COVER SHEET

LLO04021

Looking for shadows: The cultural myths of the computer in the classroom

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ABSTRACT

This paper will draw its findings from a recent study (Lloyd, 2003) which sought to identify the cultural myths of the computer in the classroom through a case study of computer education in Queensland state schools from 1983 to 1997. This was a period marked by its consecutive, discrete, high-profile and politically-motivated projects to put computers in classrooms. The emergent myths were categorised within their source metanarratives and were also positioned within a critical cultural framework. The term "computer education" is given to mean any curricular or classroom-based use of computers. This study addressed a hitherto neglected area of educational research by looking beyond the rhetoric and highlighting where policy decisions have been made on the basis of mythic assumptions.

The identification of the cultural myth(s) in this study was essentially a process of looking for shadows. Finding the twenty-seven pervasive myths which initiated and sustained the systemic policies, infrastructure programs and curricular decisions of the period under review involved rigorous processes of deconstruction, reconstruction, analysis and synthesis. The data sources were contemporary policy documents, Hansard entries, press releases and media statements, correspondence and interviews with stakeholders while the methodology employed was an adaptation of Descriptive Interpretational Analysis (Tesch, 1990).

Cultural myths are implicit or explicit beliefs for which no supporting evidence is offered but on which further arguments, decisions or actions are based. All myths are based on a single "truth," an indisputable proposition from which all else follows. Myths belong to broader metanarratives which are discrete unified stories which totalise experience and legitimate all knowledge, beliefs and practices. Metanarratives offer a self-validating reality, based on reason drawn from dialectical arguments and measuring all events against themselves.

In his keynote address at the 2003 AERA conference in Auckland, Cuban (Cuban, 2003) spoke of the cultural myths of the computers in the classroom but did not explicate them. This is not surprising in that the cultural myths of technology are typically allusions in the literature (Bowers, 1991; Ellul, 1964, 1990; Fukuyama, 1992; Postman, 1993, 1995; Stoll, 1995; Toffler, 1970, 1980; Willett, 1997; Winner, 1984) and there has been limited specific reference to the myth of the computer in education (Dowling, 1993; Kleiman, 2000; Van Boxel, Draaijer, De Graaff & Los, 2001).

A recent study (Lloyd, 2003) sought to identify the cultural myths of the computer in the classroom through a case study of computer education in Queensland state schools from 1983 to 1997, a period marked by its consecutive, discrete, high-profile and politically-motivated projects to put computers in classrooms. The emergent myths were categorised within their source metanarratives and positioned within a critical cultural framework. The term "computer education" was given to mean any curricular or classroom-based use of computers. This study, which is described in part in this paper, addressed a hitherto neglected area of educational research by looking beyond the rhetoric and highlighting where policy decisions have been made on the basis of mythic assumptions.

The identification of the cultural myth(s) within the context of computer education in Queensland (1983-1997), was

essentially a process of looking for shadows. To find the myths or intrinsic beliefs which had initiated and sustained the systemic policies, infrastructure programs and curricular decisions of the period under review involved rigorous processes of deconstruction, reconstruction, analysis and synthesis. The compiled history of events became the means to the end, enacting the notion of Barthes (1972) that myth is "depoliticised speech" and the "loss of the historical quality of things" (pp. 142-3). The data sources were contemporary policy documents, Hansard entries, press releases and media statements, correspondence and interviews with stakeholders while the methodology employed was an adaptation of Descriptive Interpretational Analysis (Tesch, 1990).

This paper will present its findings in three sections. The first will identify the presence, but not the substance, of the myths largely as they are manifest in the assertions and promises of politicians and commentators. The second section will list the myths identified in the study (Lloyd, 2003) on which this paper is drawn while the third section will offer instantiation of the identified myths in a broader context.

