Through a black mirror, palely

The perceptions, realities and possibilities of the digital learner

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Mirror, mirror…

The "**black mirror**" … is the one you'll find on every wall, on every desk, in the palm of every hand: the cold, shiny screen of a TV, a monitor, a smartphone. (Brooker, 2011)

Contemplate...

1. **What technologies, if any, do you *think* your students are currently using to support their academic studies?**

2. **Do you know what technologies your students are *actually* using to support their academic studies?**

3. **How do you determine what is an "*appropriate use of technology*" with your students?**

Fit the Zeroth: Statistics…

…the practice or science of collecting and analysing numerical data in large quantities, especially for the purpose of inferring proportions in a whole from those in a representative sample. (OED, 2012)

UK Policy: A "techno-romance"?

estimated **£6bn** since 1997

National Strategy for Information Technology (1980)
Microelectronics in Education Programme (MEP) (1981-1985) - £23m
Micros for Schools Scheme (1981-1984) - £16m
Training & Vocational Education Initiative (TVEI) (1983-1997) - £1bn
New Technology for Better Schools (1987)
IT in Schools Strategy (1987-1993) - £90m
Teaching & Learning Technology Programme (TLTP) (1992-1996) - £75m
Superhighways for Education (1995)
Connecting the Learning Society (1997)
New Opportunities Funding (NOF) (1999-2002) - £300m
National Grid for Learning (NGfL) (1998-2006) - £1.6bn
Higher Ambitions (2010)
Higher Education: Students at the Heart of the System (2011)

e-Learning is important because it can contribute to all the government's objectives for education - to raising standards, improving quality, removing barriers to learning, and, ultimately, ensuring that every learner achieves their full potential. (DfES, 2003)

At the end of 2011, there were 6 billion mobile cellular subscriptions globally.[1]

6 BILLION

87%

That means 87% of the world's population have mobile phones!

22%

22% of these mobile subscribers access the web at least monthly.[2]

By 2014, mobile internet usage is predicted to take over desktop internet usage.[3]

34% USA
28% EUROPE

34% of Americans and 28% of Europeans use their mobile devices to access applications.[4]
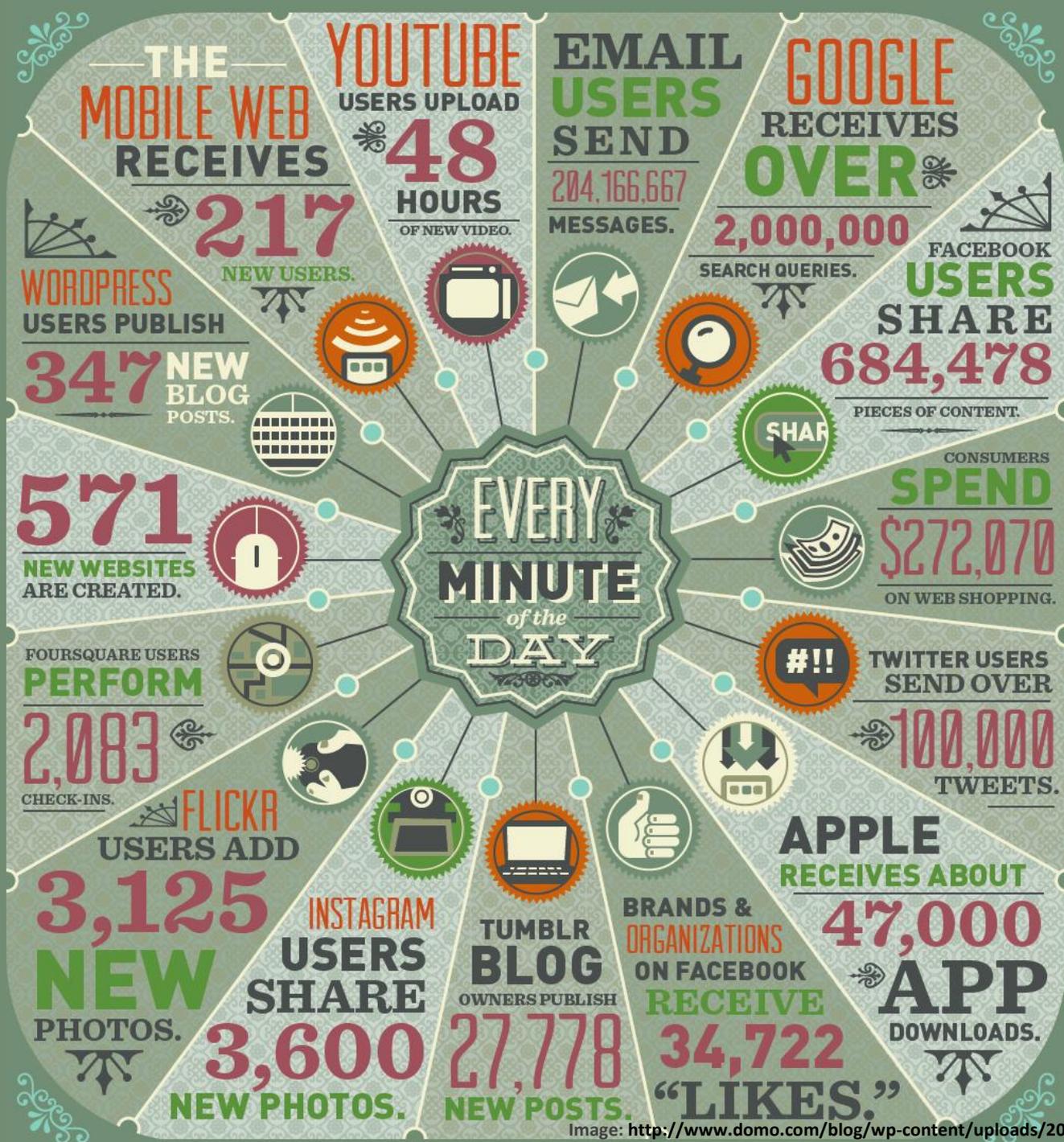
GROWING 7-9%

