The fifth material

Niel McLean

Executive Director: Educational Practice

Applying the power of technology
to the needs of education

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Educational challenges

- ❑ Continuous change
- ❑ Scale
- ❑ High Expectations
- ❑ New roles
- ❑ New relationships
- ❑ New paths
- ❑ Changing nature of childhood

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What's so special about ICT?

ICT:

❑ breaks the traditional link between craft and product

❑ extends our 'reach'

❑ draws together two human qualities – language and technology.

The developing context

Book generation

Drilled
Passiv
Learn
Learn
Coerc
Learni
No acc

Screen generation

Learn by
Active
Learn wi
Learn at
Persuad
Learning
Confront

Wrap around technology generation

Choose what and how to learn
Responsible
Learn with other learners
Learn where appropriate
Elect to learn
No learning year
Empowered by technology

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The vision for technology

Individuals maximises their potential through the personalisation of their learning and development.

Provide all learners, irrespective of their personal circumstances, with access to learning where and when they need it, in a way that recognises their diverse learning needs – **supported learners**

Learner

Support new approaches to teaching and learning – **engaged learners**

Allow for this learning to be recognised appropriately – **recognised learners**

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ICT's contribution

❑ Powerful tools to support modelling and creativity.

❑ Personalise content sources and resources allowing those appropriate to each learners individual needs to be effectively identified, modified used and reused.

❑ Provide pathways through that content which can be personalised to the needs of each learner and easily or automatically modified to take account of progress.

❑ Present a range of interfaces to the content which are appropriate to the level and ability of the individual learner.

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ICT's contribution

- Provide collaborative tools which provide new, interesting and powerful mechanisms for communication and collaboration.

- Facilitate effective assessment and reporting tools which are flexible, adaptive, powerful, make minimal bureaucratic demands on teaching and non-teaching staff, and allow for a detailed understanding of the progress being made by individual learners, groups of learners, within and between institutions.

- It provides flexibility about when and where to learn and about who to learn with.

Views of ICT learning

Learner as 'consumer' - where educational content is 'delivered' to the learner.

Gareth Mills QCA

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Views of ICT learning

Learner as 'producer' - where the learner is provided with the tools to engage.

ICT is not simply a 'conduit for content' but a powerful tool for thinking.

Gareth Mills QCA

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Contributions of e-learning to the learner's choices

Personalised needs analysis
Access to information and guidance

Where will it get me?

Assessment when ready
Formative feedback
Progress files and e-portfolios

How do we know I've learned?

Adaptive, interactive learning environments
Adapting to learning style and pace
Personalised feedback and support

How will I learn?

How could I study?

Partnerships offering flexible courses, modes, locations and patterns of study

What can I learn?

Curriculum choice through partnerships
Provider flexibility and online support
Online registration and funding transactions

Why should I learn?

Personalised needs-benefits analysis
Links to informal learning opportunities
Access to advice and guidance

