

Cyber-savvy students and industrial-era schools? Disassembling and recasting the new home-school mismatch hypothesis

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Abstract

This paper reports on a recently completed doctoral study examining students' use of new media in and around five schools in Melbourne, Victoria. The study has developed case studies of 25 young people and their digital literacies, related to both school-authorized activities and also to activities that were unauthorized, clandestine, sub-rosa or negotiated on the boundary. The study addresses key questions about the tension between the failure of educational technology efforts on one hand, and the pervasiveness of digital media in the lives of many young people, on the other. This tension has become a new home-school mismatch hypothesis and the stock-in-trade of education commentators, literacy experts, technology promoters and many researchers. In particular, these groups claim that the new home-school mismatch—between cyber-savvy, digital natives on one hand and industrial-era schools and digital immigrant teachers on the other—results in a generation of disconnected, bored and stifled young people. While this is a seductive idea, the relationship between young people, new technologies and school is not a simple mismatch. In this paper, I examine these claims with reference to the lives of young people in the study, showing how students' responses and reactions to typical school uses of technology offer ways of disassembling and then recasting this new home-school mismatch and of reinvigorating notions of curriculum as conversation and as communication.

1. Introduction

I want to do three things in this paper:

1. sketch what I'm going to call the 'new home-school mismatch hypothesis'
2. describe some examples, drawn from recent case studies conducted as part of my PhD study, which problematise and tease out the complexities of this mismatch
3. discuss the significance of these examples for the development of English/literacy curriculum and for rethinking the relationship between school and home, in the context of new technologies.

In an 'era of instability' concerns about social change are often cloaked in debate over what is and what is not taught in schools and how it is taught, or highlighted in concerns over the lives of young people: how they spend their time and energies, what they wear, read, say and eat. These concerns about appropriate school curriculum and the proper behaviour of young

people are common social discourses played out in the mainstream media and in the public imagination, fuelled by social commentators, politicians, academics, parent groups and other stakeholders (cf Lesko 2001; Moje 2002; Snyder 2008). Social discourses about literacy education and the use of new technologies are also deeply connected to concerns about schooling and young people. Indeed, literacy and new technologies have special significance as lightning rods for broader social and cultural concerns in the wider community.

2. Technology-as-saviour: advancing to the future

A key pervasive social discourse that taps into, and draws out public concern over literacy and new technologies is one I call 'technology-as-saviour'. This discourse maintains that new technologies can revolutionise existing social, cultural and educational practices, transforming classrooms, curriculum, pedagogy and learning. Such claims are seen in the work of technology gurus and visionaries (eg Bill Gates, Steve Jobs, Marc Prensky, Nicholas Negroponte), educational technologists, overly-enthusiastic teachers and school administrators (eg Means, Penuel and Padilla 2001; Richardson 2006; Schrum and Solomon 2007; Warlick 2004). For instance, the idea that computers allow students to 'learn anything, anywhere, anytime' (Perelman 1993); or the idea that \$100 laptops will bring education to the poor of the developing world; or in advertising material promoting the 'future classroom' (rows of student desks with the teacher at the front of the room using an interactive whiteboard [IWB], see figs 1 and 2). The determinism of this discourse is similar to another related discourse—what I call 'technology-as-catastrophe'—except that one looks to the past, and one to the future.

There are two important sub-discourses and effects I want to note here. The first is that the discourse always positions schools as (usually, hopelessly) out-of-touch with the 'new media age', stuck in the past and unresponsive to today's young people. The second is that the discourse always positions young people as cyberkids, digital natives or screenagers: a millennial generation, genetically and certainly cognitively different than previous generations. These sub-discourses have important effects on views about the responsiveness and non-responsiveness of schools and, of course, teachers, and views of young people and their essential natures.

Schools as out of touch

First to schools. Since the early 1980s, social discourses around the information and communications 'revolution' have become more widespread in policy within Australia, the UK and the US. For governments and businesses, grappling with the challenges presented by contemporary 'liquid' times (cf Bauman 2000), education is a highly charged rhetorical contact zone in which young people are trained as 'knowledge workers' for new 'knowledge economies' (DCITA 2006; Gee 2004; Gee, Hull and Lankshear 1996; Negroponte 1995). In fact, the future economic growth of the state is explicitly linked to educational achievement in areas such as literacy, numeracy and technological ability, with the nation's hopes of continued social and economic prosperity resting on the shoulders of the next generation of 'cyberkids' (eg DEET 1991; DETYA 2000; MCEETYA 1999, 2005; Toomey 2001). The OECD Program for International Student Achievement (PISA) now tests computer skills:

ICT is an important part of the policy agendas of OECD countries, with profound implications for education, both because ICT can facilitate new forms of learning and because it has become important for young people to master ICT in preparation for adult life. (OECD 2005: 3)

The spread of the technology-as-saviour discourse has meant that governments, schools and parents have come under pressure to technologise with the aim of preparing students for the kinds of new work that future economies will require. Much of the time this amounts to stocking schools with computer resources. Since the early 1980s, in Australia, the UK and the US, many billions have been spent on computer equipment for schools, often in a bid to 'secure' future educational success and continued national economic growth. In Australia, a new Labor Government has set itself the modest goal of a 'digital education revolution', a major part of which is a commitment to give 'all year 9 to 12 students access to a computer while at school': a \$1.2 billion promise (Dixon 2008). A key assumption here is that such a measure will contribute to helping 'prepare students for further education and training and for living and working in a digital world' (DEEWR 2008).