Across regions, mobile browsing and application usage is growing at a rate of 7-9% per year.[4]

30 BILLION DOWNLOADS

At the end of 2011, nearly 30 billion apps had been downloaded worldwide.[5]

22 APPS

The average smartphone user in the US has 22 mobile apps downloaded.[6]

EVERY MINUTE of the DAY

THE MOBILE WEB RECEIVES **217** NEW USERS.

YOUTUBE USERS UPLOAD **48** HOURS OF NEW VIDEO.

EMAIL USERS SEND **204,166,667** MESSAGES.

GOOGLE RECEIVES OVER **2,000,000** SEARCH QUERIES.

WORDPRESS USERS PUBLISH **347** NEW BLOG POSTS.

FACEBOOK USERS SHARE **684,478** PIECES OF CONTENT.

571 NEW WEBSITES ARE CREATED.

CONSUMERS SPEND **$272,070** ON WEB SHOPPING.

FOURSQUARE USERS PERFORM **2,083** CHECK-INS.

TWITTER USERS SEND OVER **100,000** TWEETS.

FLICKR USERS ADD **3,125** NEW PHOTOS.

INSTAGRAM USERS SHARE **3,600** NEW PHOTOS.

TUMBLR BLOG OWNERS PUBLISH **27,778** NEW POSTS.

BRANDS & ORGANIZATIONS ON FACEBOOK RECEIVE **34,722** "LIKES."

APPLE RECEIVES ABOUT **47,000** APP DOWNLOADS.

Image: http://www.domo.com/blog/wp-content/uploads/2012/06/DatainOneMinute.jpg

Fit the First: Perception…

…the way in which something is regarded, understood, or interpreted. (OED, 2012)

Rise of the…

Digital Natives?
Net Gen?
Millennials?
Homo Zappiens?
Generation Y?

- born **after 1982**
- have **grown up with digital technology**
- prefer **visual information**
- are **social** and prefer to **work collaboratively**
- are able to **multi-task**
- have **zero-tolerance** for slow access to information
- suggests that their brains have **physically changed**
  - are able to think and process information differently
  - have hypertext-like minds
  - cannot tolerate step-by-step instruction

The Digital Learner

*Constantly **connected** to information and each other, students don't just consume information. They create - and re-create - it. With a **do-it-yourself, open source approach** to materials, students often take existing material, add their own touches, and republish it. Bypassing traditional authority channels, self-publishing - in print, image, video, or audio - is common.*
(Lorenzo, Oblinger & Dziuban, 2006)

