

**IMPLICATIONS FOR THE OF AN  
INFORMATION SOCIETY**

**C Yapp**

**Rapporteur: Martin Beet**



# *Implications for HE of an Information Society*

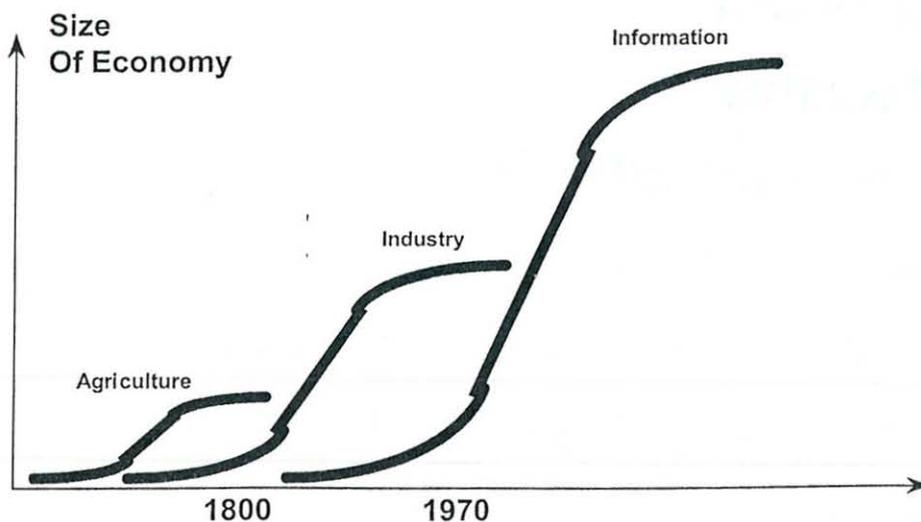
Chris Yapp

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## *Why Is Education So Important Now?*



## *Globalisation + Technology =*

- Minimum skills for 'living wage' rising fast
- Reduced demand for low-skilled workers
- Rapid obsolescence of skills
- State retreat to basic education ?
- Free market for adults?

## *A Technology Agenda*

- Internet/WWW
- Virtual Reality
- Interactive Media/DVD
- Voice Recognition
- Quantum/Biological/Fuzzy computing
- ATM/DAB/DVB/DTT/UMTS
- Intelligent agents
- Smart devices/homes

## *A Learning Agenda*



- Lifelong Learning
- Raising standards
- Widening access
- Tackling exclusion
- Tackling disabilities
- Teacher recruitment/ motivation
- Reducing unit costs

## *Lessons from Industry*

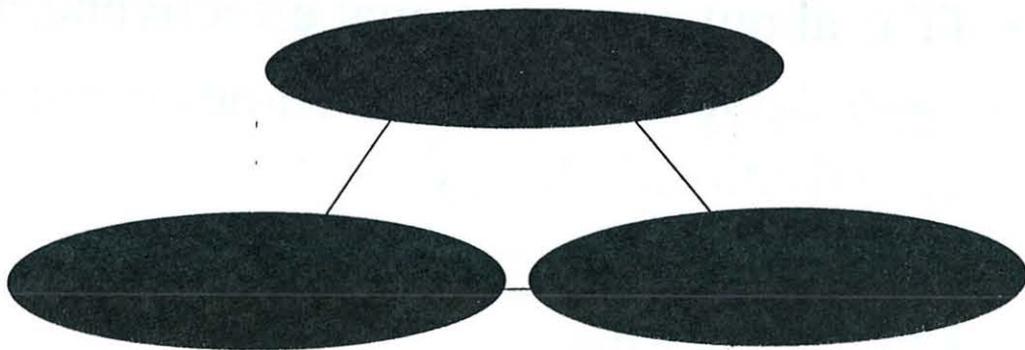


- IT is about organisational effectiveness
- Optimising effectiveness comes through organisational change
- *Re-engineering* Education to support Lifelong learning

