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Learning while teaching: A collaborative GCTE

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This paper describes a collaborative project to offer a Graduate Certificate in Tertiary Education across eight Australian universities. Graduate Certificates are an increasingly important 'signal' of the quest for quality teaching in Australian universities; however, it is difficult for smaller, regional universities to offer high quality programs with limited resources and staff. Academic staff participating in the national GCTE will study a 'Core Unit' offered by their own institution, and then will be able to choose three elective units from the offerings of the eight collaborators. Collaboration is seen as a means of increasing efficiency in small universities. In this paper we discuss what we have learned from the literature and what we have learned during the collaboration. Although the amount of literature on collaborative programs is increasing, we found that a collaboration project such as the GCTE requires much goodwill and flexibility to achieve its aims.

Keywords: Graduate Certificate in Tertiary Education, collaboration, teaching and learning

Introduction

'Developing Our Staff' is an innovative project which aimed to develop a shared Graduate Certificate in Tertiary Education (GCTE) across eight participating universities. Each university was to offer a 'Core Unit' as a foundation for the Graduate Certificate. Eight elective units were to be offered, one from each university; staff will choose three to complete their GCTE. This program will enable smaller universities to offer high quality, fully benchmarked teaching development programs, by minimising the workload in developing and delivering GCTEs by individual institutions, in times when universities are expected to raise standards of teaching, but are also coming under severe financial pressures.

This paper will provide an overview of the project framework, beginning with 'lessons learned from the literature' in relation to the efficacy of award programs of professional development for teaching, and to the challenges of cross-institutional collaboration for program development. It therefore seeks to bridge the gap between the project team's belief in the efficacy of GCTEs for academic development, and the practical issues associated with collaborative programs. It will finally summarise the 'lessons learned' to date in undertaking the project.

Professional development for teaching: To award or not to award?

Kirkpatrick (then LaTrobe University PVC) argued that graduate certificates in higher education are 'going to become increasingly important in changing the higher education context, both as a signifier of professionalisation and in terms of accountability' (Devlin 2006b, p. 8). This might suggest that obtaining a GCHE would be a high priority for university academics, most particularly those at entry level. Why then are academic development programs struggling to attract sufficient enrolments to make courses viable? And why has the argument (HERDSA 1997) over accreditation of tertiary teachers raged for the past two decades?

While graduate certificates are a formal qualification that implies that the holder is able to teach competently and professionally in a tertiary institution, the view remains, among many in the sector, and particularly among strong disciplinary 'tribes' (Becher & Trowler 2001), that the only way to learn to teach is through teaching itself, a view most recently and contentiously put in the higher education pages of The Australian, prompting a barrage of online comments from both 'sides'. The issue of 'accrediting' academics for their *teaching* roles through an award program sits behind such beliefs, as has been pointed out by Clegg (2003, p. 38): "Universities provide continuing professional development for other professional people, they are not as keen to provide it for themselves". Indeed, an Australian federal government-commissioned study (Ryan, Dearn, & Fraser 2004) on the issue of teaching qualifications for university staff found antipathy by the staff union, managers, and the Vice Chancellors' Committee and, at the very least, ambivalence amongst staff themselves. It is arguable that the senior management of universities does not really value academic development, nor sees it as a crucial part of university operations (Gray & Radloff 2006). It seems anomalous, when one might expect that the basis of academic life is life-long learning, that academic staff consider continuing professional development as another imposition from management and not as relevant to their professional lives as their discipline knowledge.

Such ambivalence may reflect workload pressures on university staff. Over the last decade, academic staff have found themselves under increasing pressure to manage everincreasing student numbers, administration of casual staff, and research; they may find it difficult to include professional development for teaching in their limited time (Clegg 2003; Mathias 2005). Academic work has become less secure, more specialised, and with an increasing reliance on casual academic staff (Blackmore & Blackwell 2006). Further, some academic staff perceive the instigation of 'compulsory' teaching development as the result of 'external national policy drivers rather than internal institutional priorities' (Mathias 2005, p. 96). The aging of the academic workforce (Hugo 2005) is also relevant to such opinions as Gava (2007) expresses, since many staff firmly believe that their long experience is testimony to their teaching skills. Their age demographic may also incline them to resist the inclusion of new technologies in teaching development programs (Ryan 2007). Many in the sector cling to the notion that the academic role is primarily to 'speak to their research'. However, it is clear that the increasing focus in universities on vocational courses taught by practising professionals, and the emergence of Mode 2 knowledge (Gibbons *et al*, 1994) as an epistemology, with its emphasis on interdisciplinarity, context and problem-oriented learning, has brought a new 'type' of academic — the 'pracademic' as one of our students describes himself. The academic who considers that a doctorate and specialised research knowledge (Mode 1 knowledge) is a proxy for teaching abilities is less common on the modern university campus.

