

## Enhancing the Scholarship of Teaching and Learning: Evaluation of a Scheme to Improve Teaching and Learning Through Action Research

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This paper reports on evaluation of a scheme to improve University teaching through action research over a five-year period in the science, engineering, and technology division of a large Australian dual sector University. Between 2002 to 2006 this scheme directly committed approximately A\$210,000 in grants and involved over 130 teaching and other staff in sponsoring projects of up to eight months' duration, with a total of 34 projects completed. Evaluation was informed by the desire of the academic developers concerned with the scheme to engage more widely with staff in predominantly empirical disciplinary cultures, to be more accountable within a University business management paradigm, and to contribute to the scholarship of academic development. The paper provides evidence – in terms of quality, effectiveness, practicality, participation, and satisfaction – to show how this scheme enhanced the scholarship of teaching and learning in the University. The paper outlines issues encountered and further work to be done in undertaking evaluation of such a scheme.

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### Description of the Scheme

Action Research in Teaching and Learning (ARTL) was an initiative to enhance the quality of teaching and learning at a large Australian dual sector University by supporting staff to take an action research approach to improve some aspect of their teaching. ARTL was offered in one-third of the University, the Science, Engineering and Technology Portfolio (one of only three conglomerate faculties), which comprised ten Schools on two main campuses, had around 1,200 full-time equivalent teaching staff, and represented one-third of the University's technical/vocational (TAFE),

undergraduate (UG), and postgraduate coursework (PG-C) teaching programs. It was piloted in the Life Sciences disciplines during 2002-2003, and then was scaled up across all of Science, Engineering, and Technology in 2004-2006. It was part of a suite of activities carried out by the Portfolio academic development group (or work unit) to implement the University's teaching and learning strategy. It was offered to staff in only these disciplines because the Science, Engineering, and Technology academic development group operates within a de-centralized model to support only those staff.

ARTL provided competitive small grants to staff within a structured framework of project management and professional development firmly focused on the scholarship of teaching and learning. Eligibility extended to all staff involved in teaching or supporting teaching, including staff in full-time, part-time, and casual positions on campus and in community or work-based settings. Key conditions of the guidelines for applicants are shown in Table 1.

From 2002 to 2006 ARTL committed in total approximately A\$210,000 in grants and involved over 130 staff participants from every eligible Department or School, working with students in 35 different courses and programs of study. It sponsored five rounds of projects, each up to eight months in duration, with 34 projects completed at the time of writing. Projects investigated topics such as student assessment, problem-based learning, graduate capabilities, and teaching and learning with technology.

ARTL began as an initiative – modeled initially on a scheme previously conducted at another University as described in Radloff, de la Harpe and Wright (2000) – to build and strengthen a shared culture of reflective

TABLE 1  
Key Conditions of 2005 ARTL Guidelines for Applicants

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Projects are intended to allow staff to plan an improvement through change in their teaching practice, implement the change, collect data about the change, analyze the data, and report back in a scholarly manner.

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The objectives are to provide academic and teaching staff in the Portfolio with the opportunities to:

- Research real-world issues and practices in their teaching to improve student learning and student satisfaction;
- Learn to use or improve the use of action research methodology for this purpose; and
- Build a research profile by preparing an article for publication in a refereed academic journal

For the Portfolio and the University, the scheme aims to:

- Provide a framework for continuing professional development in teaching;
- Develop and foster the scholarship of teaching and learning; and
- Support progress towards targets for teaching quality improvement.

