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An evaluation framework for identifying the effectiveness and impact of academic teacher development programmes

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ABSTRACT

University teacher development programmes have been part of the higher education landscape for over 40 years. There is now general agreement that university teacher development programmes have a positive impact on teachers and students, yet the extent and longevity of their impact on the teachers, and the teaching and learning culture of the institutions are less well researched and evidenced. Research that has been carried out on the effectiveness of teacher development programmes has tended to be on specific initiatives and involve limited numbers of participants. Teaching and learning development centres have typically not carried out systematic and extended evaluation of the impact of their programmes. The focus of this paper is to describe the process and outcomes of a national project which resulted in the development of the Academic Professional Development Effectiveness Framework, designed as evaluation tool to facilitate the systematic collection and analysis of data related to the intended outcomes of the teacher development programmes. It is argued that teacher development programmes should be designed to build an evidence base from the initial planning stage and be continued over an extended period in order to enable practitioners, researchers and institutions to ask more complex questions on whom the programmes have an impact, and where and why they have impact.

Introduction

Professional development programmes and activities designed to enhance teaching and learning have been a common feature of higher education institutions for more than 40 years. Over this time, there has been limited evidence of their effectiveness in improving the quality of teaching and learning (Devlin, 2008). In a context of increasing economic constraint, and the recognition that students of the 21st century rightly expect high quality educational experiences, higher education institutions are focusing on ways in which the quality of teaching and the student learning experience can be enhanced (Hanbury, Prosser, & Rickinson, 2008; Knapper, 2003). A typical response has been a proliferation of teacher development programmes offered to academics, with some countries such as Norway, Sweden, United Kingdom and Sri Lanka requiring all university teachers to engage in extended pedagogical training as one step towards meeting these challenges as well as for quality assurance (Gibbs & Coffey, 2004). While the implicit or stated goals of these programmes and activities are to develop and enhance teaching quality and student learning 'questions of whether or not various teacher development interventions actually work and, if so, in what ways such interventions influence skills, practices, and foci, and/or ultimately lead to improved learning, remain largely unanswered in higher education' (Devlin, 2008, p. 15).

While it might seem to be a relatively straightforward matter to evaluate programmes, there has been ongoing debate about whether it is possible to determine the impact of teacher development programmes and a general reluctance to confront the challenge of determining indicators of effectiveness, identifying what aspects to measure, how to measure them and how to interpret and respond to the results. The research literature highlights the complexity of linking teacher development programmes and activities to tangible outcomes such as changes in the quality of teacher practices and even more contentious – the quality of student learning. These complexities appear to have inhibited evaluation initiatives.

This issue has long been recognised. For example, Gaff (1975) lamented the lack of evaluation of academic development programmes, arguing for the need to evaluate programmes and

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demonstrate that they produce results in terms of better courses or better educated students, more knowledgeable, sensitive, effective, or satisfied faculty members, or more effectively managed organisations (p. 4). Kreber and Brook (2001) continued to argue that serious evaluation of development programmes was long overdue, while recognising the difficulty of developing a framework when most academic development outcomes were part of the process of becoming teachers, rather than being end points in themselves (p. 54). More recently, Sword (2011) agreed that evaluation is a challenge because changes which might occur as a result of participation in teacher development programmes are designed to unfold slowly over time rather than be observable at a point in time.

The complexity of evaluation is further exacerbated by the diversity of teacher development programmes and activities (Ako Aotearoa, 2010; Gosling, 2008; Lewis, 1996; Ling, 2009). These studies, emanating from the United Kingdom, New Zealand, Australia and United States, provide an overview of the diversity in status, participants, purpose, resourcing and breadth of programmes. Each has emphasised the need for programmes to be underpinned by research, scholarship and evidence-based practice, and for academic developers 'to engage in forms of evaluation which will indicate the impact of their activities' (Ling, 2009, p. 62).