## *Re-engineer what?*

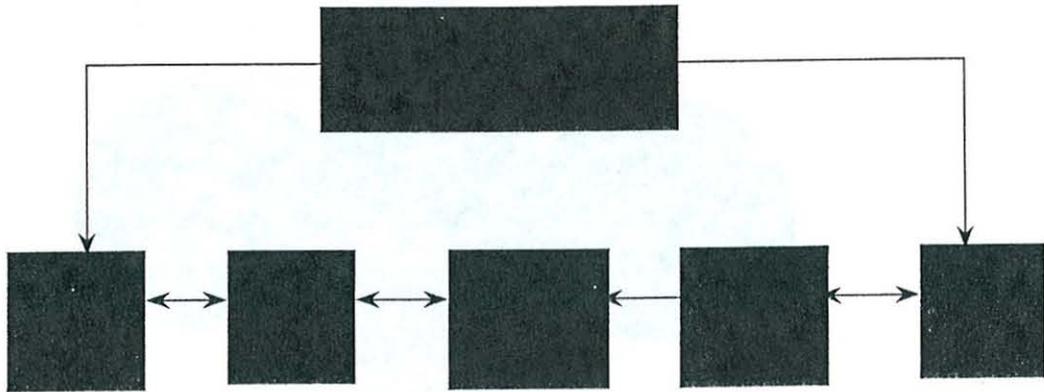
- The educational infrastructure
- The curriculum
- The teaching profession

