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New Media, New Learning

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Abstract: This paper analyses the distinctive features of what are often today called the 'new media'—a range of media created and distributed using digital technologies. The relationships of these new media to education vary from attempts at transliteration of the classroom and heritage learning relationships into the digital media (in the form of 'learning management systems', for instance), to the project of teaching about and using these media in the classroom. Endeavours of these kinds implicitly treat the new media as neutral and transparent. The paper challenges this assumption. It asks what is communicatively and representationally new about the new media, and on this basis, how the new media might be the foundation for a 'new learning'.

Keywords: New Media, Pedagogy

THE NEW, DIGITAL media will change the face of education. We've heard this said often, and more frequently since the invention of the Internet. One kind of response to this proposition is 'impossible and besides inequitable, because not every student has a computer or internet access'. On top of the other historic divides which mean that some kinds of learners perennially do better at school than others, we are adding another—a 'digital divide' between those who can afford the technology, and those who can't (Mitchell 1995; Virilio 1997; Cuban 2001). To this, contemporary technology innovators reply to the effect that digital creation and access media are becoming as ubiquitous as the telephone and the radio in an earlier era, and projects such as One Laptop Per Child or the 'hundred dollar laptop' promise digital access for students even in the poorest countries (laptop.org).

Another kind of response to the new media is a rush to adopt. In that rush, we have seen teachers bring the new media into the classroom, as if the medium were itself the message. Instead of writing a story longhand on a piece of paper, students type it to a word processor, or a blog, or put together a video. There's something new, here, to be sure, but just how new? Have the relationships of knowledge and pedagogy changed in any significant way? Is classroom discourse that much different? Often, no.

Then there are the dedicated attempts to mechanise learning. Some of these are cheap enough for schools' meagre budgets. Give every child a device that looks like a remote control, ask a question, then instead of having just one student answer, all the students answer by pressing a button on their remote. In this way, the teacher gets a picture of what every learner knows, not just the child who shoots up their hand first. Or get the students to do online reading comprehension tests. The machine scores the learner rather than the teacher, which means students in the one class can be reading different books depending on their reading and interest levels. Sometimes, too, particular activities are presented in the form of a 'digital learning object'. Instead of the phases of the moon being represented as a sequence of drawings on the page of a book, students can perform the rotations in a flash animation, and for their interaction with the image (pushing it with a mouse), the pedagogy of the digital is called 'constructivist'. Put some of these pieces together into a 'learning management system', and students can be assigned work, access that work, participate in class 'discussions' and have their work scored. For its apparent novelty, this is called e-learning. Everything that could happen in a classroom can now happen though a computer network.

These things are new to education, to be sure. They have meant that schools have had to collect together new resources, teachers have had to learn new things, and students have had to engage in new types of activity as a part of their school work. But oftentimes they are not that new. New media do not necessarily mean new learning. Old institutions have an enormous capacity to assimilate new forms without fully exploiting their affordances. From the scope of possibility in the new media, education all-too-often selectively does things with them that are not much more than conventional.

New Media

What more could the new media do for education? How might they support a new learning? To answer these questions, we need first to explore what's new

about the new media. We are going to focus on four dimensions of the new media which we would argue represent a significant break from the media of our habituated cultural and educational home, the media we have lived with for the duration of modernity thus far. To look at the new media and then to consider the possibilities for new learning in this way, is not to imply that technologies are, on their own, agents of social change. Rather they are symptoms of social change, fellow travellers in a journey of social transformation in which social conditions make the technologies imaginable then useable, and in which the technologies provide the affordances (the means of cultural production) for new social forms.

Dimension 1: Agency

Here are some of the differences between the old media and the new. Whereas broadcast TV had us all watching a handful television channels, digital TV has us choosing one channel from amongst thousands, or interactive TV in which we select our own angles on a sports broadcast, or making our own video and posting it to YouTube or the web. Whereas novels and TV soaps had us engaging vicariously with characters in the narratives they presented to us, video games make us central characters in the story to the extent that we can even influence its outcomes. Whereas print encyclopaedias provided us definitive knowledge constructed by experts, Wikipedia is constructed, reviewed and editable by readers and includes parallel argumentation by reader-editors about the 'objectivity' of each entry. Whereas broadcast radio gave listeners a programmed playlist, iPod users create their own playlists. Whereas a book was resistant to annotation (the size of the margins and out of respect for its next reader), new reading devices and formats encourage annotation in which the reading text is also a (re)writing text. Whereas the diary was a space for time-sequenced private reflection, the blog is a place for personal voice which invites public dialogue on personal feelings. Whereas a handwritten or typed page of text could only practically be the work of a single creator, 'changes tracking', version control and web document creation such as Google Docs make multi-author writing easy and collaborative authorship roles clear (Kalantzis 2006).

