

The new literacies as placed resources

Mastin Prinsloo

University of Cape Town

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Abstract

I develop the argument in this paper that the new literacies of screen-based and internet communication work in particular ways in low technology and socially distinctive African contexts. I claim that study of the new literacies in such contexts illuminates the ways that they work more generally, which is often obscured by much that is taken for granted in discussions of the new literacies in 'technology-rich' contexts. I examine data from a restructured, high technology workplace in Cape Town, and from examples of young children's school encounters with computers in Khayelitsha Cape Town, to develop and illustrate my argument. I examine how one can take account of the impact of the new technologies associated with the new literacies in ways that do not revert to a decontextualised and deterministic analysis. I argue, that despite their global impact, the new literacies are best studied as resources situated by social practices that have local effect. I conclude that the new literacies don't have an intrinsic resourcefulness. Whether they offer opportunities for particular users is something that has to be established by located research, not assumed, in contrast with research models that start from concerns around digital divides and offer solutions along the lines of technology transfer.

Introduction

I develop the argument in this paper that the new literacies of screen-based and internet communication work in particular ways in low technology and socially distinctive African contexts. I draw on research carried out in contexts of social inequality in South Africa, and on the orientation to literacy studies which studies literacy as situated social practices (Street, 1984,

2005; Prinsloo and Breier, 1996). I argue, that despite their global impact, the new literacies are best studied as *placed resources*, with local effect, and develop this case by drawing on social models of literacy, language and communication. I examine data from a restructured, high technology workplace in Cape Town, and from examples of young children's school encounters with computers in Khayelitsha Cape Town, to develop and illustrate my argument. I conclude that the new literacies don't have an intrinsic resourcefulness. Such a view is often obscured by much that is taken for granted in discussions of the new literacies in well-resourced contexts.

It is commonplace now to claim that new reading and writing practices have resulted from the uses of computers and the Internet. These new literacies of the information and communication technologies (ICTs) have variously been labelled as technoliteracies (Lankshear and Snyder, 2000), digital literacy (Gilster, 1997), electronic literacies (Warschauer, 1999), silicon literacies (Snyder, 2002) and multiliteracies (Cope and Kalantzis, 2000)¹. Changes are said to have occurred in the forms and practices of literacy associated with changes in technology, the media, work and the economy (Gee, Hull and Lankshear, 1996; Snyder, 1998; Snyder and Beavis, 2004). Where the old literacies are print-based, paper-based and language-based, reading and writing associated with the new literacies are seen to integrate written, oral and audiovisual modalities of interactive human communication within screen-based and networked electronic systems. Graphic resources such as pictures and diagrams are said to have increasingly moved to front-stage, imparting information directly, rather than providing backup for knowledge that is text-based (Kress and van Leeuwen, 1996; Kress, 1997; Kress, 2001). Lemke argued that meanings in multimedia are not fixed or additive, in the way word-meaning and picture-meanings relate. Rather, they are multiplicative, where word-meaning is modified by image-context, and image-meaning in turn is modified by textual context (Lemke, 1997, 287). Readers of the new literacies must organise their reading across a range of media, flexible constructs, and typologies that break from traditional grammar orthodoxies (Kress, 1997; Healy, 2000)

¹ I limit my discussion here to the new literacies as linked to the new technologies of computers, the internet and the 'world-wide web'. I note, though, that others talk about the 'new literacies' as not being only technology-based. For example, Lankshear and Knobel include scenario planning, understood as has emerged during the past 40-50 years as a generic technique to stimulate thinking about the future in the context of strategic planning. (Lankshear and Knobel 2002: 4)

The new communications technologies allow multimedia texts to be widely distributed almost at once and are seen as providing access for some people to previously unimagined resources of data, knowledge and entertainment. The technological developments associated with the new literacies include the linking up of huge numbers of computers across continents so as to allow their users to communicate without substantial time-lags, or in 'real time' (Castells, 2000). This connectivity makes possible a level of economic and social integration at a world level that would have been impossible otherwise

What is not settled is how these new literacies are to be understood from the perspectives of how they work, how they are distributed, and how they are best engaged with, including in educational contexts. Many studies of the new literacies write about them with largely a middle-class, usually American, European, Australian or Asian context in mind, but that context is assumed rather than explicit. When contextual issues are backgrounded or ignored, or when particular contexts are treated as if they are universal, then understandings of literacy tend to become more technical in nature. Under such conditions, the new literacies, as well as the old literacies, are sometimes treated either as simply the product of skills acquired by the writer or as the point of departure for different skills to be acquired and exercised by the reader. These skills are treated as something externally given, for the learner to 'acquire' and utilize. The focus in literacy studies then becomes those skills, and the disabilities and obstacles to which would-be users are subject.

