Rethinking Digital in the New Curriculum for Wales

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Prifysgol Abertawe

Mathematics

How algorithms rule the world

The NSA revelations highlight the role sophisticated algorithms play in sifting through masses of data. But more surprising is their widespread use in our everyday lives. So should we be more wary of their power?

Leo Hickman

Monday 1 July 2013
18.32 BST

Press release

Government plans to make the UK one of the most digitally-skilled nations

From: Department for Culture, Media & Sport, The Rt Hon Karen Bradley MP, The Rt Hon Robert Halfon MP and Department for Education
First published: 1 October 2016
Part of: Further education and training

Government has announced plans to make training in basic digital skills free for adults lacking relevant qualifications.

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Lords Select Committee

Digital Skills Committee

Committee hears from some of the UK's leading technology specialists

Lords ask whether a digital skills deficit is harming UK plc

Committee to question Microsoft, Google and technology experts

Watch / Listen

Watch Baroness Morgan of Huyton, Chair, talk about the role of the Committee

Sci & Tech Committee @CommonsSTC · 3h

We've published a report calling on the Govt to improve training in #DigitalSkills goo.gl/CrnKZH

42 19

Pupils need internet lessons to thrive online, say Lords

By Judith Burns
Education reporter

21 March 2017 | Education & Family | Share

Learning to survive in a world dominated by the internet should be as important for children as reading and writing, says a House of Lords report.

Lessons about online responsibilities, risks and acceptable behaviour should be mandatory in all UK schools, the Lords Communications Committee argues.


THE
PROGRAMMING
LANGUAGE
BRIAN W. KERNIGHAN
DENNIS M. RITCHIE
ANSI
#include <stdio.h>
main()
{
printf ("Hello World!\n");
}

Are teachers ready for the coding revolution?

Rory Cellan-Jones
Technology correspondent

23 January 2014 | Technology

Share

Education Secretary, Michael Gove:, attending the Bett learning technology show in London

UK schools + Add to myFT

Curriculum experts say coding is essential in a digital economy

Developing computational thinking helps students to better understand the world around them

3 Save to myFT

MAY 4, 2016 by Jane Bird

Many of us happily drive a car without understanding what goes on under the bonnet. So is it necessary for children to learn how to program computers? After all, some experts say coding is one of the human skills that will become obsolete as artificial intelligence grows.

WORLD ECONOMIC FORUM

There is no separate digital economy.

We have an economy that is digital.

Neelie Kroes

European Commission vice-president

Education

Screen-based lifestyle harms children's health

Letters

Sunday 25 December 2016 16.00 GMT

3,645

'Without concerted action, our children's physical and mental health will continue to deteriorate, with long-term results for UK society,' write the 40 signatories to this letter. Photograph: Alamy

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Science
Head quarters

Screen time guidelines need to be built on evidence, not hype

Open letter: There is an important debate to be had about screen time, but we need quality research and evidence to support it

Friday 6 January 2017 16.23 GMT

3,972 131

Context and content may be more important factors than time alone when it comes to technology use during childhood Photograph: ddp USA/REX/Shutterstock

Worry less about children's screen use, parents told

By Alex Therrien & Jane Wakefield
BBC News Online

4 January 2019 | Share

There is little evidence screen use for children is harmful in itself, guidance from leading paediatricians says.

NEWS

School completely bans mobile phones and teachers say kids' behaviour changes

Even teachers are not allowed to use their phones

A school said its total ban on pupils using mobile phones has improved exam results and behaviour.

The ban, which has been running for a year, has "made a massive difference" said Ann Webb, headteacher at **Ysgol John Bright, in Llandudno** .

The strict rule applies at any time during the school day, even during breaks or at lunchtime. Staff are also asked not to use **mobile phones** in front of pupils.

Mrs Webb said pupils are now more sociable and concentrate better in lessons.

And she claimed that the ban, which was introduced in 2018, helped pupils get better GCSE and A level results this summer.