Diana Laurillard

Five technological capabilities

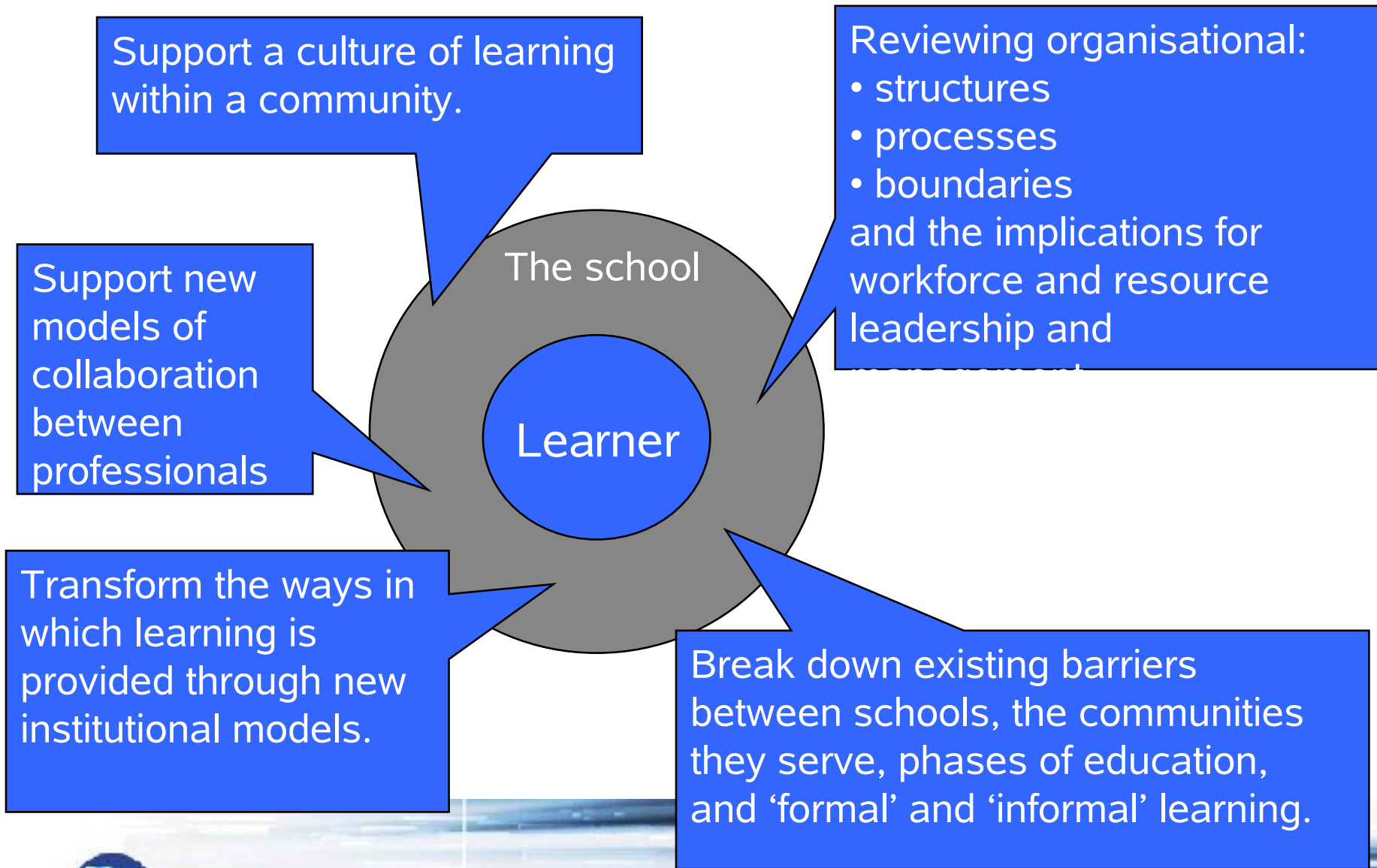|	
Awareness	Recognize the new technologies, their products and applications.
User	Use the new technological tools to support learning, work and life.
Maker	Apply the new technologies to produce new 'products' and services.
Evaluator	Make critical judgments about the new technologies, their products and their impacts.
Holistic	Recognize the impact of the new technologies on how we think.

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Prof. David Layton

Support a culture of learning within a community.

Reviewing organisational:
- structures
- processes
- boundaries

and the implications for workforce and resource leadership and

The school

Support new models of collaboration between professionals

Learner

Transform the ways in which learning is provided through new institutional models.

Break down existing barriers between schools, the communities they serve, phases of education, and 'formal' and 'informal' learning.

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Use of ICT in the curriculum

USE OF ICT IN AREAS OF THE CURRICULUM – SECONDARY SCHOOLS									
	2002			**2003**			**2004**		
	Subst-antial (%)	Some (%)	Little/none (%)	Subst-antial (%)	Some (%)	Little/none (%)	Subst-antial (%)	Some (%)	Little/none (%)
Art & Design	13	60	27	17	63	20	26	62	12
Citizenship	n/a	n/a	n/a	4	50	46	8	52	41
Design & Tech.	54	42	3	62	35	3	66	30	3
English	16	64	19	19	69	12	24	63	14
Geography	20	65	15	22	66	12	30	61	9
History	11	61	28	15	65	20	21	63	16
ICT	98	1	1	99	1	-	99	-	1
Mathematics	24	59	17	31	57	11	41	51	8
MFL	17	57	26	20	60	20	28	55	17
Music	23	48	29	24	51	25	29	49	22
PSHE	n/a	n/a	n/a	n/a	n/a	n/a	7	50	44
Physical ed	2	31	67	3	38	59	7	45	48
Religious ed	5	50	45	6	55	38	11	53	36
Science	33	61	6	41	54	4	49	46	5

Impact – Pupil motivation and behaviour

❑ Improve motivation to learn.

❑ Improve behaviour and attendance.

❑ Positive impact on boys. But no disadvantage to girls.

What the Research Says about ICT and Motivation (Becta, 2004)
*ICT and Motivation* (Passey *et al*. 2003)

Impact - Attainment

Schools that made good use of ICT within a subject tended to get better results in that subject than other schools.


