

Applying the Research: New approaches to digital literacy and fluency

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1. Introduce Create Group

Who are we?

Create is the Centre for Research in Education and Technology. It is led by Professor Keri Facer.

It is part of the Education and Social Research Institute at the Institute of Education, MMU, a leading centre for applied educational research.

What do we do?

CREATE examines the implications of socio-technical change for the goals, practices and institutions of education across the life-course.

It combines innovative research with an outstanding contribution to the development of UK policy for ICT in education.

CREATE is primarily concerned with three interconnected areas: digital cultures, emerging technologies and educational change:

1. Digital Cultures

- Understanding the socio-technical developments taking place outside formal education, for example developments in informal learning practices in online, virtual, game-based and social sites;
- The use of digital technologies to facilitate globalising and surveillance practices; the mobilisation of technologies to change the nature of work and employment; the changing nature of identity and community.

2. Emergent Technologies

- Understanding the new tools and resources that are currently emerging from computer science and the interactions between computer science and other disciplines, examining the ways in which these offer new affordances for learning;
- Exploring the tools and practices that are developing 'at the margins' of design, HCI, arts, science fields.

3. Radical Educational Change

- exploring the potential implications of socio-technical change for: rethinking teaching and learning, redesigning curriculum and learning spaces, challenging educational policy, developing new models of educational change, enabling futures thinking and future possibilities.

What can we offer?

The Create group is committed to exploring new forms of research collaboration and to building bridges between research, industry, policy and practice and as such, is developing a wider social network of researchers and teachers interested in collaborating on a challenging and transformative agenda in these fields.

We are an open group and invite you to join us and share your expertise and interests.

<http://createresearch.ning.com/>

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2. Digital Literacy: A Brief Introduction and Application

Key Questions:

What is digital literacy?

How can the research literature help develop our knowledge and understanding of it?

What are the implications for our educational practices?

Three models inform our thinking about digital literacy (Bélisle 2006):

1. *Functional model*: the mastery of simple cognitive and practical skills; ranges from a simple view of literacy as the mechanical skills of reading and writing to a more developed approach (e.g. UNESCO's view (2006) that literacy includes the skills required to function effectively within a community).

2. *Socio-cultural practice model*: literacy is only meaningful in terms of its social context, and that to be literate is to have access to cultural, economic and political structures of society

3. *Intellectual empowerment model*:

Literacy not only provides means and skills to deal with written texts and numbers within specific cultural and ideological contexts, but it brings a profound enrichment and

eventually entails a transformation of human thinking capacities. This intellectual empowerment happens whenever mankind endows itself with new cognitive tools, such as writing, or with new technical instruments, such as those that digital technology has made possible. (Bélisle, 2006: 54-55)

All three models offer powerful rationales for digital literacy that allow individuals to:

- Understand their relationship to the digital world;
- Become aware of its role in their individual development;
- Control digital technologies and use them to help develop their goals and visions.

Definitions for Digital Literacy

The following early definition from Gilster's work (1997) emphasises that digital literacy is more than technical competence. It is:

The ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. The concept of literacy goes beyond simply being able to read; it has always meant the ability to read with meaning, and to understand. It is the fundamental act of cognition. Digital literacy likewise extends the boundaries of definition. It is cognition of what you see on the computer screen when you use the networked medium. It places demands upon you that were always present, though less visible, in the analogue media of newspaper and TV. At the same time, it conjures up a new set of challenges that require you to approach networked computers without preconceptions. Not only must you acquire the skill of finding things, you must also acquire the ability to use these things in your life. (Gilster, 1997, pp.1-2)

Building on this, Morten Sjøby takes up the German word 'bildung', a word with a rich tradition in education and pedagogical thought, and applies it here, a new concept of 'digital bildung':

Digital bildung expresses a more holistic understanding of how children and youths learn and develop their identity. In addition, the concept encompasses and combines the way in which skills, qualifications, and knowledge are used. As such, digital bildung suggests an integrated, holistic approach that enables reflection on the effects that ICT has on different aspects of human development: communicative competence, critical thinking skills, and enculturation processes, among others. (Sjøby, 2003: 8)

Digital Bildung integrates the notion of digital literacy within the very heart of the whole person. It affects all aspects of thought, activity, understanding, interpretation, belief, attitude, emotions and actions.

This has led to broader definitions such as Martin (2006):

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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 synthesize 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, 2006: 19)

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Martin's more recent research (2009) continues to apply this thinking in three 'levels' of digital literacy:

- Digital competence (which Martin believes is a precursor of digital literacy)
- Digital usage
- Digital transformation

Briefly:

1. *Digital Competence* includes:

- Skill acquisition with a full range of digital tools;
- Finding information;
- Preparing and publishing digital resources using software tools;
- Various forms of electronic communication and interaction.

It also builds on broader knowledge, skills and understanding. For schools, the link between digital literacy and other forms of literacy is dynamic and reciprocal, e.g.

