

The Internet in Undergraduate Management Education: A Concern for Neophytes Among Metaphors

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ABSTRACT *This paper presents an alternative perspective of the pedagogical and other merits of the Internet in undergraduate management education. It highlights the importance of sensitising management students to the ideological character of the Internet and to the Internet's capacity for altering relationships, power structures and ways of 'managing' organisations. The need for there to be a critical appreciation of the effects of metonymy and metaphor when the Internet is being considered for use in undergraduate management education is emphasised. The notion that the Internet is an unparalleled conduit of pedagogically-related excellence is challenged and implications are analysed. Metaphors about the Internet and metaphors transported by the Internet are discussed in order to develop a better appreciation of the Internet's limitations as a technology 'whose full advantage is [purportedly] to be realized'.*

Keywords: Internet, management, education, metaphor, pedagogy, technology.

Scope and Purpose

A major American journal 'dedicated to enhancing teaching and learning in all areas of management and organizational studies', the *Journal of Management Education*, included in a recent 'call for papers' the statement '... and only with time will technology's full advantage be realized'.¹ This is a curious statement, for it reifies technology, suppresses technology's social and ideological character,² and presumes that 'technology' has an unequivocal 'advantage' which will become 'full' 'only with time'. It casts aside any thought that there may be some who will suffer short- and long-term disadvantage from technology. The statement is thus rhetorical, at least in Lanham's sense: 'for whenever we "persuade" someone, we do so by getting that person to "look at things from our point of view", [to] share our attention-structure'.³ Our response here is to argue for an alternative 'attention-structure' that does not reify the Internet in undergraduate management education.

This paper was motivated, in large part, by the behaviours of management educators implicitly sanctifying or reifying technology. But it was motivated also by Postman's⁴ plea for there to be 'a dissenting voice' which will 'moderate the din' made by enthusiastic technophiles, who 'gaze on technology as a lover does on his beloved, seeing it as without blemish and entertaining no apprehension for the future'. Whereas we are reluctant to characterise ourselves as Postman's 'resistance fighter(s)'⁵ nonetheless we share the view that 'technology must never be accepted as part of the natural order of things, that every

technology ... require(s) ... scrutiny, criticism, and control' and that educators should maintain 'an epistemological and psychic distance from any technology, so that it always appears somewhat strange, never inevitable, never natural'. The case we present is consistent with Postman's plea that '... we need students who will understand the relationships between our technics and our social and psychic worlds, so that they may begin informed *conversations* about where technology is taking us and how'.⁶

The paper contributes to the *conversation* about the Internet and management education by developing two themes. First, it draws on the hyper-real nature of the Internet to explore the implications of cyber-space hyper-reality for undergraduate management education. A contrast is made between the Internet as an information conduit⁷ and the Internet as a *communication bias*.⁸ The education of neophytes in undergraduate management education is argued to be affected profoundly by the metonymical use of cyber-signs for organisations, groups, and humans.

The second theme is inspired by Postman's (rhetorical) question: 'Do I exaggerate in saying that a student cannot understand what a subject is about without some understanding of the 'metaphors that are its foundation?'⁹ Metaphors about management, organisations, people and processes, are reinforced and altered by the Internet. Since metaphors are not merely ornaments, but are 'organs of perception',¹⁰ both 'conventional' and 'new' metaphors¹¹ in language *about* the Internet and *inhabiting and thus reinforced by* the Internet, must be part of a curriculum objective to 'keep in front of students the task of subjecting what they encounter in cyberspace to general forms of critical interrogation'.¹² This is especially important for undergraduate management students: they tread dangerous ground as neophytes among metaphors.

Concerns about impressionable students and technology were stated aptly in the recent report by The Boyer Commission on Educating Undergraduates in the Research University.¹³ In connection with the nexus between teaching and technology, university faculties are exhorted

... to think carefully and systematically not only about how to make the most effective use of existing technologies but also how to create new ones that will enhance their own teaching and that of their colleagues. The best teachers and researchers should be thinking about how to design courses in which technology enriches teaching rather than substitutes for it. And equally important, faculties need to concern themselves with the need to give their students the tools with which they can explore deeply as well as widely, with which they can discriminate, analyze, and create rather than simply accumulate.