Each of these new media is reminiscent of the old. In fact, we have eased ourselves into the digital world by using old media metaphors—creating documents or files and putting them away in folders on our desktops. We want to feel as though the new media are like the old. In some respects they are, but in some harder-to-see respects they are quite different.

One important and underlying difference is what we call the changing balance of agency (Kalantzis 2006; Kalantzis and Cope 2006). The earlier modern regime of communications used metaphors of transmission—for television and radio literally, but also in a figurative sense for books, curricula, public information, workplace memos and all manner of information and culture. This was an era when bosses bossed, political leaders heroically led (to the extent even of creating fascisms, communisms and welfare states for the ostensible good of the people), and personal and family life (and 'deviance') could be judged against the canons of normality. Not only have things changed in today's everyday life—the most advanced of contemporary workplaces devolve responsibility to teams and ask workers to buy into the corporate culture. Neoliberal politics tells people to give up their reliance on the state and to take personal responsibility for their own welfare. Diversity rules in everyday life, and with it the injunction to feel free to be true to your own identity.

Things have also changed in the social relations of meaning making. Audiences have become users. Readers, listeners and viewers are invited to talk back to the extent that they have become media co-designers themselves. The division of labour between culture and knowledge creators and consumers has been blurred. Consumers are also creators, and creators, consumers. Knowledge and authority are more contingent, provisional, and conditional—based relationships of 'could' rather than 'should'. This is what we mean by a shift in the balance of agency, from a society of command and compliance to a society of reflexive co-construction. It might be that the workers creating bigger profits for the bosses, that neoliberalism 'naturally' exacerbates disparities in social power, and that diversity is a way of putting a nice gloss on inequality. The social outcomes, indeed, may at times be disappointingly unchanged or the relativities even deteriorating.

What has changed is the way these outcomes are achieved. Control by others has become self-control; compliance has become self-imposed. New media are one part of this broader equation. The move may be primarily a social one, but the technology has helped us head in this general direction.

Dimension 2: Divergence

What happens when you create space for agency? One of the first and most obvious things is that you discover a panoply of differences that the industrial-era workplace, the nationalistic state and modern ideas of personal normality had wanted to pretend did not exist. The new media provide channels for differences to represent themselves. After an era in which every pressure was to create homogeneity (mass media, best selling authors, mass produced

products, assimilating minorities), today's society and media provide spaces for divergence.

Not only does difference come to light more vividly and poignantly. Differences can auto re-create. Individuals and groups can become more different. The cost of entry for different ways of speaking, seeing, thinking an acting is lower. You don't need specialist trade skills or heavy duty infrastructure to be out there in your own voice—through the web, or in video, or using digital print.

The economies of scale of cultural production have been reversed. The logic of mass production (big production TV; long-print run books) is being displaced at least in part by the logic of mass customisation (tens of thousands of widely divergent messages in YouTube; books where a print-run of one costs the same per unit as a print run of ten or ten thousand). This is what makes it possible for discourse communities to diverge, to find and develop voices that are truer to their evolving selves—profession-speak, peer-speak, diaspora-speak, fad-speak, affinity-speak (Cope and Kalantzis 2000). Knowledge and culture become more fluid, contestable and open. Discourses become less mutually intelligible, and we need to put more effort into cross-cultural dialogues in order to get things done.

Dimension 3: Multimodality

As for the means of production of meaning, one deceptively simple thing has produced enormous change. The digital world reduces the elementary modular unit for the production of textual meaning from the character to the pixel. Quite simply, this means that written language, sound and image are all made of the same stuff (Cope and Kalantzis 2004).