The scheme aims to enhance teaching and learning in the Portfolio by strengthening priority areas such as:

- Good teaching, as reflected by indicators such as national surveys;
  - Student development of graduate capabilities;
  - Student progression and completion rates; and
  - Graduate employment / self-employment / enterprise formation.
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Project proposals should:

- Be developed on the basis of sources of evidence such as formal student feedback or key performance; indicator data, or current issues in teaching & learning literature—and make these clear in the application
  - Address an important problem or issue where the solution will:
    - Benefit students in large classes or cohorts and/or
    - Be shared by more than one course and/or
    - Impact on more than one program;
  - Apply to teaching in a course conducted by staff employed by the Portfolio;
  - Achieve a result within eight months and an outcome into the future;
  - Propose a team rather than one member of staff— teams may be drawn from course or program teams, and may also include interdisciplinary and cross-sector members; and
  - Be consistent with work planning of the School/s where project participants are based.
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Proposed projects should focus on at least one of the following priorities:

- Improving approaches to assessment;
  - Enhancing student leadership capabilities;
  - Strengthening work-integrated learning;
  - Internationalising the curriculum;
  - Innovating in teaching and learning with technologies; and
  - Strengthening student transition.
- 

and scholarly practice in teaching. Its approach was to offer professional development that recognized disciplinary cultures and ways of knowing, and that was situated in the everyday work of teaching. Its operation was resourced in three main ways: direct funding support for projects, staff time invested by project teams, and coordination and management overheads (half of the year-round workload of a full-time middle-level academic developer, under direction).

Project funding amounts were modest by the standards of “big research” (from A\$1,000 in 2002 up to A\$5,000, A\$8,000, A\$10,000 per project in 2003, 2004, 2005 respectively), and funding was disbursed against milestones committed to by successful applicants which included requirements to: attend a methodology workshop, (re)develop a project design, draft and submit an ethics application, conduct the action research project with students and the staff team,

submit one-page written progress reports monthly, work collaboratively with a project mentor with at least monthly contact, present at two project progress seminars and the annual portfolio teaching and learning forum, and submit an article for publication and an evaluation of the project experience.

Among the many schemes and many approaches to funding research into teaching in higher education, ARTL had a number of distinguishing features relating to the provision of structured end-to-end support and professional development for participants. This was intended to improve outcomes from the schemes in four ways: by fostering research into teaching among staff with little or no previous experience of it, by including targets and indicators for teaching and measurable scholarly outputs for research, by increasing access to professional learning and development on many levels in the University and

its community, and by securing the engagement of a wide range of stakeholders.

#### An Action Research Approach

Action research is well established as an approach to practitioner research, and is located in a phenomenological and interpretive paradigm (Zuber-Skerritt 2003). In ARTL, action research was selected to assist academic staff who typically were formally trained in natural and physical science research methods, but less experienced in methods suited to researching their teaching practice. Action research was selected as it is characterized by: investigating a complex, real-world question; reflecting on participants' professional practice; using cycles of action and critical reflection; often using qualitative data, although quantitative data can be used; and developing a solution to a specific situation, rather than a causal explanation (Dick & Swepson 1997; Zuber-Skerritt 2003). A significant body of literature supports the use of action research in this context (see for example, Cherry 2002; Kember 1998, 2002).

#### A Framework for Evaluation

ARTL was designed to be conducted within a framework of continuous evaluation and improvement, so regular review of this scheme was an integral part of the reflective practice of the academic developers who sponsored it. But even though coordination and support provided through the scheme, as refined progressively over the five year period, seemed to be set at an effective level to achieve stated aims, continued operation of this scheme needed to be evaluated more formally. Academic development units are more than ever subject to the forces of restructuring and the demands to engage with a range of stakeholders, including client groups, senior administrators, and the profession (Gray & Radloff, 2005).

Evaluation of ARTL sought to address the situation described by Walshe (2002), wherein several factors are slowing the development of new knowledge in the education sector: the opportunity to conduct educational experiments is limited, most of the practical knowledge remains tacit, and much of the innovation doesn't connect with formal research or get disseminated. Opportunities for staff to undertake research on teaching and learning are limited given the competitive nature of higher education and the emphasis on disciplinary research as a measure of institutional quality and international standing. In addition, success in research leads to peer recognition and academic advancement. There is thus both pressure and incentive for staff to engage in discipline-based

research rather than in research into the pedagogy of their discipline.

