

DEFICIENT “DISADVANTAGED STUDENTS” OR MEDIA-SAVVY MEANING MAKERS? ENGAGING NEW METAPHORS FOR REDESIGNING CLASSROOMS AND PEDAGOGIES.

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ABSTRACT. Students in disadvantaged schools are often seen as lacking in ability, motivation and appropriate academic skills. In a practitioner-university collaborative project which investigated literacy, information and communication technologies and educational disadvantage, student researchers made short films about new technologies in their school. We discuss positive metaphors that their films brought to mind for us: apprentice theorists, word players, cadet film producers, novice researchers and global communicators. Each metaphor highlights ways in which students can be meaningfully engaged in learning. Understanding pedagogy as an apprenticeship of knowledge production is another way to disrupt the discourses of deficiency. We also suggest two metaphors for classrooms in which such learning might take place: as multi-media labs and as hyper-studios. All of these metaphors suggest to us that, just as with our film-making project, engaged learning occurs when the lives, knowledges, interests, bodies and energies of young people are at the center of the classroom and school.

« ÉLÈVES DÉFAVORISÉS » DÉFICIENTS ? UTILISATION DE NOUVELLES
MÉTAPHORES POUR RESTRUCTURER LES SALLES DE COURS ET LES PÉDAGOGIES

RÉSUMÉ. Les élèves des écoles défavorisées sont souvent perçus comme manquant de facultés, de motivation et de dons scolaires appropriés. Dans le cadre d'un projet de collaboration entre une université et des praticiens consacré à la littérature, aux technologies de l'information et des communications et aux milieux scolaires défavorisés, des chercheurs étudiants ont tourné plusieurs courts métrages sur les nouvelles technologies utilisées dans les écoles. Nous analysons les métaphores positives que leurs courts métrages ont fait naître dans nos esprits : théoriciens-apprentis, joueurs de mots, producteurs de films débutants, chercheurs débutants et communicateurs mondiaux. Chaque métaphore illustre les façons dont les élèves peuvent se livrer à l'apprentissage de façon utile. Comprendre la pédagogie comme apprentissage de la production de connaissances est une façon de perturber le discours sur les déficiences. Nous proposons également deux métaphores pour les salles où un tel apprentissage pourrait se dérouler : comme laboratoires multimédias et comme hyper-studios. Toutes ces métaphores nous incitent à croire que, à l'instar de notre projet de film, l'apprentissage engagé survient lorsque la vie, les connaissances, les intérêts, les corps et l'énergie des jeunes sont au cœur de la salle de cours et de l'école.

Much school reform sees students as simply the objects of policy action. The effects of particular kinds of curricular, pedagogical and assessment change are judged by 'student performance', measured as test results or as achievement against stated 'outcomes' (Levin, 2001). Such 'results' continue to show how it is that schooling benefits some particularly classed, raced and gendered students more than others (Teese, 2000; Wotherspoon, 1998). In an action research project designed to examine literacy, information and communication technologies in schools in high poverty neighbourhoods (Comber & Green, 1999), we attempted to move beyond students as objects of action towards a model of students engaged as co-researchers. In this paper we briefly describe this project and how the strategy of students-as-researchers speaks to school pedagogies and also to research methodologies and epistemologies.

We focus here on one particular aspect of the students-as-researchers method, viz. the capacity of children and young people to surprise and teach adult researchers. In this research project, data produced by students disrupted our thinking about the research questions and trajectories. We were stimulated to think differently about the pedagogical possibilities for changing education for students in marginalized localities, students for whom schooling is often not a rewarding, happy or successful experience. In this article we describe what it was the student researchers did to make us sit up and take notice, and we detail the metaphorical play that we undertook as a result.

This article, then, is a 'think piece,' not a research report with 'findings.' It sits within a tradition of educational futurist speculation which has predicted and/or desired sweeping changes in society (Haraway, 1990), work (James, Veit, & Wright, 1997; Reich, 1991), cities (Davis, 1992), schooling (Beare & Slaughter, 1993; Caldwell & Hayward, 1997; Dewey & Dewey, 1915), young people (Rushkoff, 1996), pedagogy (Goldman-Segall, 1998), literacies (The New London Group, 1996) and curriculum (Doll & Gough, 2002). Our article is a small and particular instance of such 'visioning,' It is produced from considerations of the educational possibilities of new technologies, as is generally the case in this mode of educational inquiry. Petrina (2002), examining the history of 'schools of tomorrow,' shows how the production of utopian and dystopic visions are entangled in technologies - be they 'buildings, computers, custodians, historians, media companies, military subsidies, students, teachers, teaching machines, tests and textbooks' (p. 110). He also demonstrates how such techno-imaginaries are constructed within dominant discursive regimes that regulate and discipline. In our case, we are positioned within a critical trajectory that seeks to achieve curriculum and social justice (Connell, 1993).

We begin by with a brief description of the research project and the role of students-as-researchers.

THE "ITLED" PROJECT

The ITLED (Information Technology, Literacy and Educational Disadvantage) project was undertaken in cooperation with six disadvantaged schools in South Australia to investigate the ways in which new technologies were and could be taken up in literacy curriculum. The project was funded by the South Australian Department of Education, Training and Employment (DETE). The project involved teams of university-based researchers and school-based student and teacher researchers working together to (re)design school literacies by taking up new technological possibilities. The project took as its starting point understandings of literacy as socio-cultural practices (Barton & Hamilton, 2000). Despite continual moves to standardize and normalize literacy, in this case literacies were assumed to be plural and subject to reconstruction. The project was informed by research which suggests that students' community, peer and home funds of knowledge, and cultural and linguistic resources, can form important bridges to learning new forms of language and literacies at school (Dyson, 1993, 1997, 1999; Heath, 1983; Luke, O'Brien, & Comber, 1994; Marsh, 2000; Moll, 1992).

The schools were selected as research sites for the project because their written applications showed evidence of the following qualities: innovative literacy curriculum and pedagogy; a commitment to working with new technologies; a tradition of action or teacher research; democratic decision-making structures; and a demonstrable understanding of social justice. Some schools were stronger in some of these areas than they were in others. In terms of new technologies there was considerable difference with regards to the amount and kinds of hardware, software and staff expertise in each school. There were many differences across the other criteria as well. For instance some schools had explicitly focussed on questions of literacy and social justice as part of their school development plans and some had not. Our hope was that the teachers would learn from each other's strengths.

