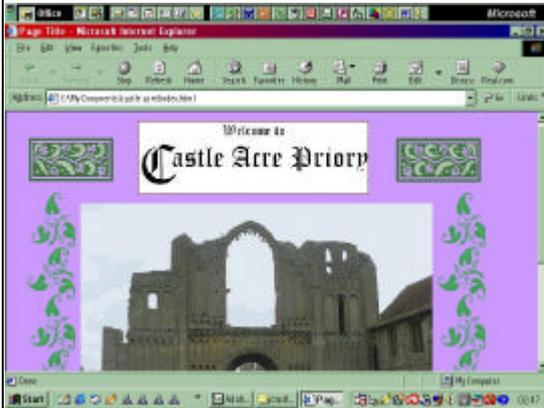
A screenshot of the "Castle Acre" resource developed by the author and the History department for use with year 7 classes.

- Schools will develop more of their own specific resources as training impacts on teacher confidence supporting different learning styles and based on Situated Learning theory

- Broadband access will increase the amount of audio and video based resources both available and accessed.

- Online testing and examining will revolutionise the examination system.

- Opt out will allow schools to mix students in mixed age groups with more independent learning systems.

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My predictions 3

- Increased investment from business will result in more Academy style programs like the Cisco model.

- Increased investment and withdrawal of small players will mean a more controlled (commercially) Internet.

- More students will access online and remote learning programs, pushing investment up.

- Broadband will encourage greater use of teacher / expert sharing via videoconferencing and will help support cognitive /discovery based learning.

A Cisco Networking Academy student carries out a practical wiring task.

Slide 15

My Predictions 4

- More video based technology will be used in schools – web cams / video conferencing / video editing.

- Faster, memory rich systems will allow schools to provide large amount of storage to students encouraging multimedia projects to proliferate.

- Faster Networking (cat7 fibre optics) will encourage use of streaming audio and video as well as video conferencing / tutoring to the desktop

- Cheaper, more readily available peripherals will encourage greater use of digital imagery and video

- Bluetooth and other wireless technologies, combined with PC tablets and handheld units will accelerate Any time, Any where learning – having a personal computer at school will be similar to having a personal mobile phone, now.

- Cheaper, faster broadband technology will encourage more learning communities, focused on a main school with local primaries and communities groups as learning branches.

Slide 16

My predictions 5

Electronic systems pervade school administration

- Electronic systems will improve workload issues for teachers

- Electronic registration improves school attendance and simplifies reporting.

- Schools will be built utilising inbuilt networking and high capacity data systems

- Better understanding of workspace issues and learning environments will revolutionise classroom layouts.
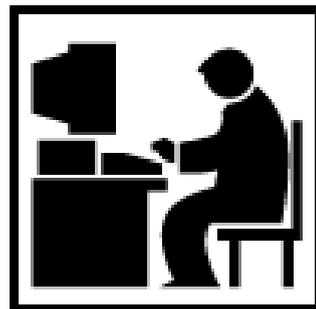
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What about the Pedagogy?

- A greater understanding of Learning theories will encourage more research into learning with ICT.

- A definite move from "Instructional" (Tolman, 1932; Skinner, 1948) learning to "revelatory" learning will be instigated. (Bruner, 1973, Ausubel, 1978 At: www.pandora.ultralab.anglia.ac.uk)

- Further understanding of multiple intelligences will see resources developed to support different learning styles in different ways. (Mitchell 2001, At: http://www.newhorizons.org/trm_gardner.html 2002)

- Teachers will become more reflective practitioners sharing their experiences through communication gateways like www.think.com

- Different approaches to learning in mixed age, mixed ability groups will be developed, based around Kolb's theory of experiential learning. With personalised programmes delivered via Managed Learning Environments.

Slide 18

Critique of my predictions

- Some of my predictions are too simplistic and based on current knowledge – not futurology.

- Predictions and critique of Government policy always assume no change of power base – this needs to be considered equally, what impact might a change of Government have?