Further, given the traditional view of teaching as a private activity involving what Shulman (1993) calls "pedagogical solitude," there is little opportunity or incentive for University teachers to share knowledge and experience gained through their educational practice. Such sharing is also limited by a lack a common language of teaching and learning. Moreover, many academics do not have experience in evaluating, documenting, and disseminating educational practice in ways that are perceived as scholarly and conforming to traditional research paradigms.

The decision to evaluate ARTL in depth was informed by the desire of the academic development unit for stronger understanding among stakeholders in the academic disciplines, clearer accountability within the University's business management framework, and more substantial contribution to the scholarship of academic development.

However, an approach to evaluation was not straightforward. As McLoughlin and Samuels (2002) have outlined, underlying any evaluation of interventions to improve teaching are at least four educational discourses, or ways of framing the very meaning and purpose of improving teaching. One is a discourse about reflective practice, which involves critical examination of current practice, and becoming a reflective practitioner through self-evaluation of one's teaching skills, attitudes, and conceptions of teaching and learning. Another is about the interdependence of teaching and (educational) research, such that research findings should inform and improve the practice of, and be meaningful and accessible to, practitioners whose main discipline is not education. Another focuses on inquiries into student learning, particularly influenced by phenomenographical research. Finally, there is the discourse about teaching as a form of scholarship that requires higher education teachers to be well informed about educational research, to be self-reflective and committed to improving student learning, and to be investigative and communicative about teaching.

As well, as McAlpine and Harris (2002) have outlined, there are multiple forms of practice that need to be considered in evaluating teaching improvement, including subject matter expertise, design skills, delivery skills, management skills, skills in mentoring learners, personal professional development practices, and organizational development practices. The evaluation of ARTL sought to factor in ideas of worth that would accommodate a range of stakeholder perspectives and constructs of teaching practice.

For such reasons, strict "value for money" or "return on investment" performance auditing – that is, evaluation in terms of economy (the acquisition of

resources on the best possible terms), efficiency (the use of resources to achieve a given level of output), and effectiveness (the match between intentions and outcomes) – seemed unsatisfactory for evaluating a scheme such as ARTL, for, as Elliott (2002) has noted, such an approach could have undesirable outcomes such as: possible erosion of academics' motivation to innovate and of trust in academics' capabilities; shifting of focus onto readily observable outputs, rather than on chain-of-effect outcomes; and failure to capture time-dependent and context-bound aspects of improvement.

The framework ultimately chosen as most appropriate to analyze and report on academic developers' observations about the value and worth of the ARTL scheme was adapted from the criteria established by the Australian Awards for University Teaching (AAUT) to recognize and reward excellence in institutional efforts to enhance the quality of teaching and learning (see The Carrick Institute, 2005). These criteria framed the work and outcomes of the scheme in a way that would make it possible to capture the various discourses, multiple practices, and organizational performance issues within the broader work of enhancing the quality of teaching and learning; they were endorsed by a peak national body, the Australian Universities Teaching Committee, and thus were validated externally to the academic development unit and the University itself; and the ARTL scheme was eligible to be considered for recognition within them. Specifically, the AAUT criteria address the extent to which an institutional project or initiative practices the following:

- facilitates quality practice;
- assists staff to be more effective;
- is innovative and practical;
- achieves participation/penetration; and
- achieves client satisfaction.

The following five sections of this paper report on evaluation carried out by the academic developers concerned, using the AAUT criteria to conduct a systematic longitudinal review of documented ARTL operation.

