Fighting the rip[1]: Using digital texts in classrooms

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> ABSTRACT: This paper reports on a study investigating the use of digital texts in schools serving low and middle/upper socioeconomic communities. It draws on theoretical notions of rhizomes from the work of Deleuze and Guattari to explain the network of relations that are formed in classrooms, and that form the context for a set of patterns observed when students and teachers engage with digital texts in literacy lessons. These patterns of complexity, fragility, continuity, conservation and authenticity can explain some of the connections and conjunctions between and across the rhizomatic systems of different classrooms as well as providing a genealogical tracing of the past back to a report on the integration of new technologies in literacy classrooms published in 1997. It would seem that in the current contemporary climate, teachers who work with digital texts at any level swim against the tide of normative and conventional literacy routines of the classroom.

> KEYWORDS: Literacy, digital text, teachers' work, new technologies.

INTRODUCTION

This paper reports on a 2008 study, where I observed the use of digital texts in schools serving low and middle/upper socioeconomic communities. The teachers who participated in this project were operating within a complex and difficult climate of competing versions of the importance and value of contradictory accounts of literacy pedagogy (Rowan & Honan, 2005). As I began the data collection process, the Australian Government's national testing of literacy and numeracy was being completed for the first time. The political rhetoric surrounding the implementation of NAPLAN (National Assessment Program Literacy and Numeracy)[2], including the new Labor Government's emphasis on accountability and standardised reporting of results, was causing a discernable tension within the schools I visited. The Queensland Government was rolling out a program of intensive professional development for literacy teachers[3], focusing on the teaching of grammar and the use of the "language in use" model of learning developed from the Hallidayan school of linguistics and functional grammar (Martin, 2009). The Queensland Curriculum Assessment and Reporting Framework[4] was being distributed, with schools gradually learning about "essential learnings", "ways of working" and "assessable elements", while the first murmurings and rumours about a National Curriculum were seeping into staffroom discussions.

While there were various and contradictory versions of literacy embedded within these initiatives, from a basic, standardised skills approach assumed in NAPLAN

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[1] A rip is a fast and strong current of water pulling a swimmer out to the ocean away from the beach. http://www.slsa.com.au/default.aspx?s=beachsafety.
[2] See http://www.naplan.edu.au/home_page.html.
[3] See http://education.qld.gov.au/literacy/index.html.
[4] See http://www.qsa.qld.edu.au/learning/574.html.

through to the language-in-use model of the professional development program, none of them contained anything more than a cursory and superficial engagement with ideas associated with 21st-century literacy practices and the engagement or use of digital texts in classrooms. I would argue, therefore, that the teachers observed in this study were engaging with these kinds of texts despite the surrounding climate, rather than responding to it. In terms of the metaphor that is provided in this issue's title, these teachers were drowning in a sea of normative and autonomous views of literacy, and in engaging with digital texts, were fighting against a dangerous rip filled with antiquated, conservative, and unrewarding literacy pedagogical practices that appeared to be pulling them towards the rocks of disengagement and irrelevance.

The discussion of the data collected is located therefore within this climate. In this paper, I attempt to tease out the improbable successes observed while at the same time warning of the dangers of complacently adhering to current literacy pedagogical routines without critical interrogation of their worth and value for preparing our young students to engage with the literacy requirements of the 21st Century.

While I do not subscribe to an unresolvable binary that separates digital and print literacies, there is considerable research now that does indicate that there are distinctive ways of reading and producing digital texts that need to be specifically and explicitly taught to students (for example, Moje, 2009; Thomas, 2006; Walsh, Asha & Sprainger, 2007). One of the reasons for the study described in this paper was my sense that students' understandings of the ways that digital texts are created in the out-of-school world of work and leisure are not being fully utilised in classrooms, in ways that would assist in increasing students' knowledge, skills and understanding of particular new literacy practices.

