# From 'Othering' to Incorporation: the dilemmas of crossing informal and formal learning boundaries

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The argument of this paper is deeply sceptical. I will begin by suggesting that the past twenty years have seen a paradoxical attitude to the learning experienced by young people as consequence of their engagement and participation in digital culture. On the one hand research has underwritten a notion of the strangeness or otherness of digital culture characterising fundamentally new and different literacies, ways of comprehending and manipulating even understanding knowledge. The key here is an argument about an alleged deep structural difference between the digital world and the day-to-day mundanity of schooling. At the same time this otherness has been at the forefront of anxieties about changing childhoods, alienated youth, the penetration of consumerism into make-up of the young and a decline in fundamental education standards. Both of these (contradictory) aspects have, I suggest, been part of a deep process of differentiation from an assumed norm. We are now witnessing a period where the everyday, typified by a construct of average public schooling is now fighting back and the current period is characterised by a series of interventions where the difference is being recuperated and standardised in 'normal' schooling.

I suggest that not only is the idea of a difference ultimately no more than a state of desire, of yearning for the exotic and the unattainable but that on theoretical, practical and ethical grounds such realignment or transformations are extremely difficult and say more about political aspirations than the realties of education.

I have deliberately used a language of emotions here – desire, otherness, yearning – because I want to stress how much I think this debate is fuelled by the irrational and the felt – however odd this might seem in an era of bureaucratic conformity and State planning. Indeed, whilst education provision is usually considered a rational process, I want to suggest that in its capacity to make children's learning strange it is entering a different kind of arena than that usually measured by the tools of educational evaluation. This is why I suggest my approach is sceptical – because it refuses the change metaphors lying behind so much of the 'digital multimedia vernacular'.

The structure of this chapter will begin by sketching out ways in which the literature characterising the 'Net Generation' functions as a way of 'othering', of imagining forms of informal learning as in some ways different, and more authentic than normative constructions of school based learning. I will then consider some of the of challenges (theoretical, practical and ethical) to ways of overcoming or negotiating this 'divide' using (where possible) concrete examples of how local initiatives have attempted to bridge or link across the formal and informal domains. My conclusion is that the idea of a boundary that can or cannot be crossed is a pernicious and ultimately a false construct.

**The 'Net Generation' hypothesis**

The term 'Net Generation' is not used precisely but as a kind of short-hand. A wide range of commentators, journalists, academics, politicians and other kinds of cultural critics are in practice, happy operating with a notion that there has been a sea-change in the nature of learning particularly for young people due to their use of digital technology, especially the Internet. This is now a kind of common sense and as a 'fact' it permeates virtually all discussion about Youth, Education and contemporary society.

However, it should be noted that this view has not been totally accepted and it is contested both in kind and in degree (Buckingham, 2007). There are two kinds of criticism: first that such changes demonstrate negative impact, that digital technologies have brought about a decline in the quality of young people's life-course experiences. This is bound up in the popularisation of the idea of a 'toxic childhood' (Palmer, 2006). Secondly there is research contesting the factuality of such changes.

One key criticism of the impact of media technologies (the generation of scholarship proceeding the current interest in the digital) is that traditional boundaries between age stages have been broken down and previously demarcated life experiences (childhood, adult, youth) have become compromised and exposed(Meyrowitz, 1985). This issue of the blurring of life-stage boundaries is even more acute in discussion of the impact of the digital/online and to an extent it has led to a common learning theory relating to all life-stages than that had existed previously.

Even scholars who offer models of impact or effects in this area find it difficult to be exact about what they mean by claiming observable changes. There are good questions to be asked about what timescale is needed to ascertain properly long term impacts from changes in behaviour, ability or even physiology (there has been speculation about the effect of adolescent thumbs as a consequence of repeated game playing[1]). At the heart of these problems is a deep question as to what kinds of model of effect is at work. Are we talking about changes in behaviour or changes in capacity or capability, deep rooted cognitive shifts (as in the effects of literacy (Scribner & Cole, 1981)) or notions of affordances – that its how the use of tools change one's ability to imagine or  carry out particular tasks (Wertsch, 1997)? Or even are these not 'changes' so much as a new set of 'tricks'? What kind of time period is needed to observe deep changes? Many commentators use forms of popular evolutionary theory and are happy to speculate about adaptation; but are kinds of social Darwinism scientifically appropriate to describe the impact of a few years playing with computers?