In this project students were invited to become researchers along-side their teachers and university-based researchers. This was not an afterthought, but explicitly built into the design of the action research. We assumed that not only were young people capable of taking such positions, but that they would provide perspectives that significantly added to the project. That is, we expected them to offer insights that we may not otherwise have made without them. We also hoped that, as students worked with their teachers and with us on researching their school, they could potentially contribute to changing the dominant schooling pedagogies implicated in the production and reproduction of educational inequities.

We were interested in what happens when students are re-positioned as researchers (Comber, 1994) who investigate specific practices and contribute to knowledge production. But we were not simply doing this because it

makes our research better and more interesting; we were also exploring how engaging students in systematic practices of inquiry might fundamentally reform schools and classrooms. Just as teacher-researcher movements have repositioned teachers with respect to the production of knowledge (Cochran-Smith & Lytle, 1999) so too might student-researcher approaches to pedagogy and school learning alter in very significant ways students' relationships to knowledge. We suspected that through active participation in knowledge production students would become more involved in learning both the required and other curriculum, and would consequently learn more successfully. We therefore saw our research as contributing to debates about more equitable research methodologies (Griffiths, 1998) while also simultaneously adding to professional and general understandings about the kinds of reforms to classroom practice that produce more socially just outcomes.

In an initial phase of the project student researchers worked with an independent film-maker to produce short films about information and communication technologies. Students were selected by their teachers to participate in the project. One possibility about which we were concerned at first was that schools would seek to involve the most academically accomplished students, those who were already actively engaged with the mainstream curriculum on offer. An alternative was that this would be seen as simply something for students variously described as 'at risk,' 'non academic,' and in 'need' of something other (lesser) than the mainstream curriculum. Neither of these happened. Most schools chose a representative group of students and most actively tried to use the project as a means of bringing together diverse groups of students who might not ordinarily work in teams. Students with varying cultural and language resources and with different educational dispositions and accomplishments and varying degrees of (dis)engagement with school worked side by side with their teachers.

The student researchers, ranging in age from five to seventeen, began the research by making short documentaries from their viewpoints about new technologies in their school with assistance from an independent film-maker. Students called up what they already knew to successfully produce, in the case of every school, an engaging thought-provoking account through the film media. Taking students seriously from the outset of the project reflected our commitment to involving young people not merely as informants or the subjects of research, but as already knowledgeable and with the potential to develop their own research dispositions and capabilities (Qvortrup, Bardy, Sigritta, & Wintersberger, 1994). Our view was that schools could become sites where knowledges are brokered, produced and critically interrogated. In such reciprocal pedagogical processes, epistemological relations are fundamentally changed.

Viewing their films for the first time at our initial project conference at an Internet Café, we were struck by their sophistication and complexity. We have subsequently been back to the six films a number of times to consider what they tell us about what these young people know and can do, and how educators might capitalize on young people's engagements with, and investments in, media and popular culture for school-based learning. Here, the 'hands on' nature of the filming was complemented by the need for semiotic work in the design and editing process. In addition, the demand for a product which would be launched at an event contributed to a sense of urgency and anticipation.

In one sense our project was an attempt to create different kinds of learning spaces – for youth and educators alike – within schools and within an authorized research endeavor. Many researchers have noted the important learning and identity work that is done in out-of-school learning sites (Bentley, 1998; Heath, 2000) and in extra-curricula activities (Brennan, White, & Owen, 2001), yet how to open up the school so that students' creative, media and research capacities thrive has ironically received less attention in the light of recent policy emphases on minimal standards.

We now move on to present some interpretations of these students' media 'texts.' We suggest that the metaphors that the students use, the 'vernacular theories' (McLaughlin, 1996) that underpin their films, have the potential to disrupt the dominant discourses of policy, schools and teachers in which the computer is an inevitable and neutral 'tool,' students simply perform outcomes and/or students in disadvantaged schools perform badly. We find that these students' films point to more open and (re) generative ways of thinking about new kinds of technology-enriched pedagogies, and about schools as sites of inquiry and knowledge production.

Before moving to the students' films, we discuss our analytic orientation to text and metaphor.

METAPHORS AT WORK

Words work in powerful ways in the world. We work from and with an understanding that the ways we talk about people, places and practices matter. If this was ever in doubt, witness recent media reports of the 'attacks on America' and the aftermath of the 'war on terrorism': the world's people have been re-divided both metaphorically and materially in these phrases. Meaning is constructed in and through language as categories, metaphors, rationales, stories, and tropes (Game & Metcalfe, 1996) and, while these are just representations of ideas, practices and material events and circumstances (Hall, 1997), we nevertheless act on those meanings (Fairclough, 1989; Gee, 1999). For example, whether people are described as 'border

crossers,' 'invaders,' 'nomads,' 'gypsies,' 'asylum seekers' or 'refugees' affects how they treated, what they can be and what they can do. And in education, whether it's the 'literacy hour' or 'catching children in the net' or reading 'recovery,' words are inevitably tied to programs and proposals for solutions. How the problems are described and defined are crucial in how decisions are made.

In the research described in this article we were concerned with three kinds of language practices: (1) those that describe students in disadvantaged schools¹ in order to produce particular pedagogies, (2) those that in the name of equity and standards inscribe students as producers of designated developmental outcomes, and (3) those that construct the use of information and communication technologies.

Newspaper reports frequently portray young people as threats or victims and employ martial metaphors (such as guerrilla gangs) to make their case (Bessant, 1995). Vocabularies from various educational, legal and medical discourses constitute young people as a problem to be solved (Fine, 1995; Swadener, 1995). These descriptions of young people – as 'at risk'/deviant/victims/young offenders/dole-bludgers² – are negative constructions which produce negative effects. And not surprisingly it is more likely to be young people living in poverty or young people from cultural minorities who are represented in these deficit ways (Comber, 1997).

In schools, traces of such metaphors may re-appear in staffrooms, classrooms and report cards. When societal metaphors for thinking and talking about young people resonate with criticism, such metaphors may reappear as commonsense. In disadvantaged schools it is not uncommon to hear people say "That's the way these kids are," or "In this school we could not possibly do what they do in middle class schools because these kids cannot. . ." and "These kids wouldn't be interested in doing that". The ascription of a lack of ability, a fixed and limited identity or a lack of motivation can lead directly to destructive and deficit assumptions about student engagement or alienation. The danger here is that this way of thinking translates into actions, so that young people living in poverty may be offered a 'pedagogy of poverty' (Haberman, 1991) at school, a minimalist and behaviourally oriented curriculum. Yet where teachers have high expectations of young people and work with their cultural and linguistic resources, it is clear that socio-economically disadvantaged students can and do have high scholarly achievements (Comber, Badger, Barnett, Nixon, & Pitt, 2001; Gregory & Williams, 2000).