THE STUDY

The impact of socioeconomic status on the use of digital literacies in schools was funded by the auDA Foundation[5] in 2008. Four primary schools from the Brisbane area participated, two schools located in low socioeconomic communities (named here as Hill and Valley) and two located in high to middle socioeconomic communities (named here as River and Mountain). To select schools I used Australian Bureau of Statistics data and information from the state government to identify schools located in low and middle socioeconomic communities and then sent invitations to school principals. I met with school principals and the teachers who expressed an interest in the study, and provided them with both verbal and written information about the project's aims, which were to investigate teachers' valuing of students' knowledge of digital literacy practices in low and middle-SES (socio-economic status) schools and to examine the differences and similarities in low and middle SES schools' uses of digital literacies and how they relate these to academic literacies. I explained that my use of the term "digital texts" referred to any kind of text designed to be read or produced on a screen, and those screens could be on a computer, a hand-held game, a gaming console, a digital camera, and so on.

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[5] au Domain Administration Ltd (auDA) is the policy authority and industry self-regulatory body for the .au domain space.

One Year 7 teacher from each school agreed that I could observe five literacy sessions in her class (Year 7 is the last year of primary school in Queensland). All teachers who agreed to participate were female. My emphasis that the timing and choice of sessions I observed were to be decided by the teacher, that I wanted to capture their regular practices using digital texts, and that I did not expect them to plan anything new or different to cater for my presence, was because I did not want to add to teachers' heavy workloads and because I wanted to try to capture "business as usual", rather than recording special or unusual practice. There was some difference in timing and connections in each of five sessions. For example, one classroom was visited on a weekly basis for five weeks, while another was observed twice a week. Three classes were working on a thematically planned unit of work for the entire period of the observations while the fourth were engaged in lessons and activities that were not connected to each other. The classroom observations were videotaped using a small, lightweight, hand-held digital camera that allowed me to roam around the classrooms zooming in on particular students or activities. The focus of the observations was the use of digital technologies in literacy lessons, and so, wherever possible, I captured the work students were doing using these technologies. All the interactions observed involved students using a computer.

At the completion of the series of five observations, I interviewed the classroom teachers and a focus group of five to six students. I audiotaped these interviews that focused on discussions about the context of the lessons observed, as well as teachers' and students' understandings of the connections between their home use of digital technologies and the observed practices in the classroom.

PATTERNS OF PRACTICE

In this paper, I will discuss some of the patterns of practice that I observed occurring across all four classrooms. Theoretically, these observations were conducted through a poststructural lens, attempting to unsettle my assumptions about what would occur, while at the same time looking for uses of language that would inform my understanding of the construction of subject positions within the discursive system of the classroom. This system, I believe, can be described as a rhizome, using Deleuze & Guattari's (1987) understanding of that figuration to explain the connections and linkages between different components: human, technological and material. In Deleuze and Guattari's work, a rhizome is a ceaseless network of connections that can be explored through the following and tracing of particular lines of flight across, within and without the network. The patterns of practice observed across all four classrooms are not structural patterns in that they form some geometrical grid, but they do explain some of the connections and conjunctions between and across the rhizomatic systems. In some ways reminiscent of the genealogy work of Foucault (Popkewitz & Brennan, 1998), it is possible to map and trace these patterns through historical accounts of the pedagogy of literacy classrooms (for example, Freebody, 2007; Green & Beavis, 1996) to provide some explanation of their presence.

In particular, the patterns that I describe here can be traced back to the patterns observed in other classrooms studied as part of a 1997 project I was involved in that investigated the connections between literacies and new technologies (Bigum *et al.,* 1997). In that report, three patterns of complexity, fragility and continuity observed in

the case studies were described. Patterns related to concepts of conservation and authenticity were added by Lankshear, Snyder and Green in their later work (Lankshear, Snyder & Green, 2000). Briefly, the pattern of complexity refers to complexity theories and the ideas of increasing returns; fragility refers to the fragile nature of a self-organising system that relies on successful negotiation of roles; and the pattern of continuity infers that such systems rely on continuous and sequential planning. Conservation refers to the "old wine in new bottles" syndrome that is implicated when using print-based epistemologies within a digital paradigm; and authenticity draws on ideas associated with using texts for "real" purposes with authentic audiences.

