

the **Generation** game



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the **timeline** ...

2005: what is a **generation**?

2001: digital **natives**, digital immigrants ...

2007: in their **own words** ...

2007: student **expectations** study ...

2008: great **expectations** report ...

2008: the **google** generation ...

2009: **becoming** digital literate ...

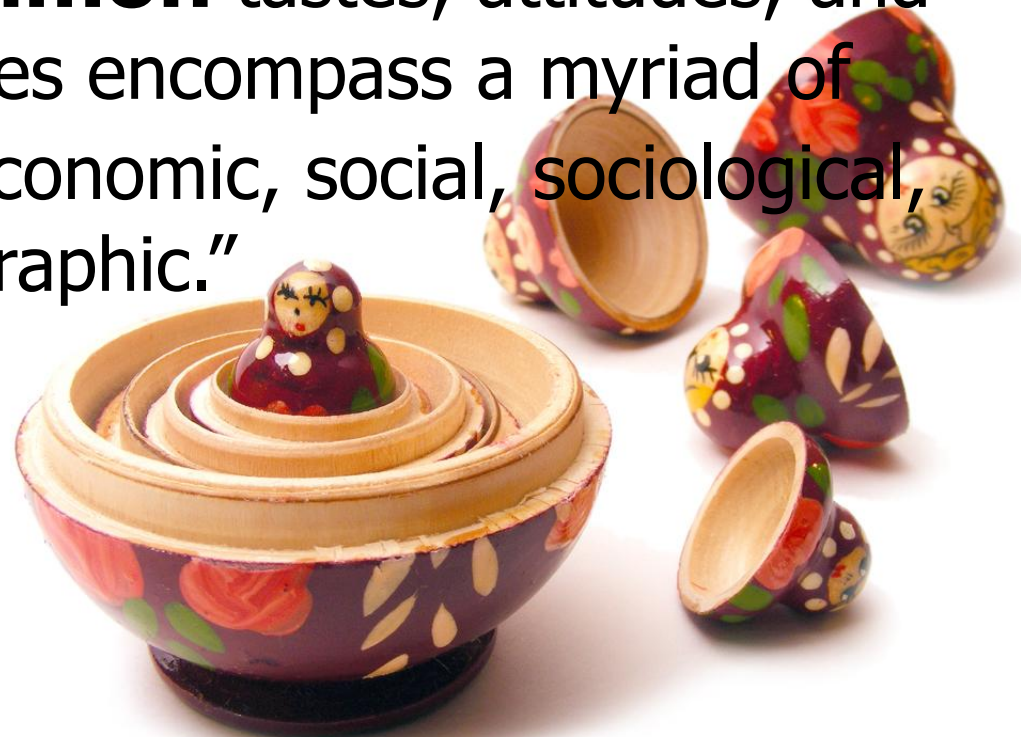
now: the **generation** game ...

now: any **questions** ?



what is a **generation**?

“In addition to coincidence of birth, a **generation** is also defined by **common** tastes, attitudes, and experience...Those times encompass a myriad of **circumstances** – economic, social, sociological, and, of course, demographic.”



some **generalisations** ...

	Silent Generation	Baby Boomers	Generation X	Net Generation
Birth Dates	1900-1946	1946-1964	1965-1982	1982-1991
Attributes	Technologies Cinema	Technologies Television	Technologies Video Games	Technologies The Internet
Likes	Telegraph Biro Pen	Telephone Telex	Walkie Talkie E-mail	Cell Phone I.M.
Dislikes	Radio <i>Extended Family</i>	Vinyl Record <i>Nuclear Family</i>	Compact Disc <i>Individual</i>	MP3 <i>Online Communities</i>

Source: Oblinger, D.G., & Oblinger, J.L. (2005). [Educating the Net Generation](#).



meet **Marc**

who is **Marc Prensky?**

Marc is an internationally acclaimed **thought leader**, speaker, writer, **consultant**, and **game designer** in the critical areas of education and learning. He is the **founder** and **CEO** of *Games2train*, a game-based learning company. He holds an MBA from Harvard and a Masters in Teaching from Yale.



the digital **divide** ...