1. The promise of the computer in the classroom

Dowling (1993) described computers as "powerful carriers of cultural goals and assumptions" suggesting that they are conduits of the aims and practices which are "reinforced daily in the media, ... well understood and applauded by parents, and which are difficult for teachers to resist" (p. 71). Contemporary arguments for computer education in schools reveal their mythic nature when they cite national economic imperatives without empirical evidence (Clarke, 1991; Scott, 1991). Politicians echo this when they pledge vast sums of money for the establishment of the infrastructure for telecommunications in schools adopting rhetoric more in line with the "utopian discourse that permeates the myths of the new information technologies" (Bigum, 1990, p. 23) than carefully reasoned educational or social goals.

At the launch of his campaign for re-election in 1996, the then Prime Minister Paul Keating promised the expenditure of $300 million over four years to buy computers for Australian schools and to provide professional development for teachers. The rationale offered was that "a Labor government will not support a school system divided between the information rich and the information poor." (Keating, cited in Maher, 1996, p. 13). Paul Keating used the phrase "information rich and information poor" to stand for classical socialist class distinction and the role of governments to defend and create equality through equity of opportunity. The combinative phrase is revelatory of a notion of "information" as a commodity, one which has a presumed value in education and in assuming a power relation with others. Pat Thompson, then Principal of Paralowie School said (of her underprivileged South Australian school), "We made sacrifices … by not buying things like books, furniture, air conditioning - we bought technology instead. We don't want them [the students] to be 'information poor' as well" (Thompson, 1995, as cited in Le Tourney, 1995).

It can be seen even from this brief scan that computers in schools are symbols of a society acting to protect the future, to educate and employ its children, to equip them to face the world on an equal footing with others. Computers in schools are physical artefacts which governments can deliver, can point to as a symbol of action and commitment. The computer is an icon to demonstrate to parents that ICT is a force in education or that the education system/school/class/teacher is progressive or dynamic.

It is apparent that having computers in schools is "highly consonant with society's goals and practices" (Dowling, 1993, p. 50) and expenditure on computers is a prominent feature of state budgets and frequently of election campaigns. Downes (1996, as cited in Kennedy, 1996), in reference to a systemic initiative in New South Wales for more computers and heightened computer literacy in schools, commented that:

> What might make this … different could be the political pressure… . Interestingly enough, there's never been a political will to give teachers and children access to telephones or faxes. ... This particular evolutionary technological change is having a greater impact across society because of the economic and political side of it. It is political and economic factors that have pulled IT into public policy. That's why I think politicians are

> taking more cognisance of the change, but if you talk to them, they're not linking it to literacy - they just think it's good, it's important, like kids should wash their hands after lunch. (p. 30)

This absence of reason is proof of the substance and hegemony of cultural myth where mythology is the means to explain, confirm or justify some belief or understanding. Downes' stereotypical politician has been made manifest through individuals such as the former Victorian Education Minister, Phil Gude, who (when asked if his constituents liked new computers in schools) said "Oh ho ho, yes, yes, yes, teachers love it, kids love it, mums and dads love it" (Gude, 1998, as cited in Armitage, 1998, p. 4). No explanation as to what had engendered this affection was offered, or what was its value in education.

Identifying cultural myth in the case study of computer education in Queensland (Lloyd, 2003) involved, as noted, a process of catching shadows - looking for where there was no empirical or anecdotal evidence to support assumptions or guide decision-making. Where belief was proffered as a reason - in the absence of proof - then myth was assumed. Where there were ideas that individuals, by word and action, subscribed to but could not rationally explain, then myth was again identified.

2 The myths of the computer in the classroom

The myths identified here each emerged from and were instantiated by the events of the case study investigated, that is, computer education in Queensland (1983-1997). The apparent redundancy between some of the myths is attributed to their being reduced (in this paper) to headings rather than descriptors. Some myths do share related concerns but are contextualised and altered by their positioning within their metanarrative and from the perspective of individual stakeholders.