#### Extent to Which ARTL Facilitated Quality Practice

Kember (2002) describes the dilemma in facilitating an action research scheme:

There was a desire for the project teams to retain ownership of their projects and to conduct all aspects themselves. The participants would

therefore be motivated and would learn from the experience. At the same time, though, sufficient assistance, advice and support needed to be provided to ensure that the projects were successfully conducted, and achieved their aims. (p. 89-90)

A distinguishing feature of ARTL was its provision of structured end-to-end support and professional development for participants to facilitate quality outcomes from the scheme, illustrated here through its project management, mentoring, brokering, and advocacy work.

#### *Project Management*

ARTL took a strong project management approach to the organization, management and coordination of the scheme, with the coordinator undertaking the following tasks:

- plan and promote annual round and take inquiries;
- advise on development of applications and receive applications;
- coordinate selection process including panel;
- coordinate expedited ethics application process;
- monitor monthly team progress reports and budgets;
- process casual staff employment and other accounts;
- run methodology workshop and progress seminar for teams;
- induct and support mentors;
- events-manage day-long end-of-year forum based on project presentations;
- support guest speakers and panelists to present at workshops and forums; and
- produce monthly management reports.

#### *Mentoring*

ARTL introduced a formal mentoring system for project teams. Mentors were staff experienced in educational research or educational development, but removed from the administration of the scheme and with no authorship role in writing up the project; they acted as critical friends to the project team. They engaged in such activities as coaching the project team in effective teaching and learning interventions, helping the team to reflect on their experiences, and undertaking preliminary review of planned presentations or publications about the projects.

*Brokering*

ARTL facilitated the work of teams by brokering assistance from third party support service providers across the University as the need arose, for example by the following actions: negotiating appropriate media production services for research into the use of virtual field trips, sourcing IT services technical solutions to support research into student e-portfolios, and mediating where misunderstandings arose during third party support.

*Advocacy*

ARTL undertook advocacy on behalf of teams regarding University policies and procedures in sometimes unexpected areas; for example, ARTL assisted in streamlining and interpreting the human ethics approval processes to capture the circumstances of practitioner research into teaching, and it assisted in clarifying processes for recruitment and appointment of casual research assistants in research-into-teaching settings.

Extent to Which ARTL Assisted Staff to be More Effective

ARTL specifically aimed to strengthen a culture of the scholarship or research into teaching. Diamond (2002) highlights competing notions of scholarship, arguing:

For the greater part of the twentieth century, most professors paid little attention to defining the term “scholarship” or to addressing what was meant by “scholarly work.” Most individuals and disciplines bought into the concept growing out of the sciences that to be scholarly an activity needed to be “original” research that led to publication as a book or an article in one of the

more significant discipline-based, refereed journals....The impact of this approach, while seldom mentioned publicly, was at times extremely unfortunate not only for individual faculty members but also for the disciplines themselves. (p. 73)

ARTL fostered research into teaching among staff who may have had little or no previous experience of educational research, or of a team-based or action-oriented approach to educational research, in several key respects.

*Shifting Research Paradigms*

Staff in science, engineering, and technology disciplines more than often have developed their academic practice within a quantitative or empirical research paradigm. In contrast to this positivist research tradition, action research is typically quasi-experimental, usually uses qualitative methodologies, is conducted in naturalistic settings, and does not usually provide causal explanations, but rather is focused on obtaining valid data that is “rich, real and deep” (Dick & Swepson, 1997). Further, the notion of reflecting on practice is not generally well understood or routinely applied in higher education (Davis, 2003). To pursue change and knowledge together through action and reflection on the action was, therefore, a new way of working as researchers for most staff who participated in ARTL.

*Inclusiveness*

ARTL contributed to the professional development of diverse staff, as shown in Table 2, including early and mid-career academics, and also groups for whom continuing professional development in teaching is not always accessible: general staff, sessional staff, and graduate students.