Of course, despite the rhetoric and huge spending, studies of the use of new technologies in schools invariably find a more complex picture of how social, cultural and technological change plays out in the lives of young people and teachers: lack of support for change, lack of resources, systemic organisational difficulties within schools and systems, increasing corporatisation, and much more (eg Cuban 2001; Lankshear and Snyder 2000; Oppenheimer 2003; Pegg, Reading and Williams 2007; Pflaum 2004; Robertson 1998; Snyder 1999). Regardless of these challenges, which are often ignored in policy documents, governments seem to prefer tinkering with machines rather than providing the resources, policy, incentives and structural change needed for school and system-wide renewal. Teachers and students are still waiting for the great leap forward.

The result is that schools and the majority of teachers are seen as largely incapable of responding adequately to the challenges of education in an 'era of instability' (Kress 2002). They are locked into models which were appropriate for the industrial era but are not working for 'post-industrial information societies' in liquid times. Even when schools seem to be having success in technologising the measure of that success is often communicated in student-computer ratios or in glossy promotional pamphlets with pictures of bemused students sitting at computers doing their best to look engaged because the principal's hand is on the student's shoulder.

Young people as digital natives

Technology-as-saviour discourses also position young people as the new digital generation, reimagining their relationships with adults. Young people are seen as closer to technologies and more in tune with technological thinking, their lives intertwined with new media. Characterisations of young people as digital natives (Prensky 2001), cyberkids (cf Holloway and Valentine 2003), the net-gen (Oblinger and Oblinger 2005) and screenagers (Rushkoff 2006) posit technological savviness as the key characteristic of a 'digital' generation. Nicholas Negroponte claims that 'being digital ... is here. It is now. It is almost genetic in its nature, in that each generation will become more digital than the preceding one' (Negroponte 1995: 231). Marc Prensky, who has popularised the idea of digital natives and digital immigrants, combines generational and migration metaphors, suggesting that people are either natives or immigrants. He claims that young people are not just doing different things but are fundamentally different to adults by virtue of their exposure to digital cultures. Similarly, Don Tapscott (1998) in *Growing up digital: The rise of the net generation* sets up a pair of binaries, one generational, the other between television and the internet. Tapscott links television (passive, dumbed down, isolating and narrow) to an older baby boomer 'television generation'

(increasingly conservative, hierarchical, inflexible and centralised). In contrast, the internet (active, intelligence promoting, democratic and interactive, community building) is linked to the 'n-geners' (savvy, self-reliant, analytical, articulate, creative, inquisitive, socially conscious). Tapscott attributes these generational differences to the technologies favoured by each (Buckingham 2008).

There is little evidence of nuance and heterogeneity in these views and they require close scrutiny.

I want to spend a couple of minutes discussing the research in this area too as much of it buys into and has helped to assert the new home-school mismatch hypothesis. It raises some related issues which are also useful to put on the table.

A critique of the research: new texts and new literacies

A key theme and preoccupation of current research in literacy and technology has been an examination of the effect of changed communications environments on so-called 'new literacies' and on literacy education more generally (eg Coiro, Knobel, Lankshear and Leu 2008; Lankshear and Knobel 2006; Yelland 2006). A central argument is that the increasing use of new technologies means that young people's experience of literacy is shaped by multiple engagements with digital media and global digital cultures. Much of the research is premised on an understanding that examining out-of-school literacies provides insights into young people's experiences in online and offline environments and that this knowledge can be used to work towards better educational outcomes (eg Carrington 2006; Hagood 2008; Kist 2005; Knobel and Lankshear 2007; Marsh 2005; Marsh and Millard 2006; Snyder 2002; Snyder and Beavis 2004).-Finding ways to use the affordances of new technologies productively while also helping students become capable and critical users is seen as a major challenge.

An increasingly wide range of texts and practices has received attention from researchers and teachers: the internet and gaming (on and offline), online writing (chat and instant messaging [IM], blogging, fanfiction), mobile phones and txting, search engines, social networking and other fan sites, peer-to-peer technologies and digital consumption and production (remix practices, video, music, imaging and podcasts). As these technologies have developed, so have the social and cultural practices associated with their use. Much of this research argues that these new texts, technologies and practices require new ways of reading and writing which traditional forms of 'print' literacy do not support. While such claims often appear to be self-evident, having a ring of truth to them (books and screens are materially different and would seem to require different but related skills), these claims are often couched in deterministic discourses (technology-as-saviour for example). This central argument has led to the development of two strands of research: first, a skills-based strand and second, a strand which focuses on popular digital cultures.

