

Postgraduate supervision: Is having a Ph.D. enough?

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ABSTRACT

Over the last twelve months in the UK mandatory training of postgraduate supervisors has grown significantly. Driven partly by quality assurance concerns and the threat of litigation, universities have increasingly required their supervisors to undergo a variety of training schemes ranging from award courses over a year to weekend residential courses. In Australia too, a number of Universities have developed courses and interactive web sites specifically focussed on improving supervisory practices. While such developments are admirable for their efforts to improve postgraduate supervision, they are at the mercy of being transformed into top-down, bureaucratic schemes to satisfy spurious quality assurance and accountability checklists. This paper will seek to outline a means of improving postgraduate supervision which has a focus on empowering supervisors to generate their own definitions of good postgraduate supervision.

GROWTH AND CHANGES TO POSTGRADUATE EDUCATION.

Traditionally postgraduates were young (under 25), male, full-time, on campus, on scholarship and building an academic career path. They were usually in teams and laboratories (broad Sciences) or pursuing solitary studies with one supervisor (broad Humanities). In recent years there has been a massive increase in postgrad numbers both in Australia and overseas. In 1960 there were 2408 pg students and in 1999 there were over 100,000 postgraduates in Australia. In 1988 there were 8744 PhD candidates in Australia. By 2000 this had grown to 28,629 (Evans, 2001, 278). In 1988 there were 19 Australian Universities doing research and postgraduate studies. By 1997 there were 39 Universities involved in these activities (Poole and Spear, 1997, 43).

The user-pays philosophy has become much more evident (Ibid, 42) and research funding increasingly is targeted by governments for economic purposes as witnessed by the Australian Government directive to the Australian Research Council on Priority Areas for funding in 2003 (ARC, 2002). In the UK the postgraduate training site is now in the Department of Trade and Industry, a clear indication on where research and postgraduates are seen to belong by some in the UK. It should be noted that the Roberts Review of the supply of science and engineering skills in the UK commented that PhD students are *seen to be poorly prepared for work in either academia or business* (Roberts Review, 2002, 4 [31]).

The growth in part-time tertiary students in Australia between 1992 and 2001 saw an increase of almost 50,000 students (DEST, 2002a, table 23). The total enrolment of International students at Australian Universities increased by 18% between 2000 and 2001 (IDP, 2002), and finally, there has been a 26% increase in the number of professional doctorates offered in Australia over the last year (4th International Biennial Conference on Professional Doctorates, 2002). These developments suggest that supervisors will need to possess greater skills in relation to cultural sensitivities and inter-cultural effectiveness (Cahill, 1996) as well as recognising the work, family and time constraints on postgraduate students who are not full-time, on campus, recent Honours graduates.

There is also now a much wider variety of postgraduates in relation to nearly all variables. In relation to age, DEST figures for postgraduate research students (PhD & Masters) in 2001 show that 52% of them are aged between 30 and 49 years (DEST, 2002b, table 26). At Deakin University, for example, approximately half of the HDR students are part-time *with most of these studying off-campus* (Deakin University, 2001, 12). Finally, the participation by females in tertiary study has increased at a rate higher than for males. In 1992, 298,815 females were enrolled and by 2001 this had climbed to 399,846, an increase of 101,031 enrolments. The enrolments for males in this period increased by 66,006, from 260,566 to 326,572 (DEST, 2002a, table 23). These changes have had significant effects on Universities and many of them are of particular relevance for supervisors.

RECENT PRESSURES ON SUPERVISION

Since its implementation in 2001 the Research Training Scheme (RTS) has substantially changed the time scale and funding of postgraduate students in Australia. Funding for PhD candidates has been reduced to four years and Masters to two years. The pressure is now on Universities to ensure that these students complete their studies within these time constraints (Pearse, 2002; Alauddin and Tisdell, 2000). The term *timely completion* has come to have more than aspirational overtones. Completion times and completion rates are eminently quantifiable and comparable and lend themselves quite easily to the accountability gaze. Comparisons will be made and funding will follow. Schools and faculties can now be subject to bureaucratic measurement through performance targets and outcomes, and annual / historical summative statistics.

Within such a quantitative environment supervisors may find that encouraging students to undertake postgraduate studies carries with it a degree of uncertainty if not risk given the growing data on *at risk* students. Clearly, issues of equity are of moment here. Already there are signs that some Universities are prepared to identify their preferred cohorts of students. In its *Research and Research Training Management Report*, the University of the Sunshine Coast declares that *the University is cognisant that full-time candidates have better success against targets than part-time candidates. These strategies will encourage full-time enrolment in research higher degrees as a more desirable position* (University of Sunshine Coast, 2001, 3.2.3 my emphasis). Desirable for whom would seem to be a legitimate question if part-time candidature is the only option for many students.