The myths described briefly in this section are categorised as being within (a) sociological (Section 2.1), (b) political (Section 2.2), (c) economic (Section 2.3), (d) pedagogical (Section 2.4) or (e) technological (Section 2.5) metanarratives. These metanarratives were developed through a broad investigation of the literature but owe their initial formulation to the classification and description by Cerych (1985, in Bigum, 1990) of the sociological, economic and pedagogical agencies which acted as pressures on the "education – IT" interface (that is, the relationship between education and computing). The categories also became the fields in the critical cultural framework developed and adopted by the study (Lloyd, 2003) on which this paper is based. The acronym ICT stands for information and communication technology and the coding in square brackets is added to facilitate discussion in the following section of this paper.

2.1 Sociological

The sociological metanarrative contends that computers in schools will prepare our children for the future, insulate them against the rapidity of change, and assure that they will be information rich (rather than information poor). Sociological myths are generally found in the motherhood statements of public speeches and published policy. The sociological myths of computers in the classroom are:

1) ICT has a significant impact on society. Modern society is technological. [SOC 1]
2) Awareness and knowledge of ICT is critical to cope with changing social structures. [SOC 2]
3) Computer education is in the national interest. [SOC 3]
4) Providing computer education is an enactment of principles of equity and equal opportunity. [SOC 4]

2.2 Political

The political metanarrative presumes that computers in schools will show me/my Party/my department/ my government/my school to be progressive, generous, and caring (unlike my "Opposition" or others). Differing

intonations and senses of the word "political" emerged in the study and therefore had to be categorised under themes of power, ownership and control rather than be stated as beliefs. The political myths of computers in the classroom are based on:

5) Power [POL 1]
6) Metonymy [POL 2]
7) Plaudits [POL 3]
8) Verbalism [POL 4]
9) Beneficence [POL 5]
10) Activism [POL 6]
11) Expedience [POL 7]
12) Manipulation of Language [POL 8]

2.3 Economic

The economic metanarrative is that computer education is about ensuring and sustaining the national economy. It has been contended that "the transformative power of Technology had become an article of absolute faith in the church of the New Economy" (Collins, 2002, p. 69). The economic myths of computers in the classroom are:

13) Schools must be vocational, that is, prepare people for the workforce. [ECON 1]
14) Computer literacy has economic advantages to the individual. [ECON 2]
15) Work is technological. [ECON 3]
16) Education is a key element in the nation's economy. [ECON 4]
17) Individuals are human capital in a national economy. [ECON 5]
18) Knowledge workers must be flexible and able to take part in collective problem-solving and collaborative work skills. [ECON 6]
19) ICT makes work more efficient and productive. [ECON 7]

2.4 Pedagogical

The pedagogical metanarrative is that computers in schools will create a new paradigm of learning consonant with its times. The pedagogical myths of computers in the classroom are:

20) Computers in schools improve learning outcomes. [PED 1]
21) Computers in schools will restructure schooling. [PED 2]
22) Computers in schools create new flexible learning environments. [PED 3]

2.5 Technological

The technological metanarrative is that machines themselves have a valency, a capacity for improvement, and the power to change society for the better. The technological myths of computers in the classroom are:

23) ICT has the power to change learning environments. [TECH 1]
24) ICT is changing society. [TECH 2]
25) ICT in education is reliant on the nature of the machine. [TECH 3]
26) ICT is magic. [TECH 4]
27) ICT in education is reliant on the number of machines available. [TECH 5]

3 Instantiation of the myths

The myths identified in this paper impacted on the history of computer education in Queensland (10983-1997), and, if not initiating the events themselves, had significant influence on their direction. The common theme throughout is technological determinism, as in every case it was the power of the technology itself which gave the myth its active

agency. Jones (1982) defined technological determinism as being the "increasingly fatalistic conviction that the answer to every complex problem is to be found in a 'technological fix' – and the more complex the fix, the more likely it is to be accepted without debate" (p. 210).