Social Software Category	Examples	Pedagogical Applications
Multi-User Online Environments	*Second Life*; *World of Warcraft*; *Everquest*	Simulation; Role Play; Visualisation; Collaboration
Discourse Facilitation Systems	Instant Messaging (*Windows Live Chat*; *Yahoo Chat*; *Google Chat*; *ICQ*; *Skype*); e-Mail; Discussion Board	Communication (Verbal & Written); Socialisation; Peer-to-Peer Exchange and Feedback
Content Management Systems	Blogs; Wikis	Creation and dissemination of ideas; Collaborating writing; Publishing; Peer Review
Peer-to-Peer File Sharing Systems	*Dropbox*; *SkyDrive*; *Kazaa*; *BitTorrent*; *Napster*	Sharing; Review; Collaboration
Virtual Learning Environments	*Blackboard*; *Moodle*; *Sakai*	Communication; Groupwork; Distribution and Sharing of resources
Relationship Management Systems	*Facebook*; *MySpace*; *Bebo*; *Twitter*	Establishing and maintaining social contacts; Connectivity; Spaces for Communication; Creation of Identity
Syndication Systems	List-Servs; RSS Aggregators	Multi-modal access to information; Maintaining links with new content; Filtering and customised display of content
Distributed Classification Systems ("Folksonomies")	Social Bookmarking (*Delicious*; *Diigo*; *Furl*); Media Sharing (*Flickr*; *YouTube*)	Tagging/Categorising resources; Maintaining sharable collections of resources; Reuse of resources; Development and joint exploration of common interests

The Mobile Learner

The *exploitation of ubiquitous handheld technologies,* together with wireless and mobile phone networks, to *facilitate, support, enhance* and extend the reach of *teaching and learning*. (MoLeNET Programme, 2008)

An underworld of communication
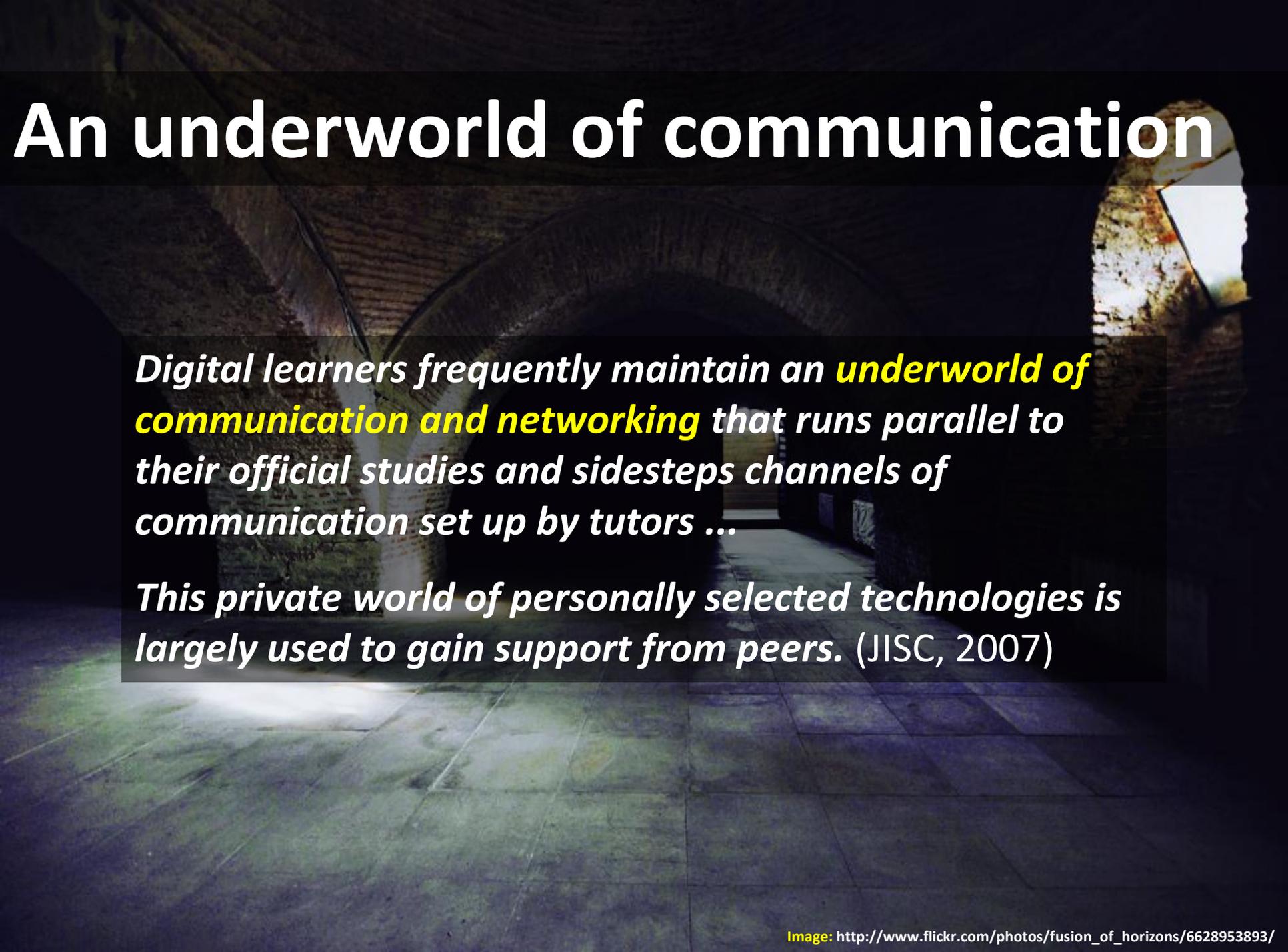
*Digital learners frequently maintain an **underworld of communication and networking** that runs parallel to their official studies and sidesteps channels of communication set up by tutors ...*