Skills-based perspectives on the new literacies

My discussion here is concerned with developing a perspective for the study of the new literacies which addresses the neglected issue of context in relation to the new literacies. Implicit in many discussions of the new literacies is a model of social consensus and assumptions of social parity at the macro-social level. This is apparent in many studies of the new literacies that focus on individual and cognitive dimensions. For example, Leu, Kinzer, Coiro & Cammack 2004.

identify the key new literacies as

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. (Leu *et al.*, 2004, 15)

This list implies that the new literacies are core skills of an operational and generalisable nature. But the recurring word ‘effectively’ in the various examples, and the word ‘correctly’ in the last example, tell us little about what might be going on in each case. The crucial point here is that effectiveness and correctness are not contained or explained within the skills-based approach, and can thus only be asserted with reference here to some vague background of social consensus as to what constitutes effectiveness and correctness².

Leu *et al.*’s view of the new literacies is consistent with their view on the ‘old literacies’ which they refer to as “skill sets” that include “phonemic awareness, word recognition, decoding knowledge, vocabulary knowledge, comprehension, inferential reasoning, the writing process, spelling, response to literature” (Leu *et al.*, 2004, 15), in a hierarchy and taxonomy of decontextualized skills and knowledge. For Leu *et al.* these core competencies of the old literacies and new literacies are massively productive gateway skills. However, such lists of context-neutral skills are a problem because they treat as given the processes of signification and meaning-making involved, which on closer examination turn out to be considerably more complex and variable than they suggest. I suggest that such assumptions of reading and writing as skills set in contexts of social consensus ignore the socially situated nature of such practices. Amongst other things they result in the production of particular kinds of skills-based curricula and pedagogy. These approaches to teaching of reading and writing erroneously promote restricted forms of practice, on the assumption of their general applicability across all contexts.

² The social consensus that Leu *et al.* mostly assume in their discussion is explicitly stated at one point, where, quoting Banton-Smith, they presents a perspective of evolutionary progress from the old literacies to the new literacies, against a background model of benign national development, where “the story of American reading is a fascinating one to pursue.... It is a story which reflects the changing religious, economic, and political institutions of a growing and progressive country.... This evolutionary progress” (Leu *et al.*, 2004, 4).

The New Literacy Studies, socio-linguistics and integrational semiotics

The idea of the ‘old literacies’ as ‘core basic skills’ presented above has been a contested one for decades now, challenged, in particular, by scholars working in the New Literacy Studies tradition (an older use of the descriptor *new* in relation to literacy, that refers not to the newness of the literacies but to the (new) ways of studying literacies). New Literacy Studies scholars’ study of literacy as situated social practice provides important resources for studying the new literacies and their social consequences (Street, 1984 2005; Barton, 1994; Gee, 1996; Baynham, 1995). These researchers have in common a broad focus on reading and writing as forming parts of purposive, relational, social action. Literacy practices are studied as variable, contexted practices which link people, linguistic resources, media objects, and strategies for meaning-making in contextualized ways. These practices vary across broad social contexts, and across social domains within these contexts, and they can be studied ethnographically. Such studies produce evidence that reading and writing, in whatever modality, appear as not exactly the same thing, in their uses, functions, modes of acquisition and status across groups of people and across specific social domains within societies. Socially located individuals draw on particular sets of perceptual, cognitive and cultural procedures and resources to make and take meanings from texts. Reading ‘effectively’ and ‘correctly’ (as in Leu *et al.*, 2004, cited earlier) does not involve just decoding of words and letters but also the practices of ‘seeing through’ the representational resources of the texts to make sense in particular ways, which vary across social settings. Literacies cannot be understood as passive and decontextualized receptivities.