Subject Use and KS2 Results

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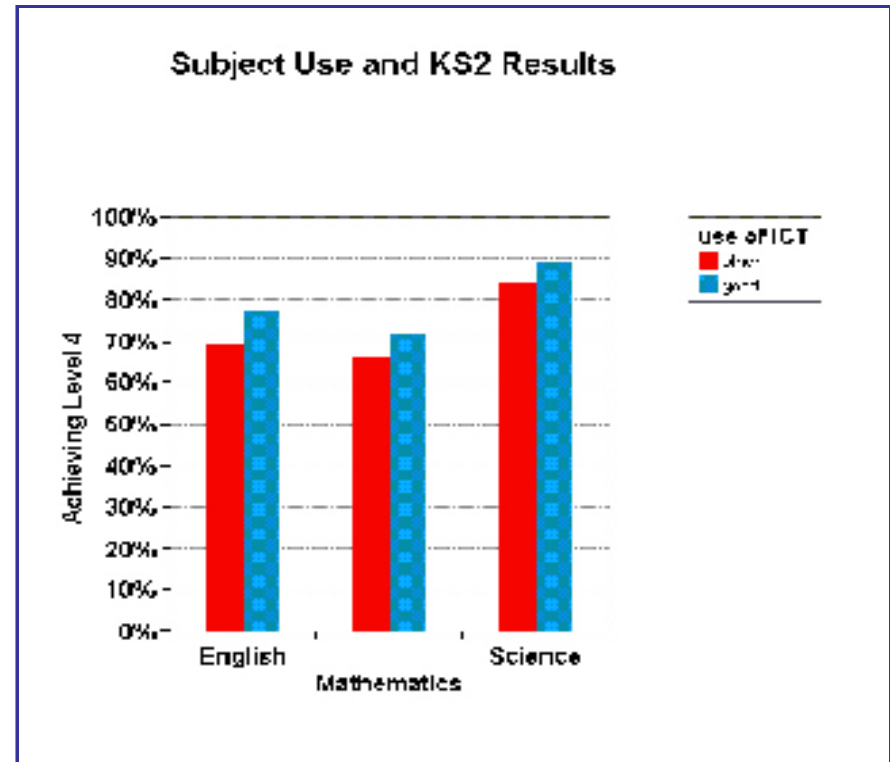
Impact - Attainment

When schools with similar quality of leadership were compared with those with good ICT resources still tended to have better achievements than schools with unsatisfactory ICT.
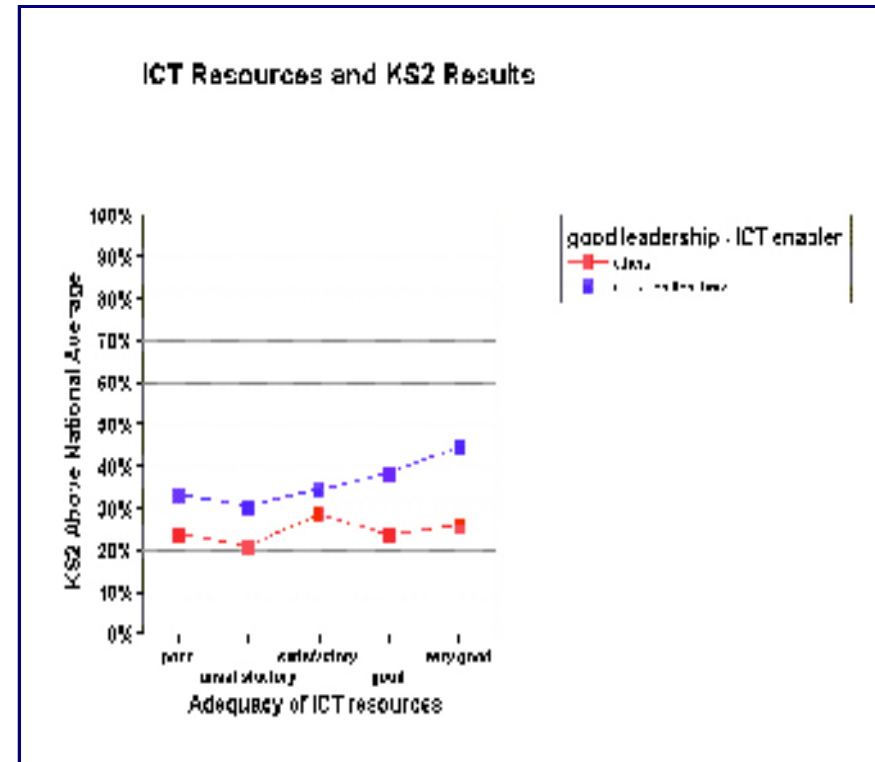
Impact - Attainment

When schools in similar socio-economic circumstances were compared, schools with good ICT resources still tended to have better achievements than schools with unsatisfactory ICT.