This private world of personally selected technologies is largely used to gain support from peers. (JISC, 2007)

Fit the Second: Reality...

...the state of things as they actually exist, as opposed to an idealistic or notional idea of them. (OED, 2012)

Generation is NOT the issue!

Proponents arguing that education must change dramatically to cater for the needs of these digital natives have sparked an academic form of a 'moral panic' using extreme arguments that have lacked empirical evidence. (Bennett, Maton & Kervin, 2008)

...there is a very real danger that if these rhetorical stories continue to be taken at face value and conflated with the realities of young people's technology use, then they can only provide an ill-informed and unrealistic basis for the formation of effective policymaking and practice. (Selwyn, 2009)

The students ... make use of a limited set of technologies based on three key issues: familiarity, cost, and immediacy ... Our study found that the use of some ICTs was ubiquitous (e.g., mobile phones, email, and instant messaging) we did not find any evidence to support claims that digital literacy, connectedness, a need for immediacy, and a preference for experiential learning were characteristics of a particular generation of learners. (Bullen, Morgan & Qayyum, 2011)
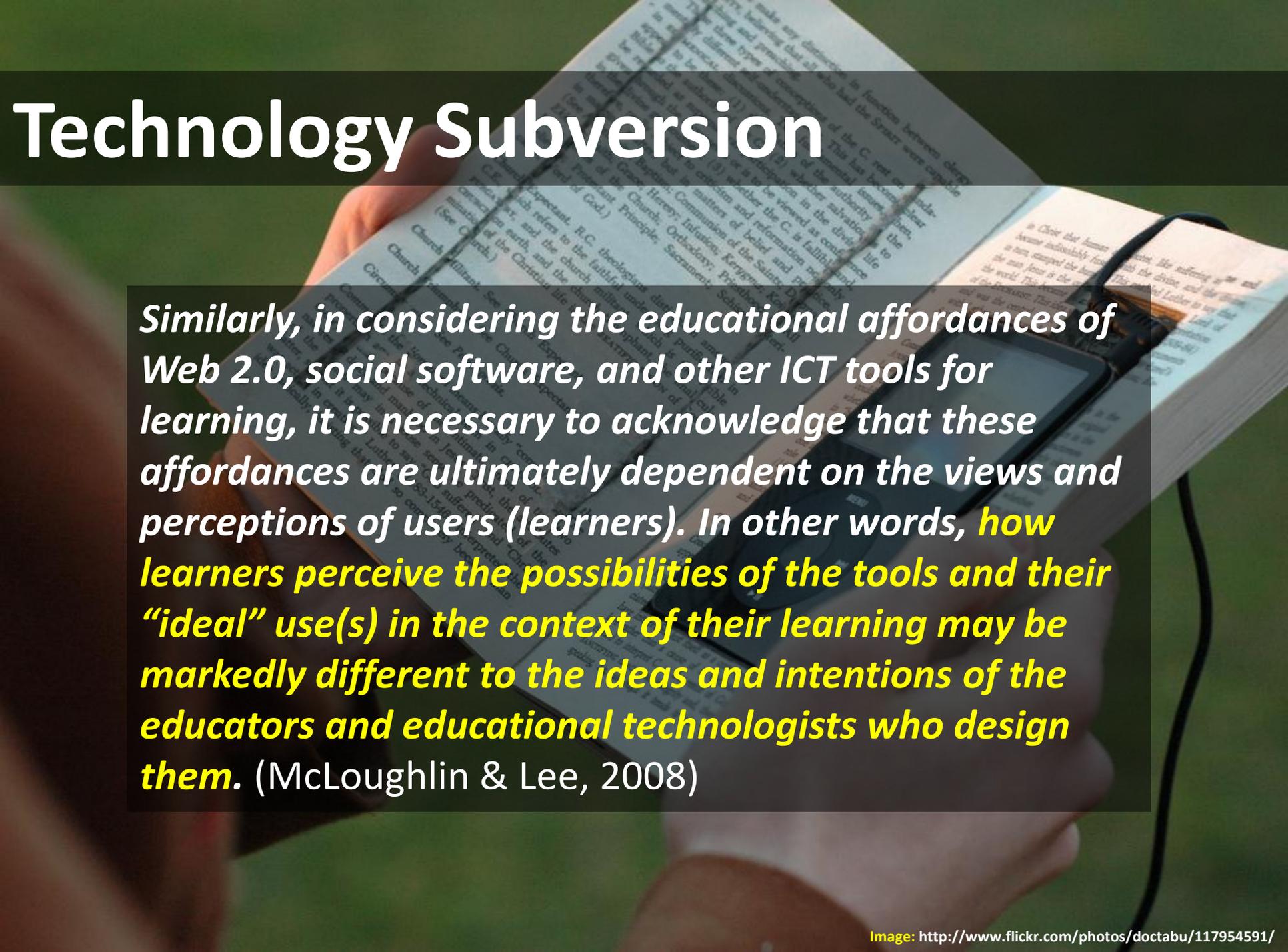
Student Expectations