Earlier technologies of representation found awkward ways of bolting one mode onto another. It was hard to print images and words on the same page, so images were isolated into a separate section of the book. It took several decades to achieve, but sound was finally attached to movie film stock, but only by means a completely different, special purpose and expensive manufacturing technique. We managed to put different representational modes together, but not comfortably and at a cost.

Now we have devices where we can put them all together, but only because sound, written language, still image and moving image can all be made, stored and distributed because they can all be reduced to the common platform that is the zeros and ones of the digital world. Hence multimodality, or the capacity to mix modes. It's easy and cheap to do. You don't need to own a heavy duty media apparatus to be able to speak in the most powerfully of modern voices.

Dimension 4: Conceptualisation

To be a user new media also requires a kind of thinking which we will call 'conceptualisation'. In the world of passive consumerism, you didn't need to know so much of what was inside the machine (mechanical, informational, socio-cultural). To be a player today and not just a viewer/reader/consumer, you need to get your head around new social and technical architectures. You need to be able to read and write representational designs. This creates a new cognitive load, not just to think in conceptual-design terms, but in order to monitor your thinking about your thinking, or metacognition. What are the skills and logics of navigation and discernment in a media environment of seemingly infinite extent and so demanding that we make hypertextual choices? How does one plan where one goes or recap where one has been? How are then social and informational networks to be mapped if one is to get a clearer view of their patterns of meaning?

Then there is the mechanics of communication and discovery, all of which require new forms of higher-order abstraction—ersatz identifications in the form of file names, thumbnails, menus and directories; semantic tagging, whether that be home-made folksonomies or the formal taxonomies and standards which are used to drive web feeds, to define database fields and identify document content; and using schemas or ontologies to structure information architectures and content for 'semantic publishing'. The new media needs a new, conceptualising sensibility (Cope and Kalantzis 2004).

New Learning

What does this mean for schools? Will the traditional classroom work, or even make sense, in the near future? Will the children of Nintendo, the web and video games find traditional classrooms engaging? Will the employers of the knowledge economy find good memory and good discipline sufficient or even adequate? (Gee 2004)

Against each of the four dimensions of the new media, we will juxtapose a dimension of the new learning.

Dimension 1: Designers

The balance of agency in heritage, didactic education was one in which teachers and textbooks told. For their part, students put up their hands and took tests in order to get the answers right or wrong. Knowledge was definitive. The direction of the knowledge flows was top-down. The moral lesson was to accept authoritative, universal knowledge as true and to comply with its 'discipline'.

This logic fitted well with the logic of the earlier modern media. It does not fit with the logic of the

new media, or the commensurate shifts in the balance of agency in the everyday experiences of work, citizenship and personal life. If education is to be relevant to the contemporary social needs and personal dispositions, it has to do something different. It has to conceive schools as knowledge-producing communities, and create in learners a sense that they themselves are knowledge producers.

In the case of teachers, the digital media allow them to be designers of pedagogy and builders of learning content. Textbooks which followed the syllabus were designed to be followed by the teachers, and these were in turn followed by learners. 'Turn to Chapter 7', was the extent of the teacher's intervention. Go to the next 'digital learning object' is an instruction from a learning management system that is not a lot different. Like Chapter 7, it is something which has been created by someone who can, and that's obviously not the teacher. However, given the accessibility of the digital world, what's to stop teachers and schools developing banks of learning resources and publishing them to the web—such as the Learning Elements of the 'Learning by Design' project—which are locally engaged and, expressions of their own professionalism and a culture of collaboration in the school as teachers share their work (Kalantzis and Cope 2005)?

In the case of learners, why can't they draw on a variety of available resources—digitally accessible information, in their community and environment, amongst parents and peers—in which they actively make knowledge in its various modes and permutations (such as experiential, conceptual, analytical and applied)? They would not be reinventing the world any more or less than an expert does. They would be just as reliant on knowledge sources, but rebuild knowledge themselves in an active, engaged way as if they were an expert.

Once again, the digital will support this, providing as it does unprecedented means for accessing, recording, sharing, working collaboratively and publishing the knowledge learners may have made in their digital portfolios. The key shift, though, is not the medium, but the capacity of the medium to support learners to be knowledge producers rather than knowledge consumers.