	Silent Generation	Baby Boomers	Generation X	Net Generation
Birth Dates	1900-1946	1946-1964	1965-1982	1982-1991
Attributes	Digital Immigrant			Digital Native
Likes				
Dislikes				

Source: Oblinger, D.G., & Oblinger, J.L. (2005). [Educating the Net Generation](#).

enter the
**Digital
Natives ...**



have **grown up** and **surrounded** by digital technologies ...

ubiquitous digital **environment** has resulted in **thinking** and **processing** information **differently** ...

suggests that their **brains** have **physically changed** ...

... **native speakers** of a digital **language**

have **parallel processing** & **multi-tasking** abilities ...

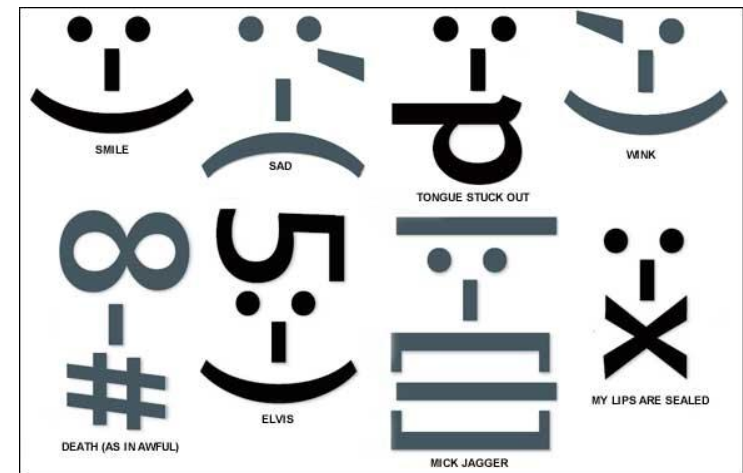
have **hypertext** minds ...

zero tolerance for step-by-step instruction ...

prefer **visual** information ...

the digital **language** ...

“Today's teenagers **live** and breathe the **wired** world of the **internet** ... They dig MoSoSo, Moos and **MySpace**. They can **Google**, Bebo, Skype, blog or **podcast** - frequently **all at once**. They log on to the internet daily, sometimes hourly, seeking anything from **entertainment** to **therapy**. For teenagers, the internet is not just an information tool or a way to send emails. It has become a **creative** and **dynamic social force**.”



exit the
Digital
Immigrants ...



have **sequential processing** & **linear**
abilities ...

don't **understand** the **new ways** in which the
Digital Native **learns** ...

... **speaks** with an outdated **language**

speak with an **"accent"**...

teaching should **not** be fun ...

prefer step-by-step instruction ...

prefer **textual** information ...

the digital **continuum** ...

digital native

digital colonist

digital refugee

digital savage

digital settler

digital dissident

digital explorer

digital pioneer

digital immigrant



under **investigation** ...



a basis for **research** ?

“Why suddenly is there greater demand for [the] drug [Ritalin] for **attentional** problems? This might, and I stress might, be something to do with the **increased exposure** of young **children** to unsupervised and lengthy hours in front of a [computer] **screen** ... they get used to and their **brains** get used to **rapid responses.**”



what the **papers** say ...

TIMES**ONLINE**

NEWS COMMENT BUSINESS MONEY SPORT

UK NEWS WORLD NEWS POLITICS ENVIRONMENT

Where am I? > Home > News > Tech & Web

From [The Times](#)

December 2, 2008

Man or mouse: the danger of the computer's memory

Roger Boyes: Commentary

Our Latin teacher, Captain Hogarth, a psychologically scarred veteran of some great, distant battle, would whack us over the palms with his leather-bound swagger stick if we so much fudged a dative. "Sine labore nihil!" he would bawl – nothing without work. Yes, those were the days. How much black energy pumped into drilling us – quick! 93 times 82 – with the aim, perhaps, of sharpening our reflexes, training us to obey our Content was not as important as speed of recall, the unfilial recital under pressure. That is the way wars were won and empires lost. author Don Tapscott is to be believed, empires lost.