Using these patterns to frame the discussion provides some illumination of the insistent and overwhelmingly powerful presence of institutional discourses and the habitus of the school. The construction of a set of observable and generalisable patterns of pedagogical practice is only made possible because of the omniscience of schooling's commonplace and taken-for-granted routines. These routines are so embedded within the cultures of literacy classrooms that, even when engaging with new technologies and 21st-century applications such as the Web2.0 practices of social networking and interactive discussions, teachers take up the pedagogical discourses associated with print-based literacy. Despite research that indicates that there are different reading and writing practices associated with using digital texts (Burnett, Dickinson, Myers & Merchant, 2006; Walsh, 2006), it does seem that these routine and historical versions of using literacy in classrooms are of paramount importance and teachers find it difficult to engage with other practices.

COMPLEXITY

There are a number of interactions between people and objects that characterise classrooms. Consider, for example, the routine Initiate-Response-Evaluation verbal interactions between teacher and a group of students; the habitual practice of the teacher writing on a blackboard, whiteboard or interactive whiteboard, while students transcribe what is written onto paper set before them; or the traditional "round-robin" practice of reading aloud in a small group from individual copies of the same text. Each classroom could be explained as a rhizome, in that the complex relationships between people and objects are connected to each other, as well as connected to those ideas, people, and objects that exist outside that rhizomatic figuration. It could be expected that the introduction of new technologies into such a complex system could in effect change or alter these routines and patterns as this adds to "the number of components which participate in the mutual constitution of roles, thereby shifting existing patterns of self-organisation in unpredictable ways" (Bigum *et al.,* 1997, p 71).

In rhizomatic thought, this unpredictability is unsurprising, in that each rhizome cannot be reproduced, and each moment of attempting to map a line of flight through a particular rhizome produces a different set of meanings and ideas than that of another moment. Yet there are patterns, echoes of meanings evident in new rhizomes that can be traced to other systems. For example, the routines and practices that have been a recognisable feature of schooling and literacy classrooms since at least the 18th Century remain unchanged in the classrooms I observed, even though the individual

components altered significantly. It almost seemed that the pedagogical routines of the 19th and 20th Century were the connections, the linkages that provided coherence to the teachers and students as they engaged with new kinds of texts.

One of the more obvious of these routines was the habit of organising the classroom so that all were engaged in the same task. One class at Hill was engaged in a unit of work that revolved around the construction of an "infomercial" on the topic of renewable and non-renewable sources of energy, and each student was responsible for creating his or her own text. In another class at Valley, one activity observed was students recording written responses to a series of comprehension questions related to a website on the topic of study. A third class at River was engaged in developing concept maps using information retrieved from a number of websites. While this session was conducted in a computer lab organised with computers set up around the walls with students sitting at them automatically turning their backs on the teacher, she still delivered an introduction to the lesson in the traditional didactic style. While each of these activities were worthwhile and involved students in learning, the routines, the taken-for-granted practices associated with literacy in the classroom meant that more productive and intellectually challenging tasks could not be undertaken. For example, an infomercial has a number of different components and in the workplace of an advertising agency different groups design, plan and create each section. Yet the routine pedagogical practices created a sense of plausibility for all concerned. The students did not seem to be bothered that the tasks assigned were identical to those done by their colleagues and I as observer, saw well-managed classrooms with groups of students engaged in tasks that seemed to interest them.

Complexity theory also suggests that the concept of increasing returns can explain the concentration of technological resources within one particular site. From this point of view, it would be taken for granted that the more a teacher employs computers the more likely it is that she or he will use them more often, and can explain the concentration of resources in particular classrooms within schools. In this study, I expected to observe a great divide between resourcing capabilities, given the different socioeconomic status of the communities the schools served. Cognisant of Mark Warschauer's (2003) work that disrupts some common misconceptions around the digital divide, I took careful note of the level of resourcing and the equipment available. As he found, schools located within one particular organising system (such as Education Queensland), can assume a similar level of resources made available to them. For example, each teacher had her own desktop computer located on her own desk. Yet despite the bureaucratic insistence on equality of supply evident in government policies, there were observable patterns of concentrations of technologies that can be explained by this idea of increasing returns. For example, one of the middle/upper income schools, River, had not only desktops in the classroom but also portable sets of laptops and two computer labs.