The challenge for academic developers is to go beyond the typical collection of participant numbers and satisfaction and to interrogate if the intended outcomes of their teacher development programmes have been achieved. This requires clarity in identifying the focus and outcomes, consideration of whether these outcomes can be achieved in the short or long term, the selection of relevant and varied data sources and the systematic collection of evidence over time. Fundamental to such a systematic approach is an agreed evaluation framework. Unless academic developers and centres of teaching and learning are prepared to engage with the challenge of gathering qualitative *and* quantitative data over the short *and* long term to evidence the impact of their teacher development programmes they will have, at best, a snapshot of the delivery of their programmes rather than evidence of their impact.

This paper reports on the outcomes of a project designed to address the highly complex and contentious matter of evaluating the effectiveness of teacher development programmes. The National Strategic Initiatives project was funded by the Australian Learning and Teaching Council (ALTC) and led by a team of leaders of academic development. The key research question which underpinned the project was: how can academic developers evidence the effectiveness of their teacher development programmes? The key finding of the project was that academic developers require a relevant, rigorous, yet flexible framework, to guide their collection and analysis of data which can be used to demonstrate effectiveness and inform future practice. Such a framework needs to be informed by current practice and evidence from the relevant literature, appropriate to a diverse range of teacher development activities, modes of delivery and contexts so that it does not privilege one particular type of teacher development activity nor presume the purpose and impact of various types of programmes.

The first section of this paper provides an overview of the theoretical and empirical basis for the Academic Professional Development Effectiveness Framework. This is followed by an explanation of the structure of the Framework, the trial of the Framework and finally the findings of the trial and conclusion.

Theoretical and empirical basis of the Academic Professional Development Effectiveness Framework

The key aims of the project were: to provide a tool to be used by academic developers to evaluate and benchmark their teacher development programmes; to understand the factors influencing the effectiveness of such programmes, including institutional culture; and to encourage an understanding within the higher education sector of the different purposes and effects of different types of academic teacher development programmes. An action research methodology was identified as the most appropriate for the achievement of these aims.

Action research is characterised as being concerned with practical problem solving, expanding knowledge, enhancing the competencies of participants and delivering findings able to be applied in the real world immediately. It is typically collaborative and undertaken in situ, and through its processes, seeks to understand and facilitate the processes of change (Clarke, 2005; Hult & Lennung, 1980; Kemmis & McTaggart, 2000; McKernan, 1991).

The action research cycle of Observe, Plan, Act and Reflect (Crane & Richardson, 2000) was embedded within the project. The initial Observe stage sought to identify what academic development activities existed in institutions of higher education, what relationship, if any existed between these and the institutional culture supporting teaching and learning, and what attempts were made to evaluate the effectiveness of the programmes in terms of impact on teachers, teaching and student approaches to learning. For the purposes of the project, the term impact was defined as a change appropriate to the situation (Moon, 2004). During the Plan stage, the data collected in the Observe stage was synthesised and used as the basis for preparation of a draft evaluation framework for discussion and dissemination throughout the academic development community. The Act stage engaged and supported institutions in the trial of the framework to develop action plans for the implementation of the draft evaluation framework and encouraged the exchange of informal feedback. In the final Reflect stage, trial teams shared their experiences of using the framework and presented reports which were used to inform the final revision of the Academic Professional Development Effectiveness Framework. Throughout these stages reflexivity was managed by synthesising findings with the participants to mitigate against investigator bias. These stages are further elaborated in following sections of this paper.

