



‘Digital Natives’: A Myth?

A POLIS Paper

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Editors: Ranjana Das and Charlie Beckett

www.polismedia.org

www.charliebeckett.org

polis@lse.ac.uk



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Ranjana Das

INTRODUCTION

Charlie Beckett, Director of POLIS

Myths can be useful ways for societies to tell stories about themselves. They can help us preserve our values and cope with change. So the idea that young people are particularly, even naturally adept at using new media technologies is comforting and perhaps even exciting. Even if older adults find digital devices and processes challenging we can reassure ourselves that the next generation will take to them effortlessly and creatively. I regularly hear from middle aged digital enthusiasts as well as the technophobes how their teenage children can do amazing and/or disturbing things online. They blog, game and network on a variety of platforms, often multi-tasking, producing sophisticated and rich patterns of communication and expression. This is wonderful and quite often true. But as the evidence and analysis of this report shows, it is a myth that this kind of youthful dexterity and literacy is somehow inevitable or ubiquitous. And this matters. As Professor Livingstone says, if we don't understand the reality of young people's use of the Internet, then we won't realize how important it is to them and how vital it is to provide the skills and resources for them to make the myth a reality.

The fact is that young people experience the same opportunities and challenges as everyone else who uses digital technologies. The cultural and social barriers to conventional literacies appear to replicate themselves online. A young person who struggles to read a book will quite likely find online navigation difficult, too. There may be magical things that we can do online, but there is no miraculous power that changes intellectual frogs into digital princes. Those people growing up over the last decade or so may well be more familiar with a world of virtual and networked culture and communications. However, individual youths have not been endowed by some

freakish evolutionary process with exceptional technological powers.

It is very appropriate that this report and the event that it is based on was inspired by the Polis Silverstone Scholar Ranjana Das, a PhD student at the LSE Media and Communications Department. The Polis Silverstone Scholarship is awarded to support an outstanding student who is working on an area of international media research relevant to the ideas of the late Professor Roger Silverstone. Roger was the Head of the Media and Communications Department and the founding spirit of Polis. Polis was set up in 2006 with the purpose of examining journalism and society at this time of extraordinary change and significant impact for the news media. Central to the work of Polis has been the idea of media change and its political and ethical relationship to citizens and the state.

Ranjana's work alongside the research of the four contributors to this report may help kill the unhelpful myth of the digital native. But more importantly, their analyses offer ways of understanding how we can all benefit by greater investment in digital media literacy. I am very grateful to everyone who took part for giving us such an entertaining and stimulating evening at the LSE. And by publishing this short collection of their papers I hope that we are helping to replace the myth with a message. The message is that media are critical to our understanding of the world, but also to how well we can live our lives. As Roger Silverstone said, media are now 'environmental'. I would argue that all media are in some way, digital. So natives or not, we all need greater online media literacy if we are to fulfill our potential as individuals and citizens.

ENABLING MEDIA LITERACY FOR 'DIGITAL NATIVES' – A CONTRADICTION IN TERMS?

Sonia Livingstone, London School of Economics and Political Science

Introduction

Being perhaps an old-fashioned academic, I'll begin with a Hegelian argument structure – thesis, antithesis, synthesis. As an aside, I note that to check this argument structure, I looked it up on Wikipedia, which told me that Hegel never said this: a case of a digital immigrant's argument corrected by a digital native's tool. Never mind, back to my argument.

Thesis

Young people think differently from their parents because they were born into a digital world. This is clearly a much hyped claim on which we are today asked to reflect. As Marc Prensky put it:ⁱ

'Digital natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics *before* their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to "serious" work.'

And most important, those struggling and 'accented' digital immigrants:

'Today's teachers have to learn to communicate in the language and style of their students.'ⁱⁱ

Antithesis

Young people do not think so very differently after all. It's all hype. Children are no more or less sociable, distractible, haphazard or creative in their learning than they ever have been. Certainly I have read no serious scientific research that shows children's brains are changing or being rewired by hours in front of the computer, as Prensky suggests. Let me quote from Professor Usha Goswami, a psychologist at Cambridge University:

'It is now recognized that children think and reason in the *same* ways as adults from early in childhood. Children are less efficient reasoners than adults because they are more easily misled in their logic by interfering variables such as contextual variables, and

because they are worse at inhibiting irrelevant information... The major developmental change during the primary years is the development of self-regulatory skills... Cognitive development is experience-dependent, and older children have had more experiences than younger children.'ⁱⁱⁱ

Synthesis

The arguments so far are too polarised, the dichotomies are too simple.^{iv} So, some things are changing in young people's styles of learning and acting, but that doesn't mean they are fundamentally transformed. Rather, it seems that ways in which knowledge is represented and the ways in which pupils prefer to learn are being reshaped by the affordances of the technologies that they engage with and the pedagogic, commercial and peer cultures that contextualise their daily activities. Such changes, however, are occurring on a longer timescale, and far more variably and unevenly, than any claims of a wholesale transformation within the past decade might suggest.