We were aware at the time that rote learning had only limited value in the outside world. Even the football sage Bill Shankly had the measure of it: "Me havin' no education, I had to use my brains." But after leaving school the brighter pupils burst into creative flower while the thicker nonetheless had a toolset that could multiply in their head, recite verse, understand chemical formulae, spell, sometimes play music by ear – which stays with them for a lifetime.

TIMES**ONLINE**

NEWS COMMENT BUSINESS MONEY SPORT

UK NEWS WORLD NEWS POLITICS ENVIRONMENT

Where am I? > Home > News > Tech & Web > The Web

From [The Sunday Times](#)

July 20, 2008

Stooooopid why the Google generation isn't as smart as it thinks

The digital age is destroying us by ruining our memory



Bryan Appleyard

On Wednesday I received 72 e-mails, not counting junk, and two text messages. It was a quiet day but, then again, I'm including the telephone calls. I'm also not including the dull and pointless announcements on a train journey to Wakefield. I use a screen, jerks – the piercingly loud telephone conversation of unsocialised adults and the screaming of untamed brats come to think of it, why not include the junk e-mails? The interruptions. There were 38. Oh and I'd better throw in the 40 news alerts that I receive from all the websites I monitor via my iPhone.

TIMES**ONLINE**

NEWS COMMENT BUSINESS MONEY SPORT LIFE & STYLE TRAVEL DRIVING

EDUCATION FOOD & DRINK HEALTH PROPERTY COURT & SOCIAL WOMEN MEN

Where am I? > Home > Life & Style > Education

From [The Times](#)

December 2, 2008

Google generation has no need for rote learning



Alexandra Frean, Education Editor

School Gate blog: [Tips for remembering facts...](#)

Memorising facts and figures is a waste of time for most schoolchildren because such information is readily available at a mere mouse click away, a leading commentator has said.

The existence of Google, Wikipedia and online libraries means that there is no useful place in school for old-fashioned rote learning, according to Don Tapscott, author of the bestselling book *Wikinomics* and a champion of the "net generation".

EXPLORE EDUCATION

- > SCHOOLS
- > GCSE & A LEVEL RESULTS
- > GOOD UNIVERSITY GUIDE
- > SUNDAY TIMES UNIVERSITY GUIDE
- > STUDENT
- > YOUNG TIMES

TIMES RECOMMENDS

- > Google generation has no need for rote learning
- > Left-handers do 'less well' in exams
- > Nativity comic books for multicultural Britain

EDUCATION NEWS

- > Thousands more students to have grants cut

a moral **panic** ?

A lit matchstick is shown burning a piece of paper. The paper is yellowed and has some text on it, which is partially obscured by the flames. The background is dark, making the fire and the paper stand out.

"proponents arguing that **education** must change dramatically to cater for the **needs** of these **digital natives** have sparked an academic form of '**moral panic**' using **extreme** arguments that have **lacked** empirical evidence."

In Their Own Words

Exploring the learner's perspective on e-learning



about the **report** ...

A **two phased** study ...

looking at the **learner experiences** of
e-learning ...

synthesises the **LEX project** report and

learner voice video case studies ...

captures e-learning **experiences** across a **wide range** of
age groups (16 to 65+), **sectors** (HE, FE, ACL & WBL) and
courses (economics, languages, medicine & computing) ...

data capture consisted of **face-to-face** interviews, focus
groups, **digital artefacts** (e.g. blog or e-portfolio) ...

lead complex lives, requires sophisticated **time management** skills ...

boundaries between learning and **life** is becoming blurred ...

control & **choice** important – **personalise** learning environment with technologies (mobile phones, laptops, PDAs, iPods) that **support** learning and are **meaningful** to learner ...

want tutors to be **fully engaged** with e-learning ...

effective e-learners: flexible, resourceful, self aware & highly motivated ...

search engines **preferred** to libraries ...

use standard software to **create, manipulate** & **present** content ...

peer support provided by family & friends using e-mail, texting, instant messaging & Skype – providing an “**underworld**” of communication & info-sharing **invisible** to tutors ...