From a semiotics perspective, literacy, like all other forms of communication, is not *telementational* (Harris 2000, 73). Signs do not function as conduits, transferring already-formed thoughts or messages from one individual mind to another, because communication is not something separate, outside of social processes and isolated from social influences. Harris described communication as the contextualized integration of human activities by means of signs: the sign is what is produced by such social action and is also its enabling mechanism (Harris, 1995, 13). Signs, and forms of signification, do not exist outside the context which gave rise to them; “there is no abstract invariant which remains ‘the same’ from one context to another” (Harris, 1995, 20; See also Lemke, 1997). What might look like the same multimedia text on screen is not functionally the same in a different setting. It follows different meaning conventions, and requires different skills for its successful use in situated social contexts for

particular purposes, as part of different human activities. This point is also strongly made in relation to language, in Hymesian socio-linguistics (Hymes, 1996; Blommaert, 2002) and in Hallidayian functional linguistics (Halliday, 1994; Hasan, 1996), which see language-in-use (and other modes of signification) as forms of social action and as fundamentally social. Kress (1997, 58) described reading as a “transformative action in which the reader makes sense of the signs provided to her or to him within a frame of reference of their own experience, and guided by their interest at the point of reading.” The activity of reading is shaped by the sign that is read but is not determined by it. In carrying out the transformative action of reading, we are influenced by what is characteristic of our social groupings and our place in them. We draw on a social semiotic, or what Bakhtin called a *social language*, which is a “discourse peculiar to a specific stratum of society (professional, age group, etc.) within a given social system at a given time” (Wertsch, 1991 57). Such social semiotics vary according to various factors, including our social position (as regards age, gender, economic class) and the related dispositions that we carry as embodied history and practices, together with other members of our affiliation groups, family traditions, cultures and subcultures (Bourdieu, 1991).

These perspectives point us to the ways that situated, distinctive types of meanings are shared by groups of people who sustain them as part of their collective social practices. Because they are only contextually functional, rather than inherently functional, the signs of communication (spoken, written, visual, gestural, artefactual) are also and always signs of social value in contexts of inequality. They carry what Blommaert terms *social indexicality* (Blommaert, 2002). Bourdieu made the same case with reference to ‘linguistic markets’ whereby linguistic differences (e.g., of dialect, pronunciation, vocabulary in a common language) in their social uses reproduce the system of social differences, so that particular competencies function as “linguistic capital, producing a *profit of distinction* on the occasion of each social exchange” (Bourdieu, 1991, 55). Blommaert analysed the forms of written English used in a letter to him by a young Malawian woman, arguing that she was displaying what was an expensive, status-linked resource in her context, but her departures from ‘good English’, by European standards, would make her language-use a cheap resource in the European context where the letter was received (Blommaert, 2002). I argue in this paper that the new literacies can also be viewed as cheap and expensive resources, in a variable social dynamic, that is context specific.

Computers as signs of social indexicality

The following transcribed interaction, which I analyse in condensed overview, demonstrates aspects of the above discussion. It was recorded in a study of the new literacies in a Cape Town factory that assembled shock absorbers for the international motor vehicle industry (Scholtz and Prinsloo, 2001). The conversation was between a team leader and a shop steward. The workplace had been designed as a 'high performance' workplace under the pressure of international competition and under the influence of new management texts, which argue that flattened management hierarchies, self-directed work teams, empowered workers and partnerships with workers give competitive edge to such restructured workplaces (Gee, Hull and Lankshear, 1996). There had been a break-up of production and assembly work in this factory into relatively contained and self-monitoring cells or teams led by team leaders who were appointed from the ranks of the workers and trained extensively in team leading and team-building practices.

Team leader: You need a computer to do all your work, maybe a laptop. That will ensure that you do not lose the agenda, and so on.

Shop Steward: You see, we must look poor. We don't want a computer because we are poor. We want to show the bosses that we must do things the hard way, you see, comrade.

Team leader: You are stupid, having a computer is part of being poor. (laughter from other delegates) It is not *kwaai* (glamorous) to have a pc today; it is part of the furniture (Scholtz and Prinsloo, 2001, 710).