If anything is evident, it is that the more information a person can obtain, the greater the need for judgment about how to use it. Obtaining information from the Internet is easy; children in elementary school can do it. But who teaches students how to take advantage of this mass of information? Who teaches them how to tell the difference between valuable information and clutter? How, in short, does a student become a more intelligent consumer in this supermarket of information? The answer, we believe, is by exposure to scholars—experienced, focused guides who have spent their lives gathering and sorting information to advance knowledge.

Recommendations:

1. Faculty should be alert to the need to help students discover how to frame meaningful questions thoughtfully rather than merely seeking answers because computers can provide them ...

2. Students should be challenged to evaluate the presentation of materials through technology even as they develop an increasing familiarity with technological possibilities.¹⁴

...

The Boyer Commission's comments and recommendations serve as a strong antidote to uncritical enthusiasm by management educators for unreflective embrace of Internet technology in undergraduate management education. The two themes pursued in this paper are consistent with The Boyer Commission's concern regarding the relationship between teaching and technology in the undergraduate curriculum. We invite readers to temper their enthusiasm and excitement for computer-based Internet technology with an objective, critical appreciation, so that students become alert to the Web's role in organising and integrating thought. As Gibson¹⁵ points out: 'After the Internet has saturated the cultural landscape people will construct their world views with different tools ... [since] ... the Web becomes such second nature that, like print, we hardly notice the immense paradigm it drags along with it'. If the Internet is regarded as *merely* a conduit its 'ideological agenda ... is apt to be hidden from view'.¹⁶

Critical approaches to undergraduate management education and the Internet become more salient when the seductive nature of the Internet is considered. For example, Morrison, Kim and Kydd¹⁷ found that undergraduate students (mainly enrolled in management and allied disciplines) enjoyed using the World Wide Web for information search more than they enjoyed other library search tools. Morrison *et al.* also reported, somewhat chillingly, that students 'perceived information found on the Web to be more trustworthy than that found through other strategies',¹⁸ even though 'much of the information put out on the Web is not referenced, has no particular academic validity, and in many cases is just opinion'.¹⁹

We seek to arouse critical appreciation by management educators of the impacts and implications of use of the Internet for pedagogical purposes. Our aims in the following section are to highlight how the Internet may be perceived in contrasting ways as an information conduit or as a communication bias; and to outline how the Internet invokes cyber-signs in a metonymical way for key management constructs. We then develop understanding of the metaphorical constructs, especially the *constitutive* metaphors, which fashion our engagement with the Internet. We conclude by appealing to management educators to have heightened regard for the rhetoric, metonymy and metaphors of the Internet when constructing undergraduate management curricula.

Hyper-reality of the Internet and Management Education: Conduit versus the Bias of Communication

The Internet is often regarded to be a communication medium. From this perspective, it is like a language whose 'primary function ... is not to describe social action scientifically, but rather to constitute social action as meaningful'.²⁰ The Internet is not, in this way, viewed as *mere* technology, but rather as the current manifestation of a *dominant communication medium*. The sense of this notion was captured by the economic historian and media theorist, Harold Innis:²¹

... civilization has been dominated at different stages by various media of communication such as clay, papyrus, parchment, and paper ... Each medium has its significance for the type of monopoly of knowledge which will be built and which will destroy the conditions suited to creative thought and be displaced by a new medium with its particular type of monopoly of knowledge.