Notions of effect over time are entwined with casual generalisations about generational change popularised by the idea of digital natives and immigrants, (Prensky, 2006). Don Tapscott an influential populariser of Net Generation impacts has produced two books (Tapscott, 1999; Tapscott, 2008) whose titles

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[1] Or see for example:
http://www.reghardware.co.uk/2009/03/30/videogame_eyesight_research/

(Growing up and Grown up) neatly express this alleged generational shift. Although there are other popular notions of generational change (Generation X or Y), other sociologists tend to operate on other timescales and with other kinds of determinants (see (Dwyer & Wyn, 2001) study of the effect of the re-structuring of capitalism on a post 1970's Generation, for example).

Whilst studies exist showing changing access to the Net and changing patterns of leisure use[2] there are (to date) no ways of evaluating the impact of changing social uses across population cohorts. Most research exploring new ways of learning are small scale and qualitative so we have little sense of how large swathes of the population might be affected by changes in behaviour. And of course, whether the impact of the use of digital technologies is equal and equivalent for all people is another important issue that has not, to my knowledge, been investigated.

It is of course the idea that persistent interaction with digital technologies have changed fundamental aspects of how young people create and are created by themselves which lies at the heart of the Net Generation hypothesis. It is the perceived nature of the *differences* between this model of self-formation and traditional ones which has led to the current dilemma as Schools, teachers and parents are it is suggested struggling come to terms with a gap between what is expected and what they are presented with day-to-day.

There are two important aspects to this 'gap'. First we have the idea that digital technology facilities access to a wide range of public, civic, community, interest and friendship groupings. Young people, it is argued, can interact online and can act in any of these *fora* with independence and authority. There have been a series of studies exploring all of these discrete areas examining the extent to which the online life does or does not afford these new opportunities and how (and who by) they are taken up. Of particular interest seems to be the question of civics: see (Loader, 2007: Bennett & Lance, 2008). However ethnographers of childhood and observers of changing forms of culture have also noted the changing role of online life for all kinds of social activity as summed up in a title of the book ' Hanging Out, Messing Around, Geeking Out: Living and learning with New Media' (Ito et al., 2010) [3] .

Secondly there is the idea that such processes support qualitatively different notions of collective and collaborative activity, especially those that relate to learning. Scholars of computer gaming as well as online life have noted that inhabiting rule-bound virtual worlds encourages discrete kinds of social behaviour which has ramifications for education. Working in teams, on focused and dedicated tasks, being able to work at ones' own pace and within one's own time-frames, knowing how and who to ask for support, parcelling out parts of a task, working with international and non-place-based colleagues, of developing appropriate and distinct ways of talking and communicating have all been

[2] The range of research projects led by Sonia Livingstone are good examples of this: http://www.eukidsonline.Net/

[3] http://digitalyouth.ischool.berkeley.edu/report

investigated by various scholars as posing serious qualitative differences to forms of inquisitive behaviour: see for example (Palfrey & Gasser, 2008). Again, a number of scholars have noted how such behaviours are quite specifically at odds with dominant forms of teaching learning within the curriculum with its individualised modes of study and assessment: see for example: for example (Shaffer, 2008).

Both of these *foci* contribute to a key issue in the literature, how being able to act with others in virtual and virtual-real (that is those online *fora* where there is clear reference to offline issues, whether political, civic or even just an interest grouping) changes the agency or power of the young person as a social actor. In more extreme cases young people take up roles of authority as for example where game players 'know' more and are expert within their own communities and knowledge domains: see for example (Gee, 2004). However even more basic forms of interactivity have been characterised as offering users greater control than hitherto experienced (Turkle, 1997). Scholars have debated the precise nature of this empowerment. Crudely speaking there is a boosters position (e.g. (Tapscott, 2008) suggesting that there has been a fundamental reconfiguration of power, agency and authority offset by more sceptical analysis suggesting that the limits of authority are circumscribed (Willett, 2008).