Student Expectations Study

about the **study** ...

small **study** made of **interviews** (n=27) and **online survey** (n=501)

15 – 18 years of **age** ...

varying ICT **abilities** ...

mixture of **school / sixth form** & further
education students ...

expectations of ICT provision in University ...

generally **technologically adept** and
integrated it into lives ...

cautious about publishing work for public scrutiny ...

not interested in technology for “own sake”,
only as a means to an end ...

face-to-face interaction with a
lecturer is a “back bone” to learning ...

suspects that learning mediated
through technology could **diminish**
the **value** of learning ...

unable to make the **connection** on how
technology can help them **learn** ...

Great Expectations of ICT

how Higher Education Institutions are measuring up

Research Study Conducted for the Joint Information Systems Committee (JISC) - Report June 2008

about the **study** ...

follow up of **student expectations study** ...

online survey (n=1111: cohort=112; booster=999)

17 – 19 years of **age** ...

respondents are **already receptive** to technology ...

cohort group **perceived** to be more **technologically fluent**
than booster group ...

cohort group invited to **online focus group** ...

HEI's are **perceived** as providing a good basic level of ICT ...

student expectations are met, sometimes **exceeded** ...

certain **technologies** (e.g. online quizzes) can appear **familiar** and hence **comfortable** for new students to use ...

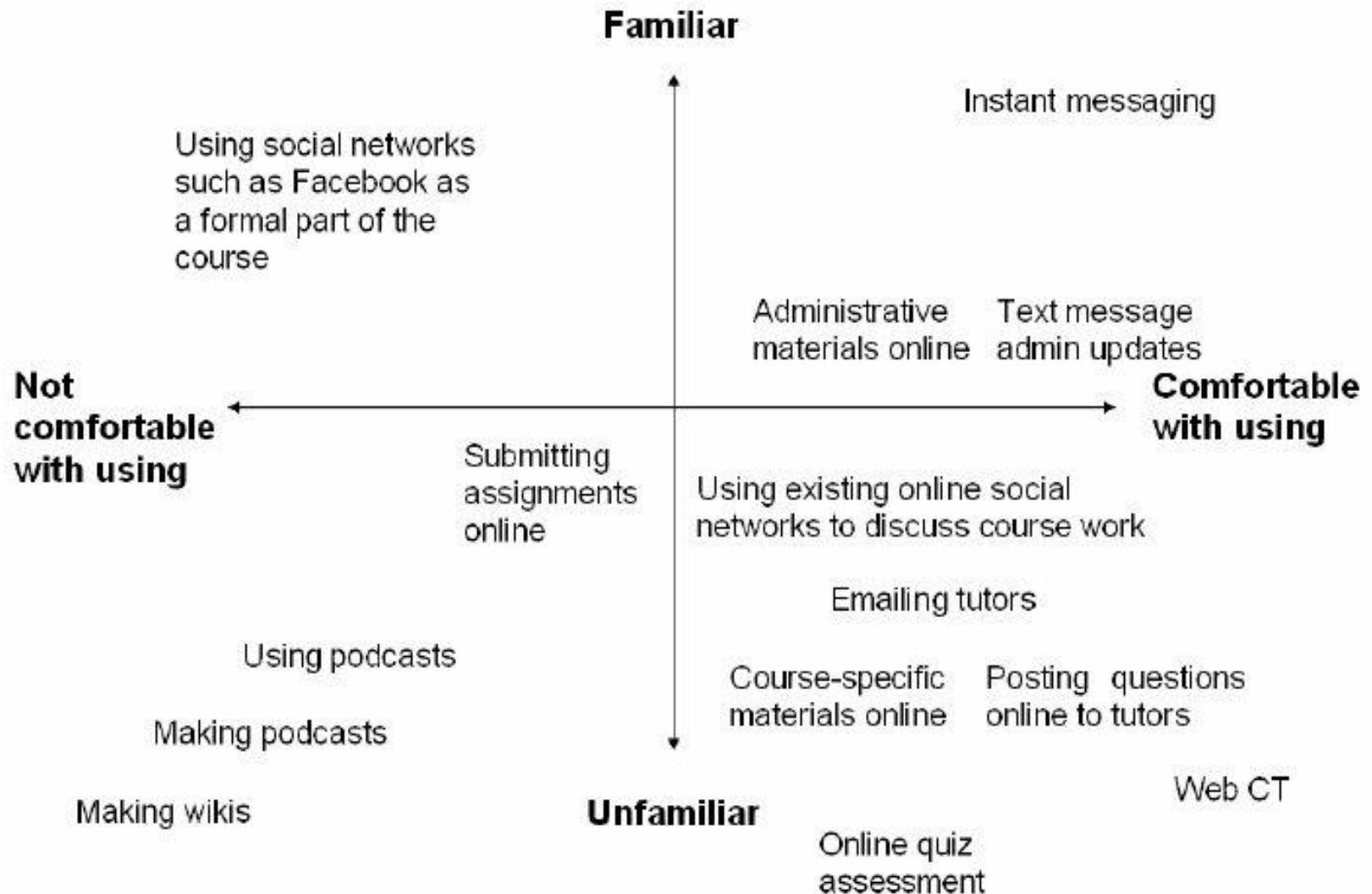
students who set up their own **collaborative learning** mechanism are more **engaged** with it than when tutors set them up ...

