Settle down people. Welcome to ERE 102. This course, colloquially known as Selling Silicon Snake Oil, provides an introduction to an Economically Rationalist Education. I teach you how to use the Internet, not for the purposes of critical thinking or creative mobilisations of hypertext, but to administer knowledge. For those of you with busy lifestyles, you are encouraged to leave the lecture theatre right now, and buy yourself a long black at the library coffee shop. Everything I am about to say will appear in my PowerPoint demonstration, which is downloadable from the Web site. Please do not contact me if you have difficulty logging into the course site. Your access is not my responsibility. So, if this is the last time I see you in this lecture theatre, I thank you for enrolling in ERE 102. I look forward to receiving your e-mails. Have a nice life.

In keeping with our bullet-point culture, I will now dim the lights and attempt to activate my PowerPoint presentation. Hopefully the projector will work. As I have not prepared a lecture, I will talk to the slides, filling in the space between the headings with banal comments and self-evident nonsense. You will however see some attractively coloured graphs. These are downloadable from the course Web site. Well they would be, but they are rather large documents and cannot be saved to floppy disc. I am certain though that most of you have a superdisc or CD-ROM burner in your homes. They will be necessary to get the most out of ERE 102. Afterall, there is no textbook and not much reading. Everything you need to complete the assignments is found in my PowerPoint bullet points. Copying them down accurately will determine the calibre of your grade in this course.

So starts an imaginary, dystopic University course. Readers may recognize fragments of this spiel, either from their own teaching, the work of others, or the fashionably superficial budgetary briefings and marketing meetings. While it is crudely configured, it does provide an entry into the concerns of my work. Now that the practices and principles of Web-based pedagogy have been experiencing a boom (of rhetoric, if nothing else) during the last five
years, it seems timely to unpick the digital fabric of the times. At the end of our academic career, when we have returned the last telephone call, answered the last e-mail and closed our office door for the final time, we will not list our major teaching success as training efficient administrators. Most of us hope to teach prime ministers, community workers, journalists and filmmakers. Certainly the modern university, as one ideological arm of the nation state, is a bureaucratic, corporate, capitalist organisation. This volatile role for the university triggers a new vocabulary: of excellence, standards, flexibility and efficiency.

In keeping with the era, I track the shape of the argument around a critical vocabulary of five words. These terms push the keypads of the time: crisis, teaching, management, flexibility and literacy. The critical inflection of this discussion is not meant to discount or demean Internet-based education. Instead, I problematise and theorise the justifications of Web-influenced learning, suggesting that teachers may be major losers in the — cliched — virtual university.

Universities in crisis?

It is densely ironic that universities have entered a period of crisis at the very time when women, mature aged students and ethnic minorities are entering the institution. In such an environment, a “national curriculum” makes little sense. Instead, the link between tradition and the market has affiliated the directives of neoconservatives with neoliberals. Both ideologies pathologise popular knowledges. Michael Apple has suggested that

“what counts as knowledge, the ways in which it is organised, who is empowered to teach it, what counts as an appropriate display of having learned it, and — just as critically — who is allowed to ask and answer all these questions, are part and parcel of how dominance and subordination are reproduced and altered in this society.”

These questions are framed in Australia within a rigid market orientation. The changes in Australia’s education policy in the mid-1980s coincided with John Dawkins becoming a Commonwealth minister in 1987. The White Paper of 1988 expressed the aims of higher education within the most reified of economic languages: efficiency, accountability, productivity and competition. As Janice Dudley and Lesley Vidovich recognised, the point of the Commonwealth policy was to “harness … higher education as an instrument of micro-economic reform to drive economic recovery.” Post-compulsory education was a safety valve on the labour market, and a mechanism to temporarily reduce unemployment levels. Gripped between notions of productivity and competition, the university sector was tempered with, and tempted by, questions of immediate social, economic and political relevance.

This “‘one-stop’ educational mall” is not in keeping with the mode in which scholars have been trained. If education is considered in this way, then much time and effort is spent keeping the customer satisfied, or else they may “shop around” for other courses. Significantly though, learning only takes place when students are effectively engaged, provoking both confusion and challenge. Satisfaction is not the basis of social or personal change. Through undergraduate and postgraduate education, academics build long-term knowledges, skills and research expertise. The network of peer review reinforces these processes.