Findings were similar across all subjects.
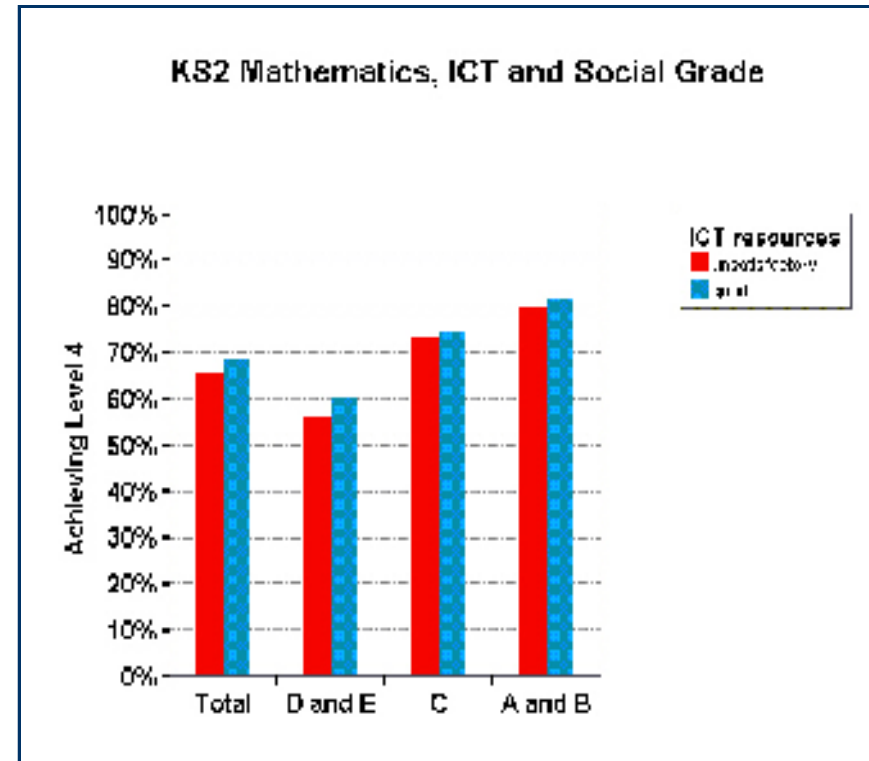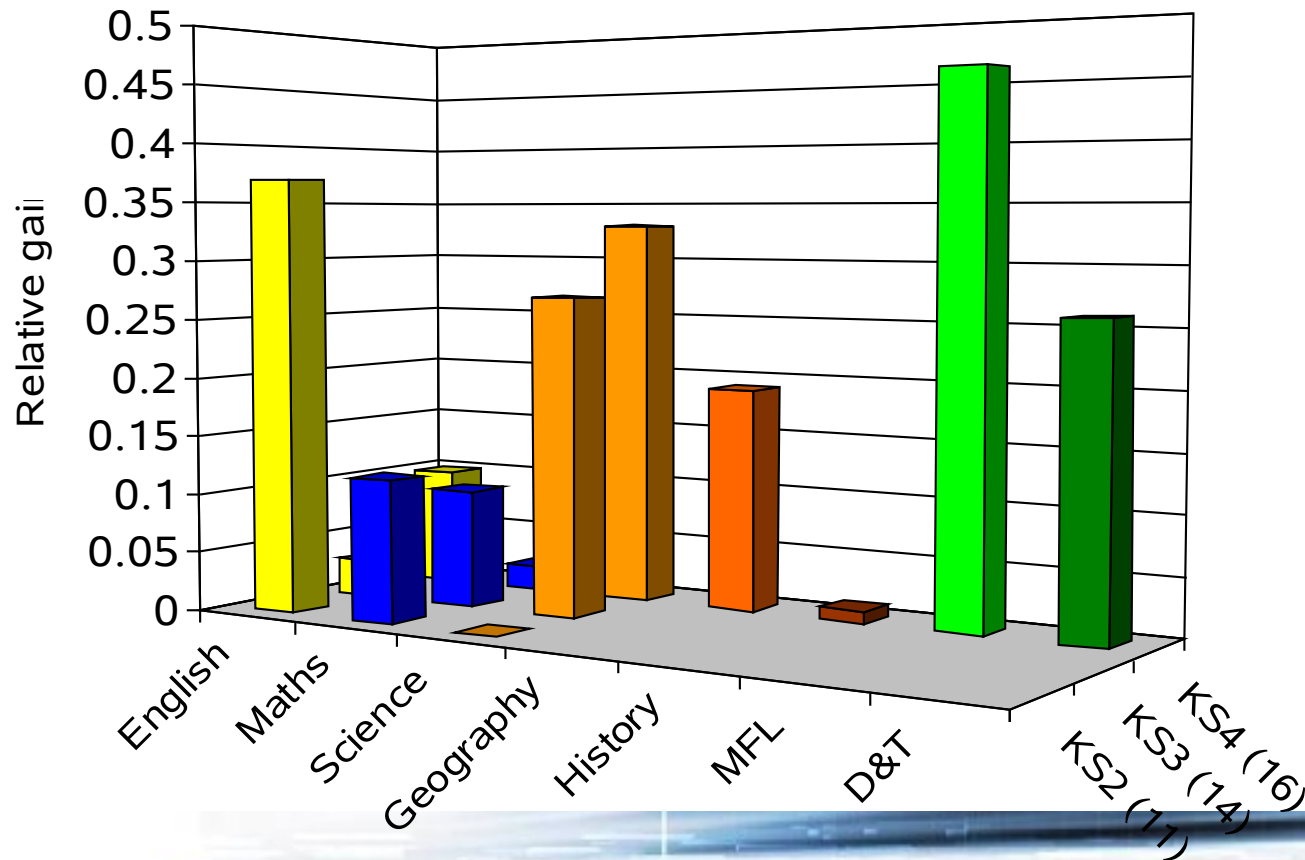
KS2 Mathematics, ICT and Social Grade