## *The Strategic Issues for Business*



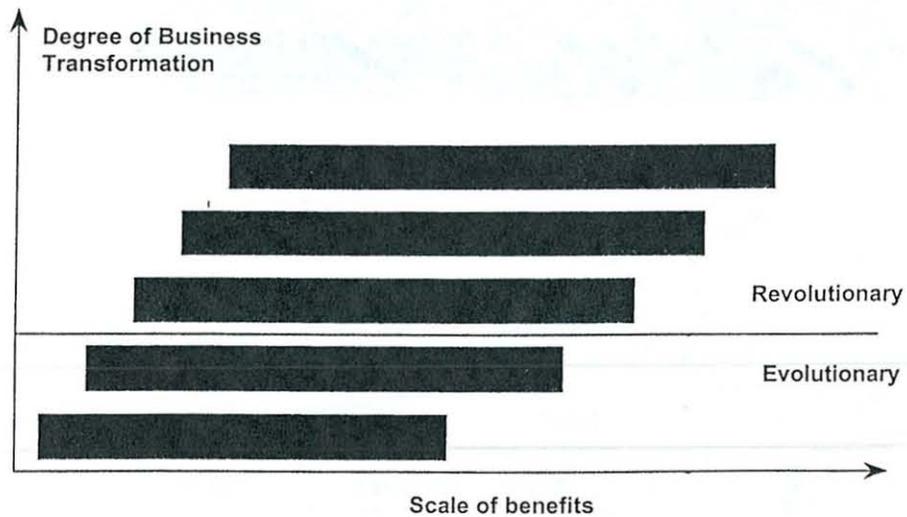
IT can Impact all three aspects

# Elements of Delivery

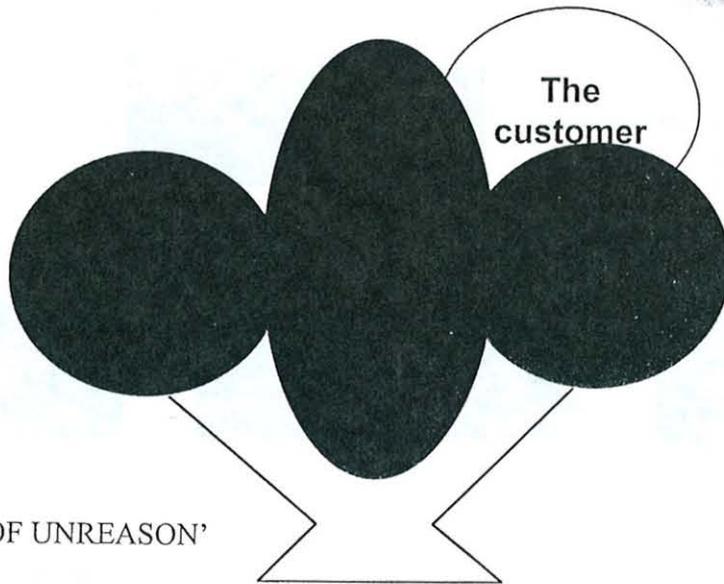


SOURCE: Paul Strassmann

# 5 Levels of IT-Induced Business Transformation



# Handy's Shamrock



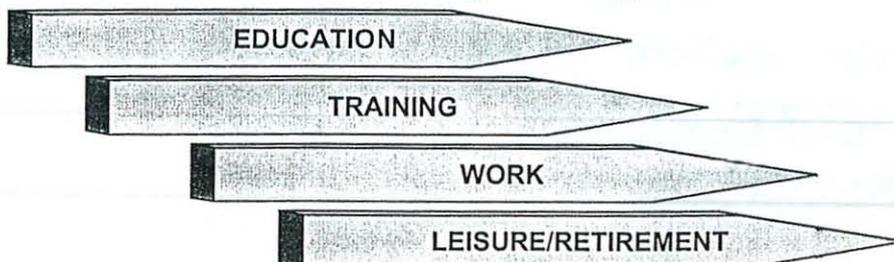
SOURCE, 'THE AGE OF UNREASON'  
CHARLES HANDY

## *Lifestyle Patterns Are Changing Rapidly*

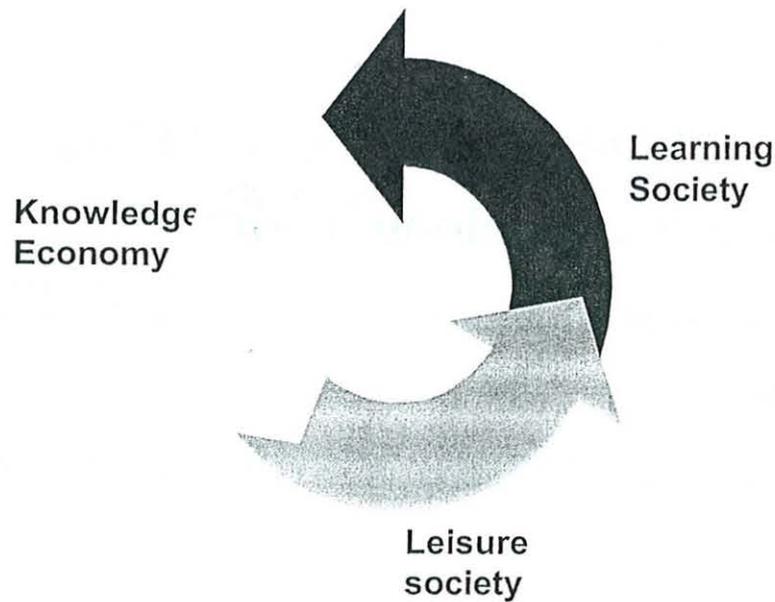
The Traditional Pattern



Life Long Learning



## *The Virtuous Circle*



## *Learning on Demand*

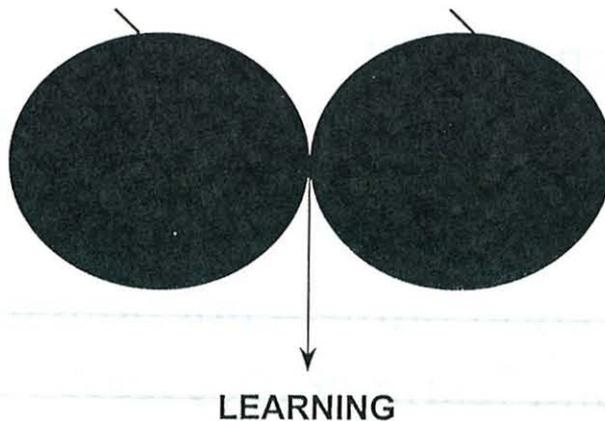
- Personalised, mass-customisation
- User-driven quality
- Teamwork-oriented teaching and learning
- Exams and Qualifications?
- Administration built-in not bolted-on to teaching and learning processes