In general the range of new skills learnt in this way  break down into *user* and *producer* types – existing on a sliding scale. User skills can be both mental and physical, covering for example information retrieval and manipulation  or indeed increased hand-eye co-ordination as an example of the second type. Producer skills range from the ability to customise to making expressive media (O'Hear & Sefton-Green, 2004). The spread of these abilities and the different ways young people learn them though various forms of self or peer teaching (Willett & Sefton-Green, 2002) is contested and unequal with scant sociological evidence about reach and penetration and with case studies examples often used as standing in for more general habits. Attention to the power of auto didacticism and its various trial-and-error methods has important implications for formal education (Sefton-Green, 2004) but this must not stand in way of a level headed evaluation of what David Buckingham (2008) has called the 'banality' of much new media use

The discussion then of the range of skills and competences demonstrated in new media use range from the capacity to manipulate computers, programmes, icons, and other formal features of digital technologies to learning the rules, conventions, genres of chat rooms, games and so-on - the more cultural side to these activities. Much attention  has been paid to the mastery of text and its seemingly organic transmutations through different language shapes and forms in chat and other online interactions: see for example (Pahl & Rowsell, 2006) or (Snyder, 1998, 2002). The producer skillset has ranged from study of adaption and customisation to more complex cultural activities like digital story telling[4] film and audio (Gilje *et al* 2010), and of course websites or blogs (Stern, 2004).

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[4] For example http://www.intermedia.uio.no/mediatized/

The early scholars of computers and learning have always been interested in ways that technology may or may not transform cognitive processes (Greenfield, 1984: Papert, 1993). Whilst the section above enumerated skills that those demonstrated though action, there is also the argument that different ways of thinking are at stake. There are several key domains. One is the effect on *modelling* – that is how computer interactions support ways of imagining or conceptualising problems from ideas of space and place to mathematical relationships. Second is the issue of *meta-cognition* – that how we can be supported to reflect on and think between and across hitherto discrete phenomena. Third, is the issue of *information processing* and the study of changes in how knowledge is stored, accessed and retrieved affects intellectual activity (Bransford, 1998).

These three domains are complex enough and at a more common sense level questions have been raised about more generic thinking skills where the disciplinary boundary between cognitive and social skill is more arcane. For example, many studies, especially of computer gaming explore, issue of problem solving, negotiation with peers (online) mapping space, rewarding curiosity, taking risks and experimentation: see (Gee, 2004: Shaffer, 2005).

As noted above, one feature of Net Generation behaviours is that they support young people to emerge from more bounded domains to act as fully empowered individuals in more public arenas. One key aspect of this is that implicit norms about barriers or boundaries to stages of the life course are crossed - for example allowing young people to act outside of the home and certainly with greater independence unfettered from adult supervision. This aspect of Net Generation behaviour is the most contentious, especially as noted where such behaviours transgress the possibilities of regulation and threaten the protection mechanisms we are accustomed to: for extended discussion see Zittrain (2008). It is certainly true that a main reason that schools are shy of demonstrating interest in Net Generation behaviours is because of the (reasonable) threat of legal or moral retribution in respect of this boundary crossing.

On the other hand, it precisely this capability of young people to act in public forums, to assert their views, to express their opinions and to join in public discussion which motives our interest (Tapscott, 2008; Palfrey & Gasser, 2008). The stories of young people who have become gainfully employed through online interactions and those who have managed to 'punch above their weight' are telling and contribute to the sense that the Net Generation need to be considered as possessing qualitatively different 'rights' than prior generations. Again this may say more about the absence of rights or respect with which we commonly address the young but it also points to a significant reconfiguration of power relationships which again challenges how schools are currently set up and run – especially it has been noted the uses of reputational measurement as well as public and instantaneous feedback.

Although it is unclear precisely how to measure such effects, there is a generally agreed body of international research which documents a series of changing behaviours and competences by some young people as a result of their use of digital technologies. We do not know how equal, far-reaching or wide-spread

such changes are but a series of identified behaviours which offer authentic and challenging learning experiences have been enumerated. These coalesce around a different kind of learning self – different that is from forms of subjectivity validated by current school arrangements - who can act with authority across a series of domains and who is accustomed to forms of collaboration, genuine challenge, experimentation, risk-taking, curiosity and expressivity.

**Digital Learning: mapping the research field**

A second way to 'cut the cake' as it were and another way of reflecting on the construction of this kind of informal learning is to offer a thematic typology or map of the research into young people and digital learning. Inevitably this section will traverse some of the ground covered in the section above because it is impossible not to define the concepts we are using to characterise learning without reference to them in any mapping process. It should also be noted there are limits to any meta-reviewing or mapping methodology as any attempt at a total snapshot is inevitably overly ambitious.