"Our research suggests a strong correlation between kids using technology and wider patterns of reading and writing. Engagement with online technology drives their enthusiasm for writing short stories, letters, song lyrics or diaries." Jonathan Douglas, Director, National Literacy Trust (<http://news.bbc.co.uk/1/hi/technology/8392653.stm>)

Indeed, in a recent talk for the RSA Professor David Crystal has commented on the benefits of texts and tweeting for young people's language development:

<http://www.thersa.org/events/vision/vision-videos/david-crystal-texts-and-tweets-myths-and-realities>

Moving from digital competence ...

2. *Digital Usage*

Builds on the platform of digital competence. Specifically, it embeds skills, concepts etc drawn from digital competence and contextualises them in real life situations. So, for digital usage:

- Users draw upon relevant (domain-specific) digital competencies and apply them to specific contexts;
- Allows these competencies to be shaped and adapted by the requirements of the situation;
- Resultant 'digital usages' are, in Martin's phrase, 'uniquely shaped' by the particular expertise of the individual, their life history and wider experiences.

3. *Digital Transformation*

This is the ultimate stage where the *digital usages* are developed to facilitate innovation and creativity, stimulating significant change within the personal or professional domain.

This change could be for the individual or the community (group or organisation).

Martin's research suggests that whilst reflective action is needed at all stages of digital literacy, it becomes essential here. Critical reflection and reflective action is a key requirement for this transformative stage.

Key Questions

For us as educators, how do these definitions, thoughts and ideas affect our work?
Specifically:

- How do we organise our curricula to facilitate the processes of digital competence, usage and transformation?
- What opportunities can we facilitate for the 'real life' contextualisation that is required to move users from digital competence to digital usage?
- How do we provide a framework for digital literacy that encompasses learning in formal and informal contexts (and is this a useful binary anyway?)?

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3. Moves Towards Digital Fluency

For some, the ideas underlying concepts and definitions of digital literacy are becoming restrictive. New concepts of digital fluency are emerging and being discussed in the research literature.

For example, Bunz, Curry and Voon (2007) argue that the expression literacy is a static concept while the word fluency involves change.

They propose that terminology such as 'literacy' or 'competency' do not take into account the fact that existing skills can become obsolete due to changes in technology.

The use of the concept of 'fluency' allows for a more comprehensive capability for adapting or applying past knowledge to untried (future) situations.

Sáinz, Castaño and Artal (2008) comment that:

Digital fluency comprises a complex variety of cognitive, digital and social skills activated in order to achieve digital-related goals and adapt to different technological media, their properties and to their continuous shifts and advancements.

They continue:

This conception recognises the synergy between the individual and the technology and the adaptive capacity of the individual to manage and survive in a digital environment. A person who is technologically fluent is capable of using previous knowledge and technological experience to learn new strategies to adapt to possible changes in that technology.

And:

Our approach also assumes that the concept [of digital] literacy is not accurate enough to express the process of adaptation of the person to new technological advancements and changes and does not take into consideration the fact that someone can be completely illiterate with certain computer applications (such as hardware or software), despite being computer literate.

Thinking about digital literacy as something that extends beyond digital competence is something that Beetham's research has explored (Beetham 2010).

She highlights the extraordinary diversity in the competences teachers consider important within various curricula. 'Employability' is often another stated rationale for embedding competencies into the curriculum. But this is often equally poorly defined.

Her conclusions argues for an understanding of digital literacy's as situated knowledge practices which will, amongst other things:

- Provide authentic tasks and contexts for practice;
- Make explicit community practices of meaning-making;
- Demonstrate how digital scholarship/professionalism might be expressed in different contexts;
- Help learners manage conflict between different meaning-making contexts and settings

As managers and leaders of learning, she urges us to ask:

1. How are digital tools changing the nature of knowledge practice in specific disciplines and professions?
2. Are core values and epistemologies changing or being expressed in new ways?
3. How are these changes explored with learners, and how are staff committed to such exploration being rewarded by our institutions?

Conclusion

Within the arts, my home in many respects, literacy and fluency mean very different things. Being musically literate is a long way short of being musically fluent.

The former implies a basic, core set of skills, abilities and understanding that relate to an instrument, a particular performance practice, performance context, etc; the later implies a higher, more discursive ability to perform, improvise and compose with security and confidence in a way that transcends boundaries and forms new types of musical expression (literacy).

It marks out expert performers from the run of the mill. Perhaps the same applies within the sporting arena. Here, perhaps fluency equates with an instinctiveness, an ability to act or react to fast changing situations with a responsiveness that goes beyond any taught ability to hit or kick a ball.

The expert musical performer, Federer or fluent football team [not England, perhaps

Spain?], embody core sets of skills and competencies with an innate and decisive fluency of movement and purpose. What would the work of a digitally fluent young person look like?

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What is our aspiration? Digital literate learners? Or digital fluency learners? Is there a difference? There is not a consensus, but these questions will continue to inform our research agenda within the Create. We encourage you to join us in our mission to transform approaches to teaching and learning with technology.

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