In developing this synthesis, in my short time remaining, I'll make three observations, based on my recently project, UK Children Go Online.^v

First

There are lots of things that children and young people can do online, and also lots of things they struggle with. Anyone who has sat down with children in front of a computer knows the ambiguities involved in characterising their competences.

The voice of the digital native: 'We know the computer, we're the generation of computers.'
(Focus group, 14-16 yr olds)

A sceptical voice: 'Every time I try to look for something, I can never find it. It keeps coming up with things that are completely irrelevant ... and a load of old rubbish really.'
(Heather, 17)

And an ambivalent voice: 'I think in comparison to my parents and loads of the older generation I know, I do know more. But I think there are a lot of

people that know a lot more than me... A lot of my friends know a lot... And I learn from them.' (Lorie, aged 17)

Watching children click links quickly or juggle multiple windows does not, necessarily, confirm that they are engaging with online resources wisely or, even, as they themselves may have hoped – we must not be beguiled by their confidence. Moreover, some of the variation in what young people do and don't know, or can and can't do, is partly a matter of socioeconomic inequalities: for poorer children, digital disadvantage may compound social disadvantage. Thus for some, the internet is a rich, engaging and stimulating resource; for others, it remains a sporadic and rather narrowly used one.

Second

One crucial reason that young people also struggle with some of the affordances of the digital world is that it is often opaque – hard to read, illegible. Just as in the world of print so too in the digital world, literate readers require legible texts.

I'll set aside the way computers talk to us – of illegal commands, fatal errors, and decisions to abort, while you lose all your recent work.

Instead, consider the ways in which online sites and services are designed either to enable or impede the user's ability to locate them, navigate them, ascertain their reliability, judge their authorship, contribute to them and, of course, learn from them.

An astonishing number of sites, it seems, enable a degree of navigating, downloading and even uploading without their young users gaining the faintest idea who produced the site or why, where the information came from and what happens to anything they may contribute to it.

Ofcom's latest report on children's media literacy, published last month,^{vi} found that, for 12-15 year olds in the UK:

Two in three make some kind of reliability check when visiting a new website (do other people recommend it, is it up to date, has it a trust mark, can you confirm the information across sites). This is no more than checked reliability two years ago – and crucially, a large minority – for whom the internet has nonetheless become the first port of call for information and homework – make few if any checks.

Though most use search engines, they are not sure how the results are selected – some think it a matter

of usefulness or relevance, others a matter of truthfulness, others a matter of paying to be highly ranked. Working class children appear more confused about this than middle class children.

I nearly put these two points earlier – up with my argument that children don't know quite as much as it may appear. But I think they better illustrate my concern about the legibility of websites. For there is little on the web that guides users – young or old – about how to determine reliability, or how to choose among searched results. They – and we – figure this out for themselves. The result, as I've shown, is both uneven and unequal.

Finally

This brings me to my last point. Why am I being so downbeat? Isn't there plenty of evidence for the many and wonderful things young people are doing online – learning, creating, participating, expressing themselves, and more? Yes of course.

Hence my title, 'Enabling media literacy for 'digital natives' – a contradiction in terms?' My purposes in flagging what young people don't know, and don't do online is to encourage the provision of more resources of all kinds – pedagogic, in relation to media and information literacy, and in relation to the better and more legible design of websites. The notion of digital natives, I suggest, is promoted by two constituencies – the first is educationalists, and they have much work to do to enable children to interpret online content critically and creatively; the second is those who provide content to children and, especially, those who market to youth, and they too, I have suggested, have a responsibility to improve the legibility of what they offer so that children can make fair and informed judgements about what exactly they are being offered.

In short, if we celebrate young people's digital literacy too much, providing more resources becomes a lower priority. On the other hand, if we recognise how their knowledge and resources may limit their opportunities, the task ahead becomes clearer.

Endnotes

- i. Page 2: Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1-2.
- ii. *Ibid*, page 4.
- iii. Page 1-2: Goswami, U. (2008). *Byron Review on the Impact of New Technologies on Children: A Research Literature: Child Development*

- (Prepared for the Byron Review).
Cambridge
- iv. See Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology*, 39(5), 775-786. Also, Toledo, C. A. (2007). Digital culture: Immigrants and tourists responding to the natives' drumbeat. *International Journal of Teaching and Learning in Higher Education*, 19(1), 84-92.
- v. See Livingstone, S. (2009). *Children and the Internet: Great Expectations, Challenging Realities*. Cambridge: Polity. Also Livingstone, S., & Bober, M. (2005). *UK Children Go Online: Final Report of Key Project Findings*. London: London School of Economics and Political Science.
- vi. Ofcom (2009). *Children's Media Literacy Audit: Interim findings*. London: Office of Communications.
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TALKING ABOUT THEIR GENERATION: CONSTRUCTIONS OF THE DIGITAL LEARNER

David Buckingham, Institute of Education

The idea of ‘digital natives’ has been around for at least ten years now; and it has attracted a considerable amount of criticism. In my view, there are several problems with this idea, and with some of the cognate expressions – the ‘digital generation’, the ‘net generation’ and so on. These ideas typically overstate the differences between generations, and understate the diversity within them – the age differences within generations, as well as forms of social inequality. Many so-called digital natives or members of the digital generation are no more intensive users of digital media than many so-called digital immigrants. They are by no means as technologically fixated or as technologically proficient as is often assumed. They don’t necessarily have the skills, the competency or the natural fluency that they’re assumed to possess.