*Literacy.* Net Generation habits have frequently been characterised as a kind of 'literacy' (Sefton-Green, Nixon, & Erstad, 2009). This is for two reasons. First of all, the computer and video games is in effect a form of 'text' – used in its broadest sense encompassing the visual, interactivity and other kinds of multimodality (Jewitt & Kress, 2003). On one level it is how Net Generation engages with these changing texts that defines their distinctness: and it is true that much interest in changing nature of learning has been led by advocates of the new literacy movement. Secondly, the idea of literacy is used as a way of summing up competence in a new domain, as in emotional literacy, computer literacy, visual literacy and so on. Whilst other scholars have debated the validity of the use of the concept of literacy as a way of understanding insights in all of these domains (Buckingham et al., 2005), nevertheless understanding Net Generation activities and learning as a kind of literacy clearly strikes a popular chord as a way of summing up the sea-change in capabilities comparable to the importance of the introduction of print literacy in the development of modern societies(Luke, 1989).

Whether they know it or not, proponents of the literacy paradigm tend to adopt a derived version of the Sapir-Whorf hypothesis. This suggests that the structure of language determines the nature of thought and that the acquisition of written language has concomitant effects. By the same token, new media literacy it is suggested, structures our thinking and being in the same way. One key issue then is the precise nature of the new media textual universe and in particular its reliance on forms of print literacy translated to the screen. The Net Generation's competences are clearly not just reducible to the use of audio or the visual, however integrated or prominent such domains may be. Here then we have to consider whether the Net Generation abilities represent an extension of print literacy competence (implying that print competence is a necessary building block for further growth), or whether it in any way replaces the dominance of print literacy in our culture.

***Learning Theories*** Alongside Literacy scholars an alliance of learning theorists have speculated that the Net Generations' skillset implies a reconfiguration in Learning Theory. The OECD talks about New Millennium Learners[5] even if detailed characterisation is a little thin at present, and other scholars refer to a 'New Science of Education (Kalantzis & Cope, 2008): see also Dumont *et al* 2010. James Gee (himself a New Literacy Scholar) has focused on computer games and offered 36 learning principles based on a synthesis of new literacy studies (especially semiotic domains), situated cognition – the work of cognitive sciences - and 'connectionism' (types of patterns recognition): see (Gee, 2004). These principles articulate a whole theory of learning which is culturally situated, text based and which leads to deeper, richer forms of educative experience. Other scholars like Kalantzis & Cope (2008) have used some of the tropes of Net Generation competence that we have previously identified to develop what they argue is a new theory of learning for new times. Whilst some claims about the newness of these theories may deserve further research, the argument of this section is that an established scholarly apparatus has been developed which engages at a theoretical level to explain the learning that both causes and/or is a symptom of Net Generation behaviours.

***Knowledge Society*** The main problem with new theories of learning or even theories of new learning is that it is difficult to disentangle cause and effect. It is not clear whether there are changes to the nature of the learning (like the observation above about the persistence of print literacy as the foundation for new literacies) and furthermore if there are changes whether these drive or are driven by wider socio-economic changes. Indeed many theorists use observations of the Net Generation as a form of *post hoc propter hoc* explanation for an analysis of wider economic re-structuring of the knowledge economy. Thus discussions about the role of knowledge access, retrieval and use for example permeates speculation about the Network society (Castells, 2000), debates about remixing originality and pastiche has a similar role in arguments about intellectual property (Mason, 2008) just as the role of blogging is related to wider theories of citizen journalists (Gillmor, 2006). The title, of a 2004 book, 'Got Game: How the Gamer Generation Is Reshaping Business Forever' (Beck & Wade, 2004) sums up this peculiar and possibly inverted understanding of cause and effect. Observations about learning and the Net Generation is often used as part of wider analysis of deeper structural change.

Here the boosterish work of some of the leading proponents of the Net Generation, especially (Tapscott, 1999; 2008) is indistinguishable from advocacy for the creative economy. Although scholars have taken such discussion of learning to task as being driven by an apology for neo-liberalism (Buckingham, 2007), such a way of framing our understanding of learning does inform public debate and remains a contentious element in any assessment of the difference posed by the Net Generation to the needs of an education system.