Currently, academic development programs are focused on the development of the individual. However, Devlin (2006a) feels that these programs could evolve to encourage a more strategic type of thinking among academic staff and therefore become the driver of strategic change within a faculty (Devlin 2006b, p. 8; Gibbs & Coffey 2004). However, encouraging academic staff to value teaching skills along with their discipline knowledge is problematic.

Trowler and Bamber (2005) maintain that no research has established a convincing relationship between developing academic staff in teaching and superior learning outcomes for students. At the time of writing, there has been an ongoing online discussion initiated by John Gava of the University of Adelaide, regarding the worth of formal programs in teaching development (Gava 2007). Gava's argument replicates to some extent those of Trowler and Bamber (2005) in its insistence that content knowledge and discipline passion are all that is needed to teach. Studies in the UK also found that lecturers perceive that they learn to teach either through 'teaching', through their own experiences as a student, or through incidental learning such as in conversation with other teachers (Baume, Knight, Tait, & Yorke 2005; Knight, Tait, & Yorke 2006). Formal programs were perceived as being useful for learning specific tasks, but 'becoming a teacher' was seen as a more evolutionary concept involving hands-on practice and development of skills through trial and error; a type of apprenticeship. Arguments against the efficacy of teaching development programs are in fact in the minority in the literature, though this has been qualified by Gilbert and Gibbs' (1999) assertion that most evidence presented of improved student outcomes attributed to lecturer training is either anecdotal or atheoretical. This does not mean that graduate certificates in tertiary education have little value, but simply that there is insufficient research to validate the argument that academic development programs improve student outcomes.

Some insight into the relationship between teacher development and improved student outcomes has been provided by Gibbs and Coffey (2004, p. 98). Their extensive research on the teaching development programs of 20 universities in eight countries found that training aids lecturers in adopting a student-centred approach to teaching; and that students judge teachers who have undergone training as being better teachers. Brew and Ginns (in press) through their research at Sydney University showed that there was "a significant relationship, at the Faculty level, between engaging in the scholarship of teaching and learning, and changes in students' course experiences".

The fact remains however, that the expectation of quality teaching for student learning is increasing (Smyth 2003), and it is therefore important that academic development units

investigate new ways of providing programs which will directly improve student learning.

Working collaboratively

The Australian Learning and Teaching Council (formerly the Carrick Institute for Learning and Teaching in Higher Education) puts a high priority on collaboration, as a principle and *modus operandi*. This is to ensure cross-sectoral cooperation through the development and support of 'reciprocal national and international arrangements for the purpose of sharing and benchmarking learning and teaching processes' (The Carrick Institute 2008).

Yet the history of collaboration among universities is marked by success and failure. Moran and Mugridge (1993a. p.1) claim the motivations for institutional collaboration include increasing efficiency and economy, and improving educational opportunities for students. Collaboration appears to be a solution to issues of efficiency, especially in smaller regional universities via pooling resources amongst a number of universities (Goddard, Cranston, & Billot 2006; Moran & Mugridge 1993b). McGowan (2005) observes that there is an expectation that universities will work collaboratively under the dual pressures of increasingly specialised knowledge and fiscal restraints. However, a review of the literature in the area of collaborative partnerships reveals dichotomous views. Along with much support for working collaboratively (Bottomley 1993; Brindley & Paul 1993; Calvert, Evans, & King 1993; da Costa 2006; Dhanarajan & Guiton 1993; Goddard, Cranston, & Billot 2006; Kristoff 2005; Small 2002; Tynan & Garbett 2007), other researchers urge caution (Bottomley 1993; Cowans 2005; McNeil 1993; Polhemus, 1993).

A culture of cooperation may lead to greater than expected outcomes, with the sharing of ideas and resources, as long as the participants are committed to the project and all act cooperatively (Goddard, Cranston, & Billot 2006); all participants must feel the personal value of the project and have a belief that they have skills to offer the project (Goddard, Cranston, & Billot 2006; Riedling 2003; Small 2002). Collaborative partners must also believe that by sharing their ideas they will receive substantial benefits, an enhancement of their skills and a broadening of their knowledge (Goddard, Cranston, & Billot 2006). Collaboration must visibly enhance relationships and the interaction between institutions if it is to be successful (Goddard, Cranston, & Billot 2006).