The team leader was a new kind of 'shop-floor' worker, recruited and trained in leadership and quality control functions, and rewarded for showing loyalty and commitment to the production enterprise. The shop steward, on the other hand, invoked earlier workplace practices and relationships, where adversarial relationships between workers and management were explicit and built into trade-union discourses and relations with management. The antagonism between these two positions fueled this exchange about the old and new literacies. While the discussion was first framed as simply a question about the efficiencies of computers in relation to older writing technologies, it was clearly more complex than that. The team leaders' embracing of the

efficiencies of computerization were inseparable from their embracing of the new industrial relations order. While the team leaders still recognized the broad notion of working class identity ('being poor') they were in fact part of a new working class elite, enjoying relatively well-paid, demanding jobs, in an environment where unemployment and serious poverty were widespread (Scholtz and Prinsloo, 2001). For the shop steward it was not the functionality of the computers which was the issue. It was rather how they pointed to larger social relations. For the team leader, it was a question of efficiency, but his identification of his position as progressive and the shop steward's as backward was an ideological one, shaped by his embracing of the values, attitudes and overall commitments of the new workplace and the work order (Scholtz and Prinsloo, 2001; Gee, Hull and Lankshear, 1996).

The above dynamic, which featured computers as signs around which differences asserted themselves, is echoed in this exchange amongst Grade One children, from a recent ethnographic research project³. This is a transcript of a recorded, informal classroom conversation between two seven-year olds, a boy and a girl, in their first year of schooling, in Khayelitsha township, Cape Town.

Vuyiswa: It's Tuesday today. Aren't we going to the computer? (*KungoLwesibini namhlanje. Akuyiwa kwicomputer?*)

Thulethu: Those who haven't paid school fees are not going to the computers. (*Abangasibhatalanga ischool fees abayi ecomputeni.*)

Masibulele: You'll see when you are the ones who haven't paid school fees and we have paid even if it is next year. (*Niza kubona xa inini abangasibhatalanga ischool fees thina sibe sisibhatele noba kukulo nyaka uzayo .*)

Thulethu: What I know is that we have a lot of money at home. (*Into endiyaziyo eyasekhaya*

³ The data is from the Children's Early literacy Learning (CELL) research project, which comprised multiple ethnographic studies of children's early literacy learning in the Western Cape, Gauteng and Limpopo provinces. The data was collected by Ms Xolisa Gazula who worked as a research assistant, based at the University of Cape Town, on the CELL research project. I have included the transcripts of the spoken Xhosa in brackets for the interest of bilingual readers of this paper.

imali ininzi.)

Masibulele: If you have a lot why are you not staying in a brick house, why are you staying in a shack? (*Xa ininzi kutheni unghlali esiteneni uhlala ehokini?*)

Masibulele: You are bragging about computers. You'll see next year. We all have to start afresh paying school fees. (*Niqhayisa ngecomputer. Nizakubona kulonyaka uzayo. Kuyaqalelwa ukubhatalwa ischool fees.*)

Thulethu: The fact remains you are not going to computers. (*Okusalayo aniyi kwicomputers.*)

Masibulele: You'll see next year. (*Nizakubona kulonyaka uzayo.*)

Children at this state school whose parents had not paid their school fees were held back from going to computer classes. This is because the school wanted to put pressure on their parents to pay up. While state schools are allowed to charge fees, the school is not allowed to turn children away for unpaid fees. The computers in this case were not provided by the state but were a donation from a business foundation, which the school had solicited. The school thus saw itself as having discretionary control over these valued resources and attempted to use access to computers as a leverage to get parents to pay up on children's school fees.

The young girl Masibulele was being teased in the extract above by the boy Thulethu who took advantage of her exclusion from access to this high status resource, to 'bring her down'. She responded by undermining his claims of family wealth, pointing out that he lived in a shack. But the boy's attack on her was only blunted: "The fact remains you are not going to computers." Access to computers is clearly an index of social status in this exchange, where the computers are a sign whose social indexing function is tied up in larger discourses about wealth and its social display. (When asked by their teachers to compare the school with neighbouring schools, the children identified the presence of computers as something which marked their school as better than the others, which didn't have them.)

Computers in local contexts

It might seem, from the appeal that they have, that the computers had the same functionality in this context as they might have in mainstream settings in the USA, in Athens or Singapore. The reality here though is very different. Besides the fact that computers don't feature in these

children's home environments at all, nor in the homes of their teachers, the way children encounter computers in schools is particular. This can be seen from the following description of one class of six year-old pre-school children at the same school:

The children wait outside the computer room. The children go in. The school has 20 computers in the lab. The children are told to put their hands under the table. The teacher selects a 'pre-reading' programme and calls it up on all the computers. There are 8 balloons, numbered and in a bunch on the screen, and below that a key consisting of numbers in squares from one to ten and below each number the name of a colour. The children can change the colour of the balloons by clicking on the number-colour key.