There is a tendency in this discussion to essentialise generations – and indeed to exoticise young people. There is a familiar sentimentality about children and youth here, mixed up with a kind of fear about what might be going on in this younger generation. This characterisation of young people is also strangely belittling: it assumes that young people automatically spontaneously know everything they need to know about technology, rather than having to make an effort to learn about it. Ultimately, this argument is tied up with a kind of technological determinism, the idea that technology in and of itself produces generational change. I would accept that growing up with a technology may imply a different orientation towards it than coming to it later in life – although it is certainly debatable how lasting that kind of difference is. Nevertheless, the notion of ‘digital natives’ seems to me to be a very problematic way of conceiving of this.

For Marc Prensky, who seems to have originated this idea, the issue of learning was a key aspect of the difference between the generations. Prensky’s latest book is called ‘Don’t Bother Me Mom, I’m Learning’, and it seeks to provide a vindication of computer games as a learning medium. This entails, on the one hand, an undermining of all the arguments about the harmful effects of games (for example in relation to violence), while, on the other, making a series of assertions about the positive

consequences of gaming. Games are seen to have a whole range of positive educational benefits; they develop cognitive skills, and teach children all sorts of important areas of content. The book offers a certain justification of games in terms of what Brian Sutton-Smith calls a rhetoric of ‘play as progress’, a developmental rhetoric. In this rhetoric, play is justified in terms of its educational value; while all the dangerously anti-social aspects of play – what Sutton Smith calls ‘phantasmagoria’ – are swept aside. There’s also an assumption here that learning transfers, so what we learn from playing computer games somehow transfers to what goes on in real life. So we learn hand-eye coordination, we learn problem solving, and somehow this makes us better problem solvers in real life – although these arguments don’t seem to apply to some of the more negative aspects of game play.

There is a sense here of learning as somehow spontaneous, a matter of ‘learning by doing’, which goes along with the book’s general dismissal of schooling, or of formal education. What we find here is a valorising of informal learning – although the distinctions between informal and formal are typically very loosely and vaguely defined. So digital natives are assumed to want to learn in different ways: they want more interactive, game-like, discovery-based forms of learning, they want to be multi-tasking, rather than doing all that boring formal stuff they apparently get in school. There are many problems with this argument – and particularly with the idea that there is some kind of fundamental generational difference in terms of learning style, which is produced by technology.

If this argument is so problematic, why is it so popular? What functions does this rhetoric serve in terms of public debate, particularly around educational policy? I would say it is partly driven by a kind of sales pitch, both by commercial companies selling technology into schools, and by policy-makers looking for a technological quick fix to what they perceive to be the problems of education. One can track this track this discourse historically, through initiatives like the National Grid for Learning, the work of BECTA (the British Educational Communications and Technology Agency), the Harnessing Technology strategy, and most recently the Rose Review of the Primary

Curriculum. While the digital native features in all of these, there is also a certain ambivalence here. We have the rhetoric of young people as spontaneously technologically competent, on the one hand; but on the other hand they are seen to be lacking in the fundamental skills or competencies that they apparently need in order to survive in the so-called knowledge economy. These contradictions are served up in a kind of policy mush: the digital native goes in with personalisation, informal learning, learning styles, multiple intelligences, and so on - a series of fashionable concepts which are really very ill-defined and problematic.

For companies, this kind of argument represents a valuable means of generating profit; while for government, it seems to offer the promise of a technological fix. If young people are disaffected from school, the argument goes, we can solve that by putting a lot of computers and interactive whiteboards into classrooms, because these things are assumed to automatically motivate them. In my view, this is characteristic of a wider tendency to take a cultural or a social problem and present it as a technical one, and then to offer a technical (or technological) solution. In this context, advocating the use of technology in schools also comes to be tied up with a kind of wishful thinking about how technology will bring about a fundamental transformation of power relationships in the classroom. Technology, we are told, will move us towards a more democratic form of education, undermine the power of the teacher and create a more student-centred classroom. Here again, the evidence for those kinds of assertions is very limited; and indeed there's a good deal of evidence to the contrary, for example if you look at the research about the use of whiteboards in schools.