Dimension 2: Learner Differences

The old, one-size-fits-all, on-the-same-page curriculum is no longer necessary in the context of new media. Nor is it such a good idea in a world of endemic divergence. Heritage modern schooling did all it could to remove or ignore differences. With the teacher at the front of the room and the test at the end of the term, everyone had to be turning the page to Chapter 7 at the same time. This was the communicative basis of its key technologies of homogenisation—separatism (by age, 'ability', culture, language, social destiny) and assimilation (remember this stuff, demonstrate you can think this way, become the kind of person we want you to be).

But look at all the differences in school today, so visible and so insistent: material (class, locale), corporeal (age, race, sex and sexuality, and physical and mental characteristics) and symbolic (culture, language, gender, family, affinity and persona). The new learning has little alternative but to recognise the social realities of pluralism and develop strategies for inclusion that are without prejudice to that diversity.

Using digital media, learners do not all have to be on the same page. At any one time, they can be doing what is best for them given what they already know. And how can a teacher know what a learner knows? A much more graphic, realistic and detailed view is possible in a digital environment in which actual performance is recorded in portfolios rather than bald test scores. Complex, multiperspectival assessment is possible which continuously feeds back into the process of appropriate learning design for that student. If students are knowledge creators, they can be asked to link the particularities of their life experiences closely into the knowledge that is being made. By this means, their knowledge-making becomes revoicing, not replication. Students can also work together more readily in the digital environment. Lesser or greater contributions are visible for what they are (and this could be appropriate), and differential perspectives and knowledge can be valued as the basis for collective intelligence.

Dimension 3: Synaesthesia

Heritage modern schooling divided modes of meaning neatly into different subjects. Language was for text; art was for visuals. Schools stripped away the richly multimodal life of pre-school children by separating off the mechanics of handwriting or phonics. New learning uses synaesthesia—or mode shifting—as a pedagogical device. The new media make this so much easier, and so much more excitingly close to the 'realness' of television, video games and the internet (Kress 2000; Kress 2003).

Word processing, web work, PowerPoint, blogging, making a wiki, creating image galleries, video-making and game-making and playing—all of these build upon and realise a wider and more powerful range of human meaning-making capacities than the heritage media of traditional school subjects. They also allow learners of different dispositions to drift in the direction of expressive forms with their comfort zones, whilst challenging them to transfer meanings into new and as yet unfamiliar forms.

Dimension 4: Pedagogy

Didactic pedagogy taught facts assembled into disciplinary shape and unveiled to learners in theoretical sequence. In the twentieth century, a less-abstract 'authentic' pedagogy emphasised experiential learning—through doing, demonstration, experimentation or immersion. The new learning seeks to engage learners in more powerful conceptualising and metacognising process. Some of this is reminiscent of didactic teaching—labels for things more finely defined than in the ambiguities of everyday language and theories which tie those labels together into patterns of explanation. But the new learning engages the learner as co-constructor of concepts—as definer, theory maker, critic and analyst. Some of the new learning is also reminiscent of authentic education, when learners connect knowledge with personal experience, are immersed in new experiences and are asked to apply their learning in real-world contexts. But it does more, by insisting on the higher-order conceptualising that is one of the keys to our present moment and its media, its cartographies and its grammars.

The possibilities of the new media for education have as yet barely been explored. It may look as though we have adopted new media in the classroom. However, these media have a deceptive capacity to do to old things. In fact, we have often been weaned to the new media by metaphors from old representational and social practices. For these very reasons, we need to go back to an analysis of the fundamentals of the new media. A reading of their affordances gives us a sense of their potentials to support a new learning.

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Dr Bill Cope has been a Director of Common Ground Publishing since 1984. Common Ground runs a number of annual conferences in fields education, management and the humanities, as well as developing the collaborative online publishing environment, CommonGroundPUBLISHER. He is a former academic working in a number of Australian universities, and a First Assistant Secretary in the Department of the Prime Minister and Cabinet and Director of the Office of Multicultural Affairs. His research and writing, jointly with Prof. Mary Kalantzis, has resulted in a number of books, including: *The Powers of Literacy*, Falmer Press, London, 1993, *Productive Diversity*, Pluto Press, Sydney, 1997; *A Place in the Sun: Re-Creating the Australian Way of Life*, Harper Collins, Sydney, 2000; and *Multiliteracies: Literacy Learning and the Design of Social Futures*, Routledge, London, 2000.

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