TABLE 2  
Analysis of Participating Staff in ARTL 2002-2005

	Professor	Associate Professor	Holding PhD	Higher Ed academics not fitting into previous categories	Technical and Further Education (TAFE) teaching staff	General staff
2002	0	2	8	6	1	1
2003	0	5	3	6	0	0
2004	0	3	17	7	7	8
2005	3	4	12	11	3	2
Total	3	14	40	30	11	11

*Note.* General staff includes educational designers, library staff, IT support staff, and student support staff

### *Legitimizing Research into Teaching and Learning*

ARTL provided staff with a way to be formally recognized for their classroom research. It was used by participants in building teaching portfolios, applying for academic promotion, and nominating for teaching awards. The trend in 2005 for more participation by staff at professorial level gave added weight and prestige to involvement with the scheme generally. As well, participation by senior academics improved the opportunities for peer learning in ARTL workshop settings where these staff contributed their more extensive experiences as teachers and researchers.

### *Conversing Across Disciplines*

The science, engineering, and technology division of the University comprised a range of disciplines – from aerospace engineering through cartography and complementary medicine to foundation studies – across which academic and professional discourse often struggled. Through the ARTL scheme, project teams who were workshopping applications, testing new practices, and interpreting student feedback found common cause and shared learning about teaching in a spirit not seen in many other University settings.

In practice, the opportunities for conversing across the disciplines arose in workshop situations – specifically designed along an adult learning model in which participants were encouraged to support each other by sharing their understandings and professional expertise – and from 2005 forward, through an online discussion forum for ARTL project teams. This resulted in a community of practice, with projects enriched by professorial level staff from other projects sharing literature and insights, and mid-career staff who were more familiar with action research approaches having input into others' projects.

#### Extent to Which ARTL was Innovative and Practical

ARTL contributed to a range of outcomes for an academic development unit that strove to operate within a framework of strong accountability and transparency to accomplish the following:

- achieve institutional missions;
- implement institutional strategic plans;
- enhance student and staff experiences;
- improve overall student and staff satisfaction; and
- enhance student learning and research outcomes (see Blackmore et al., 2004).

ARTL brought together within sponsored projects both strategic targets and indicators for teaching

performance, as well as measurable scholarly outputs for research. It heightened awareness of the ethics of teaching, and it delivered economies of scale for supporting research into teaching.

### *Strategic Focus*

The design of ARTL reflected University performance targets and high-level indicators for teaching and for research. Guidelines for projects (as shown in Table 1), including priority areas for action research, were cross-referenced closely to the detailed objectives in the University's teaching and learning strategy.

### *Scholarly Outputs*

ARTL participation committed staff to engage actively with the educational research community through reporting on their projects in refereed forums. Participants were supported to review relevant literature, draft publishable papers, and identify appropriate disciplinary or generic educational presentation and publication opportunities. National and international dissemination of ARTL projects is known to have occurred in the form of conference presentations or journal articles – at least seven in 2002, six in 2003 and eight in 2005.

### *Ethical Stance to Working with Students*

The coordination of ARTL projects in 2002-2003 identified scope for improvement in ethical practices around research into teaching, in particular regarding efficacy and protection of student learning (balancing the desire to improve teaching practice with the risk of adversely affecting student learning), informed consent and voluntary participation, vulnerability and unequal power relationships, and intellectual property and collegiality. As a result, all 2004-2006 participants were briefed on ethical issues in working with students, and they sought and obtained formal human ethics approval for their projects, as described in more detail in Chang, Gray, Polus and Radloff (2005).

Long lead times and a lengthy application form based on bio-medical research were identified as potential barriers to ARTL participants applying for human ethics approval. This led to academic development group staff working collaboratively with the human ethics committee to introduce an expedited human ethics approval process for ARTL projects from 2005 and to pilot a simplified 5-page ethics application form for research into teaching practice in 2006. These practical innovations have had influence beyond the ARTL scheme; for example, the simplified application form will be rolled out across the University.