It is not assumed that the identified myths or broader metanarratives are generalisable beyond this "local" case or outside the period under review, that is 1983-1997. But an example from the United Kingdom suggests that the identified myths might be present in other contexts and might be persistent, that is, not locked into the time period of the study. In 2001, the British Prime Minister Tony Blair contended that digital technologies:

> … have the potential to improve achievement in our schools and colleges, to boost the prospects of British industry and commerce, to offer opportunities to all learners, particularly those who would otherwise be excluded, and to significantly enhance our quality of life.
>
> (Blair, 2001, as cited in Department of Education and Skills, 2001, paragraph 1)

Prime Minister Blair's statement can be annotated to reveal its myths using the coding adopted in this paper. At a macro-level, the cited text is an exemplar of both the second technological myth, that is *ICT is changing society* [TECH 2] and the third sociological myth, that is *computer education is in the national interest* [SOC 3]. It is arguably also an example of the fourth political myth, that is, of verbalism [POL 4] or words without action. The coded text (to reveal the micro-level myths) is:

> … have the potential to improve achievement in our schools and colleges [PED 1], to boost the prospects of British industry and commerce [SOC 3; ECON 3, 7] to offer opportunities to all learners [SOC 2], particularly those who would otherwise be excluded [SOC 4], and to significantly enhance our quality of life [SOC 1, TECH 2].

As the British Prime Minister offered no evidence to support his contentions of improved achievement, boosted prospects, heightened opportunities for the marginalised, or enhanced quality of life, the text must stand as an example of the myths of the computer in the classroom, and indicative of the iconic power of the computer itself. In one sentence, eleven myths have been proffered as a justification for placing computers in classrooms.

To show the persistence of these myths, it is useful to consider a letter written in 1987 to the Queensland Minister for Education by the professional association, QSITE (Queensland Society for Information Technology in Education). This letter can also be coded to reveal its myths. QSITE argued:

> Perhaps the issues are children and the future [SOC 4; POL 1, 8]. … children who are relying on an education which will carry them into the twenty-first century with confidence [ECON 6] to cope with change [SOC 2], and an employment future which will require the ability to cope with information technology [ECON 1-3, 5]. The state of Queensland will thank those in society who are visionary enough [POL 1, 3, 5] to realise the potential of computers in education [SOC 5; POL 2, 3; PED 1-3] and provide children of this state with the ability to compete on the international job market [SOC 3; POL 2, ECON 2, 4; TECH 3]. The public sees educational computing as necessary, not just a frill, or a fringe benefit [SOC 1, 3; POL 4, ECON 2, 4; TECH 2].
>
> ("Letter to the Minister," 1987, pp. 8-9)

The myths are evident in the 1987 letter at both micro-level (noted in the identification of the myth in specific sentences) and at macro-level (in that the whole cited of the text is an exemplar of the blatant manipulation of language [POL 8] giving the Minister the script for the next sound bite). There is little to separate the 1987 letter from Tony Blair's 2001 statement except the passage of time.

Pervasive and persistent myths drive computer education and give it unimpeachable power. Actions are for the future, and it is the perpetually anticipated future which will call us to account (Druick, 1995). What is of concern is that there

is a consensual acceptance that what is being said in the present is nonsense, but that it will suffice in the absence of any real argument. We have the answer, but the questions are proving elusive. We have the verdict but no legal defence.

4 Summation

Davis (1998) suggested that "human concerns will survive and prosper only when we learn to treat them [technologies], not as slaves or simple extensions of ourselves, but as unknown constructs with whom we make creative alliances and wary pacts" (p. 335). The pacts and alliances we make with the computer in the classroom must be made with an acknowledgement that we are driven by myths, and that, in more cases than not, the placing computers in our classrooms has been little more than an enactment of these myths.

Myth may be disinformation, but it is not, ipso facto, misinformation. The myths we now adopt may dissipate over time when experience and observation convert them to clear instances of fact or fiction. They are probably best seen as place-markers, temporary beliefs in the absence of experience or as Galbraith (1967) offered, acting to fill a transient void and provide a coherent and interim explanation (Galbraith, 1967). Today's myths will be regarded tomorrow as quaint or prescient, foolish and ignorant or wise and perceptive. The only certainty is that tomorrow will have its own myths and they will be as self-validating, seamless and seductively simplistic as those we hold today. We need to be aware that there will always be, just as there always have been, myths and that, in the absence of proof through observation and experience, they are what we will use to make our decisions and guide our actions.

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