The teacher asks the children to click on the 1/Red button at the bottom of the screen. One child I observe, Sesethu, holds the mouse and moves the cursor to number one. She places it there but does not click. The children seem confused. The teacher revises the names and places of colours in the sequence again, in case the children do not know the colours by name. He then tells them to click on number 1/Red again. Sesethu says she has clicked, but hasn't. The teacher asks them to find balloon number one and click on it. The teacher comes to Sesethu and her friend and shows them where the click button is. The teacher first asks them to identify the two number ones in the balloons. They identify them and click on them. The balloons become red. The teacher says there isn't a number 2 on the balloons. He asks what number comes after number 2? Learners say "three". Teacher asks, "What colour is number 3?" The learners say "blue". The teacher asks them to click on number 3. Sesethu identifies number 3 and clicks on it. It turns blue. Teacher says "good", and asks for the children's attention. The teacher asks the class to look on the board. He says, "Our four looks like this (4) and their four looks like 4. It is the same thing. Now first click on the yellow and then find the 4 in the balloons". Sesethu clicks on four but it turns blue. The teacher comes over and says they must click on the four first. He helps her to click on number 4 (yellow) and then balloon number 4. The teacher says, "excellent!" The teacher explained in an aside to the researcher that this was a very difficult exercise but a very good one. He said that it taught children fine-motor skills and eye-hand co-ordination. He said that the following term he planned to teach the children how to get in and out of a programme, but now they were started with pre-reading exercises.

The extract shows clearly that the school was using what have been called 'first generation' skill-and-drill computer software, donated along with the computers. The teachers enthusiastically supported the use of this software because it was consistent with their own ideas about how reading as a basic skill should be taught. They understood literacy teaching as a drill and practice

activity (Prinsloo and Bloch, 1999). Such understandings incorporated local versions of the reading readiness and skill-based perspectives that came from the USA in the 1970s and 1980s and are endemically entrenched as part of local teachers' thinking as to what constitutes literacy and learning (Prinsloo and Stein, 2004). These assumptions about literacy and learning were consistent with the software the teachers had access to, which gave strong emphasis to skills-based *reading readiness* software, as in the example above, providing hand-eye co-ordination exercises as well as fine and gross motor training activities for pre-school children, and to phonics packages delivered by computers for children in the early primary school classes. Such software does not make use of, or introduce children to key distinctive features of the new media resources, their networking and interactive features. Children thus encounter ICTs in the context of the authority relations and pedagogical practices that characterize schooling in this setting. The enforced passivity of the children (for example, where they sat with their hands under the table while the teacher set up the lesson, and then followed limited procedures in mechanical fashion) is consistent with the way they were expected to behave in school, but contrasts sharply with the often declared potential of the ICTs for children's experimentation, self-instruction and individual choices and creativity (Snyder, 1998; Gee, 2003). As regards the basic skills orientation to literacy learning, where literacy teaching in school tended to focus on letter names and sounds rather than on meaning-making, the emphasis in contemporary approaches has shifted to greater emphasis on children's active engagement in reading and writing activities as communicative practices, rather than as basic processing skills (Hall, Larson and Marsh, 2003). The teachers themselves were not secure in their knowledge or use of computers. There was a specialist teacher who worked across a number of schools in the area, and the class teachers felt unable to take up computer-based classes in his absence. This situation first came to the researchers' attention when the class teacher came in to tell the researcher that she wanted to sort something out with the principal.

She says that the computer teacher does not come to school when it's her children's turn for computers. Her children haven't had computers for a month now. They love computers.

Later the upset teacher tells the researcher that she's mad at the computer teacher.

The problem now is that she does not have proof that the computer teacher didn't teach her children for a month. She was supposed to write down that he did not come because of this

and that. Today the computer teacher is giving a computer lesson at S. Primary School in Khwezi knowing that he's got responsibility to teach her children today.

Neither the teachers nor the children encountered computers in their everyday activities outside of school. In this setting, therefore, computers were a specialist and exotic high-status resource whose functionality was very different to that taken for granted in much of the literature on children, schools and the new literacies.