Despite these problems, I do think the concept of generations and generational differences might have some traction. It is interesting to consider how discourses or arguments about generational differences or identities are used both in public debate and in everyday life, especially around media and technology. There is a body of theoretical work here, for example in Mannheim's macro-level analysis of the social, historical construction of generations. But generations are also constructed – and people come to define themselves as members of generations – at the micro-level, in everyday interactions. Here I would draw on the notion of 'generationing', the idea that (both for young people and for adults) we are defining ourselves as members of generations through an ever-shifting *performance* of age identities. This process plays out in

homes and in schools, in terms of how people use technology, in what they say about technology, and in terms of how the activity of using technology is produced, constructed and regulated. So, for example, we could consider how parents (myself included) construct their children as technology experts, while at the same time trying to monitor and regulate what they are doing with the technology. This mutual construction of generations can be quite a complex and ambivalent process.

One of my PhD students, Amie Kim, has been looking at this in the context of Korea. One of the methods she has used was to ask young people to write advice manuals for their teachers about how to use technology. A lot of the advice they give is about the etiquette, the social and cultural uses of technology, rather than the technical aspects; and this is tied up with the defining of generational difference. My colleagues and I are also doing some work at the moment interviewing teachers, and one of the things we find is that teachers' professions of technological competence or incompetence also entail a set of claims about their position in this generational order, and about their professional identity. So there are some interesting questions about how this notion of generations actually gets employed in everyday discourse and everyday practice.

Another aspect of this project has been a large-scale survey of more than 2000 children and teachers across three secondary schools and four primary schools. We are still analysing this data, but the big picture that is emerging is that the similarities between the teachers and the students are much more marked than the differences. Teachers and students have a great deal in common in terms of their media uses – not only in relation to television, but also the internet. There are differences, most notably in relation to games; but a good many teachers are into social networking, and both students and teachers also insist on the importance of non-media activities. The differences between the generations may be more to do with the *purposes* for which people use particular technologies, rather than with the actual media or the technology in itself. Equally, there is no simple dichotomy between high culture and low culture here, no clear hierarchy of taste or cultural value. It would be quite inaccurate to say, as Prensky and others seem to be suggesting, that teachers and students are living in different technological or cultural worlds.

Likewise, if we analyse how media or technology are actually used in school, there is a variety of practices

and a range of meanings constructed around technology. What goes on in an ICT lesson is different from an English lesson, from a media lesson and so on; there is regulation, but there is also resistance. Bringing the technology into school is a complex, ambivalent and difficult thing; it doesn't have guaranteed consequences. The curriculum and 'grammar' of schooling also represent constraints on what can be done – and many of those constraints are necessary and are there for good reasons. So the idea that employing technology somehow bridges a generational gap is quite misleading. Certainly, the answer is not to be found in Information and

Communication Technology as a separate, compulsory school subject. By contrast, we are looking to media literacy education as a potential 'third space', a meeting ground and a space for dialogue across the differences and the similarities between teachers and students – although this too is an ambivalent and sometimes difficult move...

TEENAGERS USING THE INTERNET: RIDERS, DRIVERS, DABLERS AND OUTSIDERS

Chris Davies, University of Oxford

I'm going to talk about the notion of a digital native with respect to a research project that I'm involved in at the moment, funded by BECTA. What we're looking at is a project called The Learner and their Context, which looks at how young people between eight, in primary school, up to 19 year olds in university use technology in their lives, and how that supports their learning away from formal education, in the home and other places. So in effect what I'm talking about is the notion of digital native, in particular as it works out or doesn't work out in the home.

It's not a notion that we've been particularly working with, but it's a notion that you can't actually escape from either, it's something tenacious and always there. I find it quite hard to resolve, so preparing for this talk tonight has been quite an interesting experience. Calling the young people we spoke to "**riders, drivers, dabblers and outsiders**" was probably the first and last time those particular terms will be used, but they're of some use, and I'll explain what I mean by them as I go on.

Most of the time, in analysing our findings we used more straightforward terms: the key one for me was the notion of the mainstream: across the board, the young people we were looking at generally shared a certain set of mainstream activities. Nearly everybody, to some extent, was either doing these or wishing they were doing these: some degree of social networking and communications, leisure activities, some degree of creative activities, and some schoolwork. That largely constituted the teenage mainstream. As you can see from this slide, I've really sort of plotted how as they grow older their priorities change within that set of things. As they got nearer to GCSEs and made the option choices and A levels and so on, the balance changed in how they spread their time. Then when they were in university they were looking towards employment, again those same things were deployed slightly differently.

In the kind of patterns we came out with, we can see that most of the learners we met were kind of riding the mainstream, having a good time, enjoying using it and were going along with it and getting what they wanted out of it. Some go beyond that, and drive their own ways around the mainstream. They're

happy going in whatever direction they want to, they weren't just riding it, they were making of it what they wished. These were also some specialists, using sometimes really quite obscure things and not doing mainstream stuff, but there weren't plenty of those. Then there were the dabblers, the ambivalent ones who do much the same, but don't quite want to be characterised as liking technology. And, finally, there were the outsiders, the unconnected ones.