The introduction of new information and communication technologies has been accompanied by a discourse of inevitability – change is upon us and we can do nothing to alter it. The new 'information age' is marked by rapid change with which we must struggle to keep up (de Cock, Fitchett, & Farr,

2001). At the same time, and perhaps as a way of managing this 'technological determinism' (Bigum, 1997), educators frequently talk of the computer as a 'tool' which will enable them to do (the same) things better. This notion naively ignores how it is that some socially constructed 'tools' have powerful effects as their users take them up within differing social contexts (Grint & Woolgar, 1997), and also how 'tools' can change significantly – as did the chimney, the printing press, the wheel and the steam engine – our ways of being in the world (Thomson, 2001b).

Our interest in this research project was to intervene in these reductionist, determinist and deficit discourses. While concerns about young people and new technologies are part of a more pervasive anxiety indicative of late modernity (Beck, 1992; Giddens, 1991) as people come to take account of contemporary and future uncertainties and risks, we believe that the times we live in also offer new and positive possibilities for young people and their teachers to create learning environments which work in their interests in new ways. We argue that, as we (re)design (re) new(ed) classrooms, we need to learn from history, both in terms of theory and enacted curriculum practices and their effects. Just as repertoires of negative vocabulary operate destructively on teachers' expectations, positive metaphors can generate potentially powerful learning situations, as well as 'counter narratives' (Neilsen, 1999) which go from 'critique to possibilities' (Portelli & Solomon, 2001).

We began the research described in this article believing that new communication and information technologies are already generating new and powerful forms of literate practices, along with a host of new metaphors and cyber vocabulary. We recognized that developing new approaches to pedagogy in disadvantaged schools requires more than a good metaphor or two, but nevertheless believed that it was crucial to examine our collective professional ways with words and their effects on young people, curriculum and pedagogy.

In this research we set out to remember old metaphors which emphasize the promise of young people, as well as explore new metaphors which generate different pedagogical relationships in changing technologically enriched sites.

STUDENTS IN DISADVANTAGED SCHOOLS INVENT NEW METAPHORS FOR THE NEW TECHNOLOGIES

Right at the start of the project, pairs of student-researchers in each of the schools worked enthusiastically for half a day with Paul, the film-maker, to make a five-minute documentary on the theme *Technologies in my school*. This activity showed all of us that these students could 'perform' if the task was interesting, relevant and meaningful to them. When the teacher and

university researchers saw the films for the first time at the opening conference day, we were struck by how much these young people already knew about both the potential for, and the hype that surrounds, technology. What also struck us was how aptly they captured some concepts that we had located in the scholarly literature. As students in disadvantaged schools so often do, they confounded us with simple, yet powerful, expressions of these ideas.

We now examine these ideas in turn, describing the metaphors used, and elaborating to show their underpinning 'vernacular theory.' We have given the schools pseudonyms to protect their anonymity.

Apprentice theorists

Student researchers at Royal Parks High School made a short film showing various pieces of computer equipment talking to each other. It reminded us of those anthropomorphic advertisements that have chocolate-coated sweets or fruits holding conversations. It was a very efficient use of the available technology too, because a static array of equipment could be made to seem alive by using simple voice-over techniques. When asked if they thought whether computers really were 'alive', one young man replied that it was not a case of machines being like people, but rather that machines could actively cooperate. This insight is very significant. The group of students did not see computers as passive tools, but rather as agents that could have an impact on the way things are done. This is very much the basic premise of Actor Network Theory (Latour, 1996), which suggests that not only people, but also material objects such as buildings, and machines, actively influence the ways that events and activities occur. Such a view is quite contrary to the implication of information technology policies that suggest that computers are neutral 'tools.'

We asked ourselves what learning would occur if we invited these students to continue theorizing about their changing world, starting from the idea that machines change the ways that things are 'done around here'?

Word players

The student researchers at Caroline Chisolm High School began their documentary with an opening visual in which two students in white lab coats brainstormed technology words. The quest or journey of discovery was used as a structural organizer for their piece. Taking on the persona of mad scientists, they hunted for technology words around the school, interviewing their peers and quizzing each other. One insight their short film explored is that new words are being invented and old words have new meanings in the world of technology. The students understood the need for new words to describe new concepts and their physical manifestation. They reminded

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us of Heath's 'linguistic detectives' as they explicitly explored the uses of language. They also 'played' with language and representation in casting themselves as 'mad scientists' and as the knowers of words and their meanings.

Also of interest here was the way in which the students at both schools drew on their knowledge of popular culture, particularly television, to construct their documentaries. For instance the mad scientists hunting for technology words calls to mind the generic style of popular science investigative television reporting. Their behaviour as comic foils for each other brought to mind television comedy and Saturday morning youth television. What we began to see here was how students are able to make use of their linguistic and cultural knowledge to explore new questions and to produce effective cultural and educative artifacts.

Making a film is a far cry from grammar lessons or fill-in-the blanks exercises designed to test what young people know about the structures of language, because it requires students to interrogate the use of language in context. In the process of film-making these young people also managed to play with words, experimenting with multiple meanings in ways that seem to us 'direct instruction' pedagogy cannot achieve.

Cadet film producers

Student-researchers at Hollywood Primary School also demonstrated their perceptiveness and analytic capacities as they designed their documentary. The interviewing technique of the student-researchers was very much like the roving TV reporter on a human interest story. As one student interviewed the school clerical officer about her work, he asked her to make comparisons between the typewriter and the word-processor. This interviewing technique and the camera shots were the familiar repertoire of current affairs and tabloid news. As the documentary proceeded, the students called on their knowledge of television advertisements as they literally and visually weighed up a shelf of books against a CD. They spoke directly to viewers asking them which they would rather have. Here they parodied the world of cheap and late-night advertising. In later footage they portrayed themselves as spies, using conventions from espionage genre films, as they investigated technologies in their school.

These primary-aged students actively exploited all their prior knowledge as viewers. They drew on everyday television genres and modalities that many teachers refuse to allow into the classroom. Despite evidence that soaps, thrillers and current affairs programs do often have liberal humanist values as the 'point' of the story (Howard, 1994) and are taken up by viewers to make meanings in their own contexts³, Australian teachers often feel that such television programmes are a low art form unworthy of serious consideration. They seek to persuade students to watch something more worthy,

more 'tasteful.' This ignores the very significant knowledges of their students who are not only often media-savvy, but some are also aspiring film-makers. Students who live in a media-saturated culture (Nixon, 1998) have considerable resources which could be put to work in and as an engaging pedagogy.