### *Economies of Scale*

Finding the time to do research into teaching is a pressing issue for most academic staff. Project teams typically used their ARTL funding for employing a research assistant, paying for efficient ways to collect and analyze data, and employing sessional staff to allow partial time release from teaching. However, all such expenditure was disbursed, and all casual staff were employed, by the ARTL coordinator on behalf of project teams in order to reduce the administrative overheads of research into teaching and thus to enable teaching staff to focus on core aspects of their projects. This approach to administration of the projects maximized the opportunity for a large number of staff to spend time on non-trivial professional learning and development activities.

#### Extent of ARTL Participation and Penetration

Participants in action learning typically experience a range of benefits including, as Bourner, Cooper and France (2000) enumerate, their own personal think-tank, a sounding board for testing out their ideas, traction and motivation to make progress, set-aside time and space for reflection, vicarious learning, active learning, and self-help group work. Beaty (2003) observes, “[B]ecause it is project focused, action learning can have wider benefits to the University as well as personal benefits for staff” (p. 16). Taking account of all these factors, ARTL made professional learning and development accessible on many levels including to project staff teams and their students, to wider staff audiences in University operating units and at University forums, and to the wider community through public dissemination.

#### *Direct Involvement of Staff*

Applying for an ARTL project attracted increasing interest from staff each year, as shown in Table 3. Improvements to the application process in 2005 obviated the need for full applications through an

improved system for handling informal enquiries. Unsuccessful applicants received feedback on their applications and advice on other potential avenues to seek support. Over the five years of ARTL operation, successful projects were sited in every eligible Department / School.

#### *Dissemination Within the University and Beyond*

ARTL and project outcomes have been disseminated in a number of ways. ARTL culminated in a major teaching and learning forum at the end of each year of operation. Attendance at each of the 2002 and 2003 forums was over 50, and in 2004 and 2005 it was over 100. Selected projects were the focus of presentations to staff at whole-of-University events such as teaching and learning seminars and research seminars. ARTL coordinating staff presented papers about aspects of the project to national or international academic development conferences in 2003, 2004 and 2005. In addition, a number of papers have been published. Finally, an ARTL website was made publicly accessible at <http://www.rmit.edu.au/set/ad/sotl/artl>.

#### *Other Organizational Learning and Development*

ARTL contributed to learning and development in the University, over and above that of project teams and their students, in a number of other ways. Project mentoring introduced formally in 2004-2005 gave at least 10 non-project-team staff the opportunity to develop and refine mentoring skills. Further, working partnerships and relationships with teaching staff were strengthened in response to the needs of the scheme, including among University curriculum developers, librarians, field or clinical supervisors, and employer advisory groups. The scheme also led to wider adoption and application of some innovations in practice, for example, student e-portfolios, internet videoconferencing, peer tutoring, and electronic journal clubs were piloted in ARTL projects and subsequently taken up in other courses and programs.

TABLE 3  
Direct Interest and Participation in ARTL 2002-2005

	Expressions of interest	Successful teams
2002	8 applications	18 staff from 4/5 Departments / Schools
2003	15 applications	14 staff from 4/5 Departments / Schools
2004	29 applications	42 staff from 10/10 Schools
2005	50 enquiries and 14 applications	35 staff from 9/10 Schools

### Degree of Client Satisfaction with ARTL

ARTL showed evidence of addressing and meeting the needs of different stakeholders in the scholarship of teaching, that is, not only project participants, but also students and University management. Westin and McAlpine (2001) propose that there is “a continuum of growth toward the scholarship of teaching that highlights the possibility of growth or development within and across three phases...growth in own teaching, dialogue with colleagues about teaching and learning, and growth in scholarship of teaching” (p. 96-97). ARTL project participants reported satisfaction that reflects these three phases of growth. A sample of feedback from project participants is given here:

#### *Impact on Staff*

Twelve participants who did a formal evaluation of the 2002-2003 ARTL schemes (reported in Jansz-Senn, Chang, Gray, De Pew & Radloff, 2003) considered that the scheme had improved:

- the quality of teaching and learning in more than one program (7/12);
- their understanding and undertaking of collaborations to improve teaching (8/12);
- their knowledge and / or practices of assessing students (9/12); and
- their ability to be more reflective in their teaching practice (10/12).