Impact - Attainment

ImpaCT2 - ICT and Pupil Attainment (2002)

Impact - Attainment

KS2 English: 0.16 of a level

KS3 Science: 0.21 of a level

KS4 Science: 0.56 of a grade

KS4 D&T: 0.41 of a grade

❑ SEG and prior performance controlled for.

❑ Impact even across ability groups.

What makes a difference?

Management systems:

Managers actively collect, analyse and use data from a wide variety of sources. Data flows smoothly in and out of the school.

Schools use ICT to store and analyse data across a range of applications.

Data is available to staff at work and at home. It allows tracking of learners' progress and supports target setting.

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What makes a difference?

Enabling 'critical thought appropriate to relevant key stage'.

Digital literacy is embedded in school strategy.

Digital literacy is embedded in school planning.

Learners are active critics of information.

Learners are active users of a range of information sources using ICT.

What makes a difference?

Technical support.

Technical support is available on-site when needed. This is often under a service level agreement.

Proactive technical support is available on-site when needed. This is often under a service level agreement.

There is a recognised process for technical support throughout the school.

What makes a difference?

External linkage is a significant predictor.

Parents access curriculum and pupil information electronically. They know about curriculum and ICT developments.
Dynamic and active website.
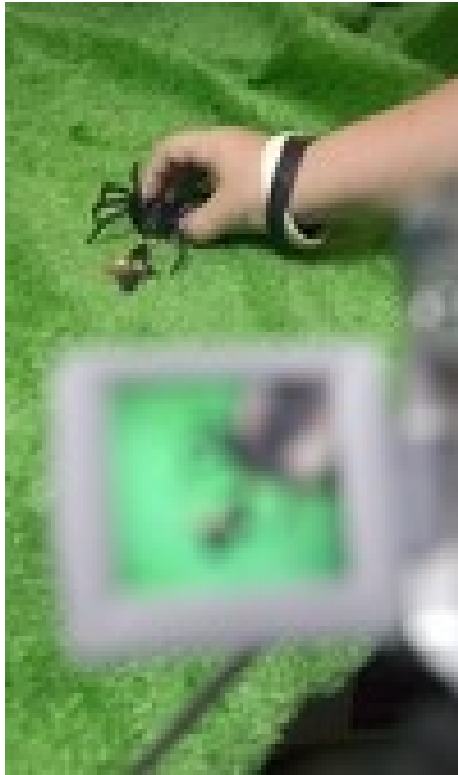Electronic communication with homes is well-established.

Learners can use ICT to access school information at home. Help is readily available.

Links with parents and the community provide access and training.

What makes a difference?