Angus²² contends that Innis' work expands interest in language 'into the notion of media of communication as a theory of expressive forms'. In this framework one is encouraged to view the Internet as not simply a technology, in a mechanistic sense, but as an expressive form for the 'social relations within which a technology develops and which are re-arranged around it'.²³

Angus²⁴ supports his (and Innis') contention that communication media (such as the Internet) 'are ethically and politically, as well as perceptually and cognitively, laden'. In doing so he distinguishes Innis' model of communication from the more conventional *transportation model of communication* which seems to underpin most contemporary thinking about the Internet by management educators. This latter model (which is consistent with Reddy's *conduit metaphor*²⁵) assumes

... that what characterizes communication [e.g. via the Internet] is the movement of meaning across space—only the *delivery* as opposed to the *formulation* of meaning. In this model, communication is a secondary process presupposing the prior existence of the origin, destination, and content of the message. The technology of communication is thus understood as the *channel* whereby a message, or sign, is transported in space—as the means of this secondary process of delivery. From this common perspective, and again in contrast to Innis, a medium of communication is thus considered to be a particular category of technologies defined by their orientation toward a particular purpose. It can be placed alongside other comparable categories—such as technologies of transportation, oriented to moving people and goods in space, or technologies of agriculture, oriented to producing food. This understanding of communication, though it is still the most common one, can be criticized by suggesting that this secondary process of delivery is based upon a more primary process ... [which] ... is itself communication, not something other, which has to do with 'making common', 'being in contact with', 'establishing and maintaining participation', and so forth. In this understanding, communication is the constitutive process of social relations. A medium of communication persists in space and time through the establishment of connection between its constituent elements.²⁶

Such a view, when applied to the Internet, suggests that part of the 'immense paradigm'²⁷ dragged along by the Internet serves the ends of that new juggernaut of thought, taste, culture, and control, namely the *virtual corporation*. Menzies,²⁸ drawing upon Innis, makes this clear:

In a sense, these virtual corporations are the ultimate fulfilment of what ... Innis called the bias of communication in the modern commercial era ... towards fast, distance-bridging media of communications and large, monopoly-scale developments around them. The new virtual forms of corporate organization emerging in today's globally-networked economy may represent the ultimate in monopoly-scale organization, in which the structures as such disappear into pure digital communications and networking capacity.

As Innis also pointed out, monopoly-scale structures are inherently unstable, for instance, in their rigid and generally escalating requirements for capital investment and maintenance. They are also inherently unjust in the way they consolidate control into fewer, more remote centres and as they extend inequalities between centre and margin in the systems they create ...

Such virtual corporations, which are manufactured out of Internet and allied (largely digital) technology, verge on the 'real' in the sense that '[a] number of emerging technologies ... provide media users with an illusion that a mediated experience is not

mediated ...'.²⁹ They impel a reframing of our understanding of Internet-based undergraduate management pedagogy so that we acknowledge that

... every communication act is an 'institution' in a double sense. It is an act within a given communication medium through which it is situated in the cultural complex of institutions that defines a world. It is also an *instituting act*, whereby a given form of expression is brought into being and sustained as such. In this sense, it is a rhetoric of media forms in which one is persuaded not primarily to a given content, but to see the world with a certain perceptual, social, and cognitive emphasis ...³⁰

Thus, the hyper-real image on the screen becomes a sort of metonymy, in which '[p]eople take one well-understood or easily perceived aspect of something to represent or stand for the thing as a whole'.³¹ Metonymy (Greek for 'name change') is a figure of speech

in which the name of an attribute or a thing is substituted for the thing itself. Common examples are 'the stage' for the theatrical profession; 'the crown' for the monarchy; 'the bench' for the judiciary ...³²

Recent evidence 'points to the metonymic character of thinking and reasoning'.³³ For example, phrases such as '*We need a better glove at third base*' is an instantiation of a metonymic model in a conceptual system that is based upon OBJECT USED FOR USER.³⁴ Lakoff and Johnson³⁵ suggest that

[c]ultural and religious symbolism are special cases of metonymy. Within Christianity ... there is the metonymy DOVE FOR HOLY SPIRIT. As is typical with metonymies, this symbolism is not arbitrary. It is grounded in the conception of the dove in Western culture and the conception of the Holy Spirit in Christian theology. There is a reason why the dove is the symbol of the Holy Spirit and not, say, the chicken, the vulture, or the ostrich. The dove is conceived of as beautiful, friendly, gentle, and, above all, peaceful. As a bird, its natural habitat is the sky, which metonymically stands for heaven, the natural habitat of the Holy Spirit. The dove is a bird that flies gracefully, glides silently, and is typically seen coming out of the sky and landing among people.