Given an increasing emphasis by the federal Government on accountability, quality assurance regimes and client-customer subjectivities being imposed on students, legal action by disaffected, fee-paying students becomes more likely. The threat posed by litigation was recently illustrated in the UK where Wolverhampton University paid out £30,000 (\$84,000) to a dissatisfied law student (*Daily Telegraph*, 2002, 1). The case centred on a claim of misrepresentation and breach of contract. This decision has clear implications for those universities that insist on their postgraduate students signing agreements in relation to their candidacy. Such agreements should express in unambiguous terms the University's supervisory obligations to the student. An example of such a Candidature Agreement may be found at Deakin University (Deakin University 2001-2).

One further pressure flowing into Universities is the Australian Universities Quality Agency (AUQA) which was established by the Federal Government in 2001. *AUQA is an independent, not-for-profit national agency intended to promote, audit, and report on quality assurance in Australian higher education. It focuses on quality assurance processes rather than on the quality of teaching or learning, or the quality of research. Audits are carried out on a five year rolling cycle* (Nelson, 2002, 2C). During 2001 AUQA conducted a number of trial audits of Universities. Its first full audits were conducted during 2002.

Some of the responses that have been made to AUQA's activities reflect a less than sanguine anticipation or experience. Commenting publicly at a National Press Club address, the President of the Australian vice-Chancellor's Committee, Professor Ian Chubb observed *we are not antagonistic to proper accountability. But we must recognise that too many people in universities already spend too much time responding to changed rules, supplying statistics, adjusting, applying endlessly for the basic funds we need simply to do our jobs, responding to frequent reviews or requests for information...while all the time, more and more funds are tied or project-driven or supplied in packets in the name of accountability* (Chubb, 2001). The experience of the trial audits in 2001, while generally seen to be helpful, were still not an unalloyed pleasure. Following the trial audit at the University of New South Wales, staff comments included:

I am suspicious of AUQA. While I think it is a good idea to have an external agency responsible to encourage continuous quality improvement at UNSW, I see their role degenerating into an overly bureaucratic, paper-chasing exercise -- a further drain on resources that the higher education cannot afford

The way in which the session was conducted was poorly considered. It felt a bit star chamberish with them behind the large desk and us exposed on chairs.

I thought the procedure was designed to put academic staff in a poor light. (Lee, Boyle and McConkey, 2001).

Combined with this increased accountability regime there have been funding cuts. Federal Government expenditure on tertiary education as a percentage of GDP has fallen from 1.7% in 1993 to 1.4% in 2000 (Productivity Commission, 2002, 28, figure 3.2). Indeed Minister Nelson's *Crossroads* initiative in 2002 owes much of its genesis to the worrying findings of the Senate Committee report of 2001 *Universities in Crisis*.

I cite these matters for the evidence they provide of a system of higher education under increasing scrutiny and pressure, and in some eyes crisis, to meet externally mandated outcomes and performance targets. It would not be surprising to find these reflected in the working conditions of academics.

ACADEMIC WORKLOAD

The two reports cited above, The Productivity Commission's *University Resourcing* and the Senate's *Universities in Crisis*, help to flesh out some of the changes in academic workloads in recent years. The changes have been for the worse. The student:staff ratio average in 1990 for Australia was 1:13. In 1999 it had increased to 1:18 (Senate Employment, Workplace Relations, Small Business and Education References Committee, 2001). McInnis found that levels of job satisfaction among academic had fallen from 67% in 1993 to 51% in 1999 (McInnis, 2000). A follow-up National Tertiary Education Union survey of 1700 staff strongly supported McInnis' findings. It found that 88.8% of academic staff, 52.7% general staff work more than 40 hours per week. 83% of academics and 77.2% of general staff reported that they had experienced workload increases since 1996 (NTEU, 2000). At Deakin University 8 of the ten disciplines have increased staff:student ratios (1997-1998) and the National Survey of Occupational Stress in Australian Universities found over 30% of academics in the survey reported working more than 55 hours a week (Winefield et al, 2002)

Additionally, supervisors may find themselves supervising mature-age professionals, who possess equal or greater knowledge of the subject of the thesis, thus countering again the traditional "apprenticeship" model of doctoral candidacy. Professional Doctorates illustrate this recent and developing trend where for example, in the UK, US and Europe the majority of doctoral enrolments (2001) are in *professional and practitioner oriented fields* (Evans, 2001, 280). A further difficulty may arise where a supervisor, in Grant's terms, *may find her/himself supervising a student of less than obvious ability, within a context of heightened accountability for outcomes* (Grant, 2001, 10). This last has particular relevance given recent concerns at the English language proficiency levels among some overseas students coming to study in Australia (Auditor General Victoria, 2002, 4.16).