students don't perceive HEIs are leading the way in **developing new methods of learning** that will encourage them to **think differently** about information, research and presentation ...

emerging evidence that student-driven ICT, e.g. Web 2.0, is very **beneficial** in their **learning** ...

69% of students **believe** they **critically evaluate** internet sources used for research ...

challenges for HEIs introducing **ICT** ...





a ciber briefing paper

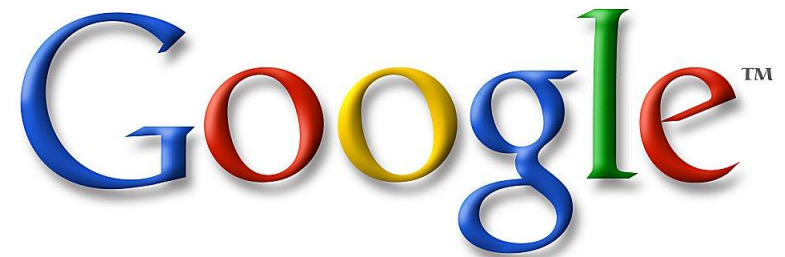
information behaviour of
the researcher of the future

11 January 2008



who are the **google generation** ?

“... a phrase that refers to a **generation** of young people, born **after 1993**, that is growing up in a world dominated by the internet; whose first port of call for knowledge is the **internet** and a **search engine**, Google being the **most popular**.”



... unlike **earlier** generations who “gained their knowledge through **books** and **conventional libraries**”.

about the **report** ...

commissioned by **JISC** & **British Library** ...

examines how **researchers** of the **future** will access & interact with digital resources, i.e. **information seeking behaviour** ...

“virtual” **longitudinal study** ...

critical review of published
researched over the **past 30 years** ...

deep log analysis of two live systems
aimed at a **range of age groups** ...

older users catching up fast with technology usage ...

parallel processing may be **well developed**, but what about sequential processing abilities? (i.e. reading)

prefer **visual information** over text, but text is still important ...

all generations have **“zero tolerance”** for information delays ...

internet usage – determined by individual / personality
/ background **NOT** generation ...

value **authority figures** over the Internet for information ...

more people are doing quick, shallow searches, i.e. **“power browsing”** ...



Techniques for Gathering Student Views of their Experiences at University

A Report from the LEaD Project

about the **study** ...

... aim was to understand the impact of technology, both institutional and **personal**, on **students' transition** to university and how this changed as they progressed through their critical first year ...

looked at the student year through **students' own voices** ...

adopted a **learner-centred** and holistic approach ...

scrutinised three disciplines in depth (divinity; physics; veterinary medicine) ...

data capture consisted of **face-to-face** interviews, focus groups, **surveys** and **reflective diaries** ...

students are **confident** with technology and have **high expectations** ...

... however, there is a **risk** in assuming too much about their use of technology ... do not always recognise the **potential** of technologies that they have as **learning devices** ...

technology is part of students' lives: the term e-learning does not **mean much** to them ...

students are **social**; learning and support often takes place **informally** in groups, often **facilitated** by technology ...

want **clear explanations** about technologies that they are **expected** to use ...

use of technology should be based on **needs** and be **education driven** not technology or product driven ...

control over how and when they use technology ...