Context of the project: quality teaching

The government in Australia, in common with other countries, has pursued an agenda of quality, value for money and enhanced participation for higher education, resulting in persistent attention on quality assurance of higher education for over two decades (Bradley, Noonan, Nugent, & Scales, 2008; Chalmers, 2007, 2008; Ramsden, 2003). While much of the attention has been on policy and practice at the sector and institutional level, there has also been a focus on teaching practices, the gulf between research and teaching quality in universities and the changing background and expectations of students (Clark et al., 2002; Norton et al., 2013). In striving for a threshold level for quality assurance, many Australian universities now require academic staff new to teaching to undertake an initial teacher preparation programme in the first years of their appointment and encourage academics to regularly participate in professional development related to teaching throughout their careers. More comprehensively, universities in countries such as Sweden, Norway, United Kingdom, Malaysia and Sri Lanka, have made pedagogical training of university teachers compulsory as one step towards assuring the quality of teaching (Gibbs & Coffey, 2004; Parsons, Hill, Holland, & Willis, 2012; Roxå & Mårtensson, 2008). With greater attention being paid to the quality of teaching in universities more broadly, and in individual performance reviews and promotion more specifically, there are clear expectations that teaching staff will increasingly be required to provide evidence of the quality of their teaching and of ongoing

participation in teacher development programmes. This in turn leads to questions on the effectiveness of professional development programmes and calls for those who provide educational development to demonstrate that their programmes are not only linked with their university's strategic initiatives, but that they have resulted in improved teaching practices and student learning experiences and outcomes (Brew, 2007). Within this context, the focus of the project was on developing an evaluation framework which would enable academic developers to demonstrate the effectiveness of their programmes.

The challenge in developing an evaluation framework relevant to each institution and yet with sufficiently broad applicability to be appropriate for benchmarking was in ensuring that it did not privilege one particular type of teacher development activity and that it accommodated variations in context and purpose, while sustaining rigour. Critical to fulfilling these requirements were two significant processes. The first was a review of the literature to ensure that the framework drew on research of which indicators could be measured, how they might be measured, and what tensions or issues were likely to be encountered. The second was an audit of the teacher development activities provided for academics in Australian universities to enhance our understanding of the various contexts in which the framework would be used. Informed by these two processes, a draft Academic Professional Development Effectiveness Framework was developed for review by the academic development community and subsequently refined throughout the project on an iterative feedback cycle.

Literature review

There is a considerable body of literature relevant to the evaluation of academic development activities. However, as the findings of the research are often diverse and at times contradictory, the focus was on locating empirical research and findings as the foundation to the design of an evaluation framework. In particular the findings which were most relevant to the project reported here related to the:

- range of types and purpose of teaching preparation programmes;
- effectiveness of various types of teaching preparation programmes;
- impact of programmes on teaching and learning;
- impact of institutional culture;
- measurement approaches;
- indicators of impact.

Range, type and purpose of teaching preparation programmes

Several scoping studies (Gosling, 2008; Hicks, Smigiel, Wilson, & Luzeckyj, 2010; Ling, 2009) confirm the comprehensive and varied provision of academic development programmes, both in Australia and internationally. These include formal, extended or intensive programmes in addition to an extensive suite of more informal, short, face to face, on-line, in situ or ad hoc activities, complemented by increasing engagement with collegial communities, mentoring and peer review activities. Considerable diversity relating to availability, duration, intended audience and outcomes focus of programmes is also reported, suggesting that for evaluation strategies to be adopted by academic developers they should be adaptable to the range and purpose of programmes.

Effectiveness of various types of teaching preparation programmes

Conclusions relating to the effectiveness of particular types of teacher development programmes suggest that informal, short training courses which present discrete, skills-based topics have little impact as there is limited opportunity to change teachers' conceptions of teaching and little or no opportunity for teachers to apply the new techniques within their discipline specific context (Prebble et al., 2004; Southwell & Morgan, 2010). This is not to suggest that short programmes do not stimulate a deeper interest in teaching and learning. More impact has been found for formal, intensive, comprehensive programmes which have been shown to influence teacher beliefs and behaviours and a move to a student-focused approach in teaching. Discipline based programmes or 'in-situ' training have been found to be a more effective setting for teacher development by some studies. Other studies have found that the effects of teacher development programmes were more pronounced when they involved participation in communities of practice involving mentoring, reflective practice and action learning (Feger & Arruda, 2008; McCluskey de Swart, 2009; Ortlieb, Biddix, & Doepker, 2010; Rindermann, Kohler, & Meisenberg, 2007; Spronken-Smith & Harland, 2009; Warhurst, 2006). Collectively, this research highlights that an evaluation framework of teacher development activities must also distinguish between formal and informal programmes.