Novice researchers

Young junior primary students from two primary schools also worked with the film-maker to research new technologies in their schools. Student-researchers, as young as five and six years old, interviewed older peers, parents, community members and teachers. They were in a position to ask questions and to record responses using video cameras. Questions they decided to research were: who helps who with new technologies, where, why and how? They demonstrated their knowledge of the potential of information and communication technologies, with comments such as, "It's got power in it."

What was clear from this work is that when children are positioned as researchers and when the technologies are unlocked (including digital cameras, video cameras) for them to learn with, they actively use what they already know about how people research in the real worlds of media and everyday life. That is not to say that they did not need to spend considerable time thinking about, rehearsing and trying out their questions. One school in fact planned a whole day of workshopping, with teachers and students both learning how to interview and ask questions which generated useful information.

Disadvantaged school students report that they are too often expected to complete tasks that require them to use commercial texts to find predigested facts that require little analysis (Smyth et al., 2000; Wilson & Corbett, 2001). 'Real life' research is one alternative. It involves students not only in technical matters such as designing good questions and remembering to turn on the recorder, but also engages them in the messy business of dealing with diverse human responses. They must decide how to summarize, interpret, categorize, and represent their results in ways that do justice to the people who were their informants. It is hardly surprising that they find this attractive, and more so when it contributes to a 'real project' with live audiences and tangible products.

Global communicators

Green Ponds Primary is located in a country town that has been severely affected by the downturn in the rural economy. It takes a long time to get to the city of Adelaide from Green Ponds, and many students in the primary school rarely leave their part of town, let alone get to the 'big smoke.' The school's project was to make a website and to see what literacies students

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used and learned during the process. The website was to be student-designed and student-maintained. Each class was to have responsibility for updating the information, just as they already did with their school newspaper and with school assemblies (Thomson, 2001a).

Every student at Green Ponds used the World Wide Web during the research project. They visited school web sites around the world as well as sites of interest to young people, such as Nintendo and the Australian Football League. They developed a set of criteria about what makes a web site valuable, interesting and user friendly. One student from every class also had intensive experience with the Web and with email, and they went back into their classes as 'student navigators' who showed their peers how to traverse cyberspace.

During the research project many of the students began emailing other schools around the world and they got replies. The students and their teachers no longer saw themselves as just part of a small country town, but as a school with an address in cyber space. Their whole school discussion was about how they would *represent themselves* to the world, and how they might begin to *act* in and on their expanding horizons.

These young people increasingly lived locally *and* globally, their relations with the outside world stretched out over thousands of miles and fractions of a second. They had a sense of themselves as engaged in 'flows' of information and images, of a digital 'scape' in which they could have a presence (Appadurai, 1996). This insight goes further than simply seeing the web as a communication tool through which to collect information for locally determined curriculum outcomes. It suggests that these young people were constructing their identities using different resources (Kenway & Bullen, 2001), positioned in relation not only to their neighbours close by, but also interactively connected to others in other places simultaneously near and far.

JUST NEW CLASSROOMS: SOME IDEAS AND THEIR PRACTICAL IMPLICATIONS

It was clear that these students in disadvantaged schools already knew that the new communication technologies are more than mere tools. They worked with and on the phenomena of new language, new ways of relating and communicating with each other, new ways of writing and reading, and new ways of being, working and being seen in a wired and networked world.

Following their lead, we suggest that the large scale introduction of the new technologies into schooling could mean more than merely thinking how we, as school and university teachers, can use computers to help us do what we already do more efficiently. We think it might mean that we can do some

different things – differently – from what we now do. It might also mean we can re-approach some ineluctable old problems from different angles.

The challenge to produce and assemble new, inclusive knowledges and skills, and new, inclusive institutional practices and pedagogies, is at the heart of the ongoing ‘just schooling’ project. Many of us working in and around disadvantaged schools have long searched for ways to break the moulds that produce inequities. We think that the new technologies offer the chance to think again about what a more just schooling and more engaged pedagogies would look, feel, and sound like.

In the interests of moving this project forward, we have two further metaphors we want to explore and sketch out. The first of these addresses pedagogy while the other concerns the kinds of classrooms in which the students, and the engaged and engaging pedagogies we have described, might thrive.

THE PEDAGOGICAL POSSIBILITIES OF APPRENTICES AND ARTISANS

It is commonplace these days for populist commentators to refer to the emerging ‘information economy’ and ‘knowledge age’ (Rifkin, 1996; Spender, 1995). Students must become adept at what will be required for knowledge work we are told, they must learn how to learn, if they are to cope in the future. This rhetoric has been one of the driving imperatives behind the information technology policies of governments and a matter of considerable concern to teachers in disadvantaged schools who fear that this may be yet another way in which their students may be further penalized.

We want to take the notion of knowledge work and suggest that, rather than this work being something that is beyond the school, for which students must be prepared – a ‘world of work’ which students must leave the school to find – the school itself is a work site. We ask, what does a school do if it is not concerned with information and knowledge work? Students can be seen as apprentices in this particular information and knowledge arena. They must learn the craft of knowledge production from skilled artisans, their teachers.

Artisans are expert (what was once called ‘master’) crafts persons. Being an expert is not just a matter of knowledge and skills, but is a way of living, thinking and acting. We might say that their craft is an often tacit and always embodied expert practice (Bourdieu, 1990, 1998). We will explain further through two examples. The first is about being and knowing as a soccer player.

When wonderful soccer players are on the field, they do not consciously consider every move they make. They do not have time to consider all of

their options, make a list of possible consequences and then choose the move most likely to succeed. And they do not *need* to do this.

Expert soccer players assess the moment for dribbling or the possibility to score a goal by the entire visual situation in front of them, together with the sensations in their bodies releasing memories of earlier situations, where dribbling or attempts at scoring have succeeded. (Flyvbjerg, 2001)

Expert soccer players knowingly and expertly *act*. The practice of expertly playing soccer becomes inculcated not only into their minds but also their bodies: it becomes a taken-for-granted practice. They move from an apprenticeship in soccer to the expert stage through systematic, bodily, engaged practice, undertaken over years and countless games. It becomes automatic, but also reflexive – able to be analyzed after games have occurred – and able to be improved – through systematic analysis and learning of new techniques and refinements of old ways of doing-being-knowing.

This development of accumulated embodied practice is perhaps more easily seen when we look at occupations in which the term apprenticeship is still current.