- Students see **face-to-face interaction** with a lecturer is a "**back bone**" to learning;
- Students **value authority figures** over the Internet for information;
- Students want their **tutors to be fully engaged with technology-enhanced learning**;
- Students are **unable to make the connection** on how technology can help them learn;
- Students are not interested in technology for "**own sake**", only as a means to an end;
- Students want **clear explanations** about technologies that they are expected to use;
- Technology is part of students' lives: the term "**e-learning**" does not mean much to them;
- The use of technology should be based on needs and be **education driven** not technology or product driven.

(Ipsos MORI, 2007 & 2008)
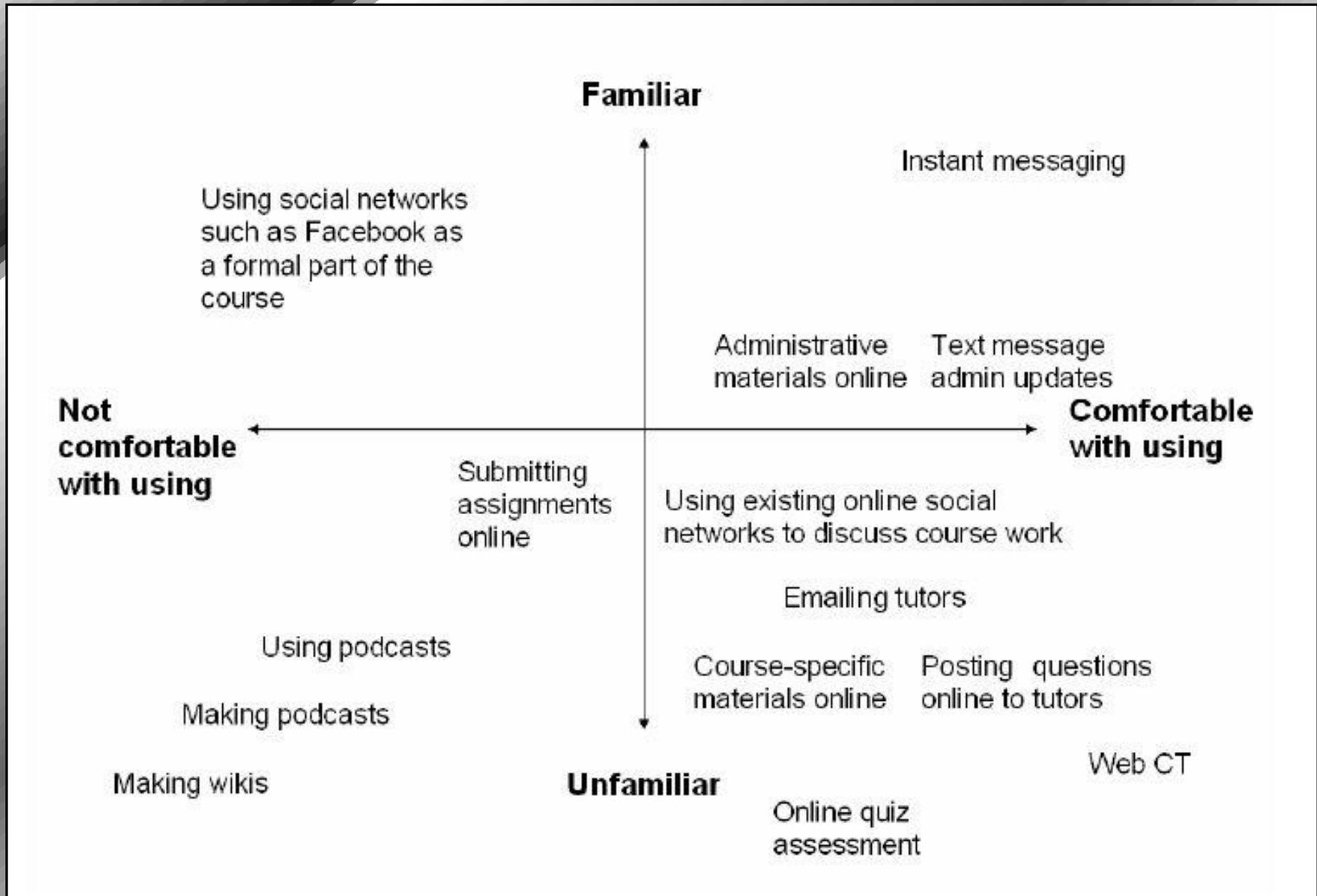
Familiar

Instant messaging

Using social networks such as Facebook as a formal part of the course

Administrative materials online   Text message admin updates

Not comfortable with using ← → **Comfortable with using**

Submitting assignments online

Using existing online social networks to discuss course work