The problems with not thinking of the new literacies as placed resources can be seen in studies which assume a generalisability from middle-class American or European contexts to elsewhere. For example, writers in the USA as well as Australia (Reinking, McKenna, Labbo and Kieffer, 1998; Green and Bigum, 1993; Luke, 2000) argue that children's literacy activities involving computers prior to and outside of school are typically more frequent, richer, and more meaningful than are such activities they encounter when they enter elementary school. Clearly this contrast between in-school and out-of-school experiences with the new literacies only works when such digitally-rich out-of-school encounters with computers are available to children, which is not the case here.

In the school setting presented in the data above, the computers do not and cannot operate within the networks of assumptions, practices, artifacts and infrastructure that are taken for granted in mainstream settings in the USA and elsewhere. As Latour (1993) has pointed out, technologically embedded practices require undisrupted networks of practices and machines for their smooth working. The socio-cultural and technological 'tracks' along which the computers run, in this case, have been altered and disrupted by the refigurations of the local setting, so they cannot be said to be doing the same thing here as they might do elsewhere. The question then arises as to how educators should respond to turn such situations around so that children are not actively disadvantaged by such encounters with the new literacies in relation to children who encounter them differently. In pursuit of an answer to that question, we can look more closely at how such problems are commonly framed with reference to the idea of a *digital divide*, and to the dynamics of *globalization*. In examining these constructs and their effects, I continue to develop my case in relation to the situatedness of the new literacies.

Great divides, globalisation and particularity

One important point that the above case study makes is that ICTs inserted in a particular setting to bring about certain results encounter situated social practices that do not necessarily result in these resources being used in a way that promotes social development and participation, as conceived by the implementers. This point is in direct contrast to some of the claims made by studies that follow a 'digital divide' logic.

The notion of a 'digital divide' is a familiar association when the new technologies and Africa feature in the same paragraph, and likewise when the new technologies and the underclasses of the USA or Europe are the focus. In the USA as elsewhere, 'digital divide' logic is invoked when strategies for disseminating 'new literacies' skills are made. The No Child Left Behind Act, passed by the Federal Government in 2002 enacts a wide range of initiatives, many of which are designed to improve reading outcomes in schools, and with addressing inequalities in educational outcomes. The Act has a section devoted to technology (Title II, Section D), with the stated goal, "To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability." (quoted in Leu *et al.*, 2004, 9). Researchers at the World Bank, have argued for the developmental potential of the new media networks.

"This new technology greatly facilitates the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formation and execution, and widen the range of opportunities for business and the poor" (World Bank 1998, 1).

This logic around digital divides brings to mind the claims that were made about the old literacies, of print and paper, with regard to their cognitive and social consequences. Influential anthropological, historical and sociological perspectives on literacy, particularly associated with Goody (1969), but also drawing on the work of Havelock (1976) and Ong (1982) claimed that there was a fundamental divide, both cognitively and socially between those who were literate and those who weren't; that oral language had one set of features, written another, quite different from each other. 'Great divide' logic assumes that literacy produces the same social and cognitive changes, because of its intrinsic characteristics, no matter who learns to read and write, and no matter where or when literacy emerges.

Arguing from an ethnographically-informed perspective, Street and other scholars identified the logic of this 'autonomous' model of literacy as one of technological determinism (Street, 1984), in that it treated literacy as having uniform consequences regardless, "as though it were outside the social and political relations, ideological practices, and symbolic meaning structures in which it is embedded" (Rockhill, 1993, 162). The strategy that such thinking produced for the 'old literacy' was the assumption that a national program would provide all citizens equal access to these powerful resources, and, thus, equal opportunity for upward social mobility and economic prosperity. However, as the New Literacy Studies scholars argued, it is clear enough that "literacy *itself* does not have agentive force to change societies. It is humans who are the active force in any transformational processes accompanying the introduction of literacy" (Schieffelin 2000, 299).