Curriculum maturity is a significant predictor

→ Learning is monitored

→ Planning and preparation

→ Assessment

→ Innovative, critical workforce and embedded ICT

→ Vision, policy and action

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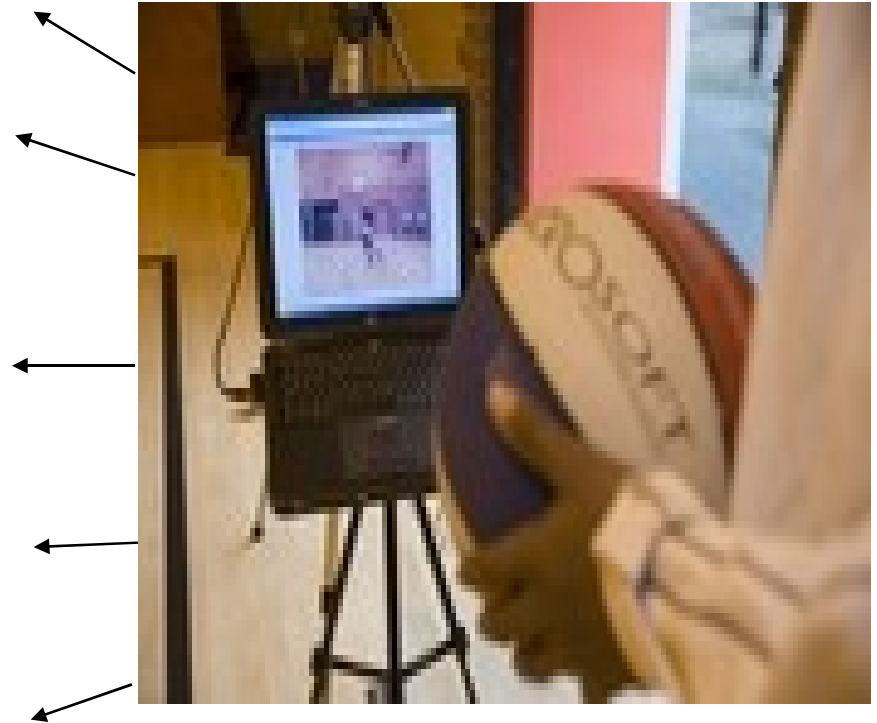and Technology Agency

What makes a difference?

Technological maturity

Vision, policy and action plan

Detailed, constant and costed replacement, renewal and upgrading policy
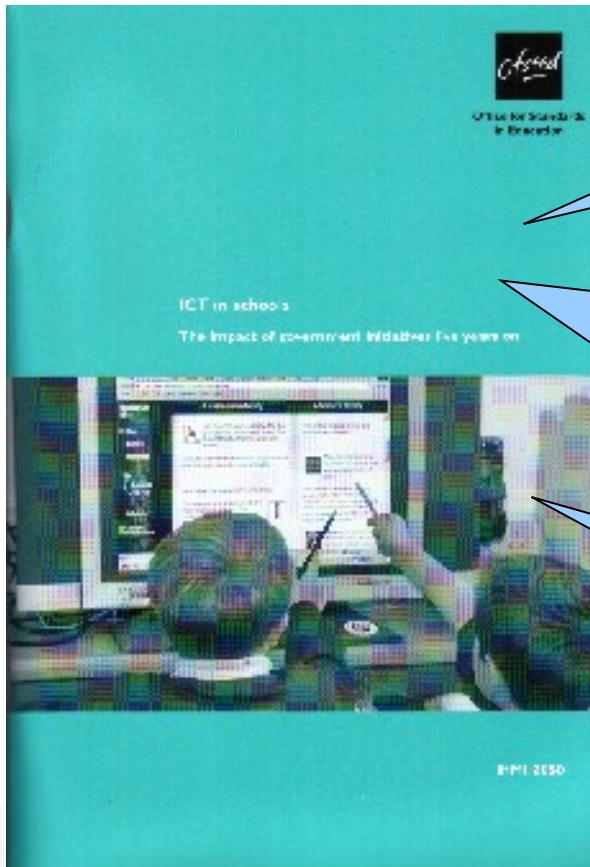
All systems are networked to support data flow and resource sharing

High levels of access, particularly to specialist equipment

Security recognised as important

Where are we with ICT?

The gap between the best and the worst is unacceptably wide and increasing.

In the most outstanding examples, ICT is starting to have a pervasive impact on the way teachers teach and children learn.