Our second example comes from the food industry. One of the most important things that apprentices who work with food have to learn are appropriate work habits and dispositions. Those who work with food have to be able to produce the same product quickly, over and over again. They have to develop habits of precision and speed, but also must have fastidious hygiene: they must be consistently and constantly cleaning up and putting equipment and materials away. They must work under pressure and be able to solve problems by applying their knowledge to a myriad of potential crises. They use their accumulating knowledge of past practical 'cases' as well as learned theories and reasoned deduction – what we might call a repertoire of practice – to solve problems as they arise.

Why is the bread not rising as fast as it might? Maybe the yeast is old, the temperature of the room is abnormally cold, the flour less strong than usually supplied. The answer to the problem may be laboriously solved by the apprentice in trial and error fashion, whereas the expert baker 'knows' the problem by 'feel' and almost automatically and imperceptibly makes adjustments to achieve the desired results.

This repertoire of practice – incorporating habits, dispositions, knowledge, skills and ways of being in the kitchen - is more important than recipes. This is *expertise* – 'the art of the *necessary improvisations* which defines excellence' (Bourdieu, 1977).

The same process occurs in areas other than playing a game or baking bread. Those working with both tangible materials and ideas in order to produce a painting, an opera, a dance, a text go through a process of apprenticeship

to acquire embodied expertise. It is clear that the move from apprentice to artisan is one that requires time, immersion and continued engagement. It is one that has generalizable characteristics, but is also specific to the activity. An apprenticeship in dance requires different teaching-learning from an apprenticeship in baking.

Knowledge production is also like this, we think. The move from apprentice to artisan knowledge producer is one in which students will acquire a repertoire of knowledge production practice – an assemblage of habits, dispositions, accumulated understandings, tools and strategies that work in particular situations, with specific languages, categories, and theories. As they move through their apprenticeship learning from and with their artisan teachers, student knowledge producers will become adept at asking questions, looking for surprises, systematically generating evidence, theorizing, analyzing, writing, designing and arguing. They will analyze their knowledge production strategies, systematically practice and trial new techniques, and build a case history of examples of successful knowledge production. They will be apprentices in specific disciplines and work in multi-disciplinary teams. They will be deeply immersed in the play and pleasures of knowledge production for the long period of compulsory schooling.

Knowledge production will become a taken-for-granted way of doing things. It will be a way of being, doing and living in an information-saturated world. Students might be apprenticed as filmmakers, journalists, global communicators, researchers and theorists to teachers whose refashioned professionalism has a renewed pedagogical focus. This is a metaphor of meaningful engagement.

Our final metaphor concerns the classrooms in which these engaged students and teachers might work together.

CLASSROOM AS MULTI-MEDIA LABS/STUDIOS

One of the schools in our research project had a long-term involvement with the Pedal Prix – a race in which students drive pedal powered machines they have designed and built themselves – and with CAD design. They began thinking how such activities might be taken further. There are many such small projects in disadvantaged schools. They are some of the places where students learn vast amounts, extend themselves, and show their teachers, their parents and themselves how much they can achieve if they dare, if they harness their imaginations and energies to an end point that is barely achievable but highly desirable. Here technology is used on 'real world' projects in which students have a keen interest and can see not only purpose, but also pleasures.

This reminds us of some work settings already in existence.

In the most productive Silicon Valley software design laboratories young software engineers are actively encouraged to dream, innovate, to break rules and push boundaries, to put old things together in new ways and to create new understandings. They can work singly, but more often in teams, on large daring projects that demand passion and commitment and must be affordable, and delivered within timelines. They work when and how they need to, sometimes seeming to 'waste' time playing and relaxing, while they mull over solutions to problems. There is little emphasis on formality in these hotbeds of creativity. People are judged by their achievements and on their ability to get along with others in the workplace. They are not competing with each other, but against their own capacities to bring dreams into reality.

While we would not suggest that schools and classrooms could or should become fully fledged 'skunk-works'⁴ we do think that schools can learn from these sites. The capacity to dream, and to take on big and real (rather than simulated or abstracted) projects which involve the construction of new knowledge and new behaviours, is more often confined to extracurricular activities such as the annual music concert or drama performance than to the mainstream curriculum. As we have argued, in today's schools, students tend to be confined in classrooms, and to projects that are well within their reach and somewhat removed from the youth cultures within which they live. We suggest that they should be challenged to use all of their interests, creativity and collective 'smarts.'

We know that some people are already experimenting with this metaphor as classroom practice. Some years ago Bill Mitchell, Professor of Architecture at MIT, came to Adelaide (the capital of South Australia) to talk about the virtual architecture studio he and others had established. It was a multi-sited cyber-space that used new technologies to (re)create the classical pedagogical relations of the Renaissance arts studio.

The studios of the famous artists of the Renaissance were universities for aspiring practitioners. When young novices enrolled in a studio they undertook to work as part of a team on projects that the artist directed and designed. They undertook to engage in a program of independent projects under the tuition of the artist, and understood that in time, as they grew more skilful, they would be given increasing responsibility for leading small work teams and undertaking smaller projects.⁵ The artist, in return for their labour, provided artistic guidance and ensured that the studio maintained a culture of aesthetic appreciation, constructive criticism and lively debate. Studios were opened to the public and many became salons promoting the culture of debate, criticism and appreciation within the community.

This was the model which Mitchell and his colleague professors applied to their virtual program and site. Jointly, across several countries, they under-

took actual commissioned design projects, in which the architecture students engaged in collaborative and independent work projects. They tabled draft drawings and ideas, and debated and discussed them in the cyber studio. They managed and monitored on line in the studio – and also visited in the flesh – the sites where their plans were being made material.

We are excited by the possibilities that this metaphor opens up for schools. We can imagine how the idea of the lab/studio could bring together some of the ways in which teachers in Australian disadvantaged schools prefer to work (Comber, Thomson, & Wells, 2001; Coopers Lybrand & Ashenden Milligan, 1992; Holdsworth, Stafford, Stokes, & Tyler, 2001; Thomson & Turner, 1989). We think about:

- the ways in which students are encouraged to work at the craft of writing by sharing drafts and acting as peer audiences
- the successes of students working with practising artists
- the positive influence of cross age and peer-tutoring
- the impact of legal studies students engaged in mock trials coached by practising lawyers
- the environmental education projects where teachers and students work together on community projects which make tangible differences to their neighbourhoods

The social pedagogy of the lab/studio is not unfamiliar to us.