Skills-based approaches aim to identify and list core digital literacies (eg Coiro 2003; Coiro and Dobler 2007; Leu, Kinzer, Coiro and Cammack 2004). Don Leu and colleagues (Leu et al 2004) provide an indicative example when they offer the following list as examples of 'new literacies':

- using a search engine effectively to locate information;
- evaluating the accuracy and utility of information that is located on a webpage in relation to one's purpose;

- using a word processor effectively, including using functions such as checking spelling accuracy, inserting graphics, and formatting text;
- participating effectively in bulletin board or listserv discussions to get needed information;
- knowing how to use e-mail to communicate effectively; and
- inferring correctly the information that may be found at a hyperlink on a webpage. (p. 1590; also reproduced in Prinsloo 2005: 2)

Lists like this define digital literacy as a set of generalisable operational skills—autonomous and without a concrete context that might render adverbs like ‘effectively’ or ‘correctly’ meaningful. As you might imagine, it is common for such lists to quickly date. For Leu and colleagues, the new literacies are similar to the ‘old’ literacies and are underpinned by ‘basic’ reading skills like ‘phonemic awareness, word recognition, decoding knowledge, vocabulary knowledge, comprehension, inferential reasoning, the writing process, spelling ... the literacies of the book and other printed material’ (p. 1590). While skill-based approaches usefully emphasise the continuities between old and new literacies, they have been critiqued for focusing on individual and cognitive skills and ignoring the situated nature of digital literacies (cf Snyder and Prinsloo 2007). They posit ‘a model of social consensus and assumptions of social parity at the macrosocial level’ (Prinsloo 2005: 2) which ignores the concrete realities of many settings, particularly outside of developed countries and economies (eg Mutonyi and Norton 2007; Walton 2007). Further, Prinsloo (2005) argues that skills-based approaches ‘treat as given the processes of signification and meaning-making involved, which on closer examination turn out to be considerably more complex and variable’ (p. 3). Such approaches inevitably lead to restricted forms of skill-based curricula and pedagogy and to skills-based, practical guides for teachers (eg Kajder 2003; Nettlebeck 2005; Richardson 2006).

Skills-based approaches, which have a distinctive school-like feel, contrast with research exploring young people’s engagement with popular digital cultures. This work attempts to define digital literacies more broadly and has examined a wide variety of new texts and technologies (eg fanfiction, internet chat, online role playing, social networking, internet cafes and popular websites). In general, this research shows how digital popular practices might be reframed as complex meaning making activities rather than as popular, degraded (and degrading) interests (see 2.3). This research also attempts to demonstrate the value of creative and critical engagement with popular cultural texts for extending students’ understandings of how texts work (cf Doecke and McClenaghan 2005; Dyson 2003; Hagood 2008; Marsh and Millard 2000; Morrell 2002). Of course, using such texts in school means they are differently framed (MacLachlan and Reid 1994): they become ‘schooled’ or domesticated and can lose their out-of-school appeal (cf Bigum 2002; Faulkner 2004).

A key claim in research on popular digital cultures—as with research on popular culture and schooling more generally—is that while studies demonstrate the curricular value of popular culture, out-of-school literacies are largely ignored by schools. In this research, out-of-school digital popular cultures and their associated literacies are portrayed as rich, authentic, engaging, fun, informal and creative, while school teaching and learning practices are the opposite—dull, dry, inauthentic, rigidly formal and lifeless (cf Facer, Furlong, Furlong and Sutherland 2003; Gee 2004). In this analysis, schools are locked into an information and delivery mindset based on an industrial model of schooling and either consciously ignore young people’s digital cultures (by prohibiting mobile phones for example) or they simply do not understand or appreciate them. Claims about rich digital lives outside of school and barren ground inside schools are reminiscent of the home-school mismatch hypothesis (cf Luke 2004). Indeed it would seem to represent a new variety of the home-school mismatch hypothesis.

Both of these research strands—a skills-based approach and a focus on popular digital cultures—are attempts to grapple with the complex issue of what kinds of skills and/or practices appropriately constitute literacies for contemporary times. Both are responses to claims about the changing nature of reading and writing with respect to new technologies and ‘new’ social, cultural, economic environments. Importantly, both can tend toward determinism and to overstatement about the power and impact of new technologies on communication and social life. There are strong parallels between contemporary claims about new literacies and much older claims made for ‘old’ literacies (cf Graff 1979). In addition to being required by new communication practices, the new digital literacies are said to lead to ‘significant individual and national progress, to economic growth and affluence’ (Koutsogiannis 2007: 220). In this analysis, the new literacies are as autonomous as the old. Koutsogiannis has called these claims the ‘new autonomous model of literacy’ and observes that it ‘leads to a downgrading of complex sociocultural realities and an emphasis instead on the importance of infrastructures, serving as fuel for the engine of the digital economy’ (p. 220).

