

# A digital literacies primer

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In this article I examine what digital literacies are, and unpick the notion of digital literacy to work towards a taxonomy of the sub-literacies which make up the umbrella term itself. This is done primarily with reference to the work of Dudeney, Hockly and Pegrum (2013), but also through the lens of Belshaw's (2012) work.

## What are digital literacies?

It is a very wired world (albeit a predominately social one), and we live in always-on societies where new skills are gradually being identified and coming to the forefront in education. These twenty-first century skills are starting to appear in curricula around the world as governments, education authorities and educators recognize a need to equip learners with new skills to complement the old. Whereas once the aim of traditional, formal education was to ensure that those leaving school were sufficiently skilled in what, in the United Kingdom at least, were called the three Rs (reading, writing and arithmetic), the focus is now gradually turning to a need to ensure that young people leave formal education equipped to deal with an increasingly connected world, and with a skillset that will allow them to prepare for new jobs, and new ways of working.

In the United States one can read of the need to address 'new media literacies' and 'twenty-first century skills' in education, in Australia there is much talk of 'digital literacy skills', and in countries as far apart as Finland and Spain one can find increasingly frequent references to 'digital competences'. In most cases, these literacies are set to play a fundamental part in the education of all young people as they progress through their formal education.

Whilst the terminology may vary on its journey around the globe, the concept remains the same: digital literacy, at its heart, refers to the concept of understanding – and making best use of – the current technology toolset available to each individual. This does not merely involve the acquisition of a set of discrete skills (such as the ability to, for example, use a spreadsheet to take care of personal accounts) but rather extends the use of technology into areas with which, perhaps, it is not traditionally associated. The new digitally literate individual knows how to accomplish goals, but also understands why these goals are important, and what relationship they have with the wider world around them. Knowing how to use Facebook is a skill; knowing how to use it to build a community of like-minded individuals and to use that community for professional and personal development is a literacy. Herein lies the difference.

Skills are not unimportant, but it is in the application of these skills, in the way they interconnect and interact, that true literacy is acquired. As such, digital literacies encompass a wide variety of skills and knowledge, from being able to install new software through to an understanding of copyright, social networks, digital footprints and beyond.

How then do we break down and categorise these new literacies?

## A taxonomy of digital literacies

In recent years a variety of ways of classifying and describing digital literacies have been proposed. Pegrum (2011; Dudeney, Hockly, & Pegrum, 2013) explores these new literacies in some detail, dividing them into four main areas: language, information, connections, and (re)design.

### A focus on language

These are key digital literacies that focus on communication via the language of text, image and multimedia, and include:

**Print literacy:** the ability to read and produce online text, such as blog entries, tweets, emails etc. This is clearly related to traditional print literacy, but includes an awareness of online text genres. This requires some familiarity on the part of the teacher, particularly when working with the writing skill; as email and synchronous chat overtake the use of more formal letter writing, an awareness of genre, register and appropriacy will become ever more important.

**Texting literacy:** an awareness of the conventions of texting language (abbreviations, acronyms, symbols etc.), and of knowing in what contexts to use or not use it. Whilst print literacy is a familiar typology, texting literacy remains the domain of regular mobile phone users and is much maligned in educational circles for the purported detrimental effect it is having on literacy. In fact, as Crystal (2008) points out, “typically less than ten per cent of the words in text messages are actually abbreviated in any way”.

**Hypertext literacy:** an understanding of how hyperlinks in online text work, and being able to produce texts with effective use of hyperlinking. Here we might include knowing how many hyperlinks to include in a text and why, what to link to, understanding the effects of over- (or under-) linking in a text, and so on. Hypertext literacy also extends beyond the producer to the consumer, to issues of focus, concentration and multi-tasking. In an age where everything is linked to something else, hypertext literacy demands that we consider how people read online, and how to keep them focused on particular sources, resources and tasks.

**Visual, media and multimedia literacy:** an understanding of how images and multimedia (audio, video) can be used to supplement, enhance, subvert or even replace text communication. There is also an underlying need to produce multimodal messages ourselves, from sharing our photos on Facebook to creating video clips for YouTube. In the age of Web 2.0 we are no longer passive consumers who need to learn how to sit back and critique mass media (although this is still a key skill). We are now ‘prosumers’ (producers and consumers) of multimedia artefacts.

**Gaming literacy:** a macro literacy involving kinaesthetic and spatial skills, and the ability to navigate online worlds (such as Second Life) or use gaming consoles such as the Wii. Although at first glance this literacy may seem unconnected to education, there is a growing interest in serious games for education. From flipped classroom style game-based learning initiatives such as the Khan Academy (<http://www.khanacademy.org/>) through the rise of gamification in social learning to projects such as Mozilla’s Open Badges project (<http://openbadges.org>), there is a growing recognition of the power of games and learning challenges to engage some groups of learners. For more on gaming in ELT, see Stanley and Mawer (2011).