Comments from 2004 participants include:

- “I experienced much value and benefit simply by completing the ARTL application process.” (team leader)
- “My discussions with [the ARTL coordinator] were very helpful, and I found her very accommodating to assist in whatever way was possible. Also some good suggestions from her about how to proceed with some aspects of the proposal that I was concerned about.” (applicant)
- “You are to be congratulated on the way the afternoon was organised and conducted... I learnt a great deal as a result of the workshop particularly around the issue of ethics.” (mentor)

#### *Impact on Students*

ARTL project reports conveyed an array of insights by staff into student learning and student satisfaction as the following comments illustrate:

- “It was also found to be important to contextualize the e-portfolios within the overall program experienced by the student, and it was apparent that effective team teaching is necessary in order that students gain the full benefit of their portfolio creation skills in subsequent years of their program.” (Allan, Zylinski, Temple, Hislop, & Gray, 2003, p.579)
- “preliminary studies into the effectiveness of a teaching method designed to encourage students to pose their own questions as an assignment task...provide considerable feedback on the progress and / or engagement of students with the material.” (Merchant & McGregor, 2004, p.1)
- “Focus group comments showed a wide variety of opinion about the two methods, suggesting that any one method of teaching will put some students at a disadvantage. This indicates that a varied approach to ... teaching is desirable because it is more likely to catch the interest and attention of a wider number of students.” (Henry, Salter, Quazi, Bezen, Flynn & Kaul, 2004, p.1)

#### *Institutional Recognition*

The ARTL scheme was unique and much admired within the University. It received a University award in 2005 for its innovative and practical approach to the enhancement of the quality of teaching and learning, and it was nominated to represent the University in the national Australian Awards for University Teaching competition in this category.

#### Further Considerations

Findings about ARTL in relation to the five criteria above may offer lessons for good practice in supporting the scholarship of teaching. They also represent a significant effort to use evidence to assert the worth and value of this type of academic development work. However, in this respect there is still more work to be done, in order to make explicit what didn't work or couldn't be shown about the scheme, triangulate the evaluation done by scheme participants and administrators, and drive further evaluation and proper follow-up action.

#### *Unknowns*

One of the least successful aspects of ARTL was that, in a dual-sector setting where greater mutual exchange between technical/vocational (TAFE)



educators and higher educators was an institutional goal, TAFE staff participation in ARTL was proportionately less, and less successful, than higher education staff participation. It is not clear why this was the case, but it is possible that this is a reflection of differences in the staff development and research contexts of the two sectors (which have separate performance measures and career structures overseen by different levels of government) that the ARTL scheme alone could not overcome.

One of the great unanswerable issues about ARTL concerned the opportunity cost of participation in it that was borne by participating staff. Especially in the eyes of teaching staff and their academic managers, ARTL often seemed to compete for scarce time and attention with other priorities such as discipline-based research, academic administration, and curriculum renewal, as well as other staff development needs and options. The actual time commitment of a participating staff member was “as long as a piece of string,” variable from one project and one team member to another, and not feasible to calculate as total person-hours.

For the academic developers involved in ARTL, evaluation raised a long line of questioning about what is proper professional conduct in terms of academic developers’ affiliations with staff action research projects, e.g., in what circumstances could one be on the selection panel, could one be a team member, could one say that some of the ARTL data belonged to him or her? Some of the issues of academic integrity, intellectual property and research ethics are detailed in Chang, Gray, Polus, and Radloff (2005). Questions also persisted about what might be the best location within the University for the sponsorship of such a scheme in order to optimize engagement by “academic tribes” at the same time as reaping cross-disciplinary benefits.