Emailing tutors

Using podcasts

Course-specific materials online   Posting questions online to tutors

Making podcasts

Web CT

Making wikis

Unfamiliar

Online quiz assessment

Technology Subversion

Similarly, in considering the educational affordances of Web 2.0, social software, and other ICT tools for learning, it is necessary to acknowledge that these affordances are ultimately dependent on the views and perceptions of users (learners). In other words, how learners perceive the possibilities of the tools and their "ideal" use(s) in the context of their learning may be markedly different to the ideas and intentions of the educators and educational technologists who design them. (McLoughlin & Lee, 2008)

The "Canterbury Scene"

Materials that students want to access on their hand-held mobile device

Chart categories (top to bottom):
- Other
- Access to VLE
- Other Readings
- Textbooks
- Course Calendar
- Course-based Apps
- Video Lecture
- Audio Lecture
- Podcasts

(X-axis: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55)
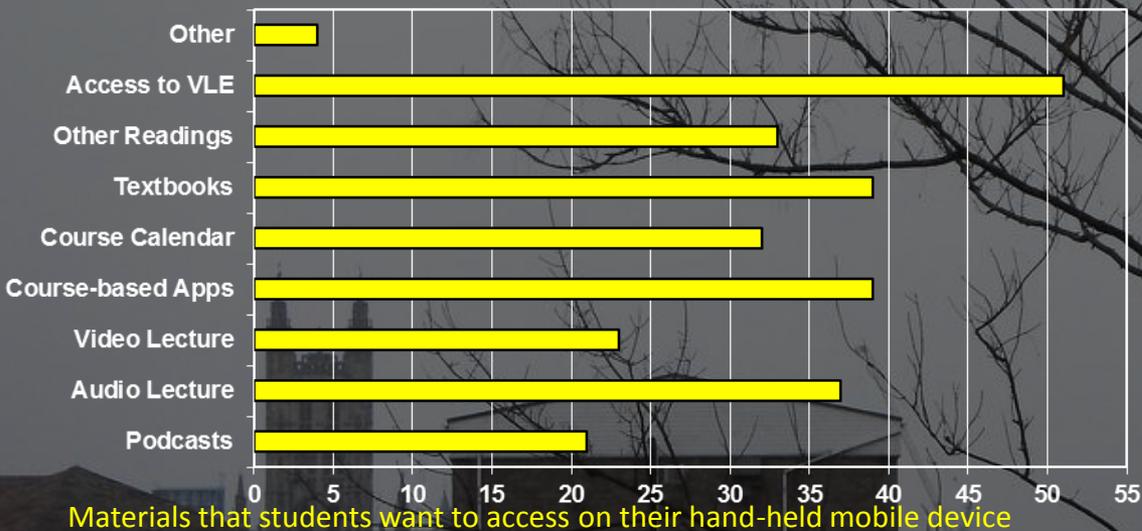
96% own a mobile device