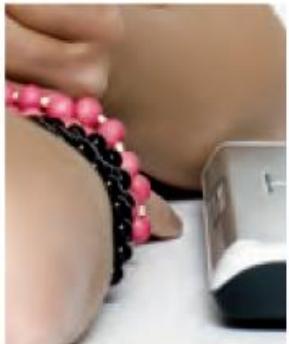
skills do not belong to a particular generation ...



Higher Education in a Web 2.0 World



Report of an independent Committee of Inquiry into the impact on higher education of students' widespread use of Web 2.0 technologies



March 2009



the **division** between the digital 'haves' and 'have nots', **has not** been entirely overcome ...

use of Web 2.0 technologies is **high** and **pervasive** across all age groups from 11 to 15 upwards ...

use of Web 2.0 technologies leads to development of a new sense of **communities** of interest and networks ...

developing 21st-century **employability** skills – communication, **collaboration**, creativity, **leadership** and technology proficiency ...

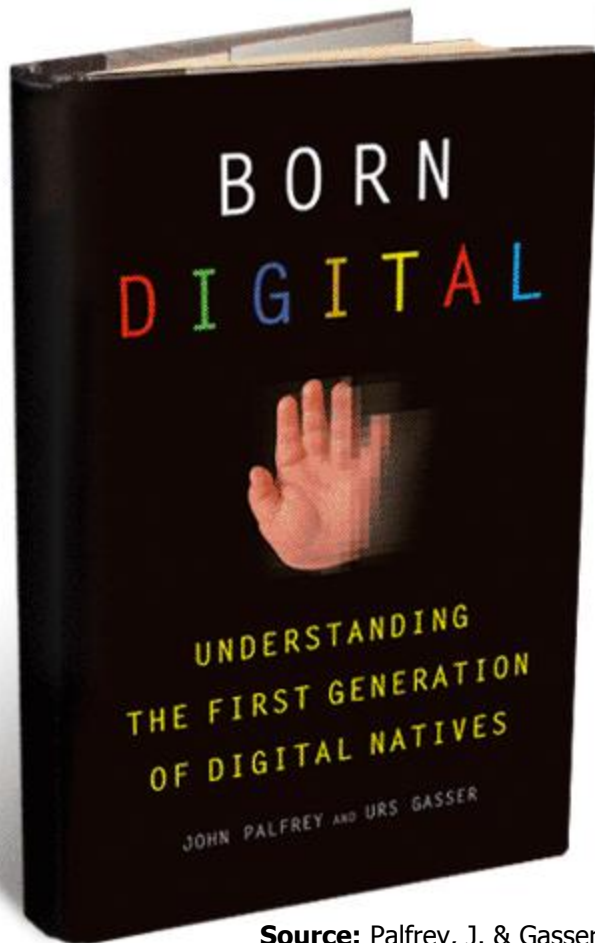
information literacies, inc.
searching, retrieving, critically
evaluating information, attributing it –
represent a **significant** and growing
deficit area ...

face to face contact with staff
– the **personal** element in
study – matters to students ...

staff capability with
ICT is a further dimension
of the **digital divide** ...

students are unable to **conceptualise** how
technology used in a **social** context can be
used for **learning** as well ...

the digital **population** ...



“Rather than calling Digital Natives a *generation* – an overstatement, especially in light of the fact that only **1 billion** of the 6 billion people in the world even have access to digital technologies – we prefer to think of them as a *population* ...

The vast **majority** of young people **born** in the world today are **not** growing up as Digital Natives.”