Managers may act *as if* the Internet webpages are a (hyper-)real telepresence to their organisation's customers, suppliers, fellow managers, employees and the public-at-large, etc. The website stands for the organisation, or a sub-unit of the organisation, and is a variation of the metonymy THE PART FOR THE WHOLE, similar to *synecdoche*.³⁶ But in the case of the Internet, it is not really a physical part which is standing in for the whole, but an evanescent, digital, electronic shimmer that is in a very real sense *hyper-real*.

Jean Baudrillard's thesis that the hyper-real dominates and eventually replaces the real is insightful. It intimates the metonymic implications of the Internet for undergraduate management education. An image 'on a monitor linked to the Internet may be regarded as a sign, or hyper-real representation of some allegedly underlying reality. Der Derian,³⁷ in tracing the role of simulation in war and speculating on its future, captures Baudrillard's characterisation of 'the realm of hyperreality, where origins are forgotten, referents lost, and simulations begin to precede and engender reality'.³⁸ Der Derian observes³⁹ that

As the arms race shows signs of winding down, the simulation race is speeding up ... Can we imagine a hundred years from now, when the time for a bicentenary celebration approaches, that strategists will be so far *inside* the simulation of war that

they will neither feel a nostalgia for 'real' war nor be able to distinguish it from some 'original' model? Should we be horrified by the thought? Or just game on?

Der Derian warns of 'simulation syndrome',⁴⁰ in which the hyper-real of simulations of terrible events such as war may lead to cases such as the Gulf War, in which '... the deaths of this war were not simulated: that they were so one-sided and under-represented testifies to the power of cyberwar to obscure the horrors of war'.

The Internet in undergraduate management education does not deal with wars. Nonetheless, we must be alert to the telepresence thus represented, the models, or simulations, becoming our 'reality'. As Epstein⁴¹ observes when discussing the 'hyper-sociality' of Soviet society, such a "Hyperization"... represents the hypertrophy of an abstract property, its heightening to an absolute, "super" degree'.

Perhaps humans, especially in organizations, need such models to satisfy some longing for order and predictability in the world. After all, they nicely reduce the messy uncertainty and complexity of life to just a few (often quantitative) signs. Further, they may generate managerial action in the face of equivocality,⁴² and help managers render their world sensible.⁴³ A case in point is the current popularity of EVATM ('economic value added'⁴⁴), in which managers seem functionally-fixated on a measure, or sign. An earlier example is the widespread adoption of discounted cash flow models by management, in order to assess capital-budgeting projects,⁴⁵ with the result that 'they evaluated their investment alternatives in purely monetary terms, and in so doing, failed to develop various organizational capabilities that had a discernible effect on performance but that were almost impossible to cast in monetary terms'.⁴⁶ The danger is that managers may actually *act* on such hyper-real signs, without realising that they are mere abstractions, metaphors and metonymies, and thus must be regarded with the greatest of care. Such actions often do great damage to people and nature, and, as Baldwin and Clark⁴⁷ observed in the case of capital budgeting, for organisational 'success' as well.

Undergraduate management students should be introduced to literature that challenges the Internet as a *conduit*: they should be exposed to alternative perspectives. Literature sourced from communications theorists such as Innis⁴⁸ or his interpreters such as Angus,⁴⁹ and from critical writers such as Menzies⁵⁰ or Gibson⁵¹ should be prescribed for students. The case for doing so is strengthened by the fact that a burgeoning computer-based technology has been part of students' lifeworld since they were first cognitively-aware. (Most of today's undergraduate management students have never known a world without PCs: most reached high school when *Mosaic* and *Netscape* had made the World Wide Web blossom). Yet students seem prone to accept computer-based technology uncritically as if it were an inevitable, but desirable, fact of life in modern society. Any alternative perspective may be viewed suspiciously, with scorn and scepticism. Nonetheless, it is important to sensitize students to the social and ideological character of a relatively new, pervasive communications medium such as the Internet: to focus attention on how it alters relationships, power structures, and ways of living, organising and managing. A consequence of doing so might be that students become better and more humane managers.