**Mobile literacy:** an understanding of how mobile technology is transforming our world, from issues of hyperconnectivity (always being connected to the Internet), to understanding how to use geolocation and augmented reality. As suggested

above, mobile phones themselves are perceived as somewhat problematic in class, where issues of focus and concentration appear to clash with having connected devices in the hands of learners. This is exacerbated in the language class, where perceptions of a resultant lowering in the quality of language produced by learners are coupled with teacher anxiety that an over-reliance on translation and phrasebook style apps and resources may impact on the independence of learners. Many of these concerns are a result of teacher misunderstanding of how mobile devices are used by younger learners, but also result from draconian policies that prohibit the use of such devices in school. Key to acquiring mobile literacy and integrating it into the classroom are school policies regarding acceptable mobile use, as well as negotiation between teacher and learners as to best practice in class.

**Code and technological literacy:** apart from basic technical skills (such as knowing how to use a word processing program, or how to send an attachment by email), a basic knowledge of html coding can help us understand how online tools and products are put together and, more importantly, enable us to make changes to these to overcome limitations. As Rushkoff (2010) puts it, “If we don’t learn to program, we risk being programmed ourselves” (p. 133). We are not talking here about becoming fully-fledged computer programmers, but rather about developing an awareness of the basics. Very basic coding skills can help one customise the elements in one’s blog for example, or route around censorship (for good or bad). A renewed interest in computer programming and related code skills can be seen in many countries around the globe, including the United Kingdom, where initiatives such as the Raspberry Pi (<http://www.raspberrypi.org>) have brought cheap, programmable computers to schools across the country. Social networks such as CoderDojo (<http://coderdojo.com>) have sprung up to fill the knowledge gaps in the teaching body, allowing young people to jointly develop these vital skills.

#### A focus on information

These are key digital literacies that focus on how we find information and resources, how we evaluate them and how we store them for later retrieval. They include:

**Search literacy:** the ability to search for information effectively online. This includes an awareness of search engines beyond Google, including visual search engines, voice-driven search engines, and specialized search engines concentrating on single resource types. Arguably the most basic and vital of the literacies, search literacy is increasingly important in an age where the production – and sharing – of online resources is spiralling out of control and data management is becoming increasingly challenging. Getting to what we are looking for is more of a challenge than it has ever been.

**Information literacy:** coupled with effective search literacy, information literacy is the ability to evaluate online sources of information for veracity, and credibility. In this age of information overload, we also need to augment these two skills with filtering and attention literacy so as to know what to pay attention to and what not – and when. Information literacy requires a heightening of critical analysis of resources, an ability to judge and evaluate the utility of those resources and an ability to use them in the service of our learning.

**Tagging literacy:** knowing how to tag (or label) online content, how to create tag clouds and to contribute to ‘folksonomies’ (user created banks of tags). As resources become more plentiful, there is an increased need to be able to classify, label, store and retrieve sites and information. Moving beyond simple bookmarking in browsers, tagging literacy moves classification systems online, into a more social

space where scattered groups of users contribute to a group's knowledge and access to information by keeping a shared repository of relevant data.

A focus on connections

These literacies come to the forefront in social networking spaces and other online media where personalisation occurs. They may include blogs and wikis, as well as social networks such as Facebook. In such spaces users not only write about themselves and their lives, but also participate in wide social groupings that transcend more closed groupings in terms of ethnicity, religion, geography, etc. They include:

**Personal literacy:** knowing how to create, project and curate our online identity. This includes an awareness of issues such as online safety or identity theft. Knowing what to share – and with whom – has huge implications not only for our personal lives, but also for our professional image and our career trajectory. What is amusing as a 16-year-old can be severely detrimental as a 25-year-old, and understanding the potential impact of our digital footprints is key to managing them. As Schmidt (as cited in Jenkins Jr., 2010) observes, “I don't believe society understands what happens when everything is available, knowable and recorded by everyone all the time,” predicting that in the near future young people may be obliged to change their identities to escape their digital pasts. If, as teachers, we encourage the use of social and creative platforms in our classrooms, then we have a duty of care to ensure that our learners are engaging safely and constructively.

**Network literacy:** the ability to take part in online networks and to leverage these to help us filter and find information. For teachers, their PLN (Personal Learning Network) – online professional contacts – can be useful as a means of tapping into on-going professional development. Network literacy is about pure connections, about how people share and transfer information from one grouping to another. In many ways network literacy has obvious parallels in early communities of practice theory with its core and boundary members and their interactions inside and outside a given group.