- Many predictions assume a consistent level of funding – the reality is determined by Macro-economics and is almost impossible to predict accurately – should I have tried?

- Predictions about changes to pedagogy and epistemology should indicate some sort of timescale.

Slide 19

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Critical Review of the Website.

<u>**The Task:**</u>

Write a justification and critical review of your web page (design and content), based on literature, research and theory. This part of the task will include negotiation with your tutor the criteria for assessing your web page
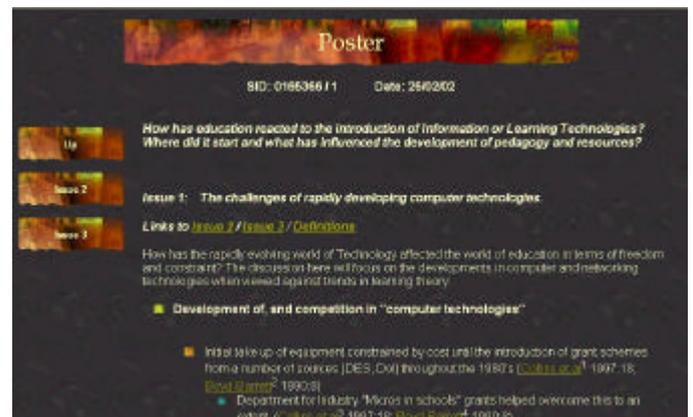

<u>**Justification & Review:**</u>

This section will offer a critique of the work undertaken for Task 1 - the design of a web page, and will focus on design and content.

<u>The web page design.</u>

Some of the elements of the page design are a requirement of the assessment criteria. The student ID and the date are required, the only consideration is how to show them, I think I chose a suitably formal and easily seen font, although the use of white for these required details, when the main body text is also white could reduce its ability to be noticed.

[Click on Image to link to Poster page 1](#)

I chose to use a site template within Microsoft Frontpage, to simplify site management and reduce the amount of graphic design I would

need to do in generating backgrounds. I think

this was a fair and sound decision in light of

the limited time frame.

Nielson [51] (2000), argues that a website must have a toned down visual appearance

and that it should conform to styles set within other sites. However, I believe that as

the content of my site is quite text based and graphically dry, the use of an aesthetic

theme would lift the presentation and stand above the norm. I feel that, in many

ways, the site is too text based and borders on the boring in terms of content

presentation. At the same time I also feel that too much graphical content would be a

strong distraction from the written discussion, which is, after all, the main purpose of

the pages.

Nielson [52] [ibid] also says that using long scrolling pages is a detraction from good

design. I would normally agree, but in the context of the task, continuity in presenting

the discussion would be lost by splitting into too many pages. I did attempt to

minimise the scrolling requirement by splitting the poster into three pages, however,

the demand on content is high and the site specifically targeted, so I don't believe the

page length will detract from the experience.

I restricted myself to a mainly bullet - pointed layout in the Poster as the discussions

were based around a series of important Issues. Where discussion or graphics were

required, I have used tables to layout the detail. This is, I believe, a successful way of

working, as the table will reconfigure itself easily to new browser resolutions.

Provided cells are set as percentages any images will retain their screen position.

Aesthetically, the theme chosen could be criticised for being too dark. This is a deliberate choice as the design retains a different, yet formal feel, suitable for a site of this nature. The white font, in a web standard type (arial) is easily read and the size of 12 points is a comfortable size to read, according to one or two colleagues that I asked. Size 10 was considered too small and 14 was too large.

Navigation of the site is simply achieved through clearly defined buttons which appear in a consistent place on each page. These are supplemented with additional links and buttons as needed.

Mitchell [53] (2001) of Ultralab says in the Pandora guide to creating Web pages with regard to expert and frequent users:

"These (expert) users want to obtain information quickly and accurately; they want stripped-down, fast-loading text menus, not slow-downloading graphics"

(Mitchell [54] 2001)

It is possible that for the more expert user I have used unnecessary graphics within the menu and navigation options. These theme based graphic buttons are clear, but do require additional download time. I would argue that, even for an expert user, a purely text based page can be dull and won't draw the reader in. The navigation is defined across the site on a parent and child level, so buttons will be automatically assigned to go up a level or to directly linked pages in the next layer. Hence, some pages have multiple buttons while others only one.