We wonder what would be the impact of further collective thinking and playing with the metaphor of the classroom as multi-media lab (cf. Brand, 1987), in which the curriculum involves projects which are conversation and culture rich, in which students are encouraged to take the time required to design, experiment, debate and deliver ambitious products and artifacts.

And what would happen, we ask ourselves, if these approaches were not just an aspect of the curriculum, but its guiding motif and organizing principle? What would the classroom as studio look like? How might students and teachers work together in new technological spaces, moving beyond the confines and constructions of the classroom and constricting curriculum grids? How might apprentices and artisans work at theorizing and researching in new media saturated environments?

Is this a metaphor that might engage teachers and students in disadvantaged schools in new conversations about learning and knowledge?

WHERE TO NOW?

This paper is an early attempt⁶ at beginning to write about these metaphors and to re-imagine students working and learning, pedagogies and class-

rooms. We imagine this as an ongoing, organic production and see this article as one experiment in re-thinking. We are interested in how these metaphors support particular productive pedagogical approaches in disadvantaged schools, and at the same time disrupt the contemporary fashion for standardized curriculum, the ongoing fetish for blueprint methods, and the cult of hardware and software-driven change.

There are implications for researchers in the ITLED project.

Our research design, as we described at the beginning of this article, was grounded in a commitment to engage in cooperative inquiry with students. We were informed in this endeavour by the traditions of both participatory action research and teacher practitioner research.⁷ This project makes a contribution to these fields by showing that students and researchers can work together to produce new understandings when there is a substantive overlap of interests. In this project, the research aims were shared. We were all concerned about the ways in which schools contribute to the inequitable distribution of educational benefits. We were all committed to investigating ways to improve the practices of literacy teaching and learning and shared the general view that 'doing literacy better' would also mean 'doing better' more generally in the school. We were all interested in how information and communication technologies were tangled up with literacy(ies) and saw this project as one avenue to explore the connections. The substantial sharing of our mutual desire to understand how ICTs, literacy and educational disadvantage come together, allowed students and university and school teachers to work together with a considerable degree of reciprocity.

When participatory research methods are extended to include students in action research projects then there are multiple pay offs – for teaching and learning, for the construction of new relationships between adults (both teachers and researchers) and young people and for the production of sometimes surprising and delightful research data. In particular, in taking seriously the points of view of children and young people and then providing them with the expertise necessary, they do develop their ideas creatively.

This project also speaks to the growing interest in visual research methods (Prosser, 1998). Our investigation of new technologies and multimedia in schooling was conducted using multimedia as both the focus and the means of research. Our experience here was that the student films disrupted our accustomed practices of research data production and theorization and prompted us to 'see' things in new ways. We suggest that this project is an illustration of the way in which using the language of film – image and narrative – allows the construction not only of new data, but also can create opportunities for more creative and generative forms of analysis, such as the speculative metaphor work which we have undertaken here.

However we do want to make one important re-statement. Our interest in the power of 'the metaphors we live by' (Lakoff & Johnson, 1983) was sparked by students who were acting as co-researchers in our project. It was the process of attending to what they were saying and doing, thinking not just about their messages, but the potential effects of those messages in the world of school, that spurred us on to engage in a little metaphorical play of our own.

Importantly, in multimedia labs, studios and craft production, it is not just the experts and artisans who have good ideas and generate new understandings. It is as often the 'new kid on the block' who comes up with a bright idea or promising direction, as it is the senior and so called expert and teacher. Labs and studios in fact depend on this, they rely on the fact that everybody will contribute to the major task in hand and that significant contributions can and will come from unexpected quarters. Novices, apprentices, neophytes, cadets and trainees bring with them experiences and understandings, ways of doing and seeing things – they are not blank pages on which their betters write. Their contributions are not only sometimes different but also can be exciting, novel, disruptive, insightful, provocative, ironic, parodic and innovative.

This is the most important lesson for us, and we think, for schools. Children and young people are most often described by policymakers and school staffs as learners, pupils and students. We suspect that this metaphor is one which works against seeing how it is that they too can be co-producers of knowledge, and can teach their teachers a thing or two about the way the world can and might work. This is particularly the case in disadvantaged schools in which deficit discourses infantilize and demonize children and young people, hardly a position from which it is possible to co-produce knowledge and learn with some movement towards reciprocity. This project demonstrates the benefits of taking seriously the notion that children have legitimate points of view to contribute to inquiry. We suggest that this project exemplifies why children should not be seen simply as the potentially unreliable and vulnerable objects of research but as legitimate knowledge producers in their own right (Christensen & James, 2000; Lewis & Lindsay, 1999; Valentine, 1999).

It is also particularly important in relation to information and communication technologies. Young people have grown up in a media and image saturated world, taking for granted a range of multimedia and digitized applications (Green, 1995; Green & Bigum, 1993). They live in this world more than their teachers, who more often than not equate old communications technologies with poor taste and new technologies solely with computers which must take their proper place in the classroom as tool. Teachers have much to learn here from their apprentices and cadets – as do we.

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Our work with young people suggests that their sustained engagement is contingent on them having investments in meaningful projects which have visible product(s) and social consequences. Media and ICTs do not in themselves ensure engagement, the activities themselves need to be worthwhile. However, incorporating media and new technologies into the formal curriculum allows young people to use and enhance significant knowledge and representational resources they already have - to bridge their lifeworlds and those inherent in school knowledges. Such media also allow them to see the immediate effects of their work, to try drafts out on peers and teachers, to modify, all the while 'playing' and learning with the dominant cultural resources of our times. Engagement in these contexts is a result of tackling ambitious tasks with support from mentors (peers and teachers) using sophisticated resources which enable impressive outcomes. In all of this students are re-positioned as knowers, researchers, producers. Our ITLED project also suggests that university researchers can find ways to work in partnership with students and teachers that are mutually enriching and engaging. There are multiple pay-offs for being engaged.