It is important to design undergraduate management curriculum materials that reinforce the distinction between the *real* and the *hyper-real*. After all, corporate webpages are not just copies of some original 'thing' creating signs of a hyper-reality.⁵² Rather, they are a hyper-reality, inducing a sort of reality itself. This webpage 'sort-of-reality' is hyper-real in the same sense that accounting concepts such as reported net profit are hyper-real. Reported net profit is a social construction that, nevertheless, induces real and significant consequences as people make decisions based on it. A drop of 10% in a

company's earnings per share may result in product lines being discontinued and employees retrenched, even though there is no necessary connection between the reality of the downsizing and the reported accounting profit number. The powerful nature of this aspect of accounting is a 'hidden power, because people only think of you as *communicating* reality, but in communicating reality, you *construct* reality'.⁵³

The signs on a corporate webpage are similar. The vast quantity and type of 'information' available, the hypertext links, the management models whose creation would be impossible without the Internet (and corporate intranets), have limited and varying ties to *real* people and things. They are *constructed*, chosen by people, and the construction and dissemination is made feasible by the Internet. Some of the signs are *really* important: for example, online reports on compliance levels with anti-pollution standards from multiple organisational subunits. Others may only have hyper-real significance: for example, monthly EVATM by department. It is the duty of those teaching undergraduate management subjects to help students discriminate between the *real* and the *hyper-real* on the webpage. Further, management teachers should help students to understand that decisions, based upon electronic abstractions on the screen and the signs they represent, have real and significant implications for animate, not hyper-real, human beings and other inhabitants of this planet.

Internet Metaphors and Undergraduate Management Education

Cohn's description of being a member of a group of college teachers 'attending a summer workshop on nuclear weapons, nuclear strategic doctrine, and arms control, taught by distinguished "defense intellectuals"' is instructive.⁵⁴ By immersion 'in the world of defense intellectuals', her aim was to 'discuss the nature of nuclear strategic thinking, in particular ... the role of its specialized language' which she dubbed 'techno-strategic'.⁵⁵

... I attended lectures, listened to arguments, conversed with defense analysts, and interviewed graduate students [during] their training. I learned their specialized language, and I tried to understand what they thought and how they thought. I sifted through their logic for its internal inconsistencies and its unspoken assumptions. But as I learned their language, as I became more and more engaged with their information and their arguments, I found that my own thinking was changing. Soon, I could no longer cling to the comfort of studying an external and objectified 'them'. I had to confront a new question: How can *I* think this way? How can any of us?⁵⁶

Cohn found herself fighting not to be seduced by the pervasiveness of her immersion in the specialised language she experienced, which she concluded 'both reflects and shapes the nature of the American nuclear strategic project [and] plays a central role in allowing defense intellectuals to think and act as they do ...'.⁵⁷

What Cohn observed as a 'unique language', complete with its assumptions and inconsistencies, she might have experienced too had she been a 1990s manager whose lifeworld is determined significantly by the Internet and allied technology. Her paper and its relationship to the modern theory of metaphor and literary language⁵⁸ provides important insight into how the language, and text generally, of and on the Internet, has implications for undergraduate management education. Cohn was alert to the dangers and seductiveness of the 'specialized language' she encountered. She explicitly pondered the question, 'how can I think this way?', but we contend that many neophytes enrolled

in undergraduate management education programs will not be as sensitive to the potential influence of Internet metaphors on their thinking and consequent behaviour.