RC PSYCH
ROYAL COLLEGE OF PSYCHIATRISTS

Swansea University
Prifysgol Abertawe

CR225

Technology use and the mental health of children and young people

January 2020

HOW WE PROTECT CHILDREN'S RIGHTS

WITH THE UN CONVENTION ON THE RIGHTS OF THE CHILD

The impact of COVID-19 on education and children's services

Inquiry

The inquiry will look at how the outbreak of COVID-19 is affecting all aspects of the education sector and children's social care system and will scrutinise how the Department for Education is dealing with the situation.

It will examine both short term impacts, such as the effects of school closures and exam cancellations, as well as longer-term implications particularly for the most vulnerable children

THE LANCET
Global Health

CORRESPONDENCE | VOLUME 8, ISSUE 5, E644, MAY 01, 2020

Considering inequalities in the school closure response to COVID-19

Richard Armitage • Laura B Nellums

Open Access • Published: March 26, 2020 • DOI: https://doi.org/10.1016/S2214-109X(20)30116-9

nature medicine

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nature > nature medicine > comment > article

Comment | Published: 27 March 2020

Digital technology and COVID-19

Daniel Shu Wei Ting, Lawrence Carin, Victor Dzau & Tien Y. Wong

Nature Medicine **26**, 459–461(2020) | Cite this article

63k Accesses | **114** Citations | **175** Altmetric | Metrics

The past decade has allowed the development of a multitude of digital tools. Now they can be used to remediate the COVID-19 outbreak.

Springer Link

Viewpoints/ Controversies | Published: 11 June 2020

COVID-19 as a catalyst for educational change

Yong Zhao

PROSPECTS **49**, 29–33(2020) | Cite this article

9540 Accesses | **1** Citations | **249** Altmetric | Metrics

Abstract

The massive damages of COVID-19 may be incalculable. But in the spirit of never wasting a good crisis, COVID-19 represents an opportunity to rethink education. The rethinking should not be about improving schooling, but should focus on the what, how, and where of learning. This article highlights some of the questions that schools can ask as they reimagine post-COVID education.

Springer Link

Open Access | Published: 04 June 2020

COVID-19 and digital disruption in UK universities: afflictions and affordances of emergency online migration

Richard Watermeyer, Tom Crick, Cathryn Knight & Janet Goodall

Higher Education (2020) | Cite this article

6175 Accesses | **34** Altmetric | Metrics

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What Is Data Poverty?

A rapid research review and stakeholder consultation to understand and define data poverty in Scotland and Wales.