The major challenge of this technology-as-saviour discourse (whether in social or research discourse) is that it positions English/literacy teachers and young people in contradictory ways and obscures the complex differences in how young people engage with new technologies. Neither discourse provides a realistic way forward in thinking about the connections between schools and the daily lives of young people. English/literacy educators need more nuanced ways of understanding the connections between literacy and new technologies.

- frequent moral panics about the negative influence of new technologies on young people’s social activities and communication practices at the same time as calls from stakeholders for techno-competent school and university graduates able to live and work in a digital age
- calls for a ‘back-to-basics’ curriculum to solve an apparent educational standards crisis alongside moves towards the development of curriculum frameworks designed to extend beyond disciplinary boundaries and encourage ‘deep knowing’ in domains such as ‘design, creativity and technology’ (VCAA 2004)
- concern about popular culture texts (including new media), used in classrooms to ‘dumb down’ curriculum at the same time as a growing recognition of the salience, power and complexity of multimodal, screen-based, popular culture texts
- enthusiasm from technology promoters and early adopter teachers alongside limited support and opportunities within schools to pursue new ways of teaching with new technologies.

3. Seeking connections in and around classrooms and schools

With the new home-school mismatch hypothesis, or new literacy thesis, now sketched, I move on to describe some examples, drawn from recent case studies conducted as part of my PhD study, which problematise and tease out the complexities of this mismatch.

[INSERT: A brief outline of the study, methods, participants and schools]

In the study, I examined how the participants’ experience of literacy and new technologies at school was shaped—both constrained and enabled—by the official school curriculum and also by participants’ unofficial digital literacy practices. I found a common set of school-authorized

technology practices across the schools: activities requiring students to use new technologies to locate, retrieve and repackage information, and also activities where students used new technologies to create school-like products and artefacts. The participants were critical of these school-authorized practices, finding the first, functional and unimaginative, and the second, 'fun' but 'pointless'. Many of the participants accepted that these activities made sense only within the classroom. Despite the participants' frustrations with the way new technologies were 'schooled', I also found evidence of productive engagement, where some participants created opportunities within school tasks for the use of new technologies which connected to their everyday and out-of-school uses. There was little evidence of wholesale disaffection despite ambivalence and apathy being common.

Examples of school-authorized technology practices

Highview students discuss how they creatively negotiate 'doing research' in classes:

1. SB And what about, in terms of your classes, what kinds of activities do you usually do with computers? What do teachers get you to do?
2. Bella Research
3. Leah Yeah, or Maths
4. SB What does research mean? Tell me about an assignment
5. Leah Doing an assignment or something
6. SB Can you give me a specific example? Can you think of a class?//
7. Danny In Olympic sports (*(a physical education subject offered at the school)*) you had to research a sport and the rules and stuff
8. SB Okay, so what would you do? How would you go about it?
9. Danny Go to Google and type it in
10. Leah Type it up and get all the information you need
11. Danny Table tennis, I don't know
12. SB So you'd use Google and find one, how many sites would you normally use if you were looking for information?
13. Leah It depends on, one site might have all the information you need, but if you've got different sections you'll have to look on different websites
14. SB Yep, and so then what would you do? You'd cut and paste, modify the text a bit or?
15. Danny Nah, just cut and paste
16. Leah Sometimes put it in your own words
17. SB Depends on what the assignment is?
18. Leah If it sounds really smart then you put it in your own words, but if it's alright then just use it

Extract 6.9 (Highview)

As her reaction when asked about new technologies in school, Bella's response, 'research' (line 2), is telling. Leah and Danny provide additional insights, claiming that, depending on the requirements of an assignment and the usefulness of a webpage, finding enough information

may require only one website. Further, reworking the text into one's own words is necessary only when the original 'sounds really smart' (lines 15–18) and might raise teacher suspicion. In a similar example, Basso students, Sarah, Kylie and Rob, rework the schooled version of 'doing research' to their own ends:

1. SB So what about English classes specifically? What kinds of stuff=
2. Sarah =Well if you're bored, I find it hard to concentrate just sitting there trying to type something, I have to be at home to type the English assignment that we're doing right now//
3. Kylie Yeah//
4. Sarah Like I sit there and I couldn't think of anything and so usually I can't be bothered playing games cause the teachers notice, so you just sit there and you just type in random stuff on Google. Yeah so you type in stuff like 'Ash' ()
5. Rob Search your friends' names and stuff like [that
6. All Yeah]
7. Rob Or an images search for like, you know, 'Rob' and
8. SB I noticed, uh, Reese Witherspoon, you were kind of =
9. Kylie =Yeah ((*laughter*))
10. Sarah Oh, yeah, that was actually sort of (0.5) related=
11. Rob =A part of the project were meant to find actors who would
12. SB People who could play in as Australian version of the film?
13. Sarah Yep so I was looking for people