Impact on teaching and learning

A number of studies have investigated the impact of teacher development programmes on academics' thinking and their teaching. These include: the impact of programmes on conceptions of teaching (Eley, 2006; Ginns, Kitay, & Prosser, 2008; Hanbury et al., 2008; Knight, 2006; McAlpine & Weston, 2000; Postareff, Lindblom-Ylanne, & Nevgi, 2007), on teacher skills and practice (Breda, Clement, & Waeytens, 2003; Cilliers & Herman, 2010; Devlin, 2008; Donnelly, 2008; Stes, Clement, & Van Petegem, 2007; Weurlander & Stenfors-Hayes, 2008), on reflective teaching practices (Ramsden, 2003) and on the scholarship of teaching and learning (Healey, 2000).

Other studies have investigated the effects of teacher development programmes on student learning (Eggins & Macdonald, 2003; Gibbs & Coffey, 2004; Hanbury et al., 2008) and student approaches to their learning (Hanbury et al., 2008; Meiers & Ingvarson, 2003). The landmark work of Gibbs and Coffey (2004) concludes that participation by academics in teacher development programmes leads to the increased adoption of student focused approaches to teaching, which in turn leads to the adoption of deep learning approaches by the students. These findings were confirmed in a subsequent study (Hanbury et al., 2008).

While the majority of the studies reviewed have focused on the outcomes of one programme rather than a systematic approach across programmes (Allern, 2010; Breda et al., 2003; Ho, Watkins, & Kelly, 2001), they nevertheless confirm that it is possible to evidence changes in teacher understanding, knowledge, skills and practices, and the consequential effect of these on student engagement and approaches to learning. The findings suggest that evidence should be collected longitudinally, be related to the intended outcomes and encompass more rigorous methods than self-reporting and participant satisfaction, including peer observation, analysis of teaching and learning materials (including teaching strategies and assessment tasks), teaching portfolios and student interviews (Hanbury et al., 2008; Kember & Kwan, 2000).

A significant finding from the research literature is that a direct relationship between teacher development programmes for academics and student learning outcomes has not been established (McAlpine, Oviedo, & Emrick, 2008; Prebble et al., 2004). Gosling's (2008) report on the effectiveness of teacher development activities in the United Kingdom concluded that 'the link between professional development of staff and improved student learning is indirect and in some cases unproven' (p. 45). This is not surprising given the complex nature of student motivation and learning, and that changes in academics' teaching practices

following participation in teacher development programmes typically occur over considerable time.

Impact and institutional culture

There is significant variation in institutional policies related to teaching and learning, in organisational and management structure of the academic development unit and in institutional support and resourcing for teaching and learning (Gosling, 2008; Hicks et al., 2010; Ling, 2009), and in the relationship between institutional culture and the impact of academic professional development (Buckridge, 2008; Cilliers & Herman, 2010; Hanbury et al., 2008; Toth & McKey, 2010; Weimer, 2007). Trowler and Bamber (2005) highlighted the gulf which exists between effecting change in individual teacher behaviour and achieving more widespread institutional change. Others argue that this gulf is the result of barriers to the transfer of learning such as a lack of faculty/department support, lack of funding and resources, lack of interest from colleagues and resistance to change (Cilliers & Herman, 2010; Gibbs & Coffey, 2004; Ginns et al., 2008; Southwell & Morgan, 2010; Spafford Jacob & Goody, 2002).

A supportive institutional environment is characterised by ample opportunities for academic development, recognition and reward of teaching achievements, funding to support initiatives aimed at improving teaching and an 'enabling environment' in which senior managers not only participate in communities of practice, but also value professional development activities (Cilliers & Herman, 2010, p. 7). These studies make a convincing case for accounting for institutional culture in an evaluation framework.