Within the presentation I chose to use a Power Point web based presentation for its professional feel and wide range of available features. The design was a plain blue

background to prevent distraction from the content as the pages are quite detailed, with limited illustrative graphics and animation features. Simple layouts were used for ease and speed of reading and the presentation was deliberately limited in size.

Additional user features such as the definitions and references are easy to find from the navigation and are clearly laid out. References are bookmarked back to the point on the page that the original reference is quoted and the Harvard system of referencing is used.

Content

In designing my web page it is important to note that it was designed for a specific audience and purpose, the audience being my tutors and assessors who themselves will be familiar with the issues discussed. For a non-tutor or a passer by (in web terms) my pages would probably result in Information overload, a danger highlighted by Pachler [55] (1999: 59).

Provision of a definitions option and the reference bookmarking are both ideas developed in consultation with my tutor. I believe they are effective and provide well laid out essential information to the reader. I would expect most of my target audience to be familiar with all the terms used, but it is important to ensure a general acceptance of definitions.

The first criticism of my poster and presentation is in their length. Having spent a great deal of time trying to cut back on the content in terms of quantity, I was very unhappy with the loss of detail and depth that would have been incurred. As a result, I decided that in order to maintain the essential integrity of my arguments and the

continuity of the presentation, I would rather incur penalties for extended length than for lower quality work.

Throughout the production I have sought current research to inform my discussion and have read through book, journal and internet based sources. Is it a weakness that, despite this, I tend to quote from a small proportion of the sources? I don't believe so, reading is about selecting appropriate materials and drawing the most relevant points from them. Much of what I have read and quoted is from the last 5 years, however, I have quoted from sources over 10 years old and, in my own opinion, this is questionably valid in both ICT terms and Learning theory terms. Many changes can occur in that time. I believe that my selection of sources and quotes has been appropriate to the points I wanted to illustrate and that my understanding of the theories and issues discussed has suitably reflected "Mastery" in the subject.

The three issues selected for the poster truly reflect my view of what is important when viewing ICT in education. I have given indication of how these issues affect freedom and constraint within their contexts, but would have liked room to explore that more fully. I believe my discussion of learning theory has reflected my reading and has been expressed in an appropriately academic form. I recognise that this is still an area I need to work on as writing for an academic audience is new to me and I need to develop the skill further. Another area for development that has been highlighted by my tutors is my use of referencing. Despite persevering, there are still inconsistencies in my referencing. Much of that is due to a very compressed timescale and less time to proof-read than I would like.

Criticism can also be levelled at the presentation. The pages are too detailed, resulting in smaller font sizes. These are difficult to read. The actual content, I feel is

good. The overview of what the experts and Government predict is detailed and relevant and current, and my own interpretation is realistic.

Overall, comparing what I have achieved to the learning outcomes for the Freedom and Constraint module the following points can be made. I believe I have demonstrated a clear understanding of where learning and pedagogy is going related to computer technologies. I have identified and discussed key factors and future predictions. Within the limited space available I do believe that my presentation does look at future technologies impact based on the critical frameworks defined. Finally, I think that my research does suitably support my understanding of the points above.

I will conclude this critique with two additional observations. The first is a critique of my critique. Despite looking for specific sources of guidance on writing this style of document, I was unable to find anything particularly relevant to my needs. As a result I have not included as many references and quotes in my critique as I would like. I don't believe this is an issue as all of my comments are based on background reading and my expertise in an area where I am an experienced practitioner. Secondly, the task has challenged and pushed me to the absolute limits of my ability. This is not in terms of intellect, but in terms of time. The module guide suggests an investment of approximately 19 hours a week on the module and I have easily invested this and more.

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