*This implies...*



- A Culture of Lifelong Learning
- Access to lifelong learning
- Content to support individual lifelong learners
- A social context for lifelong learning

*The Learning Organisation*

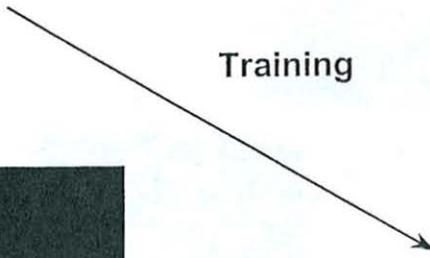


# *The skill shift*

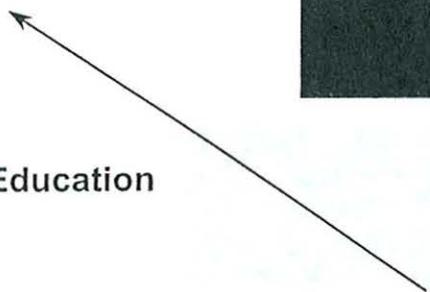
Learning to think



Training



Education

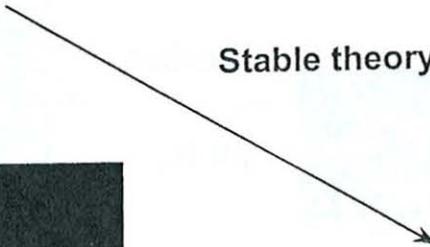


Learning to do

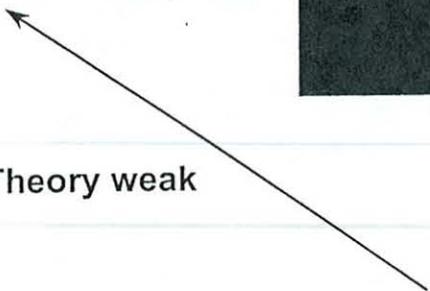
# *The skill shift*



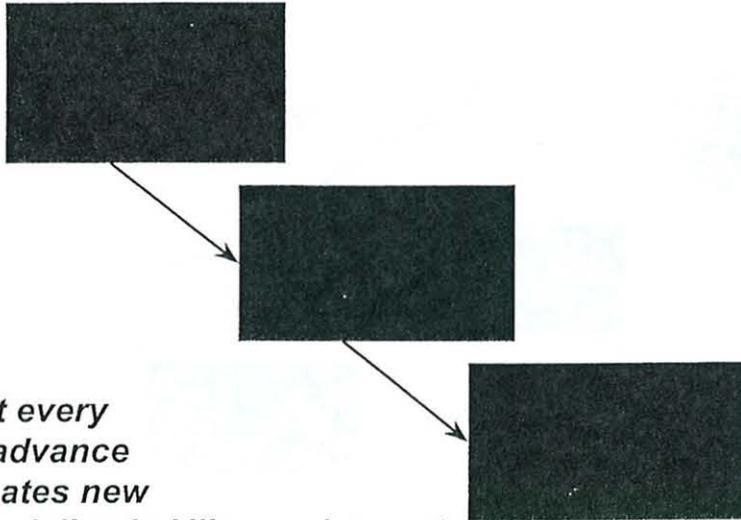
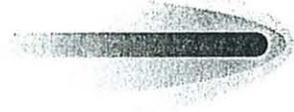
Stable theory