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[5]http://www.oecd.org/document/10/0,3343,en_2649_35845581_38358154_1_1_1_1,00.html

***Cultures of Childhood and Youth*** As already noted, scholars of childhood and youth have contributed distinctly to the study of informal learning. A particular focus has been on the role of markets and the changing place of children and young people as actors within a changing commercialised environment (Kline, Dyer-Witheford, & Peuter, 2003). Scholars have noted how induction into forms of commercially mediated play offers forms of 'structuration' which impact on notions of changing subjectivity (Buckingham & Sefton-Green, 2004). Studies of the role of commercial companies exploring new home markets opened up by digital technologies (Kenway & Bullen, 2001; Buckingham & Scanlon, 2002) not only develop this theme but obviously explore the role of and nature of what informal learning might mean in these changing domestic contexts.

On the whole , these approaches have identified a continuum of approaches to informal learning. At one end of the scale are forms of re-packaging formal constructs of learning (curriculum based software, grade testing etc) for use in informal settings and at the other are ideas that playing within web sites run by large media conglomerates, digital activities associated with Toy brands and so – forth may develop forms of learning but that such learning may be no more than preparation for other kinds of consumer behaviour.

A second strand of research within this culturalist frame explores the home as a site for learning alongside examination of inter and inter- peer interactions as defining changing sites for learning. Peer cultures also support friendship and interest driven participation and sustain a host of learning experiences [6]. Theories of participatory communities of learning based on the work of Lave and Wenger (Lave & Wenger, 1991) are often used to underpin studies of peer-to-peer pedagogy and but a persistent theme in this literature – evidenced strongly in the Ito *et al* project referenced here is the dichotomies between this world of participation, authority and 'meaning' and the seemingly sterile activities of the classroom

A key principle underpinning much research is that of a paradigm shift or at least degrees of difference between old and new ways of learning. Either through a compound of learning theories or through a new literacies approach, through ethnographic and social anthropological models, or even through study of the interpolating function of the market, there is considerable uniformity that learning outside the school is in some way in serious competition with Schooling. This has a series of significant implications for how schools address, engage and empower young people.

**Crossings to Nowhere: dislocation and difference**

Rather than take the arguments developed in the research discussed in the preceding two sections at face value, I want to suggest that this construction of opposition and of difference within such analyses of change work to efface productive understandings of learning. In the way that Derrida notes that any

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[6] http://digitalyouth.ischool.berkeley.edu/report

valorisations of one half of a binary makes the other 'abject' and empty, I am suggesting that by constructing informal learning as other and different, the literature works to construct a tension between the idea of qualitatively new and different kinds of learning and a normative construction of schooled learning.

The idea that school learning can in some way be fairly constructed as an undifferentiated norm is of course not empirically verifiable - it is clearly a rhetorical position – but one of the key effects of the informal learning discourse is to construct precisely this as 'fact'. Indeed it is impossible to imagine informal or any new kinds of learning without some internalised frame of reference which is a generalised and normative cliché of school experience. After all, if contemporary classrooms contained experiences that were fundamentally differentiated (personalised, to use the current English jargon) and were collaborative, peer –led, multimedia focused and so on there would be no narrative, no story to tell.

Furthermore, in England, public discourse about what Seely Brown calls the new 'digital multimedia vernacular'(Brown, 2006) has to be contextualised as a form of rhetoric acting in concert with wider debates about the broader capability and function of State funded education. It cannot be a co-incidence that system wide indicators developing out of forms of New Public Management which emphasise high stakes testing alongside widespread public concerns about the changing nature of the labour market have thrown a consensus about the purpose and function of State funded education into some kind of crisis at the same time as we have witnessed the kind of expansion in learning horizons outlined in the sections above. There is something faintly schizophrenic about the excitement and expansion of new digital horizons as we also live through a contraction or even a closing down of educational innovation and reform within the school system as centralised control of curriculum, de-professionalization of the workforce and even prescriptions about pedagogy have held sway. And for all the excitement about workers in the creative economy we also have to take into account the growth in low/no skill service employment.

This 'dance' of rhetorics cannot be an accident and many critics have pointed to the marketisation of education with an increasing role of private money as the key to understanding this change: see for example (Ball, 2007). An important implication of this analysis would be how access to and competence in the informal digital domain is implicated in the process of stratification of labour skills. From an English point of view the changes in subjectivity, the collaborative nature of social learning and so-forth identified in the literature above, become forms of differentiation and individuation – the attributes of the new 'creative class' (Florida, 2003), and not therefore a process of opening up and democratisation that much of the literature suggests.