Measurement approaches

A number of studies review the methods used to measure effectiveness and impact (Bowie, Chappell, Cottman, Hinton, & Partridge, 2009; Devlin, 2008; Gibbs & Coffey, 2004; Hanbury et al., 2008; Kreber & Brook, 2001; Postareff et al., 2007; Rust, 2000) with most reporting that the 'happy sheet' for participant satisfaction remains the dominant form of evaluation of teacher development programmes. More recent studies illustrate the use of more varied data such as participant interviews, self-reports, portfolios and student interviews (Akerlind, 2007; Allern, 2010; Ortlieb et al., 2010; Toth & McKey, 2010). Others recommend the use of evaluation frameworks to designate levels of behaviour change in teachers and students as indicators of impact of professional development (Kirkpatrick & Kirkpatrick, 2005; Stes et al., 2007; Guskey, 2000). While these provide some direction on what or how to evaluate, they provide limited guidance on sources of evidence, contextual factors or the time frame in which impact or change can be expected. Overall, there appears to be little systematic investigation of the impact of programmes over time (Gibbs & Coffey, 2004; Prebble et al., 2004; Trowler & Bamber, 2005). This is of concern given the number of studies which report that changes in teaching practices following participation in teacher development unfold over time (Akerlind, 2007; Entwistle & Walker, 2000; Giertz, 1996; Knight, 2006; Ramsden, 2003). Together these studies suggest that an evaluation framework should provide a structure for identifying what can be evaluated beyond participant satisfaction and indicate sources of data related to both long and short term effects.

Indicators of impact

Higher education institutions use performance indicators to monitor their own performance, which also enables them to collect data for external audits, and government accountability and reporting processes (Rowe, 2004). There is overall agreement in the literature that four types of indicators are suitable for these purposes: Input, Process, Output, and Outcome (Borden & Bottrill, 1994; Carter, Klein, & Day, 1992; Cave, Hanney, Henkel, & Kogan, 1997; Chalmers, 2008; Shavelson, 2010). Input indicators refer to the human, physical and financial resources devoted to, in this case, teaching development programmes, while output indicators refer to the results of the programme which are measurable. Process indicators reveal how programmes are delivered and include for example, information about policies and practices related to learning and teaching, quality of the curriculum, and quality of the facilities and resources. Outcome indicators focus on the quality of provision, satisfaction levels and the value added from learning experiences. These have been more broadly categorised as Quantitative (Input and Output) and Qualitative indicators (Process and Outcome) (Borden & Bottrill, 1994; Cave et al., 1997; Chalmers, 2008).

Generally speaking the quantitative Input and Output indicators tend to generate statistics which reveal how much or how many, but say little about quality. Outcome and Process indicators provide information about quality, but because they are more difficult to measure and often produce tentative results, are used less frequently. Nevertheless there is support for the inclusion of Process and Outcome indicators which deliver rich, qualitative data to provide answers to the questions of how and why, rather than how many, in assessing the effectiveness of teaching development programmes (Kreber, 2011; Pawson & Tilley, 2004; Trigwell, Caballero Rodriguez, & Han, 2012).

The audit

An audit of the teacher preparation programmes for academics offered in 39 Australian universities was structured around ten key features[1] to reveal the scope, breadth and depth of provision, intended outcomes of the varying programmes and the institutional climate within which the programmes are delivered A critical part of the preparatory work was to focus on the initial question of what the intentions of teacher development programmes are, and subsequently, whether these intentions are reflected in the outcomes.

