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Technology and changing notions of literacy

The notion of change being somehow linked to advances in technology is something that most of us have little trouble in accepting. However changes to literacy as a result of technological advances is taking a little longer to catch on in schools. Although school leaders may for the most part agree on the inadequacy of a traditional understanding of literacy they have been slow to fully accept of the notion of multiliteracy and the resultant changes to schooling. The following paper seeks to examine several issues arising as information technology (IT) and computer mediated communication (CMC) are increasingly integrated into the day-to-day teaching in schools (especially by non-IT specialists). It also examines the need for policy initiatives to address notions of multiliteracy and for school leaders to remain focused on the fact that as in all 'good teaching', interactivity remains central to effective learning. In short, school leaders need to strive to find ways where students are taught in instructive ways within the digital medium and should allowing technological advances alone to dictate the kinds of pedagogies adopted.

What's driving the change?

The stimulus for the promotion of technology in general is multifaceted, although in the case of schools is possible to argue that several distinctive influences help drive the change. For example, there is a persuasive 'hype' and 'hard-sell' related to online education and in particular the Internet. This influential discourse holds the potential to so totally overwhelm the consciousness of educational administrators that they falsely equate advances in technology with a panacea for issues of pedagogy. School leaders have clearly been encouraged via centralised government directives to promote 'new technologies' within their schools while at the same time to monitor the technological literacy levels of their staff. In the case of Education Queensland, the state bureaucracy has had mixed success in its attempt to assess, credential and report on the literacy levels of practicing teachers via the Minimum Standards for Teachers - Learning Technology (http://education.qld.gov.au/curriculum/learning/technology/sin_mst.html). It has nonetheless, received more success in the strategic diversion of resources towards ICT based initiatives such as technology based Learning and Development Centres (LDCs) (see for example <http://education.qld.gov.au/itt/learning/html/ldc-tech.html>). Another distinctive element in the drive to promote technology in schools are the expectations of an increasingly technologically literate body of parents who demand greater integration of technology in the schooling of their children. What is particularly interesting in the case of this group of stakeholders is that they essentially constitute a quasi market to which both private and state schools advertise the degree to which their technology has been integrated into the curriculum. As a result - we are left at one extreme with 'lap-top' schools where students buy or lease computers as a condition of enrolment. Although accepting that such schools successfully incorporate technology into their 'cycles of delivery' (ie. the delivery of content), this paper questions the degree to which such schools have successfully incorporated technology is in into 'cycles of pedagogy'.

Changes in literacy and pedagogy

Formalised schooling has historically privileged a specific notion of literacy that has been the nucleus of all foundational components of education. Literacy in this sense is the "first major function of formal education both historically in the origins of modern, institutional education and in the life history of every child or adult learner as the centre the modern education process" (Kalantzis and Cope 2000: 121). This confined understanding of literacy has for the most part being aligned with the reading and writing of text/page-based forms of the language used by the dominant cultural group within that society. Achieving the status of being literate has embodied the possession of what Cope and Kalantzis (2000) term symbolic capital. The use of the term 'capital' is significant, for not only has literacy signified mastery of the ability to encode and decode the

dominant script-based classification, it has also been one of the foremost indicators of the possession of cultural sophistication and knowledge.

The fundamentally altered notion of literacy has emerged in schools as a result of 'new technologies', and in particular, the multifaceted changes which they have brought to patterns of communication (Meek 1991). The traditional and established concept of literacy is increasingly under pressure, predominantly because 'new technologies' have enabled an array of textual forms to undermine the foundations of print and chirographic literacy traditions. Cope and Kalantzis (2000: 147) portray the 'basics' of traditional literacy, as almost 'vacuous', "because the main ground has shifted from the old-fashioned page-bound written texts and the dislocated 'standards'". Not only is this transformation tied to the ability to digitalise data and subsequently use such data in the generation of new textual forms, it is also tied to the fact that such contemporary digital texts are in social and cultural terms far removed from print-based texts. This disparity extends to their form, and in particular, the manner in which people access, encode and transmit them. No longer do digital texts follow an established chirographic tradition, nor are digital texts required to possess the time-honoured linear designs of narrative construction or modes of thinking (Bolter 1991).

Clearly for teachers to effectively manipulate such technologies requires that they possess new skills. However as the *Minimum Standards for Teachers - Learning Technology* has graphically shown that the exercise of 'skilling-up' teachers is not merely a process of training them to send and receive email, or to point a web-browser at a specific URL. Rather, the professional development of practicing teachers needs to encompass a broad range of additional forms of expertise and knowledge that collectively constitute the notion of 'new literacy'. It is important therefore for school leaders and teachers to have a solid theoretical understanding of the similarities and differences between computer-mediated communication and interaction, and, the more traditional, face-to-face print-based modes which they have used in the past. In addition to an obvious set of minimum IT skill levels, there is the need to be cognisant of the implications of 'new literacies' for pedagogy. New or additional literacies in schools constitute a series of social practices that vary considerably depending on the social context in which they occur. In this sense, schooling must come to terms with a process of social semiotics that is closely tied to the ways technology has changed the process of meaning making in both teaching and learning.

Is moving the classroom online the answer?

Given the fundamental changes to literacy discussed above, it not surprising that schools have had to react to appeals for the nature of their teaching and learning to also evolve. The debate concerning the move to online pedagogy is an extremely controversial debate that contains widely divergent positions as to the benefits and speed of such change (Rossen 2002). At one end of the spectrum are those who claim 'new technologies', and their associated forms of literacy, are detrimental to traditional classroom learning and should therefore be prevented from being allowed entry into 'high-stakes', formalised educational programs (eg. Birkerts 1994; Stoll 1995). Critics argue that putting lectures online,

robs students of the incentive to attend class, threatens the livelihood of the instructor, puts too much emphasis on presenting information rather than on interaction between students and instructors, and deprives faculty of their rightful intellectual property (Rossen 2002, http://www.oid.ucla.edu/Webcast/Sianme/SIANME_011116.html)

At the other end of the spectrum are those who openly embrace 'new technologies' claiming that it is imperative for educational institutions to reposition their pedagogical programs by integrating new notions of literacy into their curriculum as quickly as possible (i.e. Bruce 1997 and Johnson, 1997). Most school leaders have never doubted the ultimate winner of the debate although many

appear concerned that the move online is occurring so quickly that there is often little or no time to reflect on the pedagogical implications of utilising 'new technologies' in the teaching and learning occurring in their schools. To adequately reflect on the appropriateness of 'new technologies', it is critical that school leaders understand how technologies fundamentally change the ways teachers and students interact within teaching and learning environments.

Conclusion

Given the policy direction taken by both state and federal governments it is unlikely that there will be any backing away from current directives mandating an increased online presence across the full spectrum of schooling. This discussion has argued that it is essential for school leaders to engage with the notion of multiple literacies as useful starting points to explore changes in online education in their schools. It has been argued that schools wishing to move beyond the delivery of online content and in the direction of effective online pedagogy, must consequently be responsive to a range of literacy based concerns that emerge from the move from online delivery to online pedagogy. This can only be achieved through a coordinated approach which tackles changes to delivery and to pedagogy as a result advances in technology.

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