Extract 6.10 (Basso)

The irony is that by 'typing random stuff on Google' during class these students still appear to be doing research, whereas they are in fact alleviating boredom. Such examples suggest that while students often complained about being bored and frustrated with school-authorised approaches to new technologies, they engaged with these same school practices in creative and critical ways; in their activity and talk they critique aspects of the tasks that seemed to them inauthentic, deciding against investing too much time or energy. These examples also indicate that students were not passive and simply 'done to' in school: they were able to negotiate and rearticulate mundane school(ed) activities in imaginative ways. They engaged, for instance, in processes requiring nuanced judgements about what might likely pass for typical student work (see Extract 6.9) and about how to 'pull off' doing research in class while engaged in other activities (see Extract 6.10).

School-authorised technology practices were largely about 'doing online research' and 'typing up stuff'. There was some evidence of synthesis and reflection (ie about search engine choice) but there was little sense of authentic knowledge creation. During much of their time at school, students felt that they were not creating anything other than school projects, requiring the cutting and pasting together of information. While most of the participants saw such activities critically—as both unchallenging and uninspiring—responses also showed a deep ambivalence. The participants seemed to accept, on one level, that such activities were what schools required of them as students. Because of the frequency of these tasks, they inevitably

came to be normalised and regarded as valuable ‘busy’ work. Learning to do such work is to learn to do new technologies at school and, in fact, is an integral part of learning to do school more generally.

In another example, Tania, Jim and Mary talk about playing Tetris and creating computer animations using programs such as Flash:

1. SB What’s the most interesting thing you’ve had to do at school with computers?
2. Tania Play Tetris! It’s definitely high up there *((laughing))*
3. Jim It would probably be IT for me, we did quite a few new things
4. Tania Flash was fun
5. SB Yeah, learning how to use Flash and programming it?
6. Tania Yeah I made like this gymnast girl who did like backflips, I’m like, yeah, it was like pretty fun when I actually learned how to do it
7. Mary Yeah, it’s hard to work with Flash, so, I don’t really understand it
8. Tania Someone made a really good soundtrack on Acid, which was just bangings of drums and you’d hear it like *((high pitched laughing))* in the background like cats and weird sound effects all mooshed together
9. Mary Ah, yeah that’s cool
10. Tania There is a copy of it if you want to hear it

Extract 6.14 (Bankston)

Tania’s initial response is as revealing as it is humorous, comparing school-authorised uses to Tetris. Tetris is seen as addictive but not exciting—its simple and repetitive game play requires stacking different shaped blocks that fall from the top of the screen at steadily increasing speeds. Tania’s tongue-in-cheek claim that Tetris is the most exciting thing she has done in school with technology suggests that her experience with technology in school is like Tetris: dull and repetitive.

Despite her critique, she provides examples of school-authorised practices which she views as more interesting: learning to program Flash and creating a soundtrack. The students did experience some enjoyment and engagement with school-authorised new technology activities, usually when they were inflected with elements of students’ outside-of-school practices. Tania’s enthusiasm for her Flash animation is rooted in her personal interest in gymnastics, while her humour about the mundaneness of school technologies is linked to her revelling in the ‘uncool coolness’ of Tetris. To create a soundtrack, her friend uses school resources remixed with elements of ‘cool’ contemporary techno beats and ‘weird sound effects all mooshed together’ (line 8). Tania’s attitude suggests that students are able to make space for forms of creative engagement and negotiation while still poking fun at the nature of school-authorised technology practices. This is more than disengagement and is closer to a kind of apathetic ambivalence because, as Tania and other students often noted, ‘school is school’.

These examples suggest that while students didn’t necessarily enjoy school-authorised technology practices they didn’t always disengage from them.

Examples of digital literacy underlife

In contrast to these sanctioned uses, I found plentiful evidence of participants' tactical uses of new technologies: those which undercut, satirised and playfully engaged with school-authorised technology practices (see Bulfin 2008, 2009). Specifically, the participants employed three 'practices of negotiation'. First, they imported and insinuated into their schools proscribed technologies, software and practices. This strategy challenged the privileged position of school literacies and made school spaces more liveable. Second, the participants devised tactical 'workarounds' for technology restrictions and blocks imposed by the school. These brought knowledge and practices from across different domains to bear on the challenges some participants faced when engaged in underlife practices at school. Third, they subverted school practices with school-authorised technologies, inverting and using them in opposition to school ways of doing things. Through these practices, participants 'mixed' school and out-of-school practices and negotiated alternative spaces, identities and relationships within school environments.