Data relating to ten key features for each teacher development programme offered at each university was gathered through a web and document search to locate programmes and activities offered centrally as well as those embedded in faculties or schools. Data related to institutional climate was also sought. There were two aspects of institutional climate of particular interest. The first related to an institution's learning architecture or the degree to which there were policies and processes which recognise, support and reward excellent teaching and the second was the extent to which an enhancement culture was evident. An enhancement culture is one in which the transfer of learning from teacher development programmes is encouraged, supported and valued at the department, faculty and institutional level (Trowler & Bamber, 2005). Determining the extent to which learning architectures and enhancement cultures exist, align with and support the outcomes of teacher development programmes was problematic when the sources of data are from a desktop review. Therefore, the desktop review data was provided to each university for their review and to correct, comment and elaborate as necessary. Corrections (through the return by email of a revised summary) were made in approximately five cases, the majority being either the addition or deletion of a particular programme among the suite of programmes offered.

The analysis of the audit revealed a diverse range of programmes which varied considerably from formally accredited

[1] The ten key features were: location of programme, number/frequency, duration, status, participants, format, intended outcomes/impact, generic/discipline specific, evaluation, institutional climate.

programmes such as Graduate Certificates in Tertiary Teaching and Foundations of University Learning and Teaching programmes for academics new to teaching, to informal programmes (no formal accreditation) with incidental workshops run through a central unit or within faculties or departments. There was also a range of informal activities around peer review of teaching, mentoring, coaching, self-reflection and communities of practice. These programmes, in their varied forms, are provided on-shore, off-shore, face to face and on-line, and were offered in short (1–3 h duration) or longer intensive (up to three days) or extended (from one semester to two years) mode. More often they are generic in nature although some discipline specific programmes were offered and others were provided to groups of staff with particular needs, for example sessional or casual staff. Generally speaking the programmes reflected a constructivist approach to teaching and learning that encouraged teachers to engage with students through active learning strategies. The diversity of offerings reflected the findings of previous scoping studies (Ako Aotearoa, 2010; Gosling, 2008; Ling, 2009).

The intended outcomes of the hundreds of programmes were analysed and while the titles varied considerably, they were able to be categorised into three broad categories: teacher focused, student focused or institutional focused. The particular emphasis of the outcomes varied between the formal and informal programmes as shown in Table 1.

Collectively, the findings from the research literature, with the data from the audit, provided the foundation for the development of the Academic Professional Development Effectiveness Framework which was underpinned by four key principles:

1. *Relevance*: the Framework must be relevant to the range of type and purpose of teaching preparation programmes;
2. *Rigour*: the Framework must be founded on a theoretical and evidence based model;
3. *Context*: the Framework must take account of contextual factors including learning architectures and enhancement cultures; and
4. *Reliability*: the Framework must be trialled in a range of universities.

In summary, an evaluation framework must be able to encompass the diverse range of teacher development programmes, include a range of qualitative and quantitative indicators which are appropriate to the intended outcomes and that the variety of evidence gathered should assist academic developers to understand not only what the effects of teacher development programmes are, but also how and why they are effective in both the short and long term. The findings of the literature review and audit also suggested that it was necessary to acknowledge the differences between formal and informal programmes resulting in two separate but related Frameworks: one for formal, extended programmes and another for informal programmes.

Table 1
Outcomes focus of formal and informal programmes.

Formal	Informal programmes
Programme level	
Teacher knowledge, skills and practice	Teacher knowledge, skills and practice
Teacher reflective practice and scholarship of teaching	Teacher orientation/awareness of institutional policies, practices and support
Student engagement and enhancement of learning	Student engagement and learning experience
Student approaches to learning	
Institutional level	
Policy	Policy
Resourcing	Resourcing
Culture	

The structure of Academic Professional Development Effectiveness Framework

The Academic Professional Development Effectiveness Frameworks consist of a matrix of indicators related to the intended outcomes of formal or informal teacher development programmes (sometimes called teacher preparation programmes [TPPs]) and the institutional context within which these occur. The structure of the Frameworks (see Fig. 1) is designed to assist academic developers to document the effectiveness of their teacher development programmes drawing on data relevant to the purpose of their evaluation. The structure of the Frameworks is explained below.

