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Alan Cawson

Beyond the digital divide: harnessing the Internet for cross-cultural dialogue[1]

Zusammenfassung: In diesem Artikel wird das Konstrukt des ‚digital divide' untersucht und diskutiert, wie das Potential des Internet im Kontext von Erziehung und interkultureller Kommunikation zwischen Nord und Süd genutzt werden kann.

Abstract: The author explores the nature of the digital divide and discusses how the potential of the Internet can be realised in the field of education and cross-cultural communication between North and South.

Introduction: the digital divide

For the last ten years the term 'digital divide' has become a familiar way of expressing the wide variations in access to information and communication technologies (ICTs) across the world. While there may be some disagreement over what the expression actually means, and what indicators should be used to map it, there is no doubt that developing countries, and Africa in particular, lag far behind industrialised countries in their take-up of new digital technologies, especially the Internet. The emphasis in early accounts of the digital divide was on inequalities in infrastructural provision and access to technology. Many countries in Africa have devised information strategies, taking for granted the relationship between ICT diffusion and economic development, in an attempt to close the gap. These have generally focussed on infrastructural improvements: policies in education, for example, have concentrated on hardware provision with much less attention paid to the issues of how new technologies are used.

The most ambitious and rigorous attempt so far to measure the digital divide has been made by UNESCO through their Orbicom network. This study goes beyond a narrow infrastructural definition of the digital divide to measure educational achievement and use of technology as well. The study coins the concept of 'Infostate' which is an aggregate index of information networks, education and skills, and uptake and intensity of the use of ICTs. The study, based on 2001 data, shows that Sweden is the most developed infostate with a score of 230.5, and Chad is the least developed with a score of 5.2. When physical networks (i.e. the extent of infrastructural provision) alone are measured, the differences between the most developed and the least developed are much more marked than in the overall infostate index. The Netherlands has the most developed networks, with a score of 378.9, compared to Myanmar which is the least developed with a score of 0.8.

The cultural divide

Whilst these rankings help us to understand a general relationship between economic development and the spread of ICTs, they mask the extent to which the *content* of what is communicated reflects an equally significant divide between media and content producers – dominated by organisations in the North – and media consumers. The points of reference for consumers in the South, fashioned for example by corporate logos and advertising, are determined in the industrialised world, and help to reinforce a sense of cultural inferiority and disdain for local products. The traditional mass media – now supplemented by direct satellite broadcasts – rely on programme material that is both North-centric and produced by a relatively small number of media organisations. In the pre-digital era this imbalance was recognised in vociferous calls in the late 1970s for a 'new information order', but the wealth and global reach of western media organisations was such that new entrants found it difficult to compete.

Thus even before the advent of digital media in the 1990s there was a marked 'analogue divide' in terms of production of content and access to 'old' media technologies such as radio, television and the telephone. In addition to the inequalities in access (i.e. consumption) there were and remain structural inequalities in production, whereby western media organisations continue to dominate the international exchange of news, films and television programmes. In this sense the digital divide is nothing new, but the term acquired a symbolic meaning and a spur to action in the context of new technologies that the earlier debate on the new information order had failed to spark. The question needs to be asked as to whether and how digital technologies are different from analogue ones, and in particular whether the rapid diffusion of the Internet makes a difference.

The potential of digital media

Media inequalities in the analogue era were marked by the domination of stereotypes and news values that led to the portrayal of Africa in particular as a crisis-ridden continent, scarred by war, famine and disease. The characteristics of digital media – and especially the Internet – are such that these representations can be challenged in a way that was impossible in the analogue era. There are two important characteristics of digital technologies that embody the potential for change. Whereas analogue broadcasting is constrained by spectrum scarcity and regulation, the Internet's exponentially expanding capacity allows space for alternative views to be heard. For example, the premier search engine, Google, is now indexing over 8 billion web pages. A research project at the University of California at Berkeley estimates that every year new information is created equivalent to 37,000 libraries the size of the US Library of Congress. Over ninety percent of this new information is stored digitally; paper accounts for one tenth of one percent of new information (Lyman/Varian 2003).

The second characteristic is a dramatic lowering of the financial barriers to entry. Taken together these factors generate a potential for the democratisation of the media, and with this the possibility for the first time of parity in terms of information exchange between the South and North. Usually meanings of electronic democracy (or e-democracy) are confined to experiments in electronic voting systems or wider access to government using electronic media. In this context, however, the democratic implications arise from more widespread access to the means of communication which challenges the monopolistic control of the established media.

The Internet represents a qualitative shift in the evolution of media technology in that it embodies and promises to absorb existing media within the same technological protocols – i.e. accessible through the same device. Thus, given sufficient bandwidth, an internet-enabled PC can act as if it were a book or newspaper, a radio receiver, a television set, and a telephone (with video capability). But internet technology is much more than a single point of access to digital versions of existing media technologies. The Internet has spawned an entirely new means of communication – electronic mail – that, along with text messaging on mobile phones, has radically changed the communication behaviour of individuals and organisations. The capacity of digital technology to transform existing media – witness the eclipse of terrestrial analogue TV by digital TV that is happening across the industrialised world – is a powerful factor in the rapid diffusion of the technology. Once media are digital they can be brought within the scope of the Internet; once the scope of the Internet is broadened as the carrier of a range of media, the opportunities multiply for new entrants and even individuals to become information producers.

In the analogue world an increase in the number of people with access to radio receivers or TV sets represented a growing audience for the mass media and for advertisers. In the digital world an increase in the number of people with access to the Internet represents more than this: it establishes a growing potential for new forms of communication and ultimately opportunities for new forms of content creation.