88% own a smartphone

49% supports learning

- N=**138**
- Gender: **Female (75%)** | **Male (25%)**
- Age: **Under 24 (88%)** | **Over 25 (12%)**
- Level of Study: **Level 5 (28%)** | **Level 6 (72%)**
- Course: **Psychology (82%)** | **O.T. (18%)**
- English as 1st Language: **Yes (92%)** | **No (8%)**
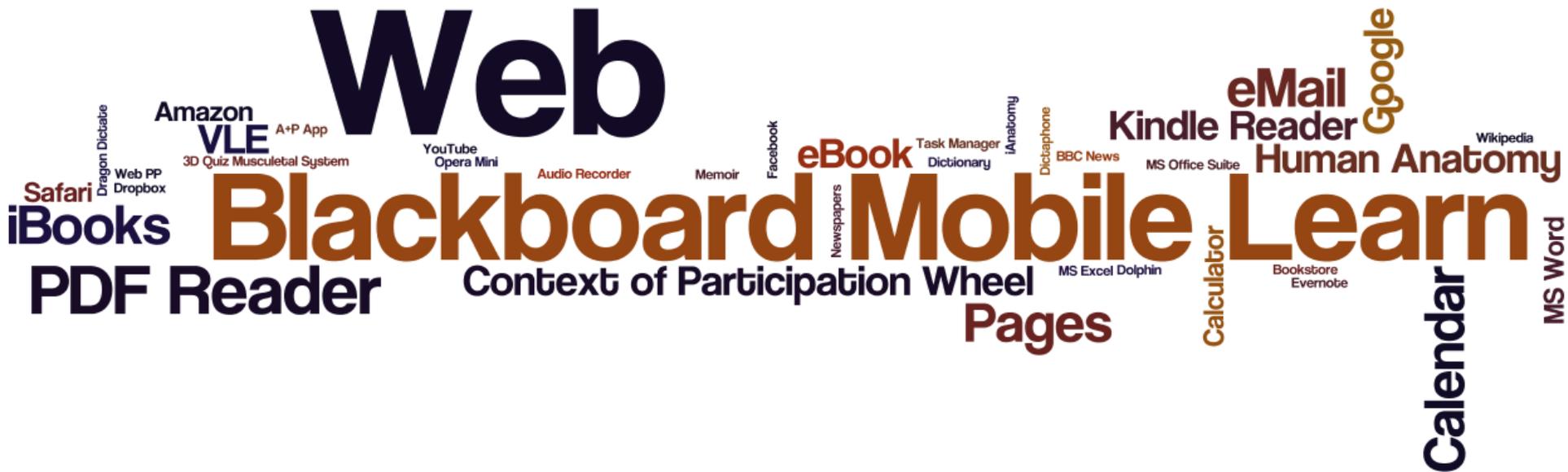
Digital Literacy

*... digital literacy is the **awareness**, **attitude** and **ability** of individuals to **appropriately** use digital tools and facilities to **identify**, **access**, **manage**, **integrate**, **evaluate**, **analyse** and **synthesise** digital resources, construct **new knowledge**, create **media expressions**, and communicate with others, in the **context** of specific life situations, in order to enable **constructive social action**, and to **reflect** upon this process.*
(Martin & Grudziecki, 2006)

*The rise of 'digital literacy' as a concept, loose as it is, has also **exerted considerable pressure** on schools and teachers to change fundamental aspects of their practice and schooling.*
(Nut, 2010)

JISC £1.5m
Developing Digital Literacies Programme
(2011-2013)

Fit the Third: Possibilities…

…unspecified qualities of a promising nature; potential.
(OED, 2012)

On the horizon...