The two teachers observed working in schools set in low socioeconomic contexts were characterised by their initiative in gaining access to resources available in the schools. One of these schools, Hill, had dedicated its resources to the establishment of a lab of Macintosh computers, and the teacher I worked with managed to negotiate extra access to this lab with her colleagues and the IT manager. She had also negotiated the use of a data projector that was supposed to be shared with other classes, yet was almost permanently located in her classroom. In the other school,

Valley, the teacher had successfully negotiated the addition of a number of desktop computers to her official allocation through accepting those that were out-of-date as well as arguing that her constant use of the machines should result in a greater allocation. It could be said that these arguments were always going to be successful, given the concept of "increasing returns". However, her success did paradoxically lead to an increase in the discontinuity of curriculum observed in that school, discussed further below.

FRAGILITY

In Deleuzian terms, all rhizomes are fragile as their connections are ceaseless and, at one and the same time, unbreakable and tenuous, resilient and brittle. In complexity theoretical terms, within complex self-organising systems, success lies in the collaborative and co-constitutive allocation of roles. When one or other of the components that makes up the system breaks down and cannot play its agreed role, the whole system is placed in a fragile and precarious position. Working within a poststructural perspective, Davies and Hunt (2000) have written about the affects on classroom order of a student's disruptive behaviour. In that paper, the work that students do with the teacher to maintain an appearance of classroom order was made visible to the observer through the disruption to that order.

Common narratives across schools about the breakdown of particular technological components, such as internet connections or pieces of hardware, were not a feature of the teachers' talk during my study, as the technology appeared to be reasonably stable. This is especially significant, as none of the teachers could be deemed to be technical experts, and all relied on external support if there were technical breakdowns. Interestingly, it was the distance created from this external support through the introduction of a centralised operating system and method of technical service by Education Queensland that increased the fragility of the classroom systems observed. "We've been MOE'd," was the common phrase used by teachers and students when describing their technical problems[6]. While these problems did not seem to have an impact on the pedagogical practices implemented when using digital texts, they did have an impact on the daily life of most of the classrooms observed. For example, the teacher at Valley attempted to overcome issues related to home access by allowing her students to continue to work on classroom computers during lunch. However, internet access decreased substantially and observably at approximately 12.30 each day, as thousands of teachers across the state simultaneously logged on to the newly centralised system to check email accounts. At Mountain, one of the more affluent schools, the students interviewed were particularly disparaging of the school resources, claiming newer and faster computers at home, as well as a deep level of frustration about the problems accessing the new system with old passwords.

The concept of fragility can be used to explain warnings about overreliance on expert teachers within a self-organising system such as a school. In the *Digital Rhetorics* project (Bigum *et al.,* 1997), we observed some schools who had some level of success in integrating new technologies into their literacy classrooms because of the

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[6] See Education Queensland's description of the Managed Operating Environment strategy at http://education.qld.gov.au/smartclassrooms/strategy/si_moe.html.

presence of one of these "boosters" (Bigum & Kenway, 1998), and then observed the fragility of the system when that person left. As I pointed out earlier, none of the teachers in this study was necessarily technically expert and none used the discourses associated with the booster scenario that Bigum and Kenway described in their work in the 1990s. While all four teachers were enthusiastic about using digital texts, they all claimed that it was now a ubiquitous part of schooling, something that could not be ignored, and a necessary part of their teaching work. In my initial interviews with the teachers, they all claimed non-expert status, and all four made comments wondering whether they were suitable inclusions in the study. The data from the videos indicates all four teachers often calling on other students to answer technical questions; one teacher using the expertise of a teacher aide to solve a problem; one teacher was shown how to find a section of a website by a student. Here is the teacher from Valley talking about her non-expert status within the classroom.