THE EXPERIENCE OF SUPERVISION

The experience of postgraduate education can range from a supportive, collegiate experience to an intensely personal, almost solitary experience or journey (Delamont, Atkinson and Parry, 1997). The traditional model of supervision was that from the 1920's in the UK. *Clever chaps* (those with a Ph.D.) were assumed to be good supervisors (Turner, 2002). Such an approach to supervision came in time to Australia and the traditional supervisors' dealings with students were described as being *icy*, with *magisterial disdain* (Riemer, 1988, 13).

Traditionally two types of supervisors were found: the intellectual, detached Humanities supervisor and the Techno-Scientific supervisor in Science research training. More recently two further approaches to supervision have been identified: the Psychological supervisor who is a caring expert professional and the Commercial supervisor who is a service provider to a customer (Grant, 2001). A further type of supervision has recently emerged which can be described as a Fellow researcher or industry partner such as Deakin's STAMP Program (Deakin, 2002). Increasingly it is argued the apprenticeship model is less likely to be followed (Baker, Holbrook and Johnston, 1999).

Recent research also indicates that the role of supervisor is far more complex and subtle than some of the more traditional roles. One example of such research found supervisors might be required to engage in up to 16 different roles (Down, Martin and Bricknell, 2000). Such findings generate a further question as to whether one version or model of supervision can hope to satisfy all School/Faculty cultures and postgraduate student needs. A body of research points to substantial differences between disciplines in their approach to research, research cultures and supervisory practices and relationships (Whittle, 1991; Kiley, 1993;

Cullen et al, 1994; Shannon, 1995; Nulty and Barrett, 1996; Kiley and Liljegren, 1999). Such research casts doubt upon attempts to construct a monolithic model of supervision training.

Research indicates that for postgraduate students the key factor in the success or failure of their studies was the relationship with the supervisor (Seagram, Gould, and Pyke, 1998; Dinham, and Scott, 1999; Whittle, 1999; Knowles, 1999). Significantly, over 30% in the course of their studies had experienced *uncomfortable events with effects on Research* (Hatton in Wisker, 1999, 130). Further evidence suggests that supervision is a significant problem for a small number (Hockey, 1994).

Female postgraduates have indicated that they were most affected by interpersonal factors whereas for males, academic factors were nominated (Lussier, 1995; Conrad, 1994; Seagram et al, 1998). Postgraduates also cited the messy realities of their lives involving family responsibilities, work, parental care, supervisors going on leave, shifting time fractions and study modes (Strauss, 2001).

Finally, evidence points to four major problems in the postgraduate experience:

- being at cross purposes with supervisors,
- finding few supporting structures,
- isolation and
- confusion over resources (Johnston and Broda, 1996; Aspland, Edwards, and O'Leary, 1999)

With these findings in mind it is well to avoid essentialising the supervisory experience or relationship and attend to the possibility of a variety of readings on this question informed by consideration, among others, of discipline, gender, age, circumstance and personal experience.

ACCREDITATION OF SUPERVISORS THROUGH FORMAL TRAINING SCHEMES

The assumption that you can supervise because you have a Higher Degree is increasingly under examination (Dinham and Scott, 1999; Orton, 1999). Indeed, the proposal that new supervisors require training in supervision subverts the traditional notion of the 'clever chap' with a PhD cited above as being sufficient. Recent moves by Universities both in the UK and Australia have seen an increasing emphasis on supervisor training which is formalised, university-wide, in-house with sequential units over extended periods of time. These have been largely aimed at new supervisors.

Of concern is that these developments have not been founded upon Universities wishing to elaborate and explore the pedagogy of supervision. The view that supervision is a form of teaching is also missing from the discussions (Shannon, 1995, 14). Rather, these developments within Universities appear to have been driven more by concerns about completion rates, timely completion and safeguards against disenchanting and thus potentially litigious postgraduate students (Holdaway, Beblois, and Winchester, 1995) as well as quality assurance mandates from central authorities (UK Quality Assurance Agency; Australian Universities Quality Agency). It is these concerns which would appear to have generated a proliferation of models and schemes for supervisor training

In the UK the Biotechnology and Biological Sciences Research Council's *Training and Accreditation Programme for Postgraduate Supervisors* (TAPPS) was the first nationally adopted supervisor training scheme. TAPPS gives supervisors formal training workshops in recruiting PhD students, examination assessment and coaching skills. Although TAPPS is specifically aimed at the biological sciences, Professor Pat Cryer is working with the BBSRC to further develop supervisor training for other disciplines in association with the Society for Research into Higher Education. Professor Cryer's emphasis has been on training rather than a deeper consideration of the pedagogy of supervision in higher education. A brief look at some recent initiatives in the UK point to a range of programs which run from 1/2 a day to a 12-month extended series of encounters.