NOTES

1. The term disadvantaged schools refers to schools which, under the federally funded Disadvantaged Schools Programme (1974-1996) served the poorest 15% of Australian schools children. These schools received additional funding in recognition of the fact that the task of shifting the institutional (re)production of educational inequities required significant time, resources and intellectual effort. The term is still commonly used even though the programme has been abolished, a small resistant act to assert that social, economic and political contexts do matter, despite the current federal conservative regime which denies the importance of social context on and in schools (Comber, Green, Lingard, & Luke, 1998; Thomson, 2002)
2. Dole-bludger is a pejorative term in Australia, given to unemployed people in receipt of welfare. The inference is that they could work if they wanted to.
3. Gillespie (1995) shows how 'South Asian' girls in the UK appropriated soap opera 'tactics' as a way of negotiating space within their traditional family culture
4. This term is used by management guru Tom Peters to describe the strategy adopted by some companies to deliberately create autonomous and often rebelliously non-corporate think tanks within their organisations
5. The comparison with Vygotsky's (1978) 'zone of proximal development' is readily apparent.
6. An earlier version of this paper was presented as an opening keynote to the UK Technology Trust on line conference for teachers in 2001.
7. A group researching student 'voice' presented at AERA in 2001 and 2002. Participants included Michael Fielding, John Macbeath, Madeleine Arnot and Jean Ruddock (UK), Ben Levin (Canada), Dana Mitra (USA), and Pat Thomson and Roger Holdsworth (Australia).

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REFERENCES

- Ang, I. (1985). *Watching Dallas: Soap opera and the melodramatic imagination*. London: Methuen.
- Appadurai, A. (1996). *Modernity at large. Cultural dimensions of globalisation*. Minneapolis, London: University of Minnesota Press.
- Barton, D., & Hamilton, M. (2000). Literacy practices. In D. Barton, M. Hamilton & R. Ivanic (Eds.), *Situated literacies: Reading and writing in context* (pp. 7-15). London & New York: Routledge.
- Beare, H., & Slaughter, R. (1993). *Education for the twenty first century*. London: Routledge.
- Beck, U. (1992). *Risk society. Towards a new modernity*. London: Sage.
- Bentley, T. (1998). *Learning beyond the classroom. Education for a changing world*. London, New York: Demos, Routledge.
- Bessant, J. (1995). The discovery of an Australian 'juvenile underclass'. *Australia and New Zealand Journal of Sociology*, 31(1), 32 - 48.
- Bigum, C. (1997). Teachers and computers: In control or being controlled? *Australian Journal of Education*, 41(3), 247-261.
- Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge: Cambridge University Press.
- Bourdieu, P. (1990). *The logic of practice* (R. Nice, Trans.). Stanford, California: Stanford University Press.
- Bourdieu, P. (1998). *Practical reason. On the theory of action*. Oxford: Blackwell.
- Brand, S. (1987). *The media lab: Inventing the future at MIT*. New York: Penguin.
- Brennan, M., White, V., & Owen, C. (2001). *Year 9 pilot exhibitions project*. Canberra: ACT Department of Education and Community Services.
- Caldwell, B., & Hayward, D. (1997). *The future of schools*. London, Washington DC: Falmer.
- Christensen, P., & James, A. (Eds.). (2000). *Research with children*. London & New York: Falmer.
- Cochran-Smith, M., & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in communities. In A. Iran-Nejad & P. D. Pearson (Eds.), *Review of research in education* (pp. 249-306). Washington DC: American Educational Research Association.
- Comber, B. (1994). Critical literacy: an introduction to Australian debates and perspectives. *Journal of Curriculum Studies*, 26(6), 655-668.
- Comber, B. (1997). Literacy, poverty and schooling: Working against deficit equations. *English in Australia* 119-120, 22-34.
- Comber, B., Badger, L., Barnett, J., Nixon, H., & Pitt, J. (2001). *Socio-economically disadvantaged students and the development of literacies in school. A longitudinal study*. Vols 1-3. Adelaide: Department of Education, Training and Employment (SA) & University of South Australia.
- Comber, B., & Green, B. (1999). More than just literacy? A situated research study of information technology, literacy pedagogy and educational disadvantage, with specific reference to six South Australian public schools. *A report on the ITLED Project*. Adelaide: Department of Education Training and Employment, South Australia & University of South Australia.
- Comber, B., Green, B., Lingard, B., & Luke, A. (1998). Literacy debates and public education: A question of 'crisis'? In A. Reid (Ed.), *Going public: Education policy and public education in Australia*. Canberra: Australian Curriculum Studies Association.
- Comber, B., Thomson, P., & Wells, M. (2001). Critical literacy finds a "place": Writing and social action in a low income Australian grade 2/3 classroom. *Elementary School Journal*, 101(4), 451-464.
- Connell, R. W. (1993). *Schools and social justice*. Canada: Our Schools/ Ourselves Foundation. Pluto Press.

Deficient "Disadvantaged Students"

- Coopers Lybrand, C., & Ashenden Milligan. (1992). *Students at risk: Case studies*. Canberra: Department of Employment, Education and Training, AGPS.
- Davis, M. (1992). *City of quartz. Excavating the future in Los Angeles*. London: Vintage.
- de Cock, C., Fitchett, J., & Farr, M. (2001). Myths of a near future: advertising the new economy. *Ephemera: Critical dialogues on organisation*, 1(3), 201-228.
- Dewey, J., & Dewey, E. (1915). *Schools of tomorrow*. New York: Dutton.
- Doll, W., & Gough, N. (Eds.). (2002). *Curriculum visions*. New York: Peter Lang.
- Dyson, A. H. (1993). *The social worlds of children. Learning to write in an urban primary school*. New York: Teachers College Press.
- Dyson, A. H. (1997). *Writing superheroes. Contemporary childhood, popular culture, and classroom literacy*. New York, London: Teachers' College Press.
- Dyson, A. H. (1999). Transforming transfer: Unruly children, contrary texts and the persistence of the pedagogical order. In A. Iran-Nehad & P. D. Pearson (Eds.), *Review of research in education 24* (pp. 141-172). Washington: American Educational Research Association.
- Fairclough, N. (1989). *Language and power* (1994 ed.). Singapore: Longman.
- Fine, M. (1995). The politics of who's "at risk." In B. Swadener & S. Lubeck (Eds.), *Children and families "at promise."* *Deconstructing the discourse of risk*. Albany, New York: SUNY.
- Flyvbjerg, B. (2001). *Making social science matter. Why social inquiry fails and how it can succeed again*. Cambridge: Cambridge University Press.
- Game, A., & Metcalfe, A. (1996). *Passionate sociology*. London: Sage Publications.
- Gee, J. P. (1999). An introduction to discourse analysis. *Theory and method*. London & New York: Routledge.
- Giddens, A. (1991). *Modernity and self identity*. Stanford: Stanford University Press.
- Gillespie, M. (1995). *Television, ethnicity and cultural change*. London & New York: Routledge.
- Goldman-Segall, R. (1998). *Points of viewing children's thinking. A digital ethnographer's journey*. New Jersey, London: Lawrence Erlbaum Associates.
- Green, B. (1995). Living (in) media culture, Deakin Working Paper 95008. Geelong: Deakin Centre for Education and Change.
- Green, B., & Bigum, C. (1993). Aliens in the classroom. *Australian Journal of Education*, 37(42), 119-141.
- Gregory, E., & Williams, A. (2000). *City literacies. Learning to read across generations and cultures*. London & New York: Routledge.
- Griffiths, M. (1998). *Educational research for social justice. Getting off the fence*. Buckingham: Open University Press.
- Grint, K., & Woolgar, S. (1997). *The Machine at work. Technology, work and organisation*. Cambridge, Oxford, Malden MA: Blackwell.
- Haberman, M. (1991). The pedagogy of poverty vs good teaching. *Phi Delta Kappan*, 73(4), 290-294.
- Hall, S. (Ed.). (1997). *Representation. Cultural representations and signifying practices*. London: The Open University: Sage.
- Haraway, D. (1990). A Manifesto for cyborgs: Science, technology, and socialist feminism in the 1980s. In L. Nicholson (Ed.), *Feminism/postmodernism* (pp. 190 - 233). London: Routledge.
- Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. New York: Cambridge.
- Heath, S. B. (2000). Making learning work. <http://www.shirleybriceheath.com/SocialEnt/makinglearningwork.html>.