An argument here would be that just as the curriculum and in general forms of teaching and learning remain profoundly impermeable to reform at pupil-centred or teacher-led level, so forms of informal learning and the digital life become enculturated first of all in replicating forms of class-stratification and secondly as a kind of 'sanctioned opposition'.

Conventional studies of resistance to schooling tend to focus on the 'losers' in a socially mobile world. The working class 'lads' of Paul Willis's classic study (Willis, 1978), the subcultures excluded by class, ethnicity or gender (Mahiri, 2003) are all offered as examples of how subaltern groups are actually produced (or make themselves) through rejecting the dominant modes of education and are not simply those unable to 'succeed'. Such theories, after all show how failing in education (in conventional terms) works to replicate social groups as determined by labour market needs. However, what is interesting about the literature analysed above is that it too feeds off similar constructs of resistance – of the digital as a subaltern cadre, but ironically with respect to successful social groups and indeed argues that such resistance is paradoxically now necessary to 'really' succeed' in the contemporary world.

Is this more than just a trendy kind of dressing down, of adopting the clothes of the other' and of cynically exploiting the 'power of the margins' – as bell hooks once put it (hooks, 1984)? Or is competence in the digital vernacular now part of what used to called the 'hidden curriculum' - an implicit and often unstated way of behaving and being in education which acted as a route to success? Indeed it is impossible to imagine successful (high achieving) young people who are not highly fluent in this vernacular. And yet in England there is little sense that such fluency is taught or even part of conventional schooling. Young people are clearly responding to wider perceptions of what is in their long-term interests by being conversant in the digital domain and developing forms of subjectivity for work as suggested above. Just as resistance theory has shown us how socially excluded groups use forms of refusal of schooling as preparation for later life, so here young people need to learn how to negotiate different models of successful learning (both in and out of school) despite any explicit or absurd contradiction between each model.

However, the approaches that young people might take to overcome these divides are not the same as how formal education has responded looking at the challenge from the other side of the fence.


**Bridges, links and networks: metaphors of connectivity**

Whilst the broad theoretical patterns outlined in the first two sections are relatively well established, this section is more speculative and tries to explore the different ways digital learning interventions construct themselves as change initiatives. I am interested here in seeing if it is possible to typologise forms of bridging or linking initiatives that try to connect the informal digital learning described above with the formal school system  - especially how they have been constructed by schools or even by regional or national policy. To an extent this is no more than ordering the range of intentions behind initiatives rather than being able to evaluate their impact as, by definition, most accounts of innovation look different in practice. Nevertheless, in trying to map how this process of othering' has been recuperated by the known and the familiar – and of course especially in ways which legitimates a political *status quo* –  we see the limits of ambitions for change.

By applying the discipline of the school change literature[7] to this process we are able to draw a wide ranging an deep understanding of change in Education – whereas I suggest much of the rhetoric about digital learning does not draw on the same frameworks of understanding and uses different metrics for calculating effect and change.

Typically, responses to the mounting evidence of the opening two sections of this chapter, by State education systems has either been to ignore, proscribe or attempt to recuperate the kinds of knowledge, learning and experiences going on in young peoples lives (or sometimes a confusing mixture of all three). In 2009 a leaked government report in England, suggested that Primary age children should learn to use social networking sites, like Twitter– and such suggestions were ridiculed in the press (see Snyder, 2008 for study of the role of the press in discussion about literacy): though not it should be noted on the basis that such processes could be 'taught' as mandated instruction. Another good example of this in England would be the series of innovative research reports and software developed by a Government funded initiative: Futurelab[8]. Examples of imaginative geo-positioning software culled from mobile phone use has been developed into curriculum units or studies of student centred curricula based in selected innovation sites[9] offer ways of brokering out-of-school learning with entrenched practices. The kind of learning characterised above is clearly acknowledged but offered as a kind of bolt-on or additionality to core experiences. Here the question is whether new content merely extends the curriculum menu – or does it offer a new diet?