Tuesday, 8 December 2020 | In Innovation policy 1 min read

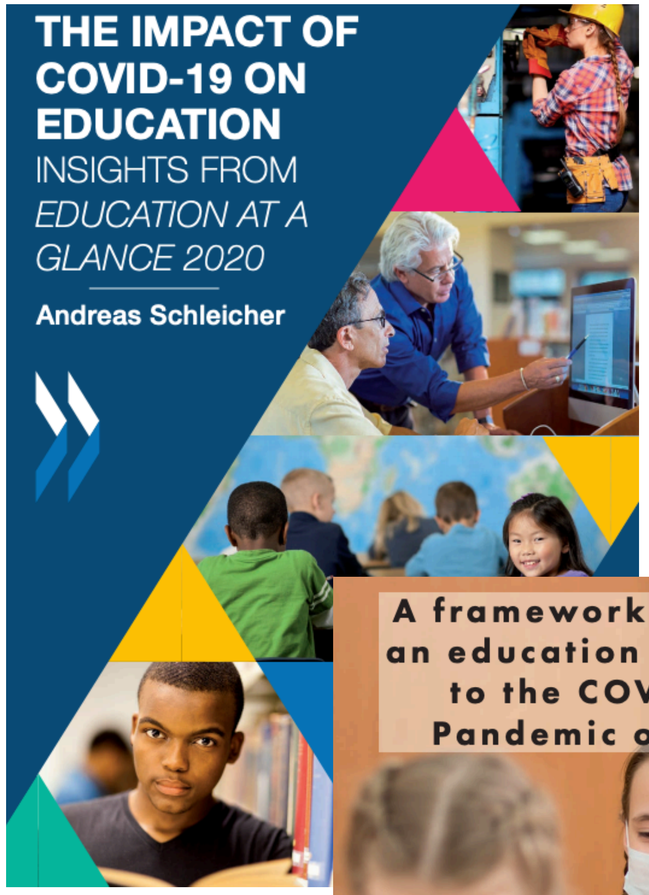
English version

Welsh version 1.9 MB


Dr Patricia J Lucas


Rosa Robinson


Lizzy Treacy



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Welsh Government

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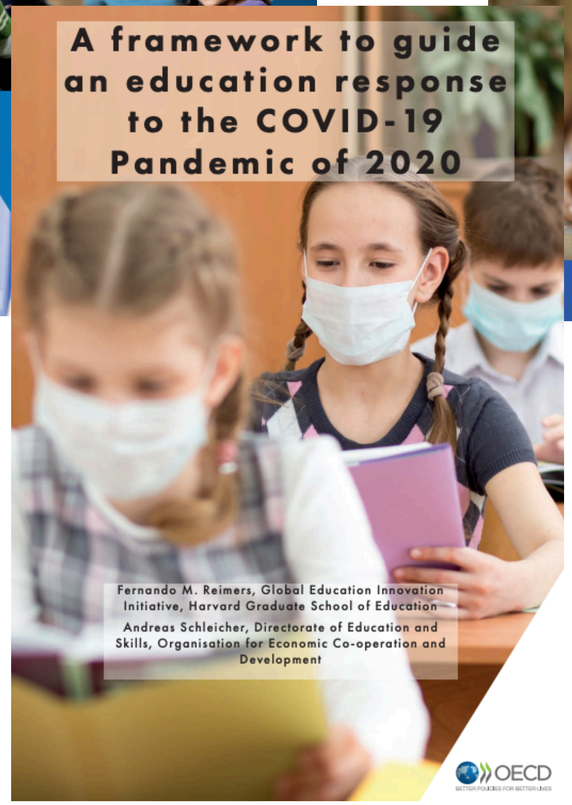
Stay Safe. Stay Learning:
Continuity of learning policy statement

Guidance

USING DIGITAL TECHNOLOGY TO IMPROVE LEARNING
Guidance Report

Building a Taxonomy for Digital Learning



Education Endowment Foundation

Education Endowment Foundation

Remote Learning:
Rapid Evidence Assessment

April 2020

UNESCO Building peace in the minds of men and women

COVID-19 | Global Education Coalition | What we do | Stories & Ideas | Resources

Education: From disruption to recovery

Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic.

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Welsh Government

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EDUCATION WALES
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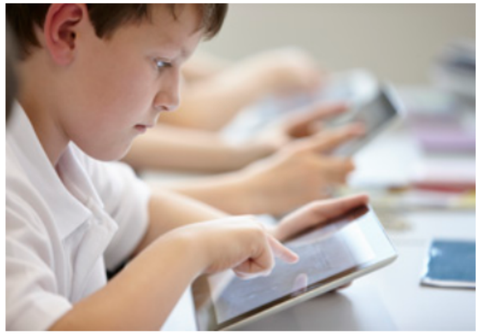
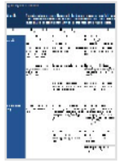
Curriculum for Wales



Cross-curricular skills frameworks



Digital Competence Framework

XLSX 67 KB

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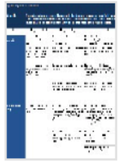

Digital Competence Framework

PDF 82 KB

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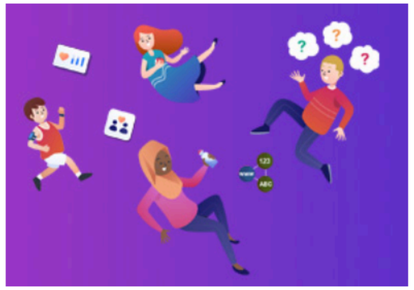
Areas of learning and experience