Theory weak

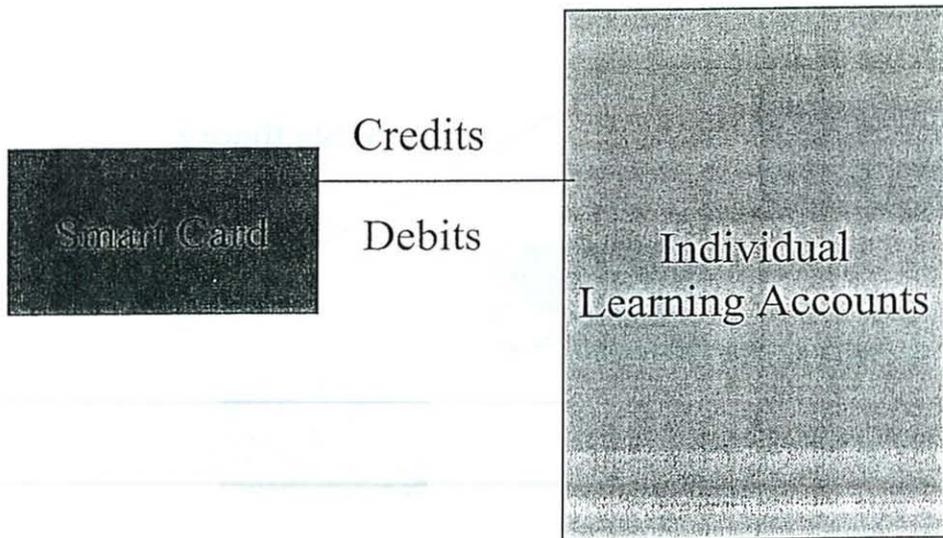


# The skill shift

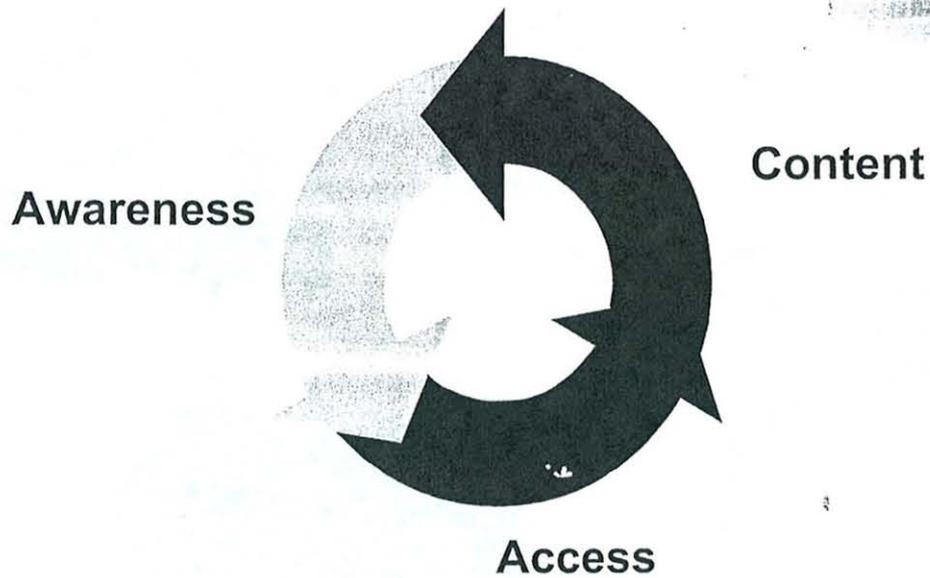


*But every IT advance creates new specialised skills requirements*

# Learning Bank

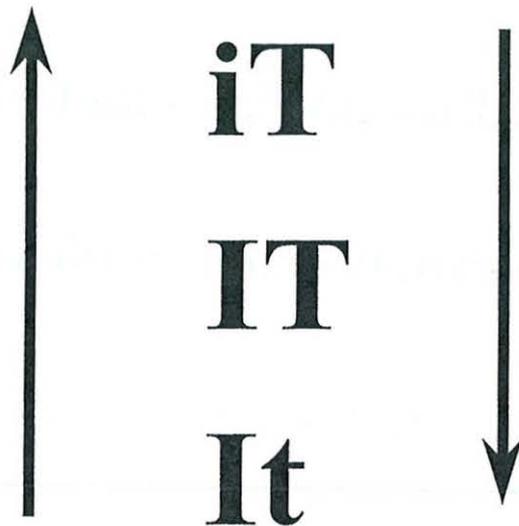


# *Another Virtuous Circle*

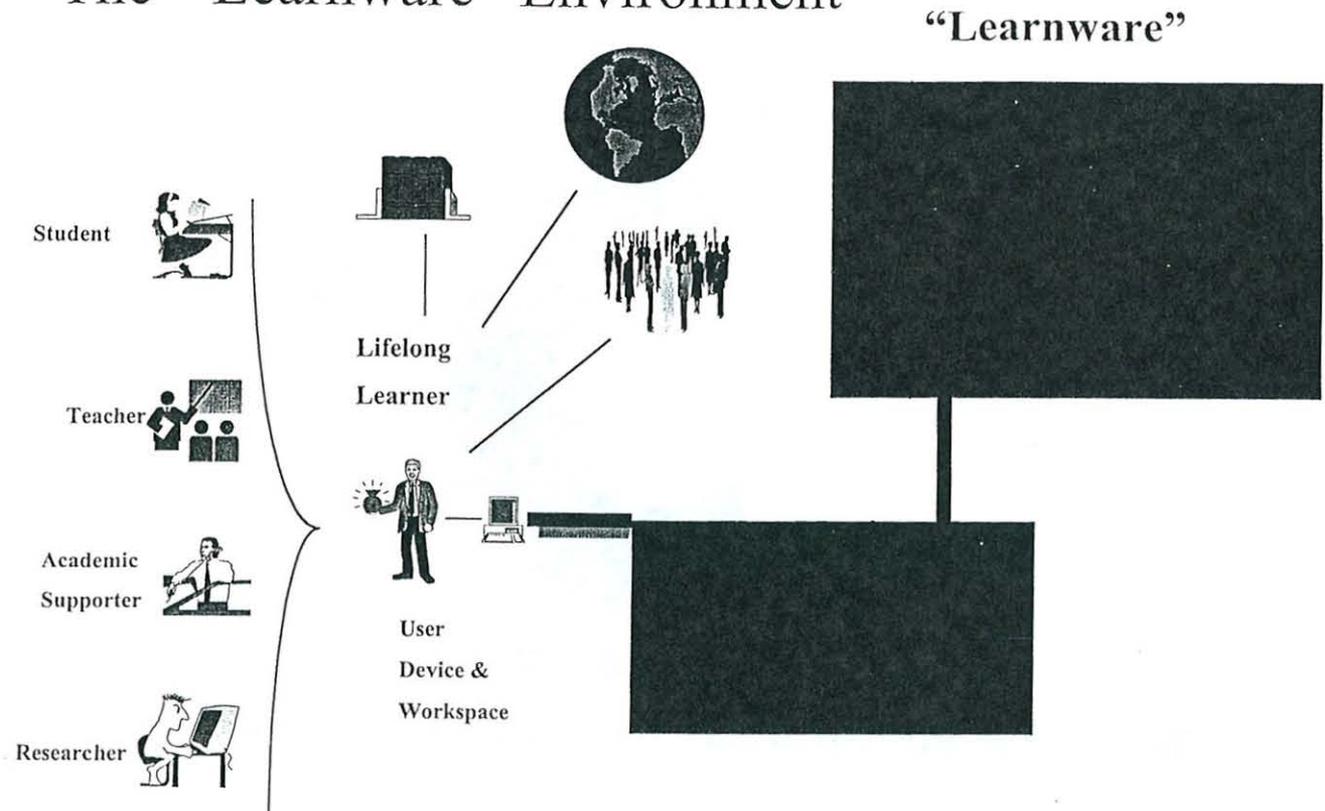


**Content, not infrastructure must drive the change**

# *Awareness vs Training?*



# The “Learnware” Environment



## *The changing nature of literacy*

- 3R's defined for needs of an Industrial Society
- Minimum standards for employability are rising
- Focus on self-managed learning
- Blurring of artistic/technical/scientific/personal