Many authors writing on collaborative partnerships offer advice on how best to achieve the group's goals. They advise that partners should have a common set of goals, and be willing to work in a 'climate of trust and mutual respect' (Small 2002, p.1). Guidelines should be established so that all partners have equal expectations of the outcomes of the project; the project should be well organised from the outset (Goddard, Cranston, & Billot 2006). The importance of a clear objective being outlined and agreed upon by all parties at the commencement of the project is always stressed (Calvert, Evans, & King 1993; Cowans 2005; Dhanarajan & Guiton 1993; Moran & Mugridge 1993a; Polhemus 1993). Goddard *et al* (2006) found that the challenges to working collaboratively were often the result of matters out of the control of the partners, such as negotiating the different policies and practices of the various institutions involved; the fact that the distance between collaborators was too great to allow face-to-face meetings; even dealing with different time zones proved difficult. The turnover of personnel in Bottomley's (1993) project emphasises the importance of an initial Memorandum of Agreement, so that the role can be taken over by another person if the need arises. Bottomley (1993, p.47) suggests a 'management group' to oversee and coordinate the project, ensuring its ongoing viability.

The national GCTE Group has faced a number of challenges similar to those outlined in the literature. We will discuss below the challenges which have confronted the group during the development of the program. Some of these challenges have been resolved; others may take more time and focused effort.

The GCTE Project

The national GCTE Project Group was formed, with Carrick Institute funding, to implement the development of a Graduate Certificate program offered jointly across eight universities (with a minimum of six). Contrary to Bottomley's (1993) advice, the collaborative institutions involved presently originate from five states and one territory. The demons of distance and time zones have not proved as onerous as Goddard *et al* (2006) and Bottomley (1993) suggest. Email and teleconferencing aid communication and the group met face-to-face twice in 2007. Whilst travelling and absence from their home institutions does pose some difficulties for the participants, the value of these meetings far outweighs the inconvenience (Goddard *et al* 2006). A risk assessment strategy was developed after the first meeting, which has proved valuable in that many of the challenges that may arise through this type of project have been planned for in advance. A Memorandum of Agreement, outlining the role of all of the institutions in the program, was drafted, to ensure that the aims and manner of operation of the GCTE would be adhered to and not lost in the effort and excitement of co-development (Polhemus 1993).

The two meetings allowed the development of agreed principles underpinning our philosophical approach to the course, and the course objectives. The principles included modelling a high emphasis on communication and teamwork within the program, respecting the diversity amongst students and applying principles of social justice; further, all students of the Graduate Certificate should be able to demonstrate an ability to communicate in an appropriate and scholarly manner. Academic developers who work in Graduate Certificate programs generally share a humanistic approach, are strong proponents of social learning, and promote the notion of group learning as more motivating than working alone (Goddard, Cranston, & Billot 2006; Vygotsky 1978). They are also committed to the idea that professional development programs assist in making teaching more 'visible'. These shared principles shape the project goals.

A collaborative model

Each institution will offer the Core or Foundations Unit for the staff at their own institution, ensuring a 'community of learners' could develop at the local level, and in recognition that institutional contexts differ. The group agreed core topics of this first unit including:

- 1. Key concepts and theories
- 2. Student learning and assessment
- 3. Reflective practice skills
- 4. Learning environments;
- 5. Articulation of an informed pedagogy/philosophy/epistemology
- 6. Institutional context
- 7. Contribution to a community of practice.

This framework is to assure quality, and ensure students in the elective units were equipped with a common set of reference points. All universities will also agree a 'core' reading list to be incorporated into the unit. Each Academic Development Unit will only be responsible for developing and teaching two units each year. Apart from sharing resources, each university will offer elective units which mirror their strengths in teaching, resulting in the optimal choice of electives (Brindley & Paul 1993; Jobling 2007; Moran & Mugridge 1993a). The collaborative approach also puts all partners on an equal foundation, with each member being able to offer their specialised knowledge for the benefit of the entire project (Kristoff 2005; Lucas 2005).

A major criticism of the Graduate Certificates in tertiary education currently offered is their variability between institutions, and the variability even in the different semesters and years in which they are offered (Bartlett 2003; Devlin 2006b; MacLaren 2005). The project group has put in place mechanisms for consistency and accountability for all of the units offered in the course. The issue of accountability is an important consideration in assessing students' work in a collaboratively offered program (Brindley & Paul 1993). To ensure consistency in assessment, the group decided that a common assessment component equating to 20% of marks would be required in the Core Unit. The common assignment will be moderated by members of the other universities in the project, therefore benchmarking standards.