Expressive Arts



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Enhancing digital resilience in education: An action plan to protect children and young people online

Enhancing digital resilience in education: An action plan to protect children and young people online

Swansea University
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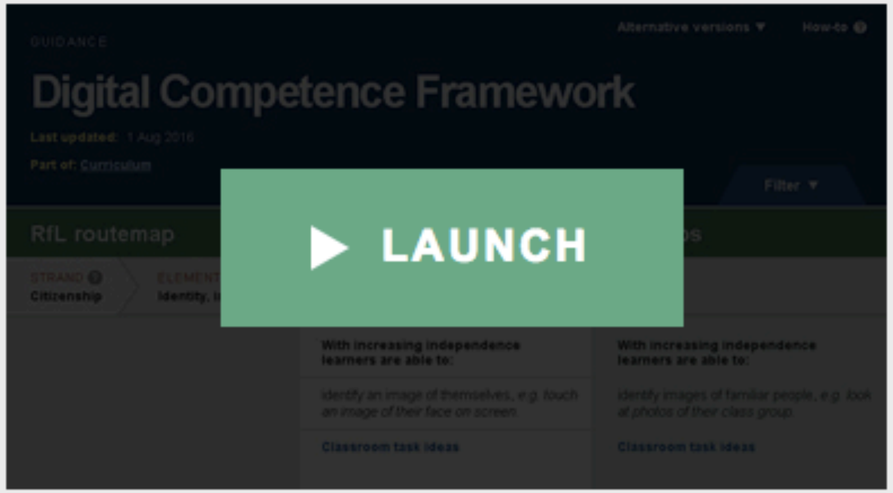
GUIDANCE

Digital Competence Framework

Last updated: 1 Sep 2016

Part of: Curriculum

The Framework encapsulates the skills that will help learners thrive in an increasingly digital world.

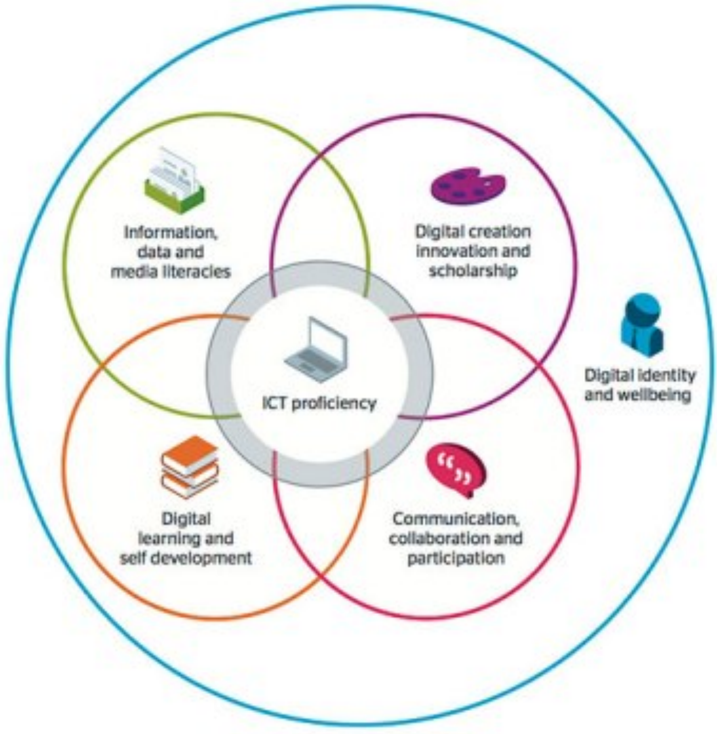


Digital competence is one of 3 cross-curricular responsibilities, alongside literacy and numeracy. It focuses on developing digital skills which can be applied to a wide range of subjects and scenarios.

The Framework, which has been developed by practitioners from Pioneer Schools, supported by external experts, has 4 strands of equal importance, each with a number of elements.