- Holdsworth, R., Stafford, J., Stokes, H., & Tyler, D. (2001). Student action teams – An evaluation: 1999-2000, Working Paper 21. Melbourne: Australian Youth Research Centre.
- Howard, S. (1994). What would the Neighbours say? Social values in Ramsay Street. *Youth Studies Australia*, Summer, 13-19.
- James, P., Veit, W., & Wright, S. (Eds.). (1997). *Work of the future. Global perspectives*. Sydney: Allen and Unwin.
- Kenway, J., & Bullen, E. (2001). *Consuming children: Entertainment, advertising and education*. Buckingham & Philadelphia: Open University Press.
- Lakoff, G., & Johnson, M. (1983). *Metaphors we live by*. Chicago: University of Chicago Press.
- Latour, B. (1996). *Aramis, or the love of technology* (C. Porter, Trans. Second ed.). Cambridge MA: Harvard University Press.
- Levin, B. (2001). *Reforming education: From origins to outcomes*. London & New York: Falmer Press.
- Lewis, A., & Lindsay, G. (Eds.). (1999). *Researching children's perspectives*. Buckingham: Open University Press.
- Luke, A., O'Brien, J., & Comber, B. (1994). Making community texts objects of study. *The Australian Journal of Language and Literacy*, 17(2), 139-149.
- Marsh, J. (2000). Teletubby tales: popular culture in the early years language and literacy curriculum. *Contemporary Issues in Early Childhood*, 1(2), 119-133.
- McLaughlin, T. (1996). *Street smarts and critical theory. Listening to the vernacular*. Madison, Wisconsin: University of Wisconsin Press.
- Moll, L. (1992). Literacy research in community and classrooms: A sociocultural approach. In R. Beach & J. Green & M. Kamil & T. Shanahan (Eds.), *Multidisciplinary perspectives on literacy research*. Urbana, Illinois: National Council of Teachers of English.
- Neilsen, A. (Ed.). (1999). *Daily meaning. Counternarratives of teachers' work*. Mill Bay, Canada: Bendall Books.
- Nixon, H. (1998). Fun and games are serious business. In J. Sefton-Green (Ed.), *Digital diversions: Youth culture in the age of multimedia*. London: University College Press.
- Petrina, S. (2002). Getting a purchase on "The school of tomorrow" and its constituent commodities": histories and historiographies of technologies. *History of Education Quarterly*, 42(1), 75-111.
- Portelli, J., & Solomon, P. (2001). *The erosion of democracy in education. From critique to possibilities*. Alberta: Detselig Enterprises Ltd.
- Prosser, J. (Ed.). (1998). *Image-based research. A sourcebook for qualitative researchers*. London: Falmer Press.
- Qvortrup, J., Bardy, M., Sigritta, G., & Wintersberger, E. (Eds.). (1994). *Childhood matters: Social theory, practice and policy*. Aldershot: Avebury.
- Reich, R. (1991). *The work of nations. A blueprint for the future*. New York: Simon and Schuster.
- Rifkin, J. (1996). *The end of work. the decline of the global labour force and the dawn of the post market era*. New York: Putnam.
- Rushkoff, D. (1996). *Playing the future: How kids' culture can teach us to thrive in an age of chaos*. New York: Harper and Collins.
- Smyth, J., Hattam, R., Edwards, J., Cannon, J., Wurst, S., Wilson, N., & Shacklock, G. (2000). *Listen to me, I'm leaving. Early school leaving in South Australian secondary schools*. Adelaide: Department of Education, Training and Employment, Senior Secondary Assessment Board of South Australia & Flinders Institute for the Study of Teaching, Flinders University.
- Spender, D. (1995). *Nattering on the net. Women, power and cyberspace*. Melbourne: Spinifex.

Deficient "Disadvantaged Students"

Swadener, B. B. (1995). Children and families "at promise." Deconstructing the discourse of risk. In B. B. Swadener & S. Lubeck (Eds.), *Children and families "at promise." Deconstructing the discourse of risk* (pp. 17-49). Albany, NY: State University of New York Press.

Teese, R. (2000). *Academic success and social power*. Melbourne: Melbourne University Press.

The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 363-376.

Thomson, P. (2001a, June). Citizenship as a community of practice. Paper presented at the New South Wales APAPDC on line conference., <http://www.cybertext.net.au/civicsweb/Pat%20Thomson.htm>.

Thomson, P. (2001b, June 1-July 4). The trade of tools. Paper presented at the UK TC Trust Online Conference 2001: 'Futures Thinking Now: Networking Good Practice and Research', www.cybertext.net.au/tct.

Thomson, P. (2002). *Schooling the rustbelt kids. Making the difference in changing times*. Sydney: Allen and Unwin.

Thomson, P., & Turner, P. (Eds.). (1989). *PEP DOCS*. Adelaide: South Australian Education Department.

Valentine, G. (1999). Being seen and heard? Ethical dilemmas of research with children and young people. *Journal of Ethics, Place and Environment*, 2(2), 141-155.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, Mass.: Harvard University Press.

Wilson, B., & Corbett, H. D. (2001). *Listening to urban kids. School reform and the teachers they want*. New York: State University of New York Press.

Wotherspoon, T. (1998). *The Sociology of education in Canada. Critical perspectives*. Toronto, New York & Oxford: Oxford University Press.

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