Category of teacher preparation or development programme (TPP)

Teacher preparation or development programmes for academics can be either extended formal (e.g. accredited Graduate Certificates or Foundations programmes) or informal (optional workshops, seminars, etc.) and since these have different intended outcomes two complementary versions of the Framework has been developed – titled Formal Programmes and Informal Programmes. In this paper the exemplar provided is the Formal Framework.

Two levels of focus

Acknowledging the importance of the context within which teacher development programmes are delivered, it was determined that it was essential to co-locate the indicators for the programme level and the institutional level.

Outcomes focus

The categories of outcomes focus reflect the intended outcomes of the teacher development programmes in Australian universities. These are:

- Teacher knowledge, skills and practice: includes intended outcomes, for example, pedagogy, curriculum design, assessment and feedback, teaching approaches, strategies, and skills, deep and surface learning, large and small group teaching, use of technology, etc.
- Teacher reflective practice and scholarship of teaching: includes intended outcomes, for example, use of student feedback, techniques for reflecting on and evaluating teaching, peer review, innovations in teaching, communities of practice, researching teaching, etc.
- Student engagement, learning experience: includes intended outcomes, for example, effective group teaching, active learning, questioning and communication techniques, use of information and communication technology (ICT) and learning management systems (LMS) to engage students, dealing with diversity, inclusive teaching, dealing with difficult students, enhancing learning experiences etc.
- Student approaches to learning: includes intended outcomes, for example, student focused approaches to teaching and learning, authentic assessment, problem-based learning (PBL), work integrated learning, group tasks, critical and creative questioning etc.
- Policy: includes the extent to which institutional organisation, policies and strategic priorities recognise, support and value quality teaching and learning and participation in teacher

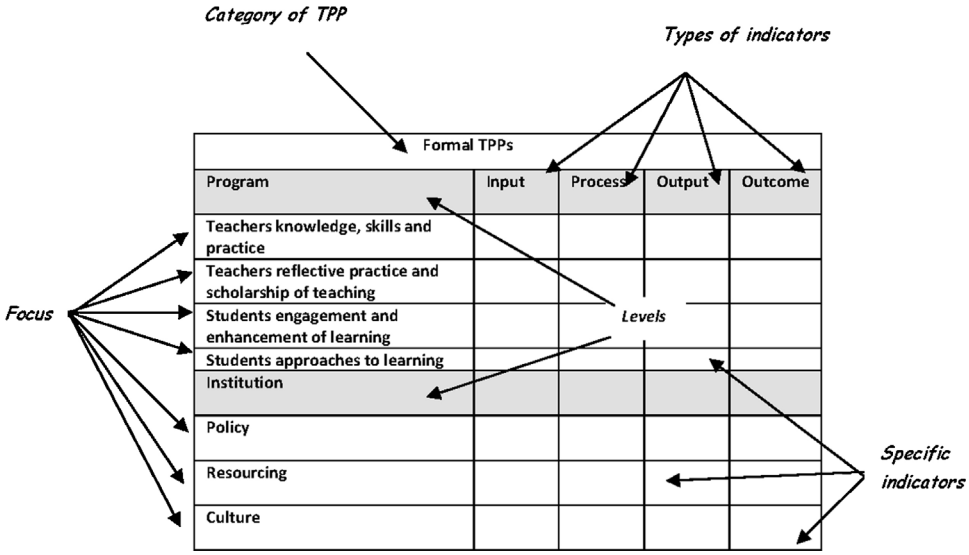

Fig. 1. Structure of the Academic Professional Development Effectiveness Framework.

development programmes through, for example, promotion criteria, financial and workload support for participation in teacher development programmes, embedded review processes, recognition and reward for excellence in teaching through promotion criteria etc.

- Resourcing: includes the extent to which institutions commit resources to teacher development programmes both centrally and at faculty/department level, to the recognition and reward of quality teaching and to activities which promote quality teaching, etc.
- Culture: includes the extent to which institutional culture encourages participation in teacher development programmes, promotes the sharing of teaching and learning ideas and issues, celebrates excellence in teaching, encourages and rewards the scholarship of teaching, supports communities of practice, values teaching and learning related events, etc.