> *I never pretend with my children that I'm the expert. Sorry I am the expert. But I'm happy to take criticism I'm happy for them to say you're doing that wrong. I'm happy to say that's not working Miss can we get someone to tell us what to do? So yes I pretend to be the expert but the kids know that if they know something that I don't or if they've tried something and it's not working they can come to me and say we need to try something different. And I have that sort of openness, see I don't think that happens anywhere else either.*

In some ways this non-expert status contributes to an egalitarian view of the network in which teachers are located, of a level playing field rather than the more unequal relations often observed in teacher-student relations.

CONTINUITY

It would seem to be dangerous to expect patterns of continuity to be evident within a rhizomatic system. Indeed, it is more likely that discontinuities would be expected as the lines and flows within a rhizome move in unexpected and unplanned ways. However, a rhizome is a pattern of connections, and it is possible to map the journeys taken within and out of such a network. In schools, while each classroom can appear to be a rhizome in itself, it is also part of the rhizome of the school. How do students and teachers travel through the rhizome of the daily practices of their own classrooms while at the same time traversing that wider network within which they are located? In primary schools the connections seem almost invisible, as each teacher establishes her or his own sense of order, practice, and relationships that can often appear to be isolated from those that are occurring in the classroom next door. Certainly at Valley, the teacher spoke of this isolation, with some frustration with the lack of attention paid to new technologies in other classrooms within her school.

> *Well I think they're not even getting it earlier in the school either I just have to tell you, that I've actually had Grade 7s not this year but in previous years come in who didn't actually know that that button on the computer turned it on. They thought it was magic. Obviously I've had rosters before where I have a roster and I have people who turn on the computers every day so this child it came to his turn and he actually came to me and said do you have to turn them on? Oooh because every day they'd just been going.*

This pattern of significant discontinuities in student learning was observed in the *Digital Rhetorics* project (Bigum *et al.,* 1997) earlier and was attributed in those cases to teachers' unfamiliarity with new technologies. In this case, of a school located within a low socioeconomic community, it did seem that a shift in attitude was occurring, interestingly driven by a new reporting system. As part of the political rhetoric claiming to improve standards in Queensland schools, the state government had introduced new mandated approaches to reporting, which included the reworking of most of the reports sent to parents by individual schools. At Valley, the new reports included a section on ICT skills and, as this teacher reported, this had sent other teachers in search of ways to do "assessment for computers". So any continuity in the scope and sequence of curriculum related to new technologies in this particular school was being driven by a decision made by the administration to include this aspect in the reporting system.

There did not seem to be any sequential planning of activities, skills, knowledge or understanding related to digital texts across the schools I observed. The activities were planned in relation to the topic of study, the genre, or the access to particular kinds of software. River school had planned "computer days", where the Year 7 students rotated through a series of activities for the day related to using ICTs. These activities were related to students using particular software rather than in relation to the curriculum being studied. This is a sign of the emphasis on "operational" work or technical knowledge that is present in policy documents and professional development resources offered to teachers in Queensland (see Honan, 2008, in press), where the focus for teachers and students lies in knowing how to operate particular software or internet applications rather than the pedagogical practices needed to integrate these into meaningful classroom work.

The influence of the project and my presence in the four classrooms is perhaps most significant in relation to this issue. While I did assure the teachers that I wanted to see "practice as usual" and that I did not intend them to do anything special or different while I was in their classrooms, I also emphasised that the project was focused on their uses of new technologies. At River in particular, it did seem that each week the teacher had planned to show me a different use or application. This wealthy school had access to two computer labs, a classroom set of desktop machines, an interactive whiteboard and a class set of laptops shared between classrooms using a laptop trolley. In the four lessons I observed, each of these sets of equipment was used. The fifth observation was cancelled for my own personal reasons, but had been scheduled to occur during the aforementioned Grade-7 computer day. In relation to the other three schools, it was the most diverse array observed, yet it was also the most diverse in terms of subject matter or curriculum observed. The other three classes were clearly working on a topic or unit of work, some more sequentially planned than others. The following table illustrates this aspect of the observations.