Working collaboratively: our lessons learned

The lessons learned to date incorporate many more issues than providing a GCTE program across a number of diverse universities. 'Developing Our Staff' is an ambitious project, which is being examined closely by many people in the tertiary education sector; it is a huge responsibility for the project leaders, and all involved. Though it is frequently difficult, it is important to be flexible and inclusive, whilst maintaining consistency across all of the universities involved in the program. It is also important to constantly ask ourselves the question 'are our expectations unrealistic?' The strength of this program has to be that it is developed for the institutions involved and not for the individuals leading it.

The GCTE Group has been operating since July 2007. As with other collaborative projects involving numerous institutions, fluidity of personnel appears to be inevitable (Bottomley 1993; Croft 1993). To date, two of the initial eight institutions have withdrawn, and two personnel have left, to be replaced by others at the same university. Two more universities have joined the program, whilst others have shown interest if there are any further 'casualties'.

Although a risk assessment process was instigated at the commencement of the project, conflict resolution strategies were not established. This was a mistake. It should be clearly obvious that this would be needed no matter the goodwill evidenced by all the partners. The reference group should have been drawn together much sooner. We may have lessened the impact of procedural and ideological differences between institutions if a process of conflict resolution and the reference group had been in place earlier.

The project partners have found face-to-face meetings to be highly important as an aid to resolving individual and group issues and reaching consensus. During these meetings the group is able to bond and a space is created which is mutually beneficial to all. The meetings have been held over two and three days, giving time to sort through the mechanics of the program. However, these meetings can be very tiring, and it is pleasing and perhaps not surprising to see others stepping in and rescuing the process from a flagging facilitator. Difficult conversations have to be had with colleagues, but the bond formed at the face-to-face meetings means that colleagues can remain friends despite difficulties and differences of opinion.

Conclusion

Despite all that has been achieved to date, the project has a long way to go. Initial indications are that the project is running to timeframe, many issues have been agreed upon, and, with continuing goodwill amongst the partners, further issues that arise will be resolved. Most importantly, all partners continue to feel great enthusiasm for and commitment to the program.

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References

- Bartlett, T. (2003). The first thing about teaching. The Chronicle of Higher Education, 50 (5), 10-13.
- Baume, D., Knight, P., Tait, J., & Yorke, M. (2005). Ecologies of professional formation as teachers in higher education (pp. 1-20). The Open University, UK and Lancaster University, UK.
- Becher, T., & Trowler, P. R. (2001). Academic tribes and territories. London: Open University Press.
- Blackmore, P., & Blackwell, R. (2006). Strategic leadership in academic development. *Studies in Higher Education*, *31*(3), 373-387.
- Bottomley, J. (1993). Institutional cultures and their impact: Laddered studies in health sciences in British Columbia. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 12-36). London: Routledge.
- Brew, A., & Ginns, P. (In Press). The relationship between engagement in the scholarship of teaching and learning and students' course experiences. *Assessment and Evaluation in Higher Education*.
- Brindley, J., & Paul, R. (1993). The way of the future? Transfer credit and credit banking. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 83-96). London: Routledge.
- Calvert, J., Evans, T., & King, B. (1993). Constructing a Master of Distance Education program: An Australian collaboration in programdevelopment and teaching. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 37-63). London: Routledge.
- Clegg, S. (2003). Problematising Ourselves: Continuing professional development in higher education. International Journal for Academic Development, 8 (1/2), 37-50.
- Cowans, J. (2005). The Professional Learning Community. And this too shall pass? *Education Forum*, 31 (2), 16.
- Croft, M. (1993). The Contact North project: Collaborative project management in Ontario. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 132-150). London: Routledge.
- da Costa, J. L. (2006). Changing an adult learning environment as viewed from a social learning perspective. *International Electronic Journal for Leadership in Learning*, 10 (1), 1-17.
- Devlin, M. (2006a). Solution-focused work in individual academic development. *International Journal for* Academic Development, 11 (2), 101-110.
- Devlin, M. (2006b, 7.3.06). Teaching the teacher. Campus Review, pp. 8-9.
- Dhanarajan, G., & Guiton, P. (1993). Creating self-learning materials for off-campus studies: A Malaysian-Australian training project. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 64-82). London: Routledge.
- Gava, J. (2007). No point in learning to teach [Electronic Version]. *Higher Education Supplement*. Retrieved 16/1/08 from http://www.theaustralian.news.com.au/story/0,25197,22753064-25192,00.html.
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The new production of knowledge: The dynamics of science and research in contemporary societies*. SAGE Publications.
- Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education*, 5 (1), 87-100.
- Gilbert, A., & Gibbs, G. (1999). A proposal for a collaborative international research programme to identify the impact of initial training on university teaching [Electronic Version]. *Research and Development in Higher Education*, 21, pp. 131-143. Retrieved 20/12/2001.
- Goddard, T., Cranston, N., & Billot, J. (2006). Making it work: identifying the challenges of collaborative international research. *International Electronic Journal for Leadership in Learning*, 10 (11), 1-12.
- Gray, K., & Radloff, A. (2006). Quality Management of Academic Development Work: Implementation issues and challenges. *International Journal of Academic Development*, 11 (2), 79-90.
- HERDSA. (1997, July). The accreditation of university teachers: a HERDSA discussion document. *HERDSA News*, 14-19.
- Hugo, G. (2005). Academia's own demographic time-bomb. Australian Universities Review, 48 (1), 16-23.
- Jobling, E. (2007). *The BCA: a consortium solution*. Paper presented at the Collaborating to Offer Small Courses/Subjects Forum, University of New England, Armidale.
- Knight, P., Tait, J., & Yorke, M. (2006). The professional learning of teachers in higher education. Studies in Higher Education, 31 (3), 319-339.