As yet the government's aim for ICT to become embedded in the work of schools is a reality in only a small minority.
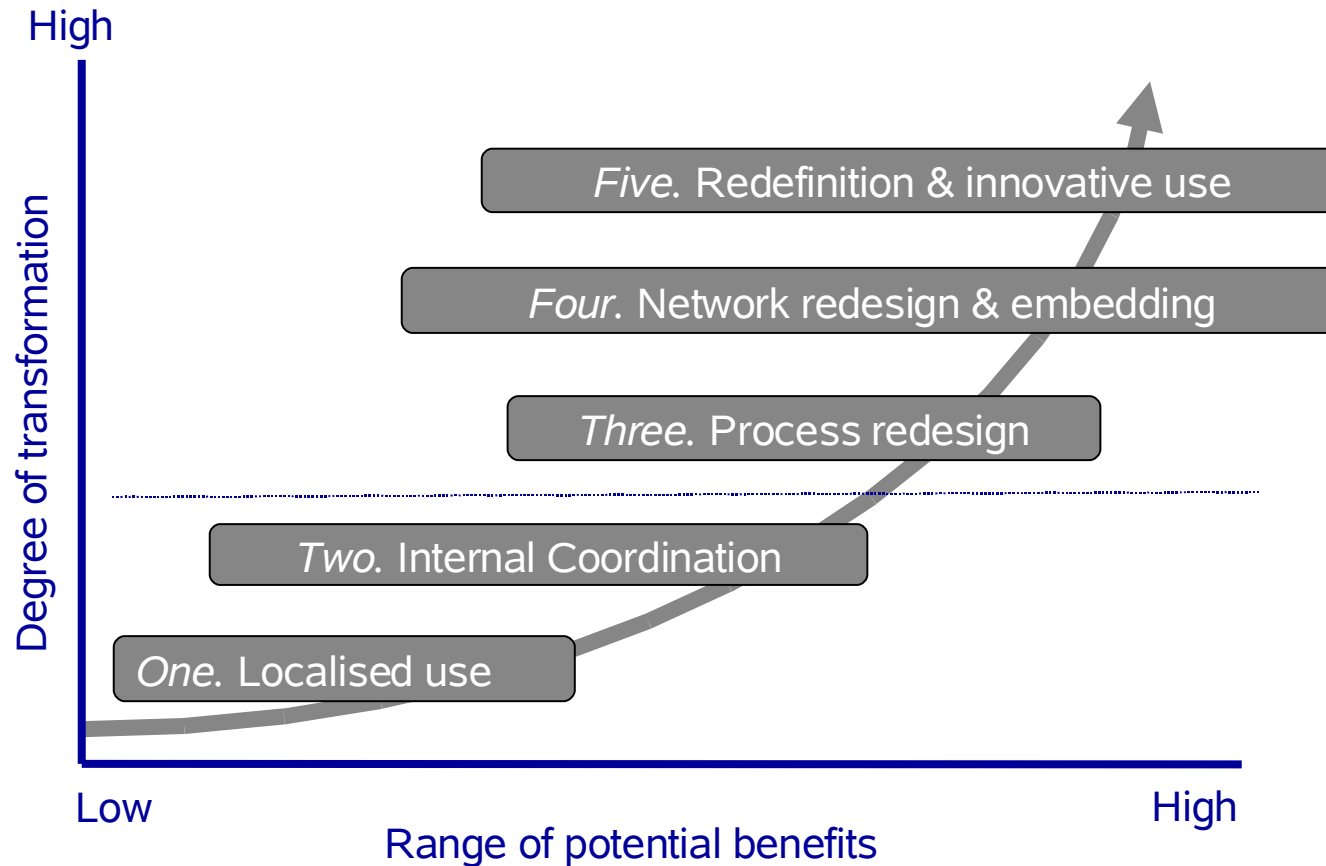
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Institutional ICT capability

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

Spectrum of e-enablement for FE colleges					
	Late adopters	Ambivalent	Enthusiastic	e-enabled	Sample size (N)
FE colleges	20%	23%	49%	8%	99