School	Observation	Curriculum Topic and setting	Digital texts
Hill	1	Infomercial in Lab	Kids Psych website – thinking skills Story board planner imovie
	2	Classroom small gps Interpreting graphs	Electronic whiteboard Printouts of graphs collected from websites

	3	Infomercial in Lab	Imovie, itunes, websites
	4	Infomercial in Lab	Imovie, itunes, websites
	5	Classroom features of persuasive texts small group focus lesson	none
Valley	1	Classroom Healthy lifestyle unit – compare info on census website with class survey results, send email to classmate about something interesting you have found- rotation through two groups	ABS census at school bedtime results
	2	Library rotations working with librarian to create brochure on healthy food – second of three sessions	Publisher
	3	Classroom – rotations webquest comprehension questions related to websites on kids health Followed one group to other classroom filmed "test" of typing up survey results	Word, Websites
	4	Classroom – rotations webquest comprehension questions related to websites on kids health	Websites
	5	Classroom focus lesson with teacher on using Excel	Excel spreadsheets
River	1	Classroom - ½ class using laptops researching Prime Minister for biography	Learning Place collection of urls bookmarked under "Government"
	2	Computer Lab Blooms taxonomy worksheet on 3 levels of government, create concept map	Inspiration
	3	Classroom – small group using computer bank, Literature Circles using Comic chat tool with teacher	Learning Place, Comic chat tool
	4	Computer Lab (2) – whole class searching war memorial database.	Learning Place Australian War Memorial website, data bases
	5	Cancelled – scheduled to follow group of boys through computer day	
Moun-tain	1	Intro to topic endangered species in Antarctica and task make a poster	Websites
	2	Focus on groups using computer bank searching for information and photographs on websites	Websites, Google search engine
	3	Focus on groups using computer bank, searching selecting downloading and printing photographs on websites, creating headings using different fonts, colours etc,	Websites, Google search engine, Word
	4	Discussion reviewing criteria and task whole class. Small groups focus on one pair girls taking notes from material on websites	Websites, Google search engine, Word
	5	Library "computer lab" Small group working in pairs, creating text on Word, typing up notes on Word, searching Google images	Websites, Google search engine, Word

Table 1. Topics mapped against technologies used

CONSERVATION

The pattern of conservation so aptly described by Colin Lankshear on numerous occasions as the "new wine in old bottles' syndrome (Goodson, Knobel, & Lankshear, 2002; Lankshear, Snyder & Green, 2000) also illuminates the strength of the hegemonic discourses and practices that dominate literacy classes, even those where valid attempts are being made to use digital texts and new technologies. In rhizomatic terms, it seems that those well-travelled and heavily trodden pathways of traditional academic literacy discourses are difficult to steer away from when teachers attempt to map their own journeys using discourses associated with new literacies. The routine school literacies are so embedded and taken for granted in literacy classrooms that it seems to be obvious and commonplace for them to occur within the contexts of new kinds of texts and resources. So, for example, at Mountain, the students were creating posters related to their topic of enquiry, "Endangered Species of the Antarctica". The clearly explicated criteria for the assessment of the task included that "all headings must be handwritten". I watched as groups of students spent significant time on the classroom computers creating headings using a variety of fonts and colours, requested permission to use the colour printer in another area to print out their heading, and then appeared both crestfallen and surprised when their teacher failed to admire the work, simply pointing out to them once again the presence of that criterion on the assessment guide. When I asked the teacher about her reasons for this criterion, she explained that both "print and computer" text was a necessary requirement in secondary schools. At River school in one of the lessons, the students were using the internet to search for information to construct a biography of an Australian Prime Minister. During the session the teacher reminded students of her previous instructions that they must use both print and web sources in their references for the finished text.