Kristoff, Y. (2005). Collaboration: Why and How. The Medium, 45 (1), 25.

- Lucas, A. O. (2005). International collaboration in health research. *Bulletin of the World Health Organisation*, *83* (7), 482.
- MacLaren, I. (2005). New trends in academic staff development: Reflective journals, teaching portfolios, accreditation and professional development. Dublin: AISHE.
- Mathias, H. (2005). Mentoring on a Programme for New University Teachers: A partnership in revitalizing and empowering collegiality. *International Journal for Academic Development, 10* (2), 95-106.
- McGowan, U. (2005). Academic integrity: an awareness and development issue for students and staff. Journal of University Teaching and Learning Practice, 2 (3a), 48-57.
- McNeil, D. R. (1993). The rise and fall of a consortium: The story of the University of Mid-America. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 123-131). London: Routledge.
- Moran, L., & Mugridge, I. (1993a). Collaboration in distance education, an introduction. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 1-11). London: Routledge.
- Moran, L., & Mugridge, I. (1993b). Politics and trends in inter-institutional collaboration. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 151-164). London: Routledge.
- Polhemus, J. H. (1993). The Toowoomba Accord: A blueprint for collaborative external studies. In L. Moran & I. Mugridge (Eds.), *Collaboration in distance education: International case studies* (pp. 97-122). London: Routledge.
- Riedling, A. (2003). Invest time in collaboration, communication efforts. Teacher Librarian, 31 (1), 43.
- Ryan, Y. (2007). Do you YouTube? Wanna come to MySpace? Musings on the narcissism in the 21st century student. Paper presented at the First Year in Higher Education Conference, QUT Brisbane.
- Ryan, Y., Dearn, J., & Fraser, K. (2004). Preparing academics for teaching in Australian universities. Retrieved 20/12/07. from

http://www.dest.gov.au/sectors/higher_education/publications_resources/other_publications/professiona l_development_for_university_teaching.htm.

- Small, R. V. (2002). Collaboration. Teacher Librarian, 29 (5).
- Smyth, R. (2003). Concepts of Change: Enhancing the practice of academic staff development in higher education. *International Journal for Academic Development*, 8 (1/2), 51-60.
- The Carrick Institute. (2008). Mission Statement. Retrieved 29.1.08, from http://www.carrickinstitute.edu.au/carrick/go/home/about/cache/offonce:jsessionid=4
- Trowler, P., & Bamber, R. (2005). Compulsory Higher Education Teacher Training: Joined-up policies, institutional arc hitectures and enhancement cultures. *International Journal for Academic Development*, 10 (2), 79-93.
- Tynan, B., & Garbett, D. (2007). Negotiating the university research culture: collaborative voices of new academics. *Higher Education Research and Development*, 26 (4), 411-424.
- Vygotsky, L. (1978). *Mind and society: The development of higher mental processes*. Cambridge MA: Harvard University Press.

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