The importing and insinuating of both technologies *and* practices can be seen clearly in the next example. Basso students, Rob and David, play a game hidden on the school network by other students:

1. David Yes, slime soccer! *((noticing the game that Rob has just loaded))*
2. Rob *((David and Rob, each using the same keyboard, begin to play the game))* This is a, it's very simple, just two little things and a ball (3.0) so I'm the blue one and David is the green one (5.0) *((to David))* Ah, I could see that coming. So we play this for a while, we have competitions an, anytime we have a substitute teacher in the computer room we use this
3. David We used to
4. Rob Ah, that was close
5. David Hah, nice shot! (2.0)
- [...]
6. Rob So this is a series of games called 'slime games'. This is slime soccer (1.0) they've got slime volleyball, slime cricket, slime bowling, slime boxing
7. David If you search 'slime soccer' on Google=
8. Rob Or just 'slime' actually (2.0) if your search for slime soccer on Google you'll get a site called this (.) game
9. SB Do you know why they call it slime soccer?
10. Rob Uh, I don't know, maybe the characters look a little like slimes=
11. David =The original was actually called slime volleyball
12. Rob Yeah
13. David Which was pretty simple, just//
14. Both A:::h! *((someone scores a goal))*=
15. Rob =Got the *((touch))*
16. David At the one minute mark=
17. Both =A:::h! Haw!

18. Rob When you get to three ((goals)) he ((the game character)) gets a smiley face ((laughter))
19. David Yeah it adds that extra bit of like enjoyment to the game
20. Both O::h!
21. Rob I'm on the attack, I've got to take the risk, I can't do anything else

Extract 7.4 (Basso)

In addition to playing an 'imported' game, the boys insinuate their gameplay practice into the school environment. They interact around the game, calling it with 'oohs' and 'ahs' as goals are scored and missed (lines 2, 4–5, 14–17, 21). They draw on professional commentating genres from sports television and radio to give an account of their gameplay and to make meaning through it. Rob and David also use the event as an opportunity to present themselves as particular types of people, to build identities as gamers and insiders in game culture (lines 2, 6–8, 11–13, 18). They claim this affiliation by knowing the genealogical development of the game and by having played the 'original' and finding it 'pretty simple' (lines 11–13). In their asides and commentary, they indicate their expertise and position themselves as introducing an adult to an aspect of their digital literacy underlife. Equally important as these elements is the 'fun': David points out that when a player scores three goals, the 'slime' begins to smile which 'adds that extra bit of like enjoyment to the game' (line 19). Such practices are also about finding space for a little light relief and distraction within an everyday school routine.

Mashups

Mashups bring combinations of different technologies, software, practices, intentions and ideologies together into dialogic tension to create a modified form, artefact or practice; the result is a mashing together of two or more cultural resources into a remediated, hybrid form (cf Bolter and Grusin 1999; Hayes 2008; Lankshear and Knobel 2007; Manovich 2001). This is done for many reasons, including for satire, critique and aesthetic value. School-authorized devices or practices were refashioned to perform an alternative function (Dyson 2003). The following example illustrates this tactic. It is from a discussion about email use at Basso. The school's email system had recently been changed and students found unexpected uses for it, not all of which were in keeping with the original intentions of the software designers or the school:

1. SB So do you email teachers?
2. David Yep, we email teachers about work, yeah
3. Rob I've been using my email a lot this year, actually, because I've been missing days
4. SB So you're asking teachers for work, or
5. David We can use the school email
6. Rob They've changed it=
7. Sarah =updated it
8. Rob Since last year they have a different program
9. SB Yeah, I noticed when you guys where in the library you each had an Outlook account
10. Rob Yep, we have an outlook account

11. David You can also access it from home
12. Rob People take advantage of it by sending group emails to everyone
13. Sarah Oh, yeah, like everyone in the whole entire school, says like 'Hi', and then people send one back saying like 'hi what's up'
14. David Yeah, I got like fifteen. Fifteen different ones going hi, hi=
15. Sarah =And they all say HI HI HI HI HI HI HI=
16. David =Hi, Hi,=
17. Sarah =That's not funny
18. Rob =because you can very easily send them to everyone
19. Sarah Yeah, then it's like 'stop this'
20. David Yeah 'stop this'
21. Sarah Then 'make me!' (.) That's realistic.

Extract 7.15 (Basso)

The school had reasons for updating the email software, one of which, according to informal conversations with school staff, was to encourage exchange between students and teachers about schoolwork outside of classtime. According to the three participants, discussion was encouraged, at least for the students absent from school (line 2–3). But more is going on; the technology allows for other uses. The students mention 'people' who 'take advantage of it by sending group emails to everyone' (lines 12–13). On the one hand, they distance themselves from these 'people' and, on the other, they role-play the scenario with humour suggesting they are closer to the action than they say and that it happens frequently, not just in isolated instances. They are caught up in a 'schooled' habitus where learning is rewarded, but also in a 'teenage' habitus where rebelling is rewarded. The values and dispositions of both play a part in the students' literate habitus (cf Bourdieu 1990; Carrington 2005b; Luke 1992) where literacy practices from school and out-of-school rub up against each other (cf Bulfin and North 2007).