Thus the most significant feature of the Internet in terms of addressing the cultural imbalance between North and South is the potential for media *creation* as well as media consumption. All previous media technologies have been one-to-many (newspapers, radio, television) or one-to-one (the telephone). One-to-many media have been characterised by either heavy regulation by the state, or very high financial barriers to entry, or both. By contrast the Internet is capable of being a one-to-many medium that has very low barriers to entry and is difficult if not impossible to regulate. By investing in a second-hand PC and using free software internet users can have access to over 600 million people worldwide for an investment of less than $500.

Some of the most successful businesses on the Internet have grasped one of its essential features. Whereas in the old economy the search for profit leads to attempts by a small number of sellers to command larger and larger markets, in the new internet economy the successful online traders such as Amazon (with its affiliates programme) and Ebay have realised that rewards come from establishing smaller and smaller markets served by millions of sellers, and finding a way of slicing a fraction of the revenue from each transaction. The characteristics of the Internet allow millions of one-to-one and one-to-few communications to be established relatively inexpensively.

Information communities and self-representation

Amazon and Ebay are visible because they have succeeded in harnessing the essential nature of the Internet within their business models. Less visible, but arguably just as significant, is the enormous proliferation of specialised information communities that the Internet has spawned. Using electronic mail, bulletin boards, blogs (web logs or personal journals) and chat rooms, hundreds and thousands of special interest groups have emerged. The uneven development of the Internet has meant that so far these new information communities are more representative of interests in the industrialised world,

but the expansion of internet access in the South is beginning to change this.

These features of the Internet hold out the prospect of opening up content creation to a much wider group of people than hitherto – in industrialised as well as developing countries. By-passing the mass media and communicating directly with others allows the possibility that people can represent themselves. However there is a world of difference between a potential of the technology and concrete conditions that enable that potential to be realised. In the remainder of this article I will discuss how this potential can be realised in the field of education and cross-cultural communication between North and South.

Before doing so, however, it should be stressed that education is a laggard rather than a leader in the adoption of new technology. It is evident from looking at the spread of new digital technologies in Africa that much of the running is made by the private sector, and is facilitated more by government deregulation of communications than by high level initiatives or strategies. (For a detailed examination of one case, see Zachary 2004).

The deployment of the Internet and web technology as a creative tool in education represents an evolution from early approaches to computers as teaching machines where teachers expressed fears about the stifling of creativity (Starr 1996). Computers as content creation and communication tools allow for group collaboration and information exchange that enhances social skills as well as individual learning.

One of the first problems in harnessing this vision arises from structural inequalities that are emphasised in the narrow definitions of the digital divide. Schools in the South lack the ready access to the Internet that is now common in schools in industrialised countries. A major part of this arises from the extremely high costs of internet access via satellite, which is the only feasible means of connection in much of sub-Saharan Africa. Monthly fees for a VSAT connection can be as high as $450 per month for a 128 mb/s connection which is roughly 40 times the cost of acquiring access in industrialised countries using ADSL broadband technology. Given differences in GDP per capita, in real terms it is roughly 600 times more expensive to connect to broadband in sub-Saharan Africa than in OECD countries.

Even where schools in Africa have been able to acquire computer laboratories and internet access – and so far these tend to be elite secondary schools – there has been relatively little attention paid to how they might be deployed. Computers tend to be confined to the IT curriculum, and learning tends to be skill-based. Very few non-IT specialist teachers have any experience of computers and the Internet, and IT skills are rarely part of the initial teacher training curriculum. To begin to harness the potential of the Internet as outlined above requires a shift in perception towards the idea of active communication using the technology: in essence a move from the idea of computer literacy – being able to make use of a computer – towards *network literacy* – having the 'capacity to use electronic networks to access resources, to create resources, and to communicate with others' (DFEE 1997, p.10). Creation and communication are crucial to realising the potential of the Internet for self-representation, but often the emphasis in discussion of the use of the Internet in education is on e-learning (the electronic textbook) and on information provision (the electronic library). Much less is said about the potential for special interest learning communities using internet technologies such as instant messaging, chat rooms and blogs. Part of the reason for this is that these technologies have been seen as part of the seedier side of the net, and it is common for schools in the UK to block access to such tools.

Conclusion: the digital promise

The advantages of using the Internet as a specialised communication tool far outweigh the problems. From the point of view of development education in the North, for example, there is much more to be gained from the use of the Internet than making resource material available on the Web. For the first time students in schools in the North can open a dialogue in real time and have access to the direct unmediated opinions of their counterparts in the South. Students in the South can pose direct questions about everyday life in the North, and test their preconceptions and stereotypes against the experience of their peers. Teachers can build personal testimony into their teaching materials and encourage their students to create digital resources for their peers to evaluate. Once the technology is in place, as with other digital technologies, the marginal costs of using it are negligible.

None of this, however, will happen inevitably or even easily. The rigid constraints and prohibitions built into UK school networks that currently work against spontaneous dialogue will need to be reviewed, and new, less restrictive, policies adopted. Access in developing countries will need to be improved, and connection costs lowered. Non-IT specialist teachers will need to be trained not only in internet and web skills but in how to facilitate communication and manage dialogue. The obstacles may be formidable, but the prize is surely worth aiming for: the prospect of a more equal and less distorted cross-cultural dialogue between North and South.

Annotations

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Alan Cawson is Ghana Manager for the Fiankoma Teacher Programme (www.fiankoma.org/ftp). Formerly he was Professor of Digital Media at the University of Sussex.