Source: Palfrey, J. & Gasser, U. (2008). [Born Digital: Understand the First Generation of Digital Natives](#). New York: Basic Books.

more **Marc ...**

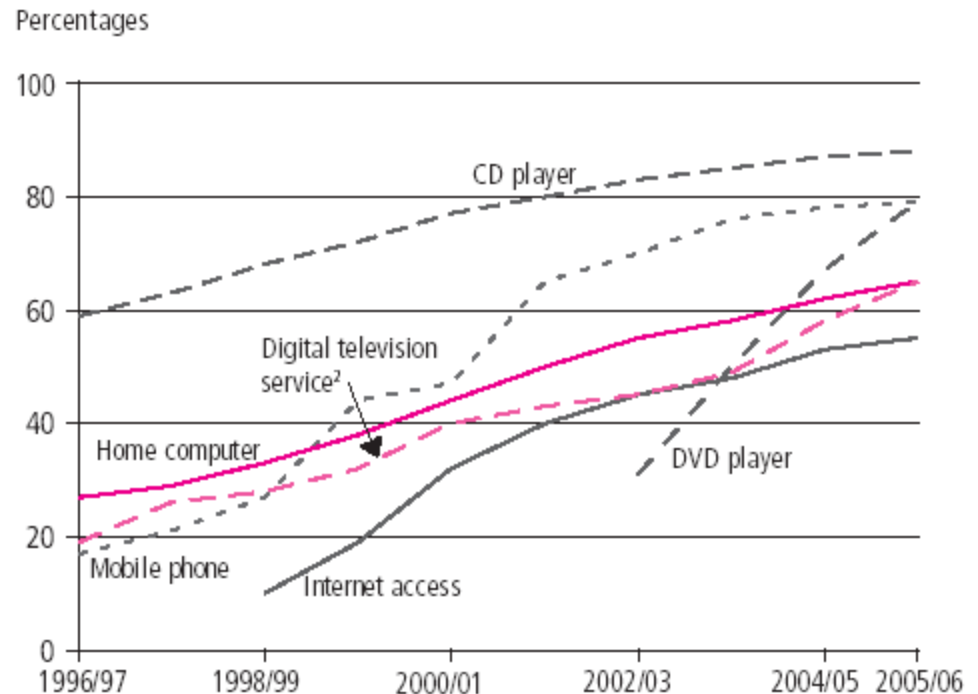


"Although many have found the terms **useful** ... the distinction between digital natives and digital immigrants will **become less relevant** ... I suggest we think in terms of **digital wisdom.**"

Source: Prensky, M. (2009). "H. Sapiens Digital: From Digital Immigrants and Digital Natives to Digital Wisdom". *Innovate*, 5(3).

what is **digital literacy** ?

“the **ability** to use **digital technology**, communication tools or networks to **locate**, evaluate, use and **create** information.”



Source: New Zealand Government. (2005). [The Digital Strategy](#).

Source: National Statistics. (2007). [Focus on the Digital Age](#).

developing **digital literacy** skills ...

trust

risk

understand textual,
visual, auditory &
kinaesthetic **information**

evaluation

identity

responsibility

awareness

adaptability

authorship

reflection

copyright

communication

accountability

privacy

ethics

technology

confidence

criticality

becoming **e-literate** ...

“if you think about **learner experiences** across the curriculum through the life path, as something learners have to **understand** and **make sense** of themselves and of **empowering** learners to be effective, then we start to think about **digital literacies** ... This really is the area that ... institutions and anyone interested in learning **needs** to be thinking about.”



digital **britain** ...

“Giving children and young people the skills and **tools** that they need to **participate** in Digital Britain is of critical importance from both a social and economic perspective. If we are to truly **maximise** the **potential** of these digital economy and the **benefits** it can bring to all sections of society, we must ensure that children and young people are **confident** and empowered to **access, use** and **create** digital media.”



concluding thoughts ...

terms like “digital native” and “digital immigrant” are **neither** useful nor appropriate – just reinforces the **stereotype ...**

“digital efficacy” is **determined** by individual / personality / background / opportunity factors ... **not** a generation!

parents, teachers, governments could do more to **understand** the digital world that our children live in and **influence** the way they interact with it to build a better digital future – through **digital literacy ...**

rigorous research is needed to **understand** how today’s student **learn** and how learning is being enhanced with technology – studies need to show students from **all spectrums** of the learning continuum ...

let's play, the **generation** game ...



what's your **generation**?

0 – 1 pnts Silent Generation

2 – 6 pnts Baby Boomers

6 – 12 pnts Generation X

12 or over Net Generation



any **questions**

