Northern Ireland
Networks and Learning – what’s the connection?

a TERENA case-study

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La Maison Internationale, Paris
Northern Ireland

- Four separate UK jurisdictions
- Education devolved in each country
- Different solutions to similar problems
Demographics

1.7 million people
20,200 teachers
340,000 pupils
903 primary schools
  4 - 11 years
230 secondary schools
  11 - 18 years
48 special schools
  4 - 19 years
Selective education

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Ministry’s context…

- Legislative Assembly in suspension
  - elections 6th March 2007
- Improving competitiveness in a global economy
- A Shared Future
- Downward trend in pupil population
- Re-organising Local Government
- Providing government services online

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...priorities for change

- Revised Curriculum
- Post-primary re-organisation
- Capital Building Programme
- ICT in schools
- Including children with disabilities in mainstream schools
- Review of Teacher Education and Professional Development

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What was the problem?

- **Problem**: lack of a common infrastructure
- **Issues**: access, reliability, consistency, affordability, sustainability and value for money
  - Solution in 1997 – an NGFL managed service
- 8 years later….what is still a priority?
- Securing ‘a common digital infrastructure to support transformation and reform’
NI Education Technology Strategy

- Distributed Infrastructure and Resources
- Wide Area Network and Curriculum Resources
- Improving Classroom Practice
- Curriculum Review
- Teacher Education
Realising the benefits of the investment in ICT

Requires

- A shared vision,
- An integrated strategy, planning and action by all organisations,
- Sharing services and partnership (private and public)

- Investment: €76 million per year over 10 years
  €227 per pupil (5% of spend) a year

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The C2k Provision
www.c2kni.org.uk

At the local level
- Laptops for teachers
- A distributed LAN for every school
- Wide range of packaged software: 200 titles
- Integrated MIS Service

At the regional level
- Secure Private Broadband Network
- Internet services
- Integrated Learning Environment
- On-line digital resources and tools
- Anytime Anywhere access
The C2k Provision
Across the country - LearningNI

SECURE PRIVATE NETWORK

BROADBAND CONNECTIVITY SERVICES

C2k Data Centre

LearningNI -
Mail and messaging
Filtered Internet connectivity
Collaborative tools
Application sharing
Text and video conferencing
Publishing facilities
Digital content hosting
Course creation and management tools

80,000 seat country-wide network
4:1 ratio

375,000 core users

Anytime, anywhere access

2Mb links

VPN

Internet

80,000 seat country-wide network
4:1 ratio
C2k Wide Area Network

C2k Data Centre

C2k Data Warehouse

Internet

Home

Primary Schools
Secondary Schools
Special Schools

60,000 seat country wide network
375,000 core users

VPN
Anytime, anywhere access

Internet

PSNI Alerts System

NIRAN

SJ Network

2.5 Gbit

SJ Belfast POP

C2k Wide Area Network

Email

Content Filtering

Web Servers

ELFNI

ELB's (BELB)

Public Library

Public Library

Public Library

Public Library

NEELB

SEELB

WELB

SELB

DENI

Primary Schools
Secondary Schools
Special Schools
Publish Notes & Views

School Notice Mr testteachersc2hr
03/03/2004 11:55 AM

GCSE Examinations
GCSE examinations are taking place in the Main Hall and the Upper and Lower Gyms. Pupils must be quiet in the areas surrounding the examination halls.

Year 8 summer test - collect papers from Reprographic and leave in Maths store.
Some of the advantages?

- Safe, fast access to Internet/email in classrooms
- 99% available and reliable service – technical fixes
- Content backup and updates overnight
- Central purchasing for content
- Common resources for education programmes
- Central communications to schools
- Information and advice on initiatives
- Common/centralised management data analysis
- Access from home
- Groups of teachers support each other online
- System refresh over 4 – 5 year periods

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Some new challenges?

- Delegated filtering to schools
- Balancing control versus choice over content and tools
- Volume of storage for media-rich files
- Costs and slow speed of change control
- Genuine integration of curriculum and management systems to create managed learning
- The learning curve (54% have little knowledge)
- Innovation depends on technology change
Networks? … the alternate view!

“My team has created a very innovative solution, but we’re still looking for a problem to go with it.”
Challenge of cultural change

<table>
<thead>
<tr>
<th>Spectrum of e-enablement by school type</th>
<th>Late adopters</th>
<th>Ambivalent</th>
<th>Enthusiastic</th>
<th>e-enabled</th>
<th>Sample size (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary schools</td>
<td>7%</td>
<td>44%</td>
<td>39%</td>
<td>10%</td>
<td>118</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>11%</td>
<td>41%</td>
<td>34%</td>
<td>14%</td>
<td>85</td>
</tr>
<tr>
<td>Special schools</td>
<td>16%</td>
<td>35%</td>
<td>33%</td>
<td>16%</td>
<td>43</td>
</tr>
<tr>
<td>All schools and colleges</td>
<td>13%</td>
<td>36%</td>
<td>40%</td>
<td>11%</td>
<td>345</td>
</tr>
</tbody>
</table>

Source: PwC 2004
What impact has it had?

- Very high levels of satisfaction with service
- Increasing use by teachers for teaching
- Teachers harvesting and sharing resources
- Increased pupil competence in using ICT
- Accelerated attainment in “ICT competence”
  - Especially in primary schools
- Pupils have high expectations of what can be achieved, given the opportunity

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But…

- Under 50% of teaching with ICT is *very satisfactory or good* (except very young children)
- Embedding across subjects is very variable
- Range of ICT remains narrow – little creative use
  - WP / PP / Internet …………………Digital images / conferencing
- Assessment and monitoring is generally poor
- Only 18% use ICT to support literacy + numeracy
- Only 25% of schools facilitate community access
- 33% of primary head teachers do not understand how ICT supports learning

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The big challenges?

- **Not** the technology solution....
- Affordability and sustainability
  - Of a safe, secure and up-to-date utility
- Alignment with education policy
  - Needs of learners
  - Professional learning for teachers
  - 21st century curriculum
The big challenges

- **Not** more training in ICT skills
- Leadership for whole school improvement accelerated through ICT
Conclusion

- Corporate, managed service approach to ICT as a utility resolves affordability, sustainability, reliability, value-for-money

- With some marginal loss of choice and control by teachers over technology choices which don’t matter

www.empoweringschools.com
- The Stevenson Report 1997
  http://rubble.ultralab.anglia.ac.uk/stevenson/summary.html
- **Harnessing Technology: transforming Learning and Children’s Services.** DfES. 2005
- www.empoweringschools.com
- www.c2kni.org.uk
- www.deni.gov.uk (Schools/ICT)
- www.etini.gov.uk (Inspectorate Surveys)
- Strategy progress report http://tinyurl.com/yc9y85
- Becta Self Review Framework and ICT Mark www.becta.org.uk
- Global Messages from a Small Island. Professor John Anderson and Dr Roger Austin. Routledge, Taylor and Francis Group, London (July 2007 publication)