So…what does being "digitally competent" mean for a 4/8/12/16 year old?

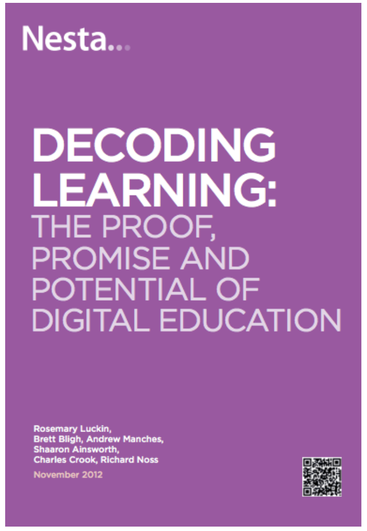
And what does this mean for students, practitioners, schools (parents, society)?

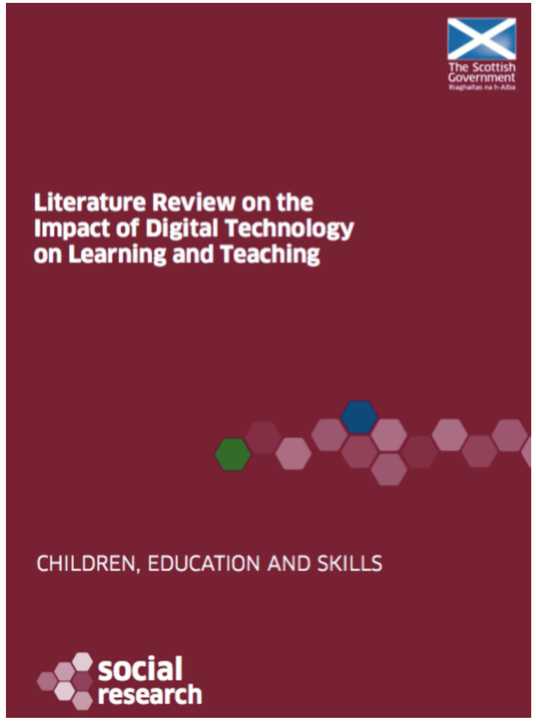


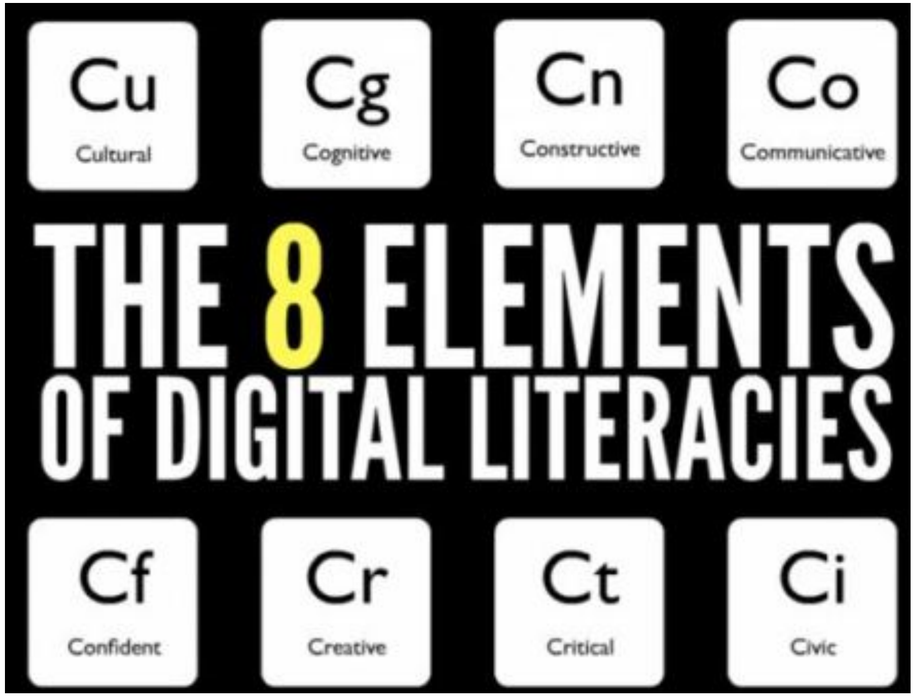
DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe.