The emergent theory of metaphor⁵⁹ offers tantalising evidence of the metaphorical structure of human cognition. Thus, awareness and appreciation of metaphors *about* the Internet and *communicated via* the Internet are potentially beneficial in enhancing a broader and richer cognition of the roles and significance of management. Metaphor ought not to be dismissed as some fanciful figure of speech best left in a high school classroom or as a 'frilly and fuzzy adornment to rhetoric and literature'.⁶⁰ It is an important device to enhance perception, expression and communication. Most of us make multiple use of metaphor every day, consciously or sub-consciously, to 'conceptualize one mental domain in terms of another' by means of a 'cross domain mapping' in which

... everyday abstract concepts like time, states, change, causation, and purpose also turn out to be metaphorical ... Everyday metaphor is characterized by a huge system of thousands of cross-domain mappings ... The term 'metaphorical expression' refers to the linguistic expression (a word, phrase, or sentence) that is the surface realization of such a cross-domain mapping ...⁶¹

Indeed, as Walters-York observes '... even the driest of accounting textbooks and ordinary accountants in their most mundane moments employ metaphor'.⁶²

The modern theory of metaphor has been used to analyze the role of metaphor in a wide variety of contexts: for example, in legal reasoning;⁶³ American political discourse;⁶⁴ and in public education.⁶⁵ Given the significance of metaphor in cognition and education,⁶⁶ it is important that undergraduate management students develop a sensitivity to the metaphors (and their entailments, implications and ideal cognitive models) which construct management's relationship with the Internet.

Klamer and Leonard⁶⁷ describe three classes of metaphor in economics (and science generally): pedagogical, heuristic, and constitutive. *Pedagogical metaphors* 'serve to illuminate and clarify an exposition',⁶⁸ and while not strictly necessary they enhance learning since 'Good teachers are equipped with numerous such metaphors to help their students learn and accept difficult concepts'.⁶⁹ *Heuristic metaphors* are central to scientific discourse; they permit the scientist to think in new terms.⁷⁰ *Constitutive metaphors* work on the most fundamental level of all, since they 'frame a discursive practice in the way that the U.S. Constitution frames U.S. legal discourse'.⁷¹ Klamer and Leonard⁷² evoke Schon's thesis that metaphor is

... central to the task of accounting for our perspectives on the world; how we think about things, make sense of reality, and set the problems we later try to solve. In this sense, 'metaphor' refers both to a certain kind of product—a perspective or frame, a way of looking at things—and to a certain kind of process—a process by which new perspectives on the world come into existence.⁷³

Although all three varieties of metaphor are important in management education, our focus is not on the [usually] micro-level metaphors (*pedagogical* and *heuristic*) but on the conditioning, attitude-forming [and always] macro-level *constitutive* metaphors. The subtle power of constitutive metaphor to create a world for thought and action for individuals is illustrated in two recent works of critical scholarship. The first is David Korten's influential critique of the global corporate economy.⁷⁴ Without explicitly using the term 'metaphor' but evoking metaphor nevertheless, Korten pleads for a shedding of 'the illusions of our collective cultural trance'.

... In the name of modernity we are creating dysfunctional societies that breed pathological behavior—violence, extreme competitiveness, suicide, drug abuse,

greed, and environmental degradation ... The threefold crisis of deepening poverty, environmental destruction, and social disintegration is a manifestation of this dysfunction.

There is nothing inevitable about the collective madness of pursuing policies that deepen this dysfunction. The idea that we are caught in the grip of irresistible historical forces and inherent human imperfections to which we have no choice but to adapt is pure fabrication. Economic globalization is being advanced by conscious choices made by those who see the world through the lens of the corporate interest. There are human alternatives, and those who view the world through the lens of the human interest have the right and the power to choose them.

...