Through this process of trying to classify these learners, I felt that we have finally worked through to an answer to that question at the top: which subset is the digital native. At the start, we saw that top group, the specialists, the drivers as the digital natives, but I have come to see this differently now.

And so first, just a few examples. Obviously, this first lad here fits in very nicely, an interesting boy who, because he lives alone with his dad, his dad lets him get on with whatever he wants to do on his computer. He spent many hours every evening doing things that we know lots of lads do. He talked very interestingly about his addiction to World of Warcraft, and how his friends online helped him out a bit, and thus he clearly fits certain stereotypes of digital native. Or, in a more positive sense, perhaps this young woman who was very keen on photography, as a member of a group who would take photographs and upload them and put comments. She was the one who was charged with improving the sort of quality of the photos - she was the one that would do it. Then there is this university student: "When I was 12 I started sort of music production with software... musical software", and he's at university, his computer's on all the time, and he has his laptop beside him for his ideas and this young woman who uses things like Facebook and to begin to create an identity for herself as a journalist online. All of these sort of fitted in to the stereotype digital native, and for a while it seemed fairly straightforward.

Then at the next level down, there's lots of kids out there who are very happily using these things, putting a lot of effort into making sure they get hold of them, that they're allowed to use them as they wish; sometimes experiencing difficulties using them. They recognise that books are important, but are actually very happy to have control over using

the internet for research he has to do for his GCSE work. We could show you hundreds of remarks along these lines. But the more ambivalent ones, I think, are also interesting; there are lots who want to state their lack of digital identity in a certain way. Usually they will say, I don't use the computer that much - oh well, okay, if I think about it I do, but I don't want to be seen as someone who does, I don't want to be like a self-obsessed computer-freak.

Going right up to some of the Oxford undergraduates we spoke to this year, who were quite interesting as well because they are experiencing a greater tension between their identity as Oxford undergraduates, people who have committed to the book. And, yet, in fact they have still brought with them certain habits and pleasures of their computer use that weren't quite valued any more.

And then there are the outsiders, who have been excluded for reasons of finance and so on, and also family circumstances. I thought this one was very interesting, where this boy wants to use the computer for his work, he's a 14 year old, but has to do it at a distance by phone with his father who does the actual work on the internet. It's there, but his father lives a very long way away from the school. Or this one, who's excluded, it's there but she doesn't use it. There's a whole picture there of what the parental involvement and the anxieties that some of them feel give rise to. Or this one who hasn't got anything, but would like it, and who is not very happy without it.

So, in conclusion, which ones are the digital natives? What we're seeing with these people from my point of view, that we've seen in the homes exclusively, is that there is a lot of shared practice among them, but then those are practices all of us share, regardless of their orientations towards or their opportunities for using technologies. What they're doing are largely kind of generic tools and skills, there's not a lot of highly specialised and difficult technical stuff.

So the important thing for me is, and what makes it generational, what makes me want to say, well, I think, they all are digital natives, they all fit a version of the idea of digital natives. The reason it's generational for me, it's not very deep, but it's there: seeing them in the home, what they want from these technologies is the freedom to do the things that they want. They've got to battle for that freedom to some extent, sometimes, with their parents. They want autonomy for their entertainment, for their socialising, for the way they do their schoolwork, for all these areas - they see technology as offering that,

and they share that idea amongst themselves, as bestowing some degree of autonomy.

That is something specific about young people, because young people have a lot of aspiration, but very little power to realise it. And it seems to be that they do view technology as a way of giving them a little bit of extra freedom; it's one of the things that will bestow that. And that they learn those skills, they know what to use, they're very limited - they operate in quite a similar way with each other.

So then what we're left with is the notion of digital natives as a signifier rather than a description. It doesn't give a lot of information about what they understand and what they do, but it does give some information about why they're enthusiastic and about what the energy is that could be built on. It does seem to me like a socio-cultural phenomenon, in terms of what they're learning from each other, what it means, what the values of using technology are. This doesn't mean that they know how to use these technologies particularly well, but there is an energy there that we could be building on more.

LEARNING AND SOCIAL RELATIONS IN 'TEENS' ONLINE INTERACTIONS

Rebekah Willett, Institute of Education

I am going to share an example of one young person's interactions with digital technologies which potentially positions him as a digital native in terms of his learning and social relations. Then I'm going to raise questions about how framing his activities as those of a 'digital native' limits our understanding of his interactions by ignoring some fundamental things that are occurring in relation to his learning and social relations. The example comes from a project about amateur uses of camcorders in the UK that I did with David Buckingham and Maria Pini funded by the AHRC. Part of the project involved interviewing a range of camcorder users from different 'camcorder cultures' who we contacted through online videosharing sites, through a survey we conducted, and through clubs, schools and other organisations. I'm going to focus on one interviewee whom we interviewed partly because of his interest in making videos connected with his skateboarding culture, but I will occasionally branch out and refer to participants in the wider project.