**Participatory literacy:** closely aligned to network literacy, participatory literacy involves contributing to and participating in online networks. This equates to something over and above merely reading professional development tweets on Twitter, but contributing your own tweets. Not just reading blog posts, but leaving comments – or even writing your own blog. Participatory literacy is the lifeblood of the post Web 2.0 social era of distributed computing, where what you share is what you are. In this sense, many of the major implications of personal literacy also hold for this skill.

**Cultural and intercultural literacy:** understanding digital artefacts from other cultures, and interacting effectively and constructively with people from other cultures takes on even more importance in our global world, where intercultural contact via digital communication is increasingly possible and increasingly likely. As learning projects become more globalised, more exchange-based, learning how to interact with other cultures is key – not only to successful completion of a given project, but further on, with wider implications in the professional sphere.

A focus on (re)design

A macro literacy that refers to the ability to repurpose or change already-made content in order to create something new. Typically associated with multimedia expression, the sole literacy in this group is:

**Remix literacy:** this refers to the modern trend of 'remixing' pictures, videos and other media, to often striking effect. This may refer, for example, to the trend for making 'literal versions' of music videos (<http://tinyurl.com/l397zp>), through remixing music videos for political or satirical ends (<http://preview.tinyurl.com/yffhgmb>) to the doctoring of digital images such as that afforded by sites such as Photofunia (<http://www.photofunia.com>). This literacy is also closely associated with Internet 'memes' (<http://en.wikipedia.org/wiki/Meme>). In each instance, recognition of the 'remix' that has taken place is crucial to an understanding of the media being viewed.

## Essential elements of digital literacies

Belshaw (2012) identifies eight essential elements of digital literacies:

**1. Cultural:** this refers to an understanding of the different digital contexts we may encounter online, from more traditional, structured environments such as school Virtual Learning Environments (VLEs) to less organised spaces such as Facebook. As we move between these environments we are encouraged to change the way we interact and operate. In Web 1.0 terminology this might equate to the notion of netiquette, whilst in language learning terms we may think of notions such as register and genre, and a need to accommodate to different situations.

**2. Cognitive:** here the focus is on cognitive ability and critical awareness, rather than on any kind of technology tools; the cognitive element is concerned with critical appraisal of media and media sources, with an aim to helping develop strategies for learners to "see nuance where they have previously seen dichotomy" (Belshaw, 2012, p. 208).

**3. Constructive:** the constructive element refers to a more participatory and contributory approach to content, to the concept of creating something new (either original, or a remix of something already in existence). In this element there are clear pointers to related concepts of copyright, plagiarism, Creative Commons, and similar.

**4. Communicative:** clearly much of what we do online involves an element of communication, particularly as we move further into the production side, and engage with the contributory aspects of networked environments. This element refers to our ability to interact successfully in these environments.

**5. Confident:** this refers to a sense of confidence and well-being mediated by technologies; a confidence born of the ability to step backwards, to undo actions and try them again, a confidence that is inspired by working in safe environments where experimentation is encouraged, and where 'learning by doing' is the norm. It is, perhaps, the skill of using technology over being used by technology.

**6. Creative:** the creative element refers to understanding and defining new ways of learning and of acquiring knowledge and experience. It is closely allied with confident experimentation, and with learning to put new tools to work for us in order to achieve new aims and outcomes.

**7. Critical:** here we need to consider the skill of evaluating, tagging and curating the resources that come our way, understanding them at a relatively deep and critical level. This element squares with Pegrum's literacies with a focus on information (Pegrum, 2011; Dudeney, Hockly, & Pegrum, 2013) and an ability to manage the information flow and information overload.

**8. Civic:** as technologies afford better connections and communications, they also encourage civic action and the development of 'Civil Society' (Belshaw, 2012), more engagement on a societal level and can encourage civil action below the usual layers of government and state. Such disruptive use of technologies is often perceived as challenging by more traditional entities, though much of it tends to reside in the practice of 'slacktivism' whereby social change is attempted through disapproval and protest online.

## Conclusion

In both explorations of digital literacies there is a clear emphasis on both the conceptual nature of much of the content (rather than a list of practical skills to be acquired), and also a clear suggestion that these change and mutate as we explore them. In these early days of digital literacy it is hard to see a complete picture. Indeed a complete picture may not be possible as new technology affordances and demands will inevitably change and mutate the original concepts, leading to new skills and literacies that may take on greater importance as they become more apparent and better observed.

Clearly, then, this is a complicated mix of skills and elements to master, and teachers can play a part in helping learners acquire some of the necessary skills by integrating them into their classroom practice alongside the regular 'content' they deal with. In this way they can make a difference in their learners' comfort level, helping them beyond the 'tech comfy' to the 'tech savvy' which will contribute to their life beyond school as they move into the professional workplace and (increasingly) knowledge-based economies.

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