#1 Mobile Apps

*Mobile apps are the **fastest growing dimension** of the mobile space in higher education right now, with impacts on virtually every aspect of informal life, and increasingly, every discipline in the university ...*

Higher Education Institutions are now designing apps tailored to educational and research needs across the curriculum (The NMC Horizon Report - HE Edition, 2012)

On the horizon…

#2 Tablet Computing

Tablet computing presents new opportunities to enhance learning experiences in ways simply not possible with other devices …

Higher Education Institutions are seeing them not just as an affordable solution for one-to-one learning, but also as a feature-rich tool for field and lab work, often times replacing far more expensive and cumbersome devices and equipment.
(The NMC Horizon Report - HE Edition, 2012)

On the horizon…

#3 Augmented Reality

*Augmented reality refers to the layering of information over a view or representation of the normal world, **offering users the ability to access place-based information in ways that are compellingly intuitive**.*

Augmented reality brings a significant potential to supplement information delivered via computers, mobile devices, video, and even the printed book.
(The NMC Horizon Report - HE Edition, 2011)

#4 Personal Learning Environments
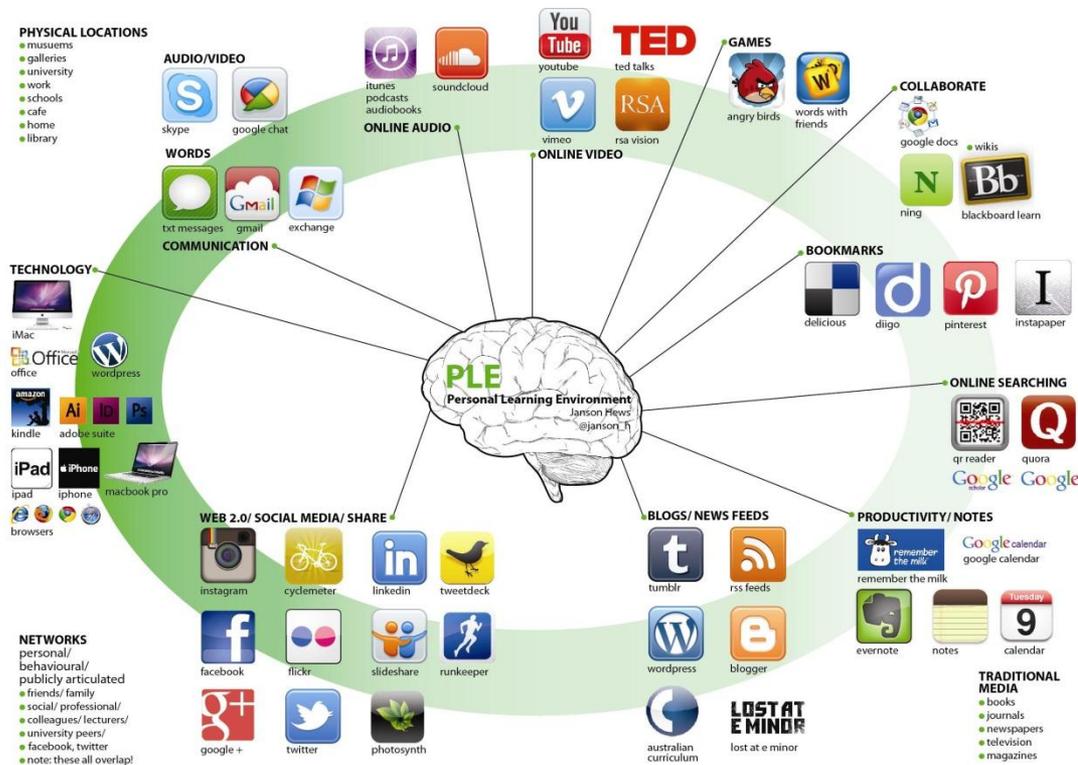
*Personal learning environments (PLEs) refer to the **personal collections of tools and resources a person assembles to support their own learning — both formal and informal**. The conceptual basis for PLEs has shifted significantly in the last year, as smartphones, tablets, and apps have begun to emerge as a compelling alternative to browser based PLEs and e-portfolios* (The NMC Horizon Report – K-12 Edition, 2012)

On the horizon...

#5 Massive Open Online Courses

*MOOCs are an attempt to **create open access online courses that provide no constraints on class size**. In contrast to open courseware, MOOCs are self managed by groups of learners and teachers and run over a defined period of time, typically 6-12 weeks. MOOCs are open to all, have no formal entry requirements, and can provide a framework for 'badge' based recognition ...*

MOOCs can be purely informal offerings, or opportunities for independent learning aligned to a formal course, or semi-formal courses offered by an institution for informal certification.
(Innovating Pedagogy: OU Report 1, 2012)

Over the horizon...?

Image: http://www.flickr.com/photos/nationaalarchief/3236806056/

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