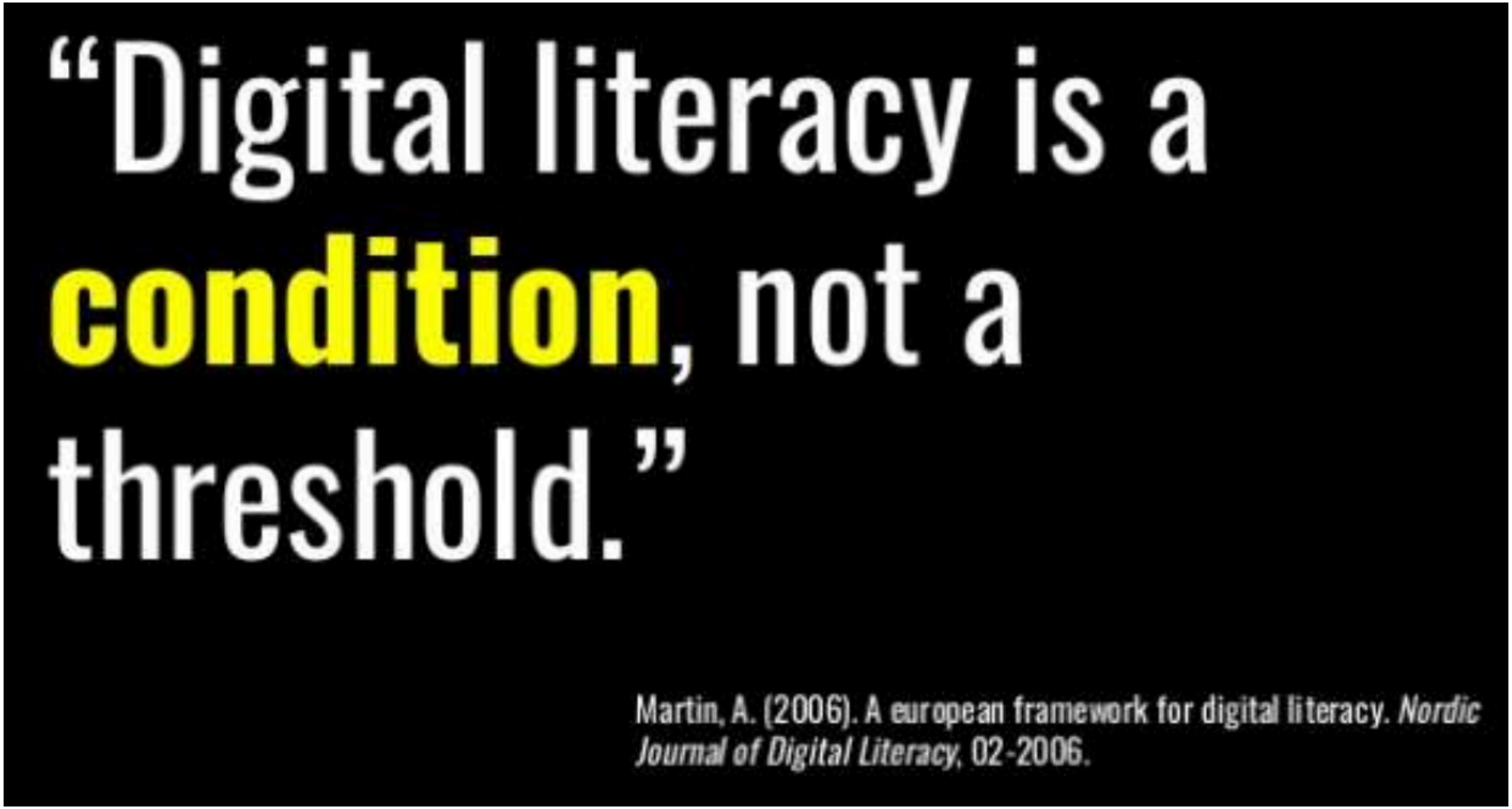
Digital Education Advisory Group

Swansea University Prifysgol Abertawe








"Digital literacy is a condition, not a threshold."
Martin, A. (2006). A european framework for digital literacy. *Nordic Journal of Digital Literacy*, 02-2006.