What began as a school decision to change the email software, in the hope that teachers and students would communicate more often about school-related concerns, became an opportunity for students to interact playfully in ways not officially sanctioned by the school but in ways that were characteristic of their outside school practices (cf Flinders 1997). Their practices represent a playful subversion of school purposes: a kind of IM/chat-use of school email (lines 12–16). Literacy practices more often found outside of schools are seen here blending and negotiating for space with more formal school intentions and practices. In the process, the schooled email space, designated for school-like patterns of behaviour and activity, is reconfigured as a 'permeable' play space (cf Dyson 1997), a chat room where every student in the school is a potential participant. There is, of course, also the sense that such chat-like communication in this particular space can be a nuisance (lines 16–20). Despite the source of annoyance, the co-existence of varied intentions and practices is negotiated by the students with humour. What emerges is a multi-voiced 'conversation' where the playful and the annoyingly unhelpful work alongside the original intentions of the school (cf Bakhtin 1981). In this example, because chat programs are restricted at school, participants 'bend' and modify the original intent of the school-authorized email software so it can be used to perform tasks similar to IM programs: they create a tactical hybrid.

Tactical collaboration between students and school staff

In addition to examples of student tactical collaboration, there was evidence of collaboration between students and teachers. There were two varieties: a teacher initiated action, implicit and explicit, which provided help or information to students enabling them to engage in underlife activities, and a *tactical alliance*, or tacit agreement, between students and teachers, about acceptable forms of contained underlife. These were forms of underlife that did not overtly challenge school rules, policies or teacher-student behavioural norms and which were commonly (and strategically) overlooked by teachers. These varieties of tactical collaboration between students and teachers are examples of collusion, one explicit, the other implicit. Collusion is unauthorised cooperation or conspiracy, where cooperation provides unethical or unfair advantage. While student-teacher tactical collaboration might be seen to position interests to be in conflict with each other, there were benefits for both parties. Three examples below illustrate these forms of teacher-student tactical collaboration (see Extracts 7.24–7.26). First, Jim recounts a class earlier in the year where he and his friends received help from a teacher to change internet settings on school computers:

Jim Like, the computer administrators, some of them are nice, like I when I had IT this year, at the start of the year, we'd ask the teacher to change some of the settings around for us and things so we could use sites and do things. He showed us how it worked which was pretty interesting so

Extract 7.24 (Bankston)

The provision of information by the teacher allows students to bypass school internet filters and access web materials not normally available. This kind of explicit tactical collaboration undermines school policy and the expected school norms and behaviours of teachers and students. Young people are not supposed to ask teachers to break school rules, while teachers are expected to rebuff such requests, not assist students in their efforts. It could be that the teacher has his own frustrations with school policies which make teaching with new technologies difficult. Informal conversations with staff at Highview, Middleton, Bankston supported such an interpretation. In showing students how to workaroud restrictive internet settings, the teacher acts against school policy to help students access resources useful for classwork. Teachers also engage in a variety of underlife practices—in this case to meet particular pedagogical goals (cf Brooke 1987; Goffman 1962).

Although explicit examples of student-teacher tactical collaboration exist, in most cases teachers and students did not actively collude to undermine school policy with respect to technology use in schools. The final two instances indicate more subtle, implicit collusion between students and teachers (see Extracts 7.25 and 7.26). In both examples, young people identify a tactical alliance or unspoken agreement between themselves and their teachers. At Bankston, students discuss phone use at school:

1. SB So, that's the school policy, but what actually happens? So most people bring their phones anyway?
2. All Yeah
3. Jim Some teachers are fine, Mr Mac won't mind, a lot of teachers won't ()

4. Tania As long as you keep it on silent most teachers don't mind
5. Liz I think they mind but just as long as you're not using them
6. All Yeah
7. Jim If you're just sitting there (using a phone) then they'll get told off for it
8. Tania Like the school will say that you will not get them back until the end of the week and they are meant to be given to the principal or the coordinators or something but most teachers give them back to you at the end of the period so, or at the end of the day
9. Liz Yeah they don't really mind a whole lot
10. Jim The real issue with that is that it's wasting time in class and kids aren't focusing
11. Ryan Yeah
12. SB That's the argument?
13. Liz If you bring it to class and don't use it//
14. Jim There's no issue
15. Mary Yeah
16. Jim But then again it's personal, it's up to the individual if they are going to call a friend or they're going to do the class work

Extract 7.25 (Bankston)

It is only when devices get in the way of regular classroom work that they become a problem. If they are kept out of sight and do not rupture the orderly façade, they are tolerated. This example and the next illustrate 'games' of unspoken agreement, conveniently feigned ignorance and strategic looking-the-other-way. Tactical alliances serve both parties in their efforts to resist broader school pressures and policies (cf Larson and Gatto 2004). They make it easier to get on with the job, rather than 'getting hung-up' on what can appear to be relatively trivial issues.