Many initiatives offer kinds of extra-curricular enrichment which might claim all sorts of 'learning dividends' -  the best known of these is the 5th Dimension (Cole & Distributed-Literacy-Consortium, 2006). That project has its roots in the constructivist epistemology associated with an older vision of computers-in-education and built on the work of Seymour Papert and others. One feature of the new digital learning has been to build on these principles of out of school enrichment but this can also mean developing the strong cognitive psychology approach which underpins the rationale for such work. However, the culturalist analysis of the new digital media is absent from this older tradition and although such work brings together even more established progressivist ideas about children and discovery learning it needs to be disentangled from the current focus. Contemporary versions of this approach of which many have been supported in the US by the MacArthur Foundation [10] offer opportunities for socially excluded young people to experience in a semi-structured and more public way the digital lifestyle enjoyed by their middle class peers from inside the latter's digital bedrooms.

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[7] For an accessible summary see (Thomson, 2007)

[8] http://www.futurelab.org.uk/

[9] see also: http://www.innovation-unit.co.uk/

[10] For example: http://iremix.org/

In some respects the crux of the matter comes down to concerns about how to assess 'Net- generation' learning (Burke & Hammett, 2009). The Grade 6 curriculum composed entirely around gaming in the New York experimental school[11] is grounded in some of the utopian end-of-schooling ideology inherent in the tradition coming out of constructivism but is welded to a 21st Century vision of creative learning and the creative economy. Whether such initiatives can provide a structural rethink across all ages or whether such work will retreat to younger age groups where there is less concern about terminal assessment and progression into Higher Education remains to be seen.

In England, much digital learning takes place inside media education spaces where it already has a legitimate educational rationale: and also additionally much digital leaning offer schools unparalleled ways of maintaining a web presence[12] where it is often used to show the dressings of modernity. In some cases digital learning interests are used as a kind of Trojan horse as a legitimate way into subverting more conventional forms of organisation and activity[13].

The modes of incorporation of the informal into the formal are varied and problematic. Whilst the end-of-schooling movement has longer antecedents than the invention of the transistor, many interventions persistently skirt around the edges of institutional change. Mimicking deep change, offering kinds of 'makeover', or additional enrichment activities are after all sensible, cautious and practical ways of introducing activities into schools.

This, of course makes perfect sense. As Gemma Moss argued in relation to the growth of media education, out-of-school knowledge is 're-contextualised,' using Basil Bernstein's words, by the school, so even if the aim of innovative curriculum is to help support students reflect and systematise out of school knowledge, such informal learning becomes recuperated by the formal domain (Moss, 2001). Moss' argument does not allow for the process of negotiation and resistance that in practice means that such re-contextualisation is neither smooth nor inevitable – there is always a 'cost' to the school in terms of how it changes itself, but the central argument still needs taking on directly. School fulfils a range of social functions, It is key in any social process of stratification and individuation.

In truth, there is, as yet, virtually no evidence about what might be called 'deep change' from the world of compulsory education around the world about how the private leisure driven world of digital leaning may be transforming public education at institutional or system level. Some of this is because digital learning is significantly individualised and this mode of subjectivity is fundamentally at odds with any State education system. Some of the struggle has revolved around the changing role and skill-set of teachers (Cuban, 1986). But in essence, I am

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[11] see: http://q2l.kattare.com/node/14

[12] See for example the excellent work captured at: http://www.tallislab.com/blog.html

[13] see for example http://www.futurelab.org.uk/projects/enquiring-minds

suggesting that the argument is not one of practicalities or imagination but is a struggle for discursive legitimacy. The idea of informal learning is a powerful rallying cry as the relationship between the individual and the State is reconfigured under changing forms of neoliberal marketisation. The whole idea of informal learning has come into being because of what it is not: mass schooling. We would not consider it a matter of interest if there was not so much anxiety and such a struggle for legitimacy in what it means to be educated and what the role of schools are. Indeed I would even suggest that the exotic, the authentic and overly-privileged nature of informal leaning has played its part in destabilising the position of schools in the first place.

Where then does this leave us? Although it may sound a bit silly, I am really suggesting that on one level there is no 'boundary' to be crossed between the formal and the informal – even if there are sets of differing (and similar) social practices. That the idea of a boundary is a rhetorical and political construct. Furthermore, there are a whole set of practical and theoretical problems which mean that if there were a boundary it would be very difficult to cross. It is not surprising that schools and national policy have responded the way they have to the challenges posed by the profile of digital learning; but reform and even change cannot be engineered by any simple import of informal digital learning practices into schools. We should expect a process of incorporation. The interesting future will be when the practices of digital learning are as normal as going to school everyday, when excitement about alleged epistemological ruptures have quietened, and when it loses its 'othering' function. Then we will see the true nature of any 'change'.

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