Such arguments about 'great divide' logic in relation to the 'old literacies' suggest a cautionary approach to the study of the 'new literacies' in terms of a 'digital divide'. It is abundantly clear that the capacity of the Internet is distributed highly unevenly throughout the world, with real consequences. The problem with 'digital divide' thinking is that it encourages simple digital solutions, along the lines that 'great divide' thinking proposed solutions that focused on getting people exposed to basic techniques of coding speech and decoding print, without adequate attention to the way these limited skills were embedded in wider ways of social and individual being. In illustration, the World Bank and UNESCO have been enthusiastic over the idea of 'telecentres' in African villages and centres, with an Internet-linked computer providing a multi-function resource. Much of the research into these centres has been disappointing, however, with many such telecentres used for telephonic communication with friends and families and for preparing job applications rather than using the Internet than anything else (Stavrou, May and Benjamin, 2000).

The new literacies and globalization

Discussions about the 'digital divide' are almost always accompanied by references to 'globalization' as a new form of social organization that is world-wide and with real consequences. The 'global view' on globalization is that of a radically new form of capitalist, socio-economic organization that arose in the later decades of the last century and is world dominating in its influences and effects (Castells, 2000). Globalization is fundamentally new, in

the theoretical perspective presented in the work of Castells, because it is tooled by new information and communication technologies. This information-technological revolution makes possible new forms of production and organizational forms, resulting in a global economy where capital markets are interconnected world-wide and where multinational corporations, in manufacturing, services, and finance constitute the core of the world economy. The global economy relies on a technological infrastructure of telecommunications, information systems, microelectronic-based manufacturing and processing, as well as information-based travel and transport systems. These allow the core activities of the economy to work as a unit in real time on a planetary scale.

While it provides an elegant account, a non-deterministic de-centred model of globalization such as that of Castell's does not deal with complexity, detail, hybrids and implicit processes. The environment inevitably gets homogenized in the attempt to make sense of the complexities of an emergent whole. It is a perspective which can be seen as an example of what Law and Mol called 'romantic complexity', or 'looking up' (Law and Mol, 2002, 4), where the global conjures up an image of a reality that it is complex and large scale. 'Looking up' is a sense-making process that identifies a number of different elements, and then shows how they relate to produce a complex reality which, while abstract, makes a larger and higher sense of the parts. Globalisation, in this view, is a reality that is qualitatively different from its component parts; and it can only be grasped if we look at the whole, at a level of abstraction. A different perspective on globalization argues that we can also 'look down' to look at globalisation, and it then becomes something different. By 'looking down' we make an effort to understand local cultural processes, meanings and symbolic processes, in a way that is sensitive to local variation. This does not at all mean that we stop thinking of larger processes of economic exploitation and historical change, rather that we stop thinking of them in a holistic and decontextualised way. In this lens, the global is specific. It changes shape and size when it travels, and it travels only uncertainly. In other words, if one 'looks down' rather than 'up', the different and contending practices that come into view may not add up to a whole.

The new literacies as placed resources

Such arguments about the limits of 'digital divide' logic and of globalization as uncertain, and as always only actualized in the local, point back to the view of the new literacies as 'placed

resources' that I presented earlier in this paper. At the level of practice, the new literacies are never reproduced in their entirety across different contexts. They function as artefacts and as signs that are embedded in local relations which are themselves shaped by larger social dynamics of power, status, access to resources and social mobility. As Blommaert explained, 'placed resources' are

resources that are functional in one particular place but become dysfunctional as soon as they are moved into other places. This process of flows creates difference in value, for the resources are being reallocated different functions. The indexical links between signs and modes of communication on the one hand, and social value scales allowing, e.g. identity construction, status attribution and so forth - these indexical links are severed and new ones are projected onto the signs and practices (Blommaert, 2002, 20).

Conclusion

This paper drew on and developed arguments and analyses of literacy, signs, language and communication in social practice to make the point that *all* sign-based communicative activity is shaped both by immediate interactive dynamics and by wider social and material practices. On this basis I have argued that the new literacies don't have an intrinsic resourcefulness. Whether they offer opportunities for particular users is something that has to be established by situated research, not assumed. In the case of the school interactions and practices around computers and ICTs that I examined, I showed that 'digital divide' analyses and solutions by way of technology transfer are problematic. 'Digital divide' logic overemphasizes the importance of the physical presence of computers and connectivity to the exclusion of other factors that allow people to use ICT for meaningful ends. I have shown that computers operate as exotic and dysfunctional resources when they are inserted into an educational context where they do not have a significant part to play in relation to the social and technological practices that characterize that context.

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