Practices and norms built up around tactical alliances were not always followed. While there is evidence of implicit agreements between staff and students around some issues of technology use, there were also times when students consciously broke these agreements to disrupt classes, to get other students in trouble or to have fun (see Extracts 7.6 and 7.7). Tactical alliances marked some forms of contained underlife as acceptable but no guarantees were given. This uncertainty is illustrated below in the final example. At Basso, students discuss school policy about mobile devices in class:

1. Rob And also, things like we can't, we, a lot of people bring their MP3 players to school and use them during class, which is what we're not allowed to, but//
2. David Some teachers don't mind, it depends where you use it
3. Kylie In maths
4. Rob 'Theoretically' we're not meant too
5. SB So the policy is 'no MP3 players, phones'//
6. Sarah No, not phones
7. David As long as it's not during class

8. Kylie But everybody has got them
9. Rob MP3 players are kind of allowed if it's more private work and they're not disturbing to the teacher or anyone else in the class, they might let you
10. Sarah It really depends on the teacher, cause even if we're doing silent work in say () we get decapitated ((*laughter*))

Extract 7.26 (Basso)

These students had no clear demarcation of the limits of the tactical alliance (lines 2, 4, 7, 9: 'it depends where you use it', 'theoretically', 'kind of allowed', 'they might let you', 'depends on the teacher'). The boundaries of acceptable and unacceptable use change and so 'to stay ahead in the game' students must understand differences between, for example, class context and teacher. While the privilege of using these devices openly in class may or may not be granted, teachers in the study used a 'flexibility within bounds' policy, where the implicit message was 'respect the boundaries and I won't come after you'. This practice is clearly a tactical response to school policy out-of-step with teacher and student realities. It is also a containment response and in fact can be seen to license contained forms of underlife, acknowledging that they are useful, acceptable and, indeed, necessary in some circumstances (cf Goffman 1962).

The contradictions and tensions between policy, rhetoric and reality outlined in this section were evident in all the study schools. They encouraged the development of tactical alliances—unspoken negotiations worked out between a large student body and a comparatively small number of staff. These negotiations included implicit compromises which mediated tensions between the school's prohibition policies and student resistance to such policies as well as the reality of student behaviour. Alliances between teachers and students were tactical because they allowed both groups to maintain the appearance of teacher authority, on the one hand, and the appearance of student compliance, on the other. Tactical collaboration provided agency within contained bounds, allowing students and teachers to undermine school policies that made it more difficult to 'make do' and to 'smooth out the terrain' (cf de Certeau 1984) of school-authorized technology use.

4. Conclusion

The current study takes a broader view of digital literacies than that represented in these two research strands and attempts to reframe the relationship between home and school.

There are now many studies documenting the digital cultures in which students are engaged outside the classroom (eg Atkinson and Nixon 2005; Black 2006; Beavis 2004; Carrington 2004; Davies 2006; Lam and Rosario-Ramos 2009; Lankshear and Knobel 2006; Marsh and Millard 2006; Thomas 2007) (see also 3.4). This work has suggested approaches to understanding contemporary literacies in out-of-school environments. However, as well as a focus on digital cultures outside schools, there is a need for closer examination of what is going on in and around schools and classrooms.

The current 'era of instability' (Kress 2002) requires an understanding of the complex relationship between contemporary communication practices and literacy education in schools. The discourses about contemporary times discussed above also require careful scrutiny in light of grounded empirical data from research. This means probing contemporary

claims about the uniqueness of the radical and fundamental changes of the last few decades. The idea that current times are unique in human history is ahistoric and deterministic (cf Edgerton 2007; Marvin 1990; Smith and Marx 1994). At the same time, it is worth holding on to the idea that educators and young people are operating in something like an 'era of instability': in environments which present challenges and dilemmas of a different order (cf Carrington and Marsh 2005; Kress 2002, 2006). Whether or not these are unique challenges—there have been other eras of instability—is probably best left for future historians to judge.

Understanding what is going on in and around schools and classrooms requires looking beyond critiques of schools as anti-technology or resistant to technological change. It also means examining claims about the disaffection of young people from new technology use at school. Rather than beginning from these deficit positions, it is better to identify points of connection between schools and the increasingly technology-mediated lives of young people. We need to move beyond merely endorsing the need for schools to develop greater responsiveness to the diverse cultural activities that constitute the lives of young people and to propose and examine real curricular and underlife alternatives.

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