Jacob is a twelve-year old boy, who gave us a skateboarding DVD that he had made which contains carefully edited movies of Jacob and each of his friends doing tricks (or bailing). The videos were edited in iMovie and each video is accompanied by a different style of music. The

DVD is professional looking with a printed covering, designed by Jacob, complete with his company name, Mimic Films. The DVD has a stylised menu, accompanied by the sound of skateboard wheels on pavement. And he told me that he would like to run a skateboard company, selling skateboards and accessories (including DVDs). He has already sold a few of his skateboarding DVDs, thanks in part to a teacher who was so impressed with the videos that he shared the DVD with the entire year group.

It is easy to celebrate the learning with which Jacob has engaged. He is clearly a motivated learner, spending hours needed to produce his DVD. His learning is embedded in his (skateboarding) culture, helping him to make sense of the DVDs that he watches and connecting with his own experiences. He is reflecting on his consumption of

skateboarding videos – critically analysing other works as well as his own. He evaluates and seeks to improve his own work: he said that on this DVD he was unimaginative, always using slow motion for the jumps, for example. He has a goal for his next project: to experiment with different music rhythms and tempos to match the style of skateboarding. And as a learner in this context, he has a positive identity. He is taking part in constructionist learning, engaging in non-linear forms of learning that are needed for his project, and going on the web for answers to questions. His learning is part of his identity as a budding professional, and he aims to use more advanced software (Final Cut Pro) for his next project. Finally, his learning is embedded in his social relations with his skateboarding friends, and he has an audience for his work at school. We might say that Jacob is displaying the new modes and styles of learning associated with digital natives – motivated, positive identity as a learner connected with a future profession, learning through trial and error, he's not daunted by the prospect of learning more advanced technologies.

If we look closer, however, we find that the picture is not so clear-cut. First, as with many of the young people we interviewed for our wider project, participatory media projects often involve access to economic, human and social resources. Jacob's family had several camcorders, and so they were happy for him to take one skateboarding with him (at the risk of getting damaged or stolen), he had a specialised fish-eye lens used in skateboarding videos to produce a particular aesthetic, he had a computer that had the latest video editing software and had enough spare memory and was fast enough so that he could edit video.

Many of the young people we interviewed as part of our project had **face to face** social networks which included older, more experienced technology users. iMovie was new to the Jacob and his father, they worked together to produce the skateboarding DVD. Jacob's father is a graphic designer and artist,

and therefore is familiar with digital technologies and design principles. Although Jacob's father had not used iMovie before, as with any learner, his experience and knowledge contributed to his interaction with the programme. Therefore, Jacob's experience of learning iMovie was partly scaffolded by his father, learning side-by-side but having other resources upon which to draw.

And Jacob's learning is also scaffolded by technologies. Software companies have an economic imperative to scaffold learning so as to encourage users to continue using their product. iMovie users can start with very basic editing and proceed to more advanced levels.

In terms of conceptual frameworks related to filming and editing, it is not clear in our study of videomakers that these skills are being learned simply through the act of videomaking. Interviews with parents and teachers indicates that there are many conceptual frameworks being taught directly to students in relation to video production. One of our parents in our wider project explained that his son did not understand that he did not need to shoot things sequentially, and that editing can involve moving segments around. We can't assume that children simply **pick up** these conceptual frameworks or even that they learn how to use technologies efficiently on their own. So we need to ask if young videomakers like Jacob are learning in new ways, or is Jacob learning in more traditional ways being scaffolded by technology as well as his father and his social resources connected with his skateboarding culture.

So there are questions about how far Jacob exemplifies digital natives in terms of new styles and forms of learning. The other idea I want to question is about digital natives as dependent on new technologies for communication and social interaction. In our interviews with amateur camcorder users like Jacob and in interviews I did with several young men ages 11-18 who put their amateur videos on YouTube, it became apparent that their videomaking was as much about having a laugh with a group of friends as it was producing something to communicate with the wider world.

In our study of everyday domestic uses of camcorders we saw the camcorder acting as a prop in their play or as a mirror; they would perform silly things for the camera and then watch themselves back; they would prepare skits together which they planned to film; they would play at being a media producer, for example, providing football commentary as they filmed themselves playing football with their siblings or friends. So I would argue that the digital technologies here were part of the everyday play of young people, rather than new forms of interaction and communication. As with other digital interactions – playing videogames, interacting on social networking sites - this play is part of the experience of being a young person confined to particular spaces, it's often a way of alleviating boredom and a way of sustaining existing friendships. In our study of more purposeful videomakers who share their productions online, the productions allow groups of friends to demonstrate their friendship and (as almost all the participants who shared videos online were young men) to display particular forms of masculinity. We also interviewed mobile phone videomakers who display their productions online, and these included more young women. And here the digital interactions were about sharing particular moments with existing friends and family or keeping a kind of personal video diary of these moments rather than interacting with the wider world. So for a majority of the videomakers who were posted work online, videomaking was about play, friendship and identity, rather than trying to find some sort of 'affinity space' in the ether which would help them improve their videomaking.