### *Triangulation*

ARTL was designed to be conducted within a framework of continuous evaluation and improvement. Triangulation provides data from multiple sources that can be used for evaluation purposes. In the case of ARTL, to date the sources of data used to evaluate the project have included the academic developers who designed and implemented ARTL and other staff involved in implementing ARTL, the staff who undertook ARTL projects and, in some instances, their students who were participants in projects, as well as peers who contributed to ARTL projects in different ways, including as mentors and reviewers. It is possible to understand and further strengthen the evaluation of ARTL by using Kember’s (1998) model for triangulated evaluation of an action learning project in a tertiary setting, which maps onto Guskey’s (1999) taxonomy for evaluating professional development. In

Kember’s (1998) model, academic developers design and monitor the overall scheme (planning evaluation), teaching teams reflect on and report on progress within their own projects (formative evaluation), and independent formal evaluation is commissioned (summative evaluation).

Specifically in ARTL, planning evaluation can be understood to have adequately occurred through the way that the ARTL coordinator captured and worked with a variety of data such as progressive feedback and debriefings by applicants (successful or not), workshop participants, mentors; project staging and budget reports reviewed by Portfolio managers; broader staff participation rates and comments from learning and teaching forums annually; and referees’ and colleagues’ external reviews of written and presented accounts of the scheme. Formative evaluation can be understood to have adequately occurred through the way that each project team captured and worked with evaluative data for their own project by meeting monthly with a mentor, maintaining monthly written progress reports, reporting at the progress seminars for all teams, gathering students’ and other teachers’ feedback on their project, and inviting referees’ and external colleagues’ peer review of their formal project reports. Summative evaluation can be understood to have occurred only partially to date through the evaluation reported in the present paper by members of the academic development unit that sponsored the scheme. Accordingly, planning has been done for an evaluation of the 2002 through 2005 operation of the scheme by an evaluator external to the University. A survey instrument has been designed for use with key stakeholder groups to evaluate the value and worth of ARTL in terms of Guskey’s (1999) criteria for measuring effectiveness of professional development, and survey targets and criteria to be evaluated are: (a) project team leaders, other participating project staff, and mentors on their reaction to taking part; (b) coordinators of courses and programs and students in courses in programs in which projects occurred on their observations about learning and application arising from (a); (c) coordinators of courses and programs in which projects occurred and other academic managers of participating staff on their assessment of macro-level outcomes for teaching arising from (a) and (b); and (d) all of the above on their sense of organizational learning and development arising from (a), (b) and (c).

### *Moving Further*

While recognizing the value of further, external evaluation, it is important not to downplay the information and knowledge management achievements that underpin the present paper, nor to overlook them as an essential precursor to inviting in an external

evaluator. The operation and management of ARTL between 2002 and 2005 was difficult to routinize because it happened during a period of prolonged and extensive organizational change. There was no certainty of continuation for the scheme from one year's University budget to the next in any year of its operation. Various approaches to allocating the coordination workload were tested over the four years of operation, and the role was not assigned to a permanent member of staff until mid-2004. Those who would undertake the scholarship of academic development are often challenged by such churn in their organizations and across the higher education sector.

Specific actions that would assure continued improvement of ARTL into the future include: carrying out external, independent evaluation of the scheme and adopting ensuing recommendations; establishing an ongoing budget line item and base funding; capturing the intellectual property of the ARTL coordinator in a suitable form (such as a handbook or resource kit) to ensure internal information management and to share with academic developers elsewhere; and rolling out ARTL across the rest of the University, and potentially across other universities in a coordinated fashion as a scholarly initiative.

Based on our experiences, we believe that it is worth persisting. Only in this way will all those with a commitment to improve teaching and its scholarship be able to make evidence-based decisions, knowing whether or not schemes like ARTL can provide the systems and structures to sustain project impacts, value teaching, and build the organizational culture that is needed for continuous quality improvement in a performance-oriented external operating environment.

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