These examples illustrate some of the paradoxical situations that occur in classrooms where competing discourses about the worth and value of particular versions of literacy are in operation. For both these teachers, an important aspect of their role was preparing their students for the type of work required in secondary school and so, of course, they considered these requirements when setting tasks in their Year 7 classrooms and these were directly and explicitly communicated to their students on many occasions. For example, in part of the discussion about the criteria sheets for the task set by the teacher at Mountain, she said to her students:

> *One of the things that we need to make sure that we do well when we go to secondary school is to make sure that we know what it is that we need to do and then make sure that we do it.*

It does seem that teachers are caught in an untenable position where there is an overwhelming focus on "basic skills" and "traditional literacies" in school publicity materials, in the media reporting on test results and school rankings, and that this has a significant impact on the choices teachers make in their classrooms. All of the teachers in this study, regardless of the socioeconomic status of their students, placed a high value on conventional academic literacies, where the emphasis is on books, chunks of printed words with the occasional graphic or illustration, and the traditional writing of essays and responses to examination questions. This emphasis worked to improve their students' chances in their future academic lives as school students, but I

would argue that it does not help students learn about the particular and specific requirements of engaging with digital texts.

AUTHENTICITY

The pattern of authenticity can be explored through a number of lenses. Here first I describe the concept of authenticity related to the use of new technologies by students in their social lives outside the classroom. Then I turn to using the concept to consider the authentic purposes for the use of particular kinds of digital texts, or how they are used in outside-school contexts, for business, for social purposes, in the employment contexts of the future, as well as in the immediate social communities of the present.

The concept of authenticity is most often used to describe the use of "real life" texts or literacy practices associated with the social life of students outside the classroom. This concept underpins calls for the use of popular cultural texts such as magazines or television programs, as well as the use of new digital texts such as blogs or online chat interactions. It is based on a well-established binary that describes the in-school literacy practices in the ascendant category of importance, valid and culturally imperialistic, and the out-of-school literacy practices of young people as marginalised, invisible, and described in deficit terms by teachers, policy-makers, and other commentators on literacy education. The construction of this binary I think has led to two unfortunate practices in classrooms. Teachers now are aware of students' engagement with digital technologies at home, and many comment on the prevalence of new literacies in their student home lives (Honan, 2008). This seems to have led to an assumption that students, especially those in the middle years of schooling – that phase of disillusionment, disengagement and adolescent disruption – will automatically and necessarily be engaged and motivated by any activity that involves a computer. This was not the case in any of the lessons I observed. While most of the students were adept at the maintenance of classroom order and rarely caused any obvious disruption to the pace or progress of the activities, there are many incidences of quiet or subversive disengagement captured in the video data. One small example from Hill occurred when students were adding music files to their infomercial productions. In one of the sessions observed in the lab, one group of boys spent the entire 50 minutes searching for and playing files of favourite music artists and by the end of the session had still not selected a sample to add to their text.

The second unfortunate outcome of the construction of the binary of in-school/out-of-school practices is the development of school-based uses of new literacy tools such as blogs and online chat that are used in schooled ways that remove much of the authentic reality and creativity that is present in the use of these tools in other social contexts. At River school I observed a literature circle the teacher had organised using a "comic chat" tool found on Education Queensland's intranet. The tool is based on students creating avatars using cartoon characters rather than their real names. The small group of students involved in the literature circle were actually sitting next to each other at the bank of classroom computers, somewhat interrupting and negating the purpose of using an online chat tool at all.

It did seem that the teachers found it impossible or improbable to engage with the kinds of digital texts or literacy practices students were using at home. All four

teachers had a depth of knowledge about their students' uses of mobile phones, MP3 players and game consoles, but had never considered using these kinds of technologies in their classrooms. The discussions around student knowledge of digital technologies was related to their technical skills in using a computer. So, for example, at Valley and Hill, both teachers commented on the lack of technical skills, while making distinctions such as this one about the purposes for using new technologies.