Types of indicators

Four types of indicators support the collection of both qualitative and quantitative data collected over the short and long term. These are:

- Input indicators which refer to the human, physical and financial resources dedicated to particular programmes;
- Output indicators which refer to the results or outcomes of the programmes which are measurable such as the number of programme participants;
- Process indicators which reveal how programmes are delivered within the particular context referring to policies and practices related to learning and teaching, performance management and professional development of staff, quality of curriculum and the assessment of student learning, and quality of facilities, services and technology (Chalmers, 2008, p. 12);
- Outcome indicators which focus on the quality of provision, satisfaction levels and the value added from learning experiences.

Specific effectiveness indicators

The cells in the Framework are populated with specific indicators of effectiveness at the Programme and Institution level for each of the areas of Outcomes Focus. These are numbered for ease of alignment with evidence and data, and for clarity of referencing. The numbering does not indicate a hierarchy of indicators nor is there any horizontal relationship between the indicators. The specific effectiveness indicators, which inform the collection of data to evidence effectiveness, were derived following consideration of:

- the intended outcomes of teacher development programmes as revealed by the audit;
- evidence from the literature review regarding the outcomes of teacher development programmes which can be measured;
- the need for a balance between qualitative and quantitative indicators to provide objective credibility and rich information;
- the need for both short term and long term data collection;
- the need to balance participant surveys with other sources of evidence (triangulation);
- the role of the Framework in providing a basis from which to document the effectiveness and impact of teaching preparation programmes;
- ease and flexibility of use; and
- feedback from the academic development community.

The Academic Professional Development Effectiveness Framework for the Formal or Extended Programmes is provided in Fig. 2.

Trialling the use of the Academic Professional Development Effectiveness Framework

Embedded within the design brief for the Framework was that it would have application for all universities in Australia regardless of size, location, age, mission statement, resources, and though not an intended goal, it was thought that the Framework might be relevant in other countries. Ensuring relevance across a range of institutions was achieved through ongoing collaboration with the academic development community, and in particular, by working closely with a diverse group of universities through the six month trial phase to further develop and refine the Framework.

It is well recognised that engaging academics at the development stage is fundamental to their acceptance of new initiatives (Bryman, 2007; Gosling & O'Connor, 2006). This was a key conclusion from the Australian Learning and Teaching Council (ALTC) project *Learning Leaders in Times of Change* (Scott, Coates, & Anderson, 2008) which acknowledged that one's peer group is an

Formal/Extended Programs				
Program Level				
Focus	**Input Indicators**	**Process Indicators**	**Output Indicators**	**Outcome Indicators**
Teacher knowledge, skills and practice	1. TPPs delivered by staff with appropriate qualifications and experience 2. The range and mode of TPPs is aligned with University guidelines on good teaching and staff needs	3. TPPs provide a pedagogical framework for understanding teaching and learning in higher education 4. Delivery of TPPs models teaching and learning strategies, resources and assessment practices which enhance the quality of teaching and learning	5. No. completions of formal programs	6. TPP evaluations 7. Teacher perceptions of changes in their approach to teaching and learning following completion of TPPs as evidenced by portfolio, improved student evaluations, teaching awards, peer review, self reflection 8. Quality of teaching as evidenced through promotion applications, PDRs etc, following completion of TPPs 9. Evidence of student focused approach in course/teaching materials
Teacher reflective practice and scholarship of teaching and learning	10. TPPs align with institutional commitment to self reflective practice and research informed teaching practices	11. TPPs encourage critical reflection of participants' beliefs and practices regarding teaching, learning and assessment. 12. TPPs incorporate research which informs teaching and learning in higher education		13. TPP participants report the use of student feedback when reviewing courses and teaching
Student engagement, learning experience	14. TPPs align with espoused priorities related to student	15