To correct the deep dysfunction, we must shed the illusions of our collective cultural trance ... it will require transforming the dominant belief systems, values, and institutions of our societies ...⁷⁵

Korten regards it to be crucial to radically alter the extended metaphorical structure underlying what George Soros warns is 'the untrammelled intensification of laissez-faire capitalism and the spread of market values into all areas of life [which is] endangering our open and democratic society ...'⁷⁶

A second recent work of critical scholarship seeks to understand how ordinary, everyday people can perform acts of brutal savagery as part of their everyday life. In his study of the commonplace, widespread butchery of Jews by ordinary Germans during the Nazi period, Goldhagen concludes that the killers 'were animated by antisemitism, by a particular *type* of antisemitism that led them to conclude that the Jews *ought to die* ...'⁷⁷ The killer's antisemitism consisted of

... first ... the type of antisemitism—that is, the antisemite's understanding of the *source* of the Jews' malefic qualities, whatever they are considered to be. What, in the antisemite's eyes, produces a Jews' unfitness or perniciousness? Is it his race, his religion, or his culture, or the alleged deformities inculcated in him by his environment? The consideration of the source of the Jews' undesirable qualities has implications for how the antisemite analyzes the 'Jewish problem', as well as how his cognizance of Jews may change with other societal and cultural developments. This is partly so because each *source* is embedded in an extended metaphorical structure that automatically extends the domain of phenomena, situations, and linguistic usages relevant to the antisemitic compass in a manner paralleling the metaphorical structure itself. The analogical thinking that accompanies different metaphorical structures informs the definition of situations, the diagnoses of problems, and the prescriptions of appropriate courses of actions. The biological metaphor at the heart of Nazi antisemitism, for instance (which held the Jews' evil to reside in their blood and which described them in terms of vermin and bacilli, to give but two of the images) is powerfully suggestive ...⁷⁸

Can metaphor, and metaphorical structures, have such power? Based upon the theoretical work of Schon,⁷⁹ Reddy,⁸⁰ Lakoff and Johnson,⁸¹ Lakoff,⁸² and others, and the examples in the work of Korten⁸³ and Goldhagen,⁸⁴ it seems plausible, at the very least, to be something worth serious contemplation and study in virtually every human field, including undergraduate management education.

Harrington highlighted the potential power of metaphors, and the duty of academics to expose them, when she wrote:

... For us as scholars, tracking the expanding range of a particular metaphoric argument can help us see how spaces may get created—‘cultural cosmologies’—in which moral and political actions appear to be sanctified by nature ...⁸⁵

We respond to Harrington’s call by illustrating the importance of metaphor to undergraduate management education during the Internet era. Our attention is focused on the pervasive constitutive metaphor: ‘Internet as information highway’.

A Metaphor *about* the Internet: the ‘Information Highway’ Metaphor

Although Microsoft founder Bill Gates⁸⁶ prefers the metaphor of ‘the market’⁸⁷ for the Internet, ‘the Internet as information highway’ is now part of the public consciousness, akin to a cultural model.⁸⁸ Rohrer⁸⁹ argues that US vice-president Gore’s use of the ‘Internet is an information highway’ metaphor ‘is constitutive of social policy by providing the policy with the model within which the reasoning about the meaning of the policy takes place’. Thus, since the building of wider highways facilitates the physical distribution of goods and commerce, the building of wider information highways is necessary to facilitate the larger loads of information as goods. In a similar way, this ‘Internet is an information highway’ metaphor may structure managers’ reasoning about their organisation and its relationship with constituencies. For example, Louwers, Pasewark, and Typpo urge managers to ‘tell your company’s story online’.⁹⁰

The ‘Internet is an information highway’ metaphor focuses attention on the Internet as an information ‘conduit’, in the sense of Reddy.⁹¹ To broaden undergraduate management students’ perspectives beyond such a narrow focus, assignments structured on a critical perspective of corporate Internet sites might be employed. Teaching notes and class assignments which integrate metaphorical analysis into undergraduate management education have been used by the authors and are available from them on request. One such assignment for undergraduate management students majoring in accounting encourages the students to consider deeply the way metaphors transported over this Internet-as-conduit influence the way they think. Thus, they might then take the next step and begin to explore cautiously the roles of the Internet as constitutive of the way thinking and behaviour occurs, and not solely (but albeit importantly) as a conduit of information, or of an ‘information highway’. An excerpt from this assignment follows:

Undergraduate accounting and management students are often seduced by the overwhelming influence of institutions such as the Financial Accounting Standards Board (FASB) and intermediate accounting textbooks into believing that financial accounting is described adequately by Reddy’s (1979/1993) *conduit* metaphor. For example, the FASB’s Conceptual Framework constructs financial accounting as reporting financial information about objective reality to users. And such a *representation* role of financial accounting is consistent with everyday images of accounting. The Internet’s role in financial accounting and reporting is thus seen as an electronic pipeline, or highway, through or along which financial accounting is efficiently disseminated. Such a view ignores the social roles of *both* financial accounting and the Internet (Amernic, 1998). Thus, in order to sensitize undergraduate management students

enrolled in intermediate accounting to more realistic, broader views, the following assignment is proffered:

Assignment #2 (10 percent; due start of class, Week 6)
THIS ASSIGNMENT IS TO BE DONE IN TEAMS OF TWO

IBM has established a section of its overall website devoted to teaching financial accounting. The URL is <http://www.ibm.com/FinancialGuide/>. Prepare a critical review of all aspects of this financial accounting pedagogical site, being sure to include both strengths and weaknesses, as well as a consideration of metaphor. Identify the user groups as a starting point in your analysis.

Page guide: 5 pages, single-spaced.

As preparation, students are provided with a short lecture on metaphor in business and management, based upon articles such as Forceville (1995) and Walters-York (1996), and an article about the Internet and financial reporting (Amermic, 1998).

A critical analysis of the IBM website (available from the authors on request) is used as a grading template, and also to debrief the assignments when they are returned.⁹²

There are numerous metaphors in addition to the 'information highway' metaphor that might stimulate student discussion about the Internet and its implications for management. For example, the Internet might be thought about in entymological terms (as a 'web'), in engineering terms (involving 'search engines'), in archeological terms (involving 'sites' with allegedly treasured information awaiting discovery and exploration) and in recreational terms (involving 'surfing').

Describing the quest for information on the Internet as 'surfing' is a metaphor which inhabits the Internet and fashions, implicitly and imperceptibly, our attitude to it. It acts as a conditioning, yet subtle, virtuous reinforcement of why we should embrace the Internet. For most, 'surfing' is perceived as an immensely pleasurable activity, engaged in by healthy, tanned individuals in blue, fresh, warm and clean surrounds. When one is said to 'surf' the Internet, the pervading image is of being carried along by some wholesome, surging, invigorating, irrepressible, inexhaustible force: a wave. Along the way, as surfers, we manoeuvre to take best advantage of the wave so that we will attain a desirable and pleasurable outcome. But image and reality often do not match. For many, the reality of using the Internet is of an activity in the reflected glow emanating from a cathode ray tube in a dingy room, in the dead of the night. It is an unhealthy, sedentary activity in which exponents are likely to 'wipe out' along the way—either through their inexperience or because other 'surfers' (Internet traffic) get in the way. The metaphors which inhabit and reinforce the Internet fashion images of perception. Unless they are identified and assessed in a more critical fashion (as has been done here very briefly with the 'surfing' metaphor), they are likely to be seductive and corruptive. Management educators and their students need to be aware of these subtle metaphors and their likely conditioning effect.

Conclusions

The emergence of 'virtual organisations', partly facilitated by Internet technology, requires new theorizing and hence pedagogy about the very nature of the construct 'organization'.⁹³ In designing the curriculum of undergraduate management education

there appears to be a strong case for management educators to attend more to the rhetoric of technology, to the metonymy and to the constitutive metaphors of the Internet.

Management education, especially *undergraduate* management education, deserves to be more than a means of incremental accretion of fashionable skills and competencies. At its core, management educators must remember that 'the higher education experience should be a challenging and unsettling experience, opening the student's mind to a sense of ever-widening possibilities, in concept, supposition and approach to the world'.⁹⁴ Management students should not be invited to bask in adulation of Internet technology without having first been exposed to alternative non-conventional perspectives regarding the Internet, its rhetoric and its constitutive metaphors.

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