## *Learning as if the brain mattered*



- Multiple intelligence theory
- Learning styles
- EQ and IQ
- Brain functioning

## *Special Educational Needs*



- All children have special educational needs
- Technology offers the potential to take the 'dis' out of disability
- The potential will only be realised by commitment to research and implementation of successful pilots
- New teaching and learning skills?

## *This implies.....*

- More languages
- Cultural sensitivity
- Media awareness
- Science and Technology awareness/confidence
- Teamworking
- Creativity/innovation

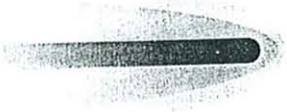
## *Generic Skills*

- Reading, Writing and Arithmetic
- Listening, Speaking, Thinking
- Time and Project management
- Information skills
- Design and presentation
- Problem identification, definition and solving
- Personal knowledge

*This implies...*

- 
- Teacher as lifelong learner
  - Learning as a social experience
  - Teaching as a research-based profession
  - Personalised curriculum
  - Focus on social inclusion
  - Globalisation/localisation of learning

*Implications for FE/HE*

- 
- Competition
  - Separation of Research and Teaching
  - Rationalisation of faculties
  - More diversity of 'courses'
  - More punctuated part-time
  - Regionalisation
  - Blurring of boundaries

## *The New Renaissance*

- A knowledge-led economy
- Blurring of Arts, Humanities, Science and Technology
- Risk and uncertainty
- People first, technology second

## DISCUSSION

**Rapporteur:** Martin Beet

Mr Yapp's second talk focused on the National Grid for Learning, a government-led £15 Billion investment in IT infrastructure. Commenting on the scale and size of the investment, Professor Randell asked to what extent this undertaking was best thought of as a single huge project which had to be finished until there was value to be gained from it, or something incremental in space and time in terms of success and value for money. In replying, Mr Yapp said that it was really more a programme than a project, and, although he expected significant payback only to be achieved when it was close to maturity, that some gains were already visible; as an example he cited the installation of computers in public libraries in deprived areas which were already proving successful in getting people back into a learning agenda.

Professor Randell raised the question of whether the project would be realised by a single organisation or in a more open fashion; in a similar vein Professor Mamdani asked how the public was expected to react to a "government ISP". Mr Yapp replied that the government would and could not allow a single company to run the whole infrastructure, as this would effectively mean giving up power, and that the intention was to foster competition within a cooperative framework similar to the current situation of the electricity utilities. He remarked on the important role played by standards in this issue.

A member of the audience pointed to the apparent lack of research preceding and supportive evidence for the need for such a large investment. Mr Yapp referred the audience to studies carried out by the UN, OECD and EU, all of which provided arguments to make the economic case for the National Grid for Learning. He conceded Professor Lehmann's point that access to information was necessary for economic gain, but not sufficient, and pointed to policy initiatives across several government departments which aimed at exploiting the infrastructure, often with a view to providing a better, more unified access to government services. He agreed with Professor Dobson that this would blur the distinction as to which department was providing and funding which service, and said that this issue was proving difficult to address.

Professor Nygaard raised the issue that learning on demand necessitated teaching on demand, which would mean less stability in what was taught and the staff involved, which would in turn impact on the stability and variety of research. Mr Yapp agreed and elaborated that, when the infrastructure was in place, students would be much less affected by the geographical location of provider of their desired course, and that a specialisation of universities with respect to teaching, research and subjects seemed inevitable.

Major further discussion was deferred to the immediately following general discussion session.