Source: PwC 2004

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Developing institutions

Source MITs 90

The Elements of the self-review framework
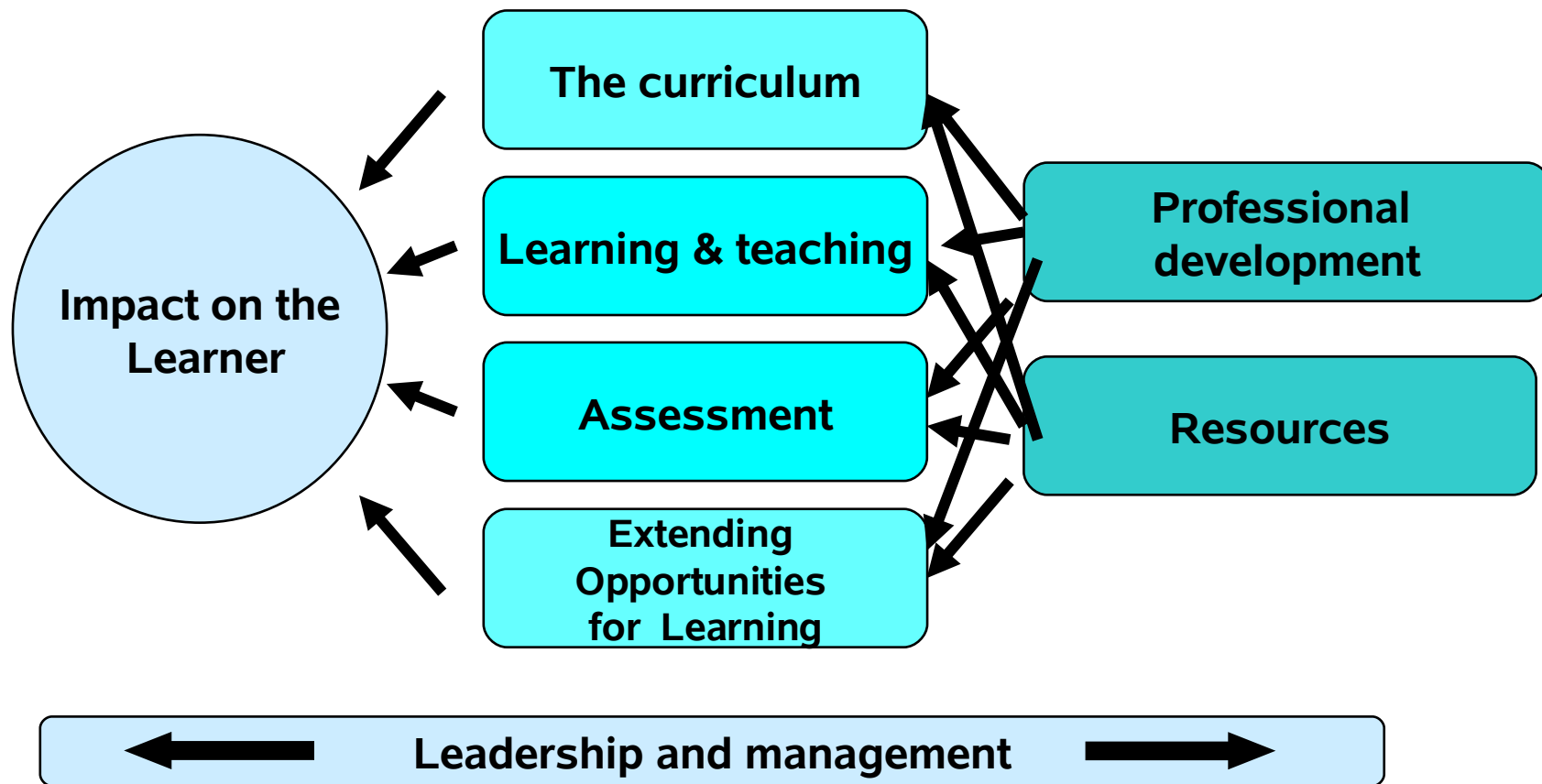
Developing the framework

Leadership and Management	NCSL
Curriculum	Strategies
Learning and Teaching	Becta
Assessment	QCA
Professional Development	TDA
Extending Opportunities for Learning	Becta
Resources	Becta
Impact on pupil outcomes	Ofsted

Becta

Self-review framework

Overview **>**   Self-review   **> Benchmark > Action plan**

Matrix home »
Self-review framework home »

You are in: Home > Element 1. Leadership and Management > Self-review > 1b. A strategy to achieve the ICT vision > Aspect 1 of 6

1b-1 Strategic Leadership

Need help? Read the guide to this strand »

Please select one of the following position statements:

○ **Not applicable**

○ **Level 5**   There is a coherent strategic plan to support ICT, more broadly and more specifically to each other

○ **Level 4**   The strategic plan to support ICT ... to L1 on the whole school review and the SMT/leadership team.

○ **Level 3**   The headteacher invests responsibility for the strategic leadership of ICT in the senior management/leadership team.

○ **Level 2**   The headteacher provides clear and proactive strategic leadership for ICT along with members of the SMT/senior management ...

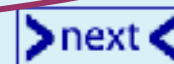○ **Level 1**   Strategic leadership for ICT includes the headteacher, senior management team and ...

Comments and evidence

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> back <   Skip to end of strand   **> next <**
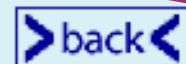
Logged in as Geoff Carter (A)
Change Password?

> Log out <

Help & support

Need help? »
Common questions »
Ask the support team »

Admin

1   Manage matrices
2   Manage users
3   Administration
4   Matrix builder

Celebrating success

MILTON Mount Primary has become one of the first schools in the UK a receive a prestigious new award. The In...

Agency (Becta). This...

School makes right connections

Lowick and Holy Island sc...

Mark of success for high school

Primary school wins computing award

...ls awarded for use of ICT

Pioneering: Milton Mount Primary School IT teacher John Paterson with students Jodie Cashman, 10, and Helena Washer, 10

Photo No: 16426/0 by Nick Branch

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The
system

Organisational
Design

Learner

Ensuring that innovation and effective practice spread throughout the system - an innovative system

Ensuring that that the system responds to the needs of individuals within it – a responsive system

capturing and communicating information on the system's performance, allowing intelligent accountability, where the locality both informs and influences the centre, and the centre adds value to the locality - a high-performing system

The national system- beyond bi-polarism

❑ Pole 1: Benevolent Centralism

❑ Pole 2: Innovatory entrepreneurship

❑ A new synthesis: knowledge generating communities harnessing the power of local innovation to meet a national agenda.

Thank you.

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