> *See I think that, I mean as we know, we surveyed I don't even think that 50% of my class have access to the internet. For a start. The digital technologies they're using at home are more for entertainment purposes. Just from observation and communicating with the children, not many children use it as a research tool. If it's a communication tool again its more for informal communication emailing their friends and things like that rather than, so its more an informal.*

This comment from the teacher at Hill constructs a "digital divide" between home and school uses of digital texts related to the "educational" value or worth of such use (Honan, 2006). Interestingly this assumption about home use of new technologies as not being necessarily useful to the work of the classroom can be found in all four of the teachers' talk, not just those teachers working in low socioeconomic communities. In the observations of literacy practices in the classrooms, there was no evidence that teachers had considered any prior knowledge or understanding related to digital literacies that students may have brought from home.

Confounding and complicating my attempts to consider classrooms as rhizomatic networks is the sense I perceived of insurmountable barriers and walls that are established between these home and school practices. When considering the concept of authenticity in relation to the ways in which texts are used in the "outside world", these barriers also seem to be impenetrable, as even when teachers attempt to engage in authentic practices, the result is a schooled version of the "real" that "bear little resemblance to how new technologies are used in mature versions of social practice in the wider world" (Lankshear & Knobel, 2000, n.p.).

In some ways all four classes were involved in work associated with authentic uses of digital texts. At Hill, the construction of an infomercial helped students see how they were persuaded by similar digital texts in their own lives outside of school. The construction of a healthy food brochure at Valley provided students with some sense of purpose for collecting information from a variety of sources. An isolated lesson at River on retrieving information and constructing a concept map of this information is related to the real-life practice of researching on the Internet. Yet each of these examples also was embedded within the routine literacy practices of the classroom. I mentioned earlier the impact of organisational routines on the construction of the infomercial at Hill. The brochures on healthy food being constructed at Valley were being collected and assessed so their only audience was the class teacher and the librarian who had guided the students in the use of Publisher. The information being collated in the concept maps at River was about the three levels of government, a common topic in Studies of Society and Environment or Social Studies lessons in the last year of primary school.

The teachers in this study seemed caught between their concerns to help their students participate in life outside of the classroom and their pragmatic understanding of the importance for students to learn how to successfully participate in the life of schooling

itself. This tension impacts upon teachers' pedagogical choices when engaging with digital texts in their classrooms and leads to questions for teachers and educators in general about the purposes of schooling. My observations in these classes have led me to reconsider questions related to the authentic uses of texts in classrooms, including questioning whether it is indeed even possible for teachers to engage with the "mature versions" of literacy practice described by Knobel and Lankshear, when they are confronted with the competing accounts of literacy that privilege the traditional and conservative, the schooled and the academic, over the innovative, the creative, or the multiple ways of interacting with new digital texts that are so much a part of young people's daily lives.

CONCLUDING THOUGHTS

These questions about the purposes of schooling lead me back to the introduction to this article where I considered the influence of normative and hegemonic discourses about the values of particular literacy practices on the work of teachers who attempt to engage with digital texts. Are these teachers swimming against the tide of normative accounts of literacy in schools simply by making the attempt to engage with digital texts at all? Should we take for granted that these engagements will be within the context of traditional schooled routines of literacy tasks, and validate the use of new technologies even when they are used in artificial and meaningless contexts?

Certainly, there is much to admire about the teachers whom I observed in this study, and their attempts to engage their students in meaningful and interesting work through the use of computers and the Internet. However, I think that these teachers would welcome, as others I have worked with in other contexts have welcomed, an opportunity to rethink their pedagogical routines so as to open up new spaces for new practices that help their students to make sense of the digital texts they use in their outside-school lives. In calling for such a rethink about pedagogical routines and the competing versions of literacy that are valued in classrooms, I am not devaluing the work that teachers do, or the work that I observed teachers do as part of this study. I am, however, attempting to open up a discussion about the different pathways teachers can take when they engage with digital texts.

Traversing the rhizomes that are classrooms involves travelling across and through many different pathways. I think that the decisions teachers make about these pathways are influenced by the discursive construction of the value and worth of each journey. I do not think that these pathways are dichotomous, but that it is possible for teachers to work with new digital texts as well as traditional print texts, but not through the use of traditional pedagogical routines. The data collected in this study indicates how difficult it is to avoid these common routines, but that teachers can avoid the rip and swim against the tide of commonplace and taken-for-granted assumptions.

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