Part of the assumption about digital natives is that having a global audience online provides motivation to produce, assess and improve work in communication with supportive online networks. Obviously there are questions about how much YouTube with its ubiquitous flaming acts as a supportive space, and similarly in social network sites and other kinds of online social spaces there are uneven power dynamics. However, I also want to make the point that not all work needs an audience. Certainly some of the projects in our study were private and motivated by desires other than having an audience. For example, one participant said he keeps a video diary on his mobile phone and watches it back privately. Another participant made several narrative videos, based on *Jams* and *Doctor Who*, but did not share these videos with

anyone. These videos involved numerous takes, careful selection and creation of props and detailed planning to create a correct sense of scale (using toys in a fish tank as well as videos taken at the London Aquarium, for example). Although he had the motivation to work through the production process, he had no desire to share his products. The motivation came from the process rather than thinking he has a global audience with which to communicate.

The picture I have tried to paint here through a close look at Jacob's practices and other more ordinary users of digital technologies is perhaps less exciting than the a picture of Jacob as a digital native. I've argued there are traditional forms of learning going on, he's being a boy,

and he's playing with his existing friends. However, although this might be a less exciting and celebratory description of Jacob's practices, there are important things going on. We need to be aware that Jacob has access to resources that are scaffolding his learning, so looking at 'digital natives' we are bound to see digital divides, and we also need to see which concepts and skills are not being scaffolded and which might be better addressed in formal educational settings. Finally we need to value and make room for the sometimes seemingly banal play that children do with digital technologies which might be serving important social functions in their lives.

SOPHIA, THE 'BIG COMPUTER' AND OTHER STORIES: LOOKING BEYOND HOMOGENEITY IN YOUTHFUL DIGITAL LITERACIES

Ranjana Das, London School of Economics and Political Science

This last bit was called *panel reflections*, but I'll do it a bit differently, for instead of a summary, I'll try to get in the voices of pre teens and teens like Sophia and her peers into this room now, in the context of all that has been said. These stories come from ongoing fieldwork this autumn with 60 kids in London and it continues literally at this moment, tomorrow, at a school in Surrey.

From digital *natives*, now to another contested term- digital *literacy*. Digital literacy remains central to the idea of digital natives for implicit in both is that homogenous, monolithic category of happy and excited youth, and in both we have that clear focus on technology.

In following these children on a single theme - of deciphering the media, I wish to make 3 points: 1) **first**, the delink between technical and critical awareness in children's digital literacies, 2) the **outpacing** of children's intelligence and competencies by technical change and 3) the **heterogeneity** of digital literacies as practices at the intersection of contexts, competencies and design.

Digital literacy carries with it a baggage of doubts over whether at all we need a digital literacy, after media literacy, whether we are too wedded to technology in these kinds of conversations and an increasing recognition that 'computer skills' – of pushing buttons and changing fonts is not equal to the wider, more critical concept of literacy. The very idea of digital literacy must necessarily be linked to an idea of legibility as Sonia Livingstone's asserts (this paper), getting back a focus on the design of the interface itself or that literacies are not isolated practical skills waiting to be graded, but practices within a societal/historical context. While much research speaks of heterogeneity in the larger population as such, by age, adults, older citizens, children, 'youth', 'young people', 'children' often inform our work as blanket terms and as David Buckingham tells us (this paper) are often exoticised.

In this context, supported by POLIS and the Roger Silverstone Fellowship Fund at the LSE, this autumn, I have been talking to pre teens and teens across a very wide range of schools in London, looking at difference and diversity in youthful engagement with social networking sites. I ask- how

do young people of different ages, and from different contextual locations engage differently with SNS, and what this can tell us about their literacies with a genre, but also the structure and complexities of the genre itself. I'm not going to discuss the broader project here but 3 points now from my ongoing fieldwork.

Fittingly perhaps for the Silverstone Panel on digital natives, in these stories I pick up primarily the first point from Roger Silverstone's emphasis* (1999) that literacies are capacities to 'decipher, appreciate, criticise and compose'. Three very prelim thoughts from ongoing fieldwork and I apologise for some of these seem rather cynical points!

1. I seek to stress that first, these children whose voices follow, are all technically competent with the genre of SNS. Yet they stumble, raising critical questions for both site design as well as adults who are important in their lives.
2. Second, I wish to stress again, that these are technical experts. Yet, we shall see how technology 'develops' more rapidly than their knowledge of it does.
3. Third, I stress on the point of heterogeneity. Any focus on critical awareness must recognise the diversity of contexts in which these play out, the conventions these children are aware of and that it is the intersect of their contexts and technical expertise that deserves attention.

Contrast four children's attempts to decipher the ways in which online dangers play out on Facebook, the geography of which all four know like the back of their hands.

11 year old Sophia comes from a working class family where her parents are proud of their child's expertise online, make her aware of 'bad things' that might happen on commercial sites, but do not know the interface themselves.