The dual modalities of crisis and economic rationalism are framing the current movement into Internet-based teaching. The motif of ‘crisis’ provides an unfortunate and inappropriate push into technological innovation. Through these changes, the academy has been resilient and flexible. The shift in motifs, from the ivory tower to the real world, has downplayed and demeaned the critical function of scholars. The desire for concrete knowledge, serving pressing economic concerns, is not only promoted by conservative governments. Not surprisingly, David Whittle, an IBM executive and cultural commentator, has stated that

“…over the years, I’ve learned far more online about how things really work than I learned about how things should work in theory in six years of higher education as an undergraduate and graduate student.”

Cyberspace becomes the virtual library and university — and the fount of all knowledge. Such a stance decentres the place and expertise of academics. I am not suggesting that a solution to the crisis of knowledge is a return to intellectual elitism. Instead, I believe that all educators must be given credit for their expertise, rather than the market rate for their knowledge. Lucus was correct when he showed that “if there is a true crisis in American higher education today, it is chiefly a crisis of purpose.” The university has always been much more than a trade school for the workplace or a site for professional credentialling. Obviously, there has never been consensus over the undergraduate curricula at universities.
Life–long learning is not examinable or compartmentalised into semester–length units. To teach well is to deny closure. To teach well in the current system is to administer marking criteria.

Internet–based learning is a response to consumerism and the reduction in government funding. This has been an unfortunate context for the expansion of online pedagogy. The language of computer–based systems — cost savings, efficiency, and productivity — has masked the public interest and investment in information technologies. For example, while outlay in computers increased an average of 24 percent per year through the 1980s, investment in other business equipment declined [7]. Technology is driven by the competitive business sector and while it simplifies the management of educational tasks, the Windows environment poses very specific challenges for university teachers. This technocratic consciousness has meant that, as Aronowitz and Giroux have realised, “the central question regarding learning is reduced to the problem of management.” [8] In this environment, a teacher’s behaviour has to be controlled, scrutinized and evaluated. Radical ideas and expansive research are crushed into modules, criteria and bullet points, being rendered consistent and predictable.

Teacher: Roles and expectations

There are multiple significations resonating within the term "teacher". The skills being developed in our age include how to teach larger classes and be more entrepreneurial. The four pillars of academic life — teaching, research, administration and community service — are the post–war foundations of the current system. The rapid post–Dawkins Australian ‘innovations’ in the academy, when accompanied by vocationalism and the rise of structural youth unemployment, have altered the requirements of teachers and teaching. The polarised institutional and educational priorities trigger the rhetoric of “competing effectively for additional students while maintaining the same or a smaller faculty.” [9] Therefore technology is framed as a cheaper, more efficient replacement for university teachers. Investigating the cultural politics of information in this context necessitates epistemological spadework that situates teachers and teaching within the electronic classrooms.

A radical reworking of teaching has taken place in the last ten years. As teachers become facilitators, and lectures transform into workshops, the notion of effective education has morphed. A Curtin University of Technology site, from Western Australia, has proclaimed, “good teaching practices tend to work as partnerships between teachers and students, creating student–centred learning. The teacher’s role thus becomes less central, but definitely not unimportant.” [10]

Teachers, as the group responsible for curriculum, methodology and assessment, are not only "not unimportant", but absolutely critical to the reputation and success of students and universities. Internet–based learning actually "increase[s] academic workloads," [11] because somebody needs to design the content and layout [12]. Somebody needs to write the Web pages. Somebody needs to ensure that hypertext links are up–to–date [13]. Somebody needs to create evaluative criteria. Somebody needs to administer the students’ results. Therefore, student–centred learning is not only rhetoric, but also an ideological mask to deflect attention away from the power that teachers hold, and the increased workload necessary to promote Web–based education. As Stephen Brookfield has suggested, "students know teachers have particular expertise ... to pretend otherwise is to insult student’s intelligence and to create a tone of mistrust from the outset." [14] Students are not equal to teachers: instead teachers need to create a structured chance for disempowered groups to speak. Where a staff member assigns a grade and awards a degree, teachers and students are never “partners in constructing knowledge.” [15] I would be far more open to student–centred learning if there was an acknowledgment that teachers — at the very least — are rapporteurs, rather than facilitators. Ironically at the moment when student–centred learning has become the cliche of the age, students are (overtly) evaluating teacher’s abilities [16]. While staff may state that students must be responsible for their own learning, students are blaming staff for their results. For example consider the answers to the following student survey question:

“What advice would you give to teaching staff planning to create a Web–based learning course?

- Don’t disregard the human factor for tutorials and labs.
- Use it as a tool but don’t use it as the only means of communication — maintain word–of–mouth explanations as central to the course.
- Make it easy to follow and colourful; make it interesting so people stay attentive.
Think about the students first and from the students’ perspective. You are a teacher first.
You have to be enthusiastic about what you are doing.” [17]

None of these respondents asked teachers to give the student more responsibility. Instead students demand — alongside Internet–based materials — face–to–face contact as “central to the course.” If these students required face–to–face discussion, why were they enrolled as online students? Also, with many universities locked into the WebCT template, making sites look “colourful” is difficult. Students are also feeding off staff enthusiasm: the bits and bytes are not replacing the jokes and jibes. The point of Internet–based education is to relieve staff of some face–to–face teaching, so that universities become cheaper to run and more productive. Current Internet teaching is not addressing these issues, but is becoming a time–consuming add–on to already full working days.

The transformation of students into consumers of knowledge and customers of the academy has major consequences for teachers. As Smith and Webster have suggested, “today, the university is … expected to treat its students as consumers, and so students have begun to blame their teachers for their failures.” [18] Such an attitude ignores the complex process of learning. To read, remember, understand, synthesise and interpret knowledge is frequently drudgery. To learn with effectiveness requires repetition, practice and failure. To create a cycle of disillusionment, disappointment and blame is to undermine the activity of learning — and teaching. This change has been caused because knowledge has been transformed into competence. Very rarely discussed in the administrative push to online education is the high level of online withdrawal rates [19]. Therefore, while computers are seen to promote access to education, there are substantial structural problems to address. Angela Benson and Elizabeth Wright reported that over 20 percent of their students found that access to computers and the Internet actually hindered the completion of assignments [20]. These teachers were therefore concerned with the ethical implications of digitisation.

“The potential and drawbacks of online learning are so great that the widespread move to digitise courses needs to be accompanied by a broad–based discussion about the social implications of this trend.” [21]

Internet–based education is not replacing conventional lectures and tutorials. Instead, Web–based teaching is becoming one more site of writing and administration. Daniel Petre and David Harrington, as software designers, demonstrate little understanding of (Internet) teaching. They stated that "responding to an e–mail is not very time–consuming and doesn’t encroach on one’s personal space.” [22]

I have always been an early starter, entering my office by 7:30am. When I first arrived at Murdoch University — a boutique University situated in Perth, Western Australia — during 1997, I was able to complete two hours of research and administration before my teaching day started at 9:30am. By 1999, these two hours were filled with answering e–mails. After my teaching in the morning though, I was able to go the library some afternoons. However, by the middle of semester one 2000, I was unable to complete any reading or administration through the course of a working day. Between the (necessary) student consultations and over two hundred and forty e–mails every day, it takes me up to four hours to handle these queries. As a touch typist, each e–mail only takes a few moments to address. With effective filters and clear folders, I rarely confront spam or a glut of ill–organised messages. However the number of e–mails has permanently changed the shape of my working day. Hour–long blocks must be set aside to read and reply to an ever–increasing stream of professional, academic, research and teaching inquiries. Administration and research is now conducted early in the morning, late at night and on weekends. I no longer bother bringing my briefcase to work. My story is not unusual. But this change in the pattern of my working day — within four years — has reduced and decentred intellectual tasks to competency and generic skills.

The Internet has increased the access to the instructor. While such access can be framed as beneficial to students and education broadly defined, it has emerged during the very period when research and administrative responsibilities have also increased. Some theorists question why staff lack motivation, and resist Internet–based teaching [23]. For the first time, staff must place attention on delivery management systems. In the past, staff wrote
study guides, but did not have to think about how the publication was photocopied and distributed. Now, they must not only write teaching materials, but structure it within templates, keep hypertext links current, and address student queries when they cannot access the site. Michelle Vachris’ realisation is very serious in terms of a teacher’s time, and career:

"Because the online technology promotes a more cooperative learning environment, this interaction is more costly in terms of instructor time than is the case of a traditional classroom." [[24]

While the conditions in which academics are working are changing and becoming saturated with economic imperatives, university structures are still reliant on the vocationalism and good will of scholars [[25]]. There is an assumption that teachers will complete work and training for which they are not paid. Teachers have taken time away from research, marking and in-class preparation to develop a new site of knowledge. Lynne Shrum has related a Californian-based scheme.

"Teachers voluntarily gave up one month of the summer to learn about new technologies to improve instruction. For four weeks, these teachers live in dormitories, attended classes, and prepared lessons from early morning until late at night. They developed skills in many areas of teaching and technology. In return for their commitments, the teachers received a stipend that included room and board, a small cash award or the equivalent sum toward the purchase of a microcomputer, and a limited amount of software.” [[26]

Many university scholars have freely given time for a pedagogy that has increased their own workload [[27]]. The long-term consequence of computer ubiquity is that organisations and individuals are committed to banal tasks and (jacked-in) skills. Such activities have transformed teachers into managers of information and designers of Web sites.

Administration, management and design

The management of the learning environment is part of the administrative movement of the academy. At its best, “the administration of Internet-based learning (IBL) is a process of negotiation and collaboration between individual academics, colleagues, and university structures.” [[28]] This “collaboration” is not compatible with my experience of Web-based development.

I am currently offering a unit at Murdoch University that is offered at both second and fourth year levels. The course is available internally, externally and via the Web. That means that six distinct versions of the course are running, all with different assessment, and all requiring continual monitoring and updating. It is simply assumed that the sites will be available, internal and external study guides delivered and a collection of readings developed. I had no decision-making role in extending this internal course to distance education in 1998, to the Web in 1999 and to fourth year level in 2000. Every time I now change a reading, develop a new section of a lecture and update the content and interpretation — which is every semester of every year — six different study guides and sites must be altered. There is currently no workload-based recognition of online courses or the updating materials through multiple modes.

While good teachers recognise that learning can only take place if students feel comfortable to make mistakes, the institutional framework does not encourage such an imperative. If teachers are granted a lecture theatre then they are able to ensure that the students have access to the learning environment. However this power is removed from teachers in the desire for flexibility and facilitation. Teachers are responsible for learning, but have no ability to guarantee student access. If a university server is down, if the WebCT structure has disabled guest account creation, then students cannot enter sites, and the instructor becomes responsible for a situation over which they can do little except write placating e-mails. HTML offers enormous potential for the development of innovative educational architecture. The simple format for both representing and linking documents is an
outstanding opportunity to create new types of referencing, writing and reading. The repercussions of hypertext for those who both teach and assess the work of others is also far reaching. John Scigliano, Jacques Levin and Greg Horne affirm that there is the capacity for “immediate questioning and feedback on work.” 

Once more, a clash emerges between the potential of the technology and the reality of teachers’ lives. “Immediate feedback” is also possible through written essays, but a one/two–week turnaround is the standard. The potential of hypertext raises the possibility of the moment an essay arrives, it can be marked—either through the tracking function in Microsoft Word, or via Notepad. Invariably, this “immediate feedback” does not result.

In my Murdoch University course, Cultural Difference and Diversity, I allow students to choose the form of their first assignment — video presentation, audio tape, government research paper or Web site. This year, I received three Web–based assignments, from the 133 students enrolled in the course. While there was a potential for “immediate feedback,” I treated these assignments like the others. Needless to say, the three students kept sending me e–mails, asking me if I had looked at their Web page. This interest was not matched by the other 130 students. They granted me seven days to actually complete the marking.

I do not have Internet access at home. I have always argued that I bring enough work into my private life, without needing the added expense and distraction of clearing e–mails late in the night. So therefore, these three Web–based assignments were the last marked. I went into work on a Sunday afternoon, and proceeded to “mark them.” I was not impressed with what was presented, as the students wrote written reports and then converted the documents to HTML. The characteristic of Web pages is hypertext — and there were numerous links possible in this assignment. To start them off, I had provided 22 sites for the students. But this left me in a difficult position. They had completed a mediocre assignment, and placed it on the Web, assuming that they would gain points for innovation. Yet they had used linear writing modalities in a convergent medium. All received a credit. All were disappointed. My statement that they did not use the potential of the medium did not really gel with them. I described the equivalent as student’s submitting a video presentation simply standing in front of a camera and reading an essay to the lens. They did not grasp the parallel.

The managerial makeover of the contemporary university has resulted in a re–evaluation of the curriculum. As Trevor Kerry and Janice Tollitt–Evans have realised, “those of us who came into the teaching profession a while back had no inkling that the job of the teacher would develop into one with such a heavy load of administrative work.” In evaluating the virtual curriculum, questions should be raised about both teacher education and professional development. The managerialism of the current university system has meant that Internet–based pedagogy has been focussed on design issues, rather than rationale, intentions or applications. The laissez faire attitude to teacher training has relied on ‘gifted amateurs,’ rather than structural change, initiating Internet–based education. Too often however, the major managerial decisions promote the desire for flexible learning. Particular instructors are protecting their area, by streamlining units and making their courses ‘economically viable.’ For example, consider Graham Seal’s course, Australian Literature (LCS12):

“In its first year of online operation only one of nine students enrolled in the course worked in its online mode. Dr. Seal emphasises that the creation of the Web site will enable the course to run economically in future with such small numbers. The course will also be ready as more students go online.”

Pedagogical or political rationales were irrelevant to the Web–based transfer of Australian Literature. With such a tiny enrolment, online education was a desperate act to keep the course viable. The excessive work involved in creating this course for one student was an implicit presence in this review.

The polarised impact of information technology within the university can be attributed to a lack of training in the mid to late 1990s. While most institutions made Internet
training "available," they did not reduce the workload so that staff could take up this opportunity. That early absence has resulted in a lack of critical reflexivity and familiarity on reading and writing for the Web, and an over-emphasis on the technology "itself." While technology continues to "advance," it will not be used appropriately unless crafted alongside pedagogy.

Flexibility and excellence

The two motifs of the University — flexibility and excellence — have also marked Internet studies and Internet-based instruction. A student questionnaire, probing the rationale for Web-based teaching, hinted at the pressures confronting academics to "be flexible." The far-reaching demands of students in this new environment perhaps foreshadow the future of university education. Consider a few of the student comments:

"I would be worried if lecturers ... feel that because they made the effort to put their work online their job is finished."

"To perhaps have a time when e-mails can be answered quickly."

"Must be available by e-mail, phone, fax and personally for contact still." ([33]

These are not self-regulated learners. These student responses are not strong advocates for the benefits of the Internet for learning, teaching or the credibility of a university. The desire for students to contact staff whenever — and however — they desire would be unexpected in most business environments. Such desires from students appear not only ungracious, but are treating academic staff like a customer service agency. Within the increased managerial load on academics, there will be less hours in the day when students can see teachers or have their calls answered. Even though materials have been put online, and the potential of asynchronous communication mobilised, students want e-mails to be answered quickly. Similarly staff are to be available by e-mail and phone and fax and personally. Therefore, online education has actually created a new problem, which will fragment the workplace further, and must make an academic’s workday less efficient.

Most online students describe flexibility in study as the great advantage of Internet-based education ([34]. But the cost of student flexibility is staff productivity. The major justification for staff to promote Internet-based education is that it "increase[s] students’ responsibility of their own learning." ([35] The point of assessment is to regulate the learning of students who cannot regulate their own progress. However student evaluations demonstrate that the reverse is actually taking place.

The desire for flexibility, as a justification for the increasing role of the Internet in teaching, is at the loss of other, older imperatives of university education. Similarly, the aspiration for excellence is part of managerial vocationalism, and a denial of both the cultural imperative of citizenship and the social justice focus of the post-war university. As bell hooks has realised, "there is not much passionate teaching or learning taking place in higher education today." ([36] The point of flexibility was — politically — highly useful. It was a way to transform universities into sites of life-long learning. It has now transformed into a strategy to retract three-year degrees, take course overloads and cheapen what is being taught. This Cliff Notes culture has decentred learning. Learning always exists in a social situation. The application of that knowledge creates a link between doing and thinking. This connectiveness can occur in any media at any time. However, it does take intellectual discipline on the behalf of the student. Learning — challenging learning — is rarely pleasant. It is confronting to re-theorise the truths impressed from parents, friends, religious organisations and governments.

The stakeholders in technology education are myriad: from governments to university administrators and employers. Yet it is the teachers who must make the virtual classroom — with all its practicalities — actually function. The aim of corporate capitalism is to "minimise the uncertainties of the free market by attempting to regularise relations with customers.” ([37] Information architecture must be developed with clear purposes, necessitating precise decisions about content. Institutional decisions must be made about standard metadata and cost-effective system expansion. These are "top-down" decisions: hardly promoting the egalitarianism of the Internet.

The notion of good practice, let alone best practice, in educational delivery remains a vexed question. Obviously instructional design, curriculum development and technology are integrated modes of communication. The simplistic rhetoric of Roger Atkinson needs to be monitored, critiqued and problematised:
Online learning offers attractive ways to enhance the flexible delivery of vocational education and training.”

The language — attractive, enhance, flexible, vocation, training — is telling. The key question is whether or not valuing flexibility above all other attributes is actually a stable foundation for our higher education sector.

Literacy and cultural capital

The final section of my work inflects the two terms of literacy and cultural capital with potential for teachers balancing the conflictual ideologies of the university sector. Clearly, encryption remains both a metaphor and metonymy of our lives. But who possesses the key to decode these discourses? Literacy standards have been a tenet of neo–liberal ideologies. Albert Borgmann has suggested that “it is the force that invades and transforms an oral culture.” [39] Therefore, the changes of literacy invoke compromises to both the humanities and the educational system. It is difficult to reconcile the fetishisation of literacy with the contemporary reality of how information is created, stored, applied and distributed. The corporate aims of the university signal a movement from cultural capital to dollars and cents. It is clear, as Gregory Rawlins has realised, that “Adam Smith outran Karl Marx.” [40] Western institutionalised education has built civilisation by advancing industrialisation.

If I could uninvent one software programme, it would be PowerPoint. Without exception, the worst presentations, lectures and budget briefings I attend have been conducted using this tragic package. Presenters break all the rules of public speaking — repeating verbatim the words on the screen, letting the technology determine the pace and order of the presentation, and even the need for a darkened room. Also, many of these presentations either do not run or start late because of “problems with the technology.” For students, new problems emerge. For example, one site offering advice to teachers using PowerPoint stated that:

“Once you use presentation software to create your overheads, you then have the ability to archive all your overheads on your course Web site. This way, students can review and check their own notes against the exact overheads you used in class. Students often comment upon how useful it is to have this resource.” [41]

Such a system has major problems. Students desire access to the overheads of a lecture — it means that they do not have to attend the lecture. More seriously, the students that ‘check’ their notes against the PowerPoint slides will invariably copy down any points they missed — word for word. This is not critical thinking: in fact, it is not even thinking.

In times of rapid social change, work force skills lag behind best practice. For university teachers, we have to link students’ abilities, hopes and desires with the conformity of the workplace. It is assumed that students know how to read before they enter a library. For a digital library, “we would probably assume that people have to be trained in digital literacy before they can use a digital library.” [42] The process for attaining these skills is still in development. Inequities are reified through the Internet–based education. We need to remember and recognise that "technological change is primarily to the benefit of the same class that not so long ago forced people off the land and into factories, destroying whole ways of life in the process.” [43] The Luddites resisted the automation that deskilled workers and increased the power of managers. The ubiquity of computers is masking the deep inequalities that are cutting up — and cutting into — the student body. In the United States, many universities demand students arrive at the campus with computers [44].

This powerpointing of knowledge and the decentring of critical thinking will result in the systematic mark(et)ing of the sciences and economics over the humanities. The information line replaces the poverty line. The illusion of access promoted by computers provokes a confusion between the presentation of information and the capacity to use, sort and interpret it. Students have difficulty matching research needs with indexes: such a difficulty is only intensified through databases. Cerise Oberman demonstrates the clear intellectual gap between information and knowledge within the university library:

“The reference staff strategically placed corresponding print and CD–ROM indexes next to each other. The ERIC index was placed next to the ERIC CD–ROM and Psychological Abstracts was placed next to PsychInfo, and so on … the idea behind juxtaposing the print index to the electronic one was simple. We were trying to encourage students to use the print index as a starting point for their research. From the reference
staff’s point of view, this experiment was total and complete failure. Students preferred to wait in line for the omniscient computer rather than to consult print indexes even when librarians pointed out their availability and appropriateness.”

Information is therefore not the issue: the methodologies through which to assess it must be granted more attention. A story about student’s lack of critical skills was told to me by a librarian, demonstrating how the profession has been effected by the underconsidered introduction of Web–based education. PowerPoint is framed as an effective way to convey information in lectures. Many staff make these Power Point ‘slides’ available to students. The size of these files means that students cannot download them onto floppy discs. Librarians are pestered every day to explain why the student’s saves to disc ‘do not work.’ The idea of using a pen and paper to write their notes is not viewed as an option. Some technologies are obviously more important — and determinant — than others.

We must continue to ask what is the purpose of higher education, and how much of the neo–liberal ideology should be allowed to determine the agenda for the sector? Dennis Hayes has recognised the dangers of implicitly accepting the rhetoric of computer–generated improvement:

"Every era has its heresies. Perhaps there is no greater contemporary heresy than the notion that computers have betrayed us. Yet betrayal — and fundamental failure — is what the record quietly shows.”

My words are not framed as anti–technology. Instead, I argue that we need to prevent the flattening of public debate, criticism and critique. We also need to recognise how teachers and teaching are being challenged and undermined. Universities will not be ‘Amazoned’

Learning is not technologically dependent. It remains reliant on commitment, interest and passion.

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Notes

4. A clear exploration of this process of academic development is presented by Tony Becher in Academic tribes and territories: Intellectual enquiry and the cultures of disciplines (Buckingham: Open University Press, 1989).
12. As Paul Rodes, Dennis Knapczyk, Carrie Chapman and Chung Haejin have realised, "it should not be surprising ... that many of the most successful Web–based courses are in computer science and other technically advanced fields where students are already comfortable and familiar with computer technology." Therefore, the form and content relationship is even more significant when discussing Internet–based education. See "Involving teachers in Web–based professional development," T.H.E. (Technological Horizons in Education) Journal, volume 27, number 10 (May), at http://www.thejournal.com /magazine/vault/A2868.cfm.

13. This is an arduous task, and before Macromedia's Dreamweaver, very time consuming. Yet the hypertext capacity (and strength) of the Web means that maintenance becomes an unending process. Between one semester and the next, generally one–third of the URL links no longer function.


16. David Tripp has stated that "teachers are being more rigorously assessed on ever narrower observable criteria"; see Critical incidents in teaching. London: Routledge, 1993, p. 142.


19. Michelle Vachris has argued that we need to discuss and analysis the high level of online withdrawal rates. Of all the articles, books and sites I discovered on this topic, she was the only scholar to suggest that there is an issue to address here. Please see "Teaching principles of economics without 'chalk and talk': The experience of CNU online," Journal of Economic Education, volume 30, number 3 (Summer 1999), pp. 292–307, and at http://www.indiana.edu/~econed/issues/v30_3/8.htm.

20. Angela Benson and Elizabeth Wright, 1999. "Pedagogy and policy in the age of the wired professor," T.H.E. (Technological Horizons in Education) Journal, volume 27, number 4 (November), at http://www.thejournal.com/magazine/vault/A2372.cfm. These results were confirmed through Curtin University's student surveys, where the major problems reported by students were technical and access concerns, "Student IBL Survey Report."

21. Ibid.


23. For example, Deborah Padgett and Simone Conceição–Runlee, 2000. "Designing a faculty development program on technology: If you build it, will they come?" Journal of Social World Education, volume 36, number 2 (Spring), and at http://www.cswe.org/publications /jswe/00-2.htm.


25. As Stephen Brookfield has stated, "the concept of vocation serves the interests of those who want to run colleges efficiently and profitability while spending the least amount of money and employing the smallest number of staff that they can get away with," op. cit., p. 16.


27. As Curtin's IBL Construction Kit offers, "Basically, the Centre for Educational advancement and the IT Section of the University will provide much help: you will also have to learn more technical skills yourself"; see "Curtin's IBL Construction Kit: Questions answered and links for more," http://www.curtin.edu.au/home/alien/we3/iqt/index.html, accessed on 29 July 2000.


32. As James Garton realised in 1997, “despite the pervasive growth of electronic genres, and the equity issues that accompany them, recent Australian curriculum initiatives in the field of language and literacy education pay little attention to new online literacies,” from “New genres and new literacies: The challenge of the virtual curriculum,” Australian Journal of Language and Literacy, volume 20, number 3 (August), pp. 209–221.


35. “Institutional vs. educational priorities,” op. cit.


44. “Notebook colleges and universities,” http://www.vcsu.edu/offices/itc/notebooks/, accessed on 16 September 2000. This site lists all the American universities who have notebook computer requirements.


47. ‘Amazoned’ refers to offline companies facing the threat of online companies.