Education Endowment Foundation

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USING DIGITAL TECHNOLOGY TO IMPROVE LEARNING

Summary of recommendations

1

Consider how technology will improve teaching and learning before introducing it

- New technology can often appear exciting. However, it can become a solution in search of a problem unless it is introduced in response to an identified need. It is often useful to link the introduction of new technology to wider planning, for example, a review of assessment policy.
- Schools should consider the pedagogical rationale for how technology will improve learning. The principles of how to use technology successfully are not distinct from questions of how to teach effectively or how children learn.
- Without a clear plan for support and implementation, technology is much less likely to have an impact. This includes considering what initial training will be needed, what time and resources are required, and what ongoing support should be available.
- Decisions about whether to introduce technology should also include an analysis of the costs of implementing the technology, alongside the expected benefits. This should include both the upfront costs and any ongoing requirements.

2

Technology can be used to improve the quality of explanations and modelling

- Technology has the potential to help teachers explain and model new concepts and ideas. However, how explanations and models are conveyed is less important than their clarity, relevance and accessibility to pupils.
- Introducing a new form of technology will not automatically change the way teachers teach. The introduction of interactive whiteboards provides an example that highlights the need to consider the pedagogical rationale for adopting a form of technology, and for carefully planning the training required to enable teachers to use it effectively.
- Technology can help teachers model in new ways and provide opportunities to highlight how experts think as well as what they do, but may be most effective when used as a supplement rather than a substitute for other forms of modelling.

3

Technology offers ways to improve the impact of pupil practice

- Technology has the potential to increase the quality and quantity of practice that pupils undertake, both inside and outside of the classroom.
- Technology can be engaging and motivating for pupils. However, the relationship between technology, motivation and achievement is complex. Monitoring how technology is being used, including by checking that all learners have the skills they need to use it effectively, is likely to reduce the risk that technology becomes a tool that widens the gap between successful learners and their peers.
- Some forms of technology can also enable teachers to adapt practice effectively, for example by increasing the challenge of questions as pupils succeed or by providing new contexts in which students are required to apply new skills.
- Using technology to support retrieval practice and self-quizzing can increase retention of key ideas and knowledge.

4

Technology can play a role in improving assessment and feedback

- Technology has the potential to improve assessment and feedback, which are crucial elements of effective teaching. However, how teachers use information from assessments, and how pupils act on feedback, matter more than the way in which it is collected and delivered.
- Using technology can increase the accuracy of assessment, and the speed with which assessment information is collected, with the potential to inform teachers' decision-making and reduce workload.
- Technology can be used to provide feedback directly to pupils via programmes or interventions, but in all cases careful implementation and monitoring are necessary. Feedback via technology is likely to be most beneficial if it supplements, but is aligned to, other forms of feedback.

Remote Learning (EEF, 2020)

1. Teaching quality is more important than how lessons are delivered;
2. Ensuring access to technology is key, particularly for disadvantaged pupils;
3. Peer interactions can provide motivation and improve learning outcomes;
4. Supporting pupils to work independently can improve learning outcomes;
5. Different approaches to remote learning suit different types of content and pupils.

Looking Ahead…

- Key focus on pedagogy and practice;
- Learner-centred, not tech-centred (*future digital citizens*);
- …so, not just kit and infrastructure – digital mindset/culture?
- Evidence, evaluation, sharing best practice;
- Contextualised digital professional learning/development;
- Long-term impact/change from COVID-19;
- Q: What does this mean for future of LT&A?
- Q: How does this fit into your professional practice/identity?
- **A new era for digital education in Wales?**

Diolch yn fawr!

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