Sophia: There are lots of pervs online. An old man pretended to be a 16 year old girl and then met a girl who met him on Facebook, took her to a field and killed her. But I first add the people and then get to know them and then delete them if they are not fine.

IV: But why do you add someone you don't know? They'll get to know stuff from your profile by then, right?

Sophia: No you cant write bad things ON facebook, for they have a big computer. They will cancel your account if you are rude or a perv and never let you go online again

Sophia, 11

Adil, 15, who is better off than most of his peers, proudly displays his gadgets to his peers, logs on to FB from his own Iphone, confident in sifting through junk to spot genuine friends. He insists that

Adil: There are many ways to understand if someone has a false profile. All I need to check is if their photos are professional.

IV: Ummm, professional?

Adil: Like on google images go and type professional photos and you will see. If I see them posing against the sun or displaying a lot of glosy skin I know they are fake.

Adil, 15

13 year old Alice, who attends an expensive private school and has all imaginable luxuries she could wish for, adds people to her list easily, for it is considered uncool in her circle to have less than 300 friends. And then,

Alice: Once a man wrote to me saying I know you live in West London. And I chatted to him till it got bad. I got scared. Then I figured I should have known.

IV: How?

Well, his name was Edward Philips. That sounds fake perhaps but how would I know...

Alice, 13

Alison, a very quiet 14 year old girl from a Jamaican family, violent with her classmates, clearly disturbed with something that she has encountered on Facebook, is unable to do anything but switch off.

Alison: What do you think of young people going on Facebook all the time. You are researching it, tell me..

IV: I think, it's ubmm interesting, you tell me..

Alison: It's disgusting.

IV: What?

Alison: The disgusting people, sick people on there. I don't write a word. I don't let anyone tag me. It's so disgusting, just disgusting.

Alison, 14

Following literacy scholars, if critical awareness means evaluations and assessment in place of faith and assumptions, are these uncritical teens? All four identify a 'problem' online, all four have strategies to be critical in their evaluations and practices and all four have failed in their attempts to resolve these problems. The first places all her trust in the name of Facebook, one decides to switch off from the genre, one decides on a strategy of filtering photos styles and another has been stalked online. As my first point stressed, despite their best attempts to be critically aware, they stumble. Despite their 'expertise' with all things one could possible cluster together as e-skills, despite their potentially high scores on any imaginable e-skills assessment scale, they encounter awkward and knotty conventions which punctuate their engagement with a digital everyday life. Perhaps, a question there for both media design and media education.

Two more interesting stories, this time on my **second point**, of how technological change outpaces real technical expertise.

Delia, 13, knows the precise settings of the privacy control button. She can group her friends into countless categories and has spent one year in figuring out how to get around Facebook's norms and conventions. In one of her online conversations she has discussed 'good looks' with her friends on their Facebook Walls, and then she discovers a targetted advert when she logs on..

Delia: How does Facebook know if I need plastic surgery? I'm really offended at seeing this ad.

Delia, 13

She cannot imagine that her profile information feeds into the site itself to tailor make adverts for her.

Mustafa, 16, a self confessed games addict, steadily worked his way over the past year around the commercial nature of Facebook by deleting any adverts that cropped up without even looking at them. This time, when he clicks on the delete button on an ad, it turns out to be a report button, that disrupts his work. He goes ahead to report the ad, and then is stunned to find that another one crops up. And then another. And then another. And then he figures out that the button is essentially useless. He masters the genre and its countless conventions and then, in response, is deceived.

His peer the **13 yr old Lewis**, at an independent boys school, privileged in many ways in growing up with high tech, tells me from the very outset that things are weird. And creepy.

To stress my **second point**: these are technical experts. Yet, we see how technology 'develops' more rapidly than their knowledge of it does.

Questioning the narrative of natives...

In conclusion, my real focus gets these together on the **point of heterogeneity**. Any focus on researching digital literacies as critical awareness must recognise the diversity of contexts in which these play out, the conventions these children are aware of and that it is the intersect of their contexts and technical expertise that deserves attention.

In this room today, nobody will disagree that literacies are far from technical skills, or that they are located in the contexts of everyday life, that they are restrained and shaped, as Mustafa or Delia or Lewis encounter, by what Sonia Livingstone aptly terms the 'conditions of legibility' (Livingstone, 2009). We see how experts such as Sophia or Alison understand the tasks at hand and yet stumble.

It is in emphasizing these three claims – the importance of the conditions of legibility, the huge difference between technical natives and critical participants, and the diversity and difference that characterises this easy and homogenous monolithic category called 'youth', that the narrative of digital natives can be legitimately questioned.

Notes

See Livingstone, S. (2009). *Children and the Internet: Great Expectations, Challenging Realities*. Cambridge: Polity.

* As cited in Buckingham, D. (2003). *Media education: Literacy, learning and contemporary culture*. London: Polity Press