More worrying perhaps are the one-day and less training schemes on offer. They usually cover the same four topics, namely:

Discuss different approaches to supervision

Learn about the role and responsibilities of a supervisor and of the student

Look at ways of monitoring progress

Look at supervision case studies and ways of dealing with problems

All accomplished between 2pm and 5pm (Nottingham University, 2002). To be fair to Nottingham this may be a refresher workshop but I can find no other reference to supervisor training on its web site.

The *Training and Accreditation Programme for Postgraduate Supervisors* (TAPPS) is a professional accreditation based on a portfolio demonstrating specific *objectives / competencies*'... which is evaluated by two trained 'assessors' (BBSRC, 2001). The TAPPS program commenced with a trial in 1997 and has now grown to the point where its principles and practices are being imported into other disciplines.

At Edge Hill Higher Education Institute (Lancaster University) the *Postgraduate Certificate in Research Degree Supervision* (2001) is an academic award through certification. It is regarded as the only university accredited course as a full academic program at Masters level. Participation involves five full days of workshops together with online support (Edge Hill, 2002).

Leeds Metropolitan University has introduced an *Advanced Professional Diploma in Research Awards Supervision*. The course is composed of seven *three-hour workshops and a reflective practice assignment*. The taught programme comprises of five core unit workshops of three hours each, followed by reflective practice period of 6-12 months, followed by workshops six and seven. The total length may vary between 9-36 months but will normally be about 1 year (Leeds Metropolitan University, no date.)

Finally, many UK Universities now have a *Certificate in Academic Practice (CAP)* with modules on supervision (e.g. Southampton, Heriot-Watt Edinburgh, Leicester, University College London, Manchester, King's College London). Southampton University describes the Certificate as a *one-year, part-time, work-based programme designed to enable academic staff with teaching responsibilities to reach a nationally-recognised standard of competence in higher education teaching and learning support* The course runs for 2 semesters with one module completed each semester. *Each module requires attendance at 6 sessions of 3 to 4 hours' duration on alternative Wednesday afternoons throughout each semester. Attendance is not optional. Participants will also be expected to complete and*

submit several 'Directed Tasks' linked to the sessions, which are peer, mentor or tutor reviewed, have two teaching sessions observed by their mentor per module, maintain a 'Reflective Teaching Log', undertake related reading and build a portfolio for assessment at the end of each module. Assessment is by portfolio and is on a simple Pass/Fail basis. The PCAP programme is supported by its own 'Blackboard' site. Blackboard is a web-based course management system (or managed learning environment) (University of Southampton, 2002).

I have provided the details above for they help in gaining some understanding as to what is viewed by the implementing agencies as important in the experience of the Certificate or Programmes. It should also be remembered that postgraduate supervision is but one element of CAP. The UK models employ a range of pedagogic approaches ranging from the "empty pot" view of the participants to what would appear to be collaborative, collegial environments which encourage researching your own and others' experiences of good supervisory practices.

RECENT DEVELOPMENTS IN AUSTRALIA

A brief glance at initiatives concerning supervisor training recently developed in Australia shows the direction such initiatives are taking. Apart from the fIRST initiative outlined below, most of the University-based initiatives share compulsory, registered and/or accreditation characteristics.

fIRST (for Improving Research Supervision and Training) is a consortium of twenty seven Australian and New Zealand Universities formed to provide on-line development and resources for supervisors. The web site states that included in their resources are

- *on-line activities that individuals can use to develop their expertise as postgraduate research student supervisors*
- *materials and instructions for providing face-to-face staff development workshops*
- *tools, case studies, a bibliography and links to other relevant web sites (fIRST, 2002.)*

fIRST's rationale is quite explicit in acknowledging the role of the RTS in stimulating greater interest in quality supervision. *The rationale for the Consortium and fIRST resources is that effective supervision must now focus on broader skills development, timely completion, student satisfaction, adequate resources and employment outcomes. This rationale is based on the work of Margot Pearson and Dr Angela Brew. (fIRST, 2002, my emphasis).* The role of the RTS has been more fully explored by Hilary Pearse in a recent CAPA research paper (Pearse, 2002). The intent behind fIRST would appear to support a more collegial, collaborative model of building better supervisory practices between Universities.

Since 1998 the University of Sydney has had a flexible learning Postgraduate Supervision Development Program which can also count towards a Unit in the Master of Education [Higher Ed]. It is modular and web-based incorporating such elements as a reflective journal, a critical friend, peer support groups and workshops. The program states that *the driving principle in these postgraduate supervision modules is to turn supervisor's obvious skills at research towards researching their own supervision practice* (University of Sydney, 2002). To satisfy University documentation and assessment requirements a Recognition module has been developed providing supervisors with the opportunity to document their learning on the program (Brew and Peseta, 2002).

The University of Western Sydney runs a compulsory and registered Supervisor Training Program. Similarly, Victoria University commenced a supervisory practice initiative in 2000

which consists of compulsory workshops for all supervisors. Adelaide University runs one day workshops for novice supervisors and these workshops are a condition of Tenure.

Of concern in these initiatives is the possibility that highly structured programs with little input from the participants might become the means by which Universities seek to satisfy demands for accountability and training. Strong debate was generated within the academic community when Minister Nelson's *Crossroads* paper raised the possibility of teacher training for tertiary teachers. Similarly, Pat Cryer in the UK and the University of Sydney Development Unit experienced resistance from some well-seasoned supervisors when workshops and training sessions were first mooted (Cryer, 2002; Brew and Peseta, 2002).

Finally, Swinburne University in 2002, commenced a School-based program aimed at generating local ownership of supervisor training and improvement of practices. It is to be self-monitored and is an attempt to remove completion rates as the only measure of good supervisory practice. It is hoped that the framing of the initiative avoids the deficit or empty pot view of academics noted above in some of the UK initiatives.

Deirdre Barron, Director Graduate Studies at Swinburne, also wishes to avoid an instructional model implicating such an approach in raising *levels of resistance rather than encouraging supervisors to become learners within a collegial space* (Barron, 2002). The whole approach has been shaped by a philosophy which engenders and valorizes local ownership and self-management by supervisors in a safe environment.

In its early stages Terry Evans and Margot Pearson were brought in to stimulate debate and discussion on HDR pedagogies. Both are known and recognised for their long-standing research into and active involvement with HDR issues including supervision. The initial workshop sought *to work with research coordinators to develop a pedagogical basis to research training at Swinburne and in particular to:*

- *engage a critically reflexive view of supervision*
- *focus on the relationship between teaching and learning*
- *look in particular at the complexities of the pedagogical practice associated with advanced level postgraduate supervision.*

(Barron, 2002).

I would like to suggest that this approach is worthy of closer examination. It would appear to value supervisors in the following ways:

- it recognises and values the tacit knowledge and experience of supervisors
- it treats supervisors as knowledgeable agents
- it views supervisors as engaged in their work, willing to reflect upon it and learn from each other in a collegial environment.

Research into mandated changes (Edwards, 2000) illustrates the seriously negative impact a bureaucratic approach to such matters can engender. Recent systemic change management has been predicated upon the following principles

- tacit knowledge and experience of the professionals involved are dismissed because they are deemed by the mandating authorities not to be world's best practice
- the professionals involved are treated as technicians lacking professional judgement
- and requiring bureaucratic surveillance and quantifiable outcomes with verifiable results

Therefore, University authorities should not be surprised if the supervisors' responses to such treatment is to behave agentically with avoidance, manipulation and de Certeau's tactics and manoeuvres (Certeau, 1988), their ethics and valued knowledge driving their actions. The essential glue of an organisation, trust, is imperilled when unilaterally and arbitrarily determined, dismissive or mandatory "training programmes" are imposed on people (Tetlock, 1998). It is in just these circumstances that Albach and Bloch's *trust capital* (Albach and Bloch, 2000) is seriously eroded by models of bureaucratic control which reify instructional and obligatory training and quality assurance through quantifiable outcomes. I would suggest that programmes that will yield better supervisory practices will be ones which incorporate reflexive, pedagogically-sound, collegial activities where supervisors draw upon and share the best of postgraduate supervision. I await Swinburne's initiative and its developments with great hope for supervisors.

REFERENCES

Alauddin, M., and Tisdell, C., (2000), Changing academic environment and teaching of economics at the university level : some critical issues analysed with the help of microeconomics, *Economic Papers* (Sydney), 19 (1), 1-17.

Albach, H., & Bloch, B., (2000), ' Management as a Science: emerging trends in economic and management theory', *Journal of Management History*, 6 (3), 138-158.

Aspland, T., Edwards, H., and O'Leary, J., (1999), Tracking New Directions in the evaluation of postgraduate supervision, *Innovative Higher Education*, 24 (2).

Auditor General Victoria, (2002), *International Students in Victorian Universities*, Government Printer, Victoria.

Australian Research Council Strategic Action Plan 2002-2004.

<http://www.arc.gov.au/strat_plan/ARC_StratPlan.pdf>

Baker, R., (1999), Towards a sustainable relationship between supervisor and student, in A. Holbrook and S. Johnston, eds. *Supervision of Postgraduate Research in Education, Review of Research in Education No 5*,. Australian Association for Research in Education, Coldstream, Vic.

Holbrook, A., and Johnston, S., eds, (1999), *Supervision of postgraduate research in education*, Coldstream, Vic., Australian Association for Research in Education.

Ballard, B., and Clanchy, J., (1993), Supervising students from overseas, in D. J. Cullen ed, *Quality in Ph. D. Education*, Canberra, Australian national University.

Barron, D., (2002), Personal communication with author.

BBSRC (Biotechnology and Biological Sciences Research Council), (2001), *Training and Accreditation Program for Postgraduate Supervisors*, Executive Summary.

<http://www.iah.bbsrc.ac.uk/TAPPS/tapps_an_executive_summary.htm>

Brew, A., and Peseta, T., (2002), Using case studies to recognize and reward supervision development: Reflections on the pedagogy of online academic development, in M. Kiley and G. Mullins, *Proceedings of the Quality in Postgraduate Research Conference: Integrating Perspectives*, Adelaide, April 18-19.

Cahill, D., (1996), "Post-graduate supervision of international students", paper presented to the Hofstede Conference, *International Competencies: Education and Training Imperatives for 21st Century*, Melbourne, Victoria.

Certeau, M. de, (1988), *The Practice of Everyday Life*, trans. S. Rendell, Berkeley, University of California Press.

Chubb, I. (2001), *When to be average is to fail*. National Press Club address, Wednesday 14 March.

<http://www.avcc.edu.au/news/public_statements/speeches/2001/Chubb_at_NPC_final.htm>

Conrad, L., (1994), Gender and postgraduate supervision, in O. Zuber-Skerritt and Y. Ryan (Eds), *Quality in Postgraduate Supervision*, London, Kogan Page.

Cryer, P., (2002), *Supervisor Training and Accreditation*,

<<http://www.cryer.freeserve.co.uk/supervisors.htm#questions>>

Cullen, D., Pearson, M., Saha, L., and Spear, R., (1994), *Establishing Effective PhD Supervision*, E&I, DEET, Canberra, AGPS

Daily Telegraph, (2002), Uni pays out £30,000 to dissatisfied law student, 31 July, 1.

<<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2002/07/31/nlaw31.xml>>

Deakin University, (2001), *Research and Research Training Management Report*,

<<http://www.dest.gov.au/highered/respubs/rrtm/files/deakin.pdf>>

Deakin University, (2001-2), *Guide to candidature: Higher Degrees by Research, Appendix 6*.

<<http://www.research.deakin.edu.au/hdradmin/GuideToCandidature2001/appendix6.htm>>

Deakin University, (2002), Materials and Technology STAMP Program.

<http://www.et.deakin.edu.au/research/Manu_materials/stamp.htm>

Delamont, S., Attkinson, P., & Parry, O., (1997) Critical mass and doctoral research: reflections on the Harris report, *Studies in Higher Education*, 22 (3), 319-331.

Department of Education, Science and Technology, (2002a), *Students 2001: Selected Higher Education Statistics*, Canberra, Commonwealth of Australia.

<[http://www.dest.gov.au/highered/statistics/students/01/tables/"2001table23"!A3](http://www.dest.gov.au/highered/statistics/students/01/tables/)>

Department of Education, Science and Technology, (2002b), *Students 2001: Selected Higher Education Statistics*, Canberra, Commonwealth of Australia.

<[http://www.dest.gov.au/highered/statistics/students/01/tables/"2001table23"!A3](http://www.dest.gov.au/highered/statistics/students/01/tables/)>

Department of Education, Science and Technology, (2002c), *Students 2001: Selected Higher Education Statistics*, Canberra, Commonwealth of Australia.

<[http://www.detya.gov.au/highered/statistics/students/01/tables/"2001table26"!A3](http://www.detya.gov.au/highered/statistics/students/01/tables/)>

Dinham, S., & Scott, C., (1999), *The Doctorate: Talking about the Degree*, University of Western Sydney, Nepean, Kingswood.

Down, C.M., Martin, E., & Bricknell, L., (2000), *Student Focused Postgraduate Supervision: A Mentoring Approach to Supervising Postgraduate Students*, Office of the PVC Teaching and Learning, and the Office of the PVC Research and Development, RMIT University.

Edge Hill, (2002), *Edgeways, Issue 6, Research Recognition: Boost for research programs*.

<<http://www.edgehill.ac.uk/newsevents/edgeways/archive/issue6/pdf/edition6/research%20recognition.pdf>>

Edwards, B., (2000), *The Curriculum and Standards Framework: Teachers responses to centrally mandated curriculum changes*, unpublished PhD thesis, La Trobe University, Bundoora, Vic.

Evans, T., (2001), "Tensions and Pretensions in Doctoral Education" in B. Green, T. W. Maxwell and P. Shanahan, *Doctoral Education and Professional Practice: The Next Generation*, Armidale, NSW; Kardoorair Press.

Evans, T., & Pearson, M., (1999), "Off-campus doctoral research in Australia: Emerging issues and practices", in A. Holbrook and S. Johnston, eds. *Supervision of Postgraduate Research in Education, Review of Research in Education No 5*, Australian Association for Research in Education, Coldstream, Vic.

Fehring, H., Latham, G., Cox, R., and Emmitt, M., (2001), "Global Postgraduates: The Changing nature of Supervision Process and Practice", paper presented at *The Eighth International Literacy and Educational Research Network Conference (LERN)*, 4-8 July, Spetses, Greece.

fIRST, for Improving Research Supervision and Training, (2002), FIRST Consortium.

<<http://wallace.iim.uts.edu.au/staging/first/>>

Fourth International Biennial Conference on Professional Doctorates (2002) : *Research Training for the Knowledge Economy*, Brisbane, Australia. 29-30 November.

<<http://www.qut.edu.au/dresa/CPE/ProfDocs/>>

Grant, B., (2001), Fighting for Space in Supervision: Fantasies, fairytales, Fictions and Fallacies, *Innovation and Links Conference: Research Management and Development & Postgraduate Education*, Auckland University of Technology, 26-27th November.

Hockey, J., (1994), Establishing boundaries: Problems and solutions in managing PhD supervisor's role, *Cambridge Journal of Education*, 24 (2) 293-313.

Holdaway, E. A., Beblois, C., and Winchester, I. S., (1995), Supervision of graduate students, *Canadian Journal of Higher Education*, 25, 1-29

IDP Education Australia, (2002), *International Students in Australian Universities, Semester 1, 2002: National Overview*,

<http://www.idp.com/marketingandresearch/research/internationaleducationstatistics/International_Students_Semester1.pdf>

Johnston, S., & Broda, J., (1996), "Supporting educational researchers of the future", *Educational Review*, 48 (1), 269-281.

Kiley, M., (1996), How do I know where I am going? Assessment in postgraduate research degrees, paper presented at the *Quality in Postgraduate Research Conference: Is it Happening?*, Adelaide, 18-19 April.

Kiley, M., and Liljegren, D., (1999), Discipline-related models for a structured program at the commencement of a PhD, *Teaching in Higher Education*, 4 (1), 61-75.

Knowles, S., (1999), Feedback on writing in postgraduate supervision: echoes in response - context, continuity and resonance, in A. Holbrook and S. Johnston, eds. *Supervision of Postgraduate Research in Education, Review of Australian Research in Education No 5*. Australian Association for Research in Education, Coldstream, Vic.

Lee, A., Boyle, P., and McConkey, K., (2001), Trial Audit of the UNSW by AUQA:

Reflections and Commentary.

<http://www.pvced.unsw.edu.au/files/auqa_reflectionsandCommentary.doc>

Leeds Metropolitan University, (nd), Research Development Office, *Advanced Professional Diploma in Research Awards Supervision*

<<http://www.lmu.ac.uk/rdo/newrdo/apdras.htm>>

Lussier, T., (1995), Doctoral Students at the University of Manitoba: Factors Affecting Completion rates and Time to Degree by Gender and by Field of Study, Master's Thesis, University of Manitoba, Winnipeg, EDRS Microfiche ED382148.

McInnis, C., (1999), The Work Roles of academics in Australian Universities, Canberra, Department of Employment, Education, Training and Youth Affairs, Evaluations and Investigations Program.

<http://www.detya.gov.au/archive/highered/eippubs/eip00_5/fullcopy.pdf>

NTEU, (2000), *Unhealthy Places of Learning: NTEU study of workload and stress in Australian Universities*.

<<http://www.nteu.org.au/debates/workload00.html>>

Nelson, B., (2002), Meeting the challenges: the governance and management of universities.

<http://www.dest.gov.au/crossroads/pubs/meeting_the_challenges/2.htm#c>

Nottingham University, Training and Staff Development Unit (2002), *Supervising Research and Project Students - Short Course*.

<http://www.nottingham.ac.uk/tsd/courses/TL_courses.php?course=TL_17.inc>

Nulty, D., and Barrett, M., (1996), Transitions in students learning styles, *Studies in Higher Education*, 21 (3), 333-345.

Orton, J., (1999), Learning to think like a researcher, in A Holbrook and S. Johnston eds. *Supervision of Postgraduate Research in Education, Review of Research in Education No 5*, Australian Association for Research in Education, Coldstream, Vic.

Pearse, H., (2002), *Implementing the Research Training Scheme: The consequences for postgraduate research students*, Council of Australian Postgraduate Associations Research Paper.

< <http://www.capa.edu.au/frameset.html?./papers/index.html>>

Pearson, M., and Ford, L., (1997), *Open and flexible PhD study and research*, Canberra, Department of Employment, Education, Training and Youth Affairs, Evaluations and Investigations Program.

<<http://www.detya.gov.au/archive/highered/eippubs/eip97-16/eip97-16.pdf>>

Poole, M., and Spear, R. H., (1997), "Policy Issues in Postgraduate Education: An Australian Perspective", in R.G. Burgess, ed, *Beyond the First Degree : graduate education, lifelong learning, and careers*, The Society for Research into Higher Education & Open University Press.

Productivity Commission, (2002), University Resourcing: Australia in an International Context, draft research report, September.

<<http://www.pc.gov.au/research/studies/highered/draftreport/highered.pdf>>

Riemer, R. (1998), *Sandstone Gothic: Confessions of an Accidental Academic*, Sydney, Allen and Unwin.

Ryan, Y. & Zuber-Skerritt, O., (1999), *Supervising postgraduates from non-English speaking backgrounds*, Society for Research into Higher Education : Open University Press, Buckingham.

Seagram B., Gould, J., and Pyke, S., (1998), An investigation of gender and other variables on time to completion of doctoral degrees, *Research in Higher Education*, 39 (3), 319-335.

Senate Employment, Workplace Relations, Small Business and Education References Committee, (2001), *Universities in Crisis: **report into the capacity of public universities to meet Australia's higher education needs***, Canberra.

Shannon, A., (1995), Research degree supervision 'More mentor than master', *The Australian Universities' Review*, 38 (2), 12-15.

Strauss, J., (2001), Senate Inquiry into the Capacity of the Public Universities to meet Australia's Higher Education Needs, *Submission from the Australian Federation of University Women Inc.*

Tetlock, P.E., (1998), Losing Our Religion, in R.M. Kramer and M.A. Neale (eds),

Power and Influence in Organizations, Sage, Thousand Oaks, 121-144

Turner, S., University of Newcastle, UK. Personal communication with author.

University of Southampton, (2002), Centre for Teaching and Learning, *Postgraduate Certificate in Academic Practice: An Overview*,

<<http://www.clt.soton.ac.uk/CAP/PCAP%20Overview%20Revised%20Nov02.doc>>

University of Sydney, Institute for Teaching and Learning, *Postgraduate Supervision Development Program*.

<<http://www.itl.usyd.edu.au/postgrad/>>

University of the Sunshine Coast, (2001), *Research and Research Training Management Report*.

<http://www.dest.gov.au/highered/respubs/rrtm/files/sunshine_coast.pdf>

Winefield, A.H., Gillespie, N., Stough, C., Dua, J., and Hapuararchchi, (2002), *Occupational Stress in Australian Universities: A National Survey*, National Tertiary Education Union.

<<http://www.nteu.org.au/policy/current/stress/osau/fullreport>>

Whittle, J., (1991), Research Culture and its Effects on Postgraduate Completion Rates in Arts and Science, *paper presented at the Research and Development in Higher Education conference, Wellington, NZ*.

Wisker, G., and Sutcliffe, N., (1999) eds, *Good practice in postgraduate supervision*, Birmingham, England : SEDA, ,42.

Yeatman, A., (1995), Making supervision relationships accountable: graduate student logs, *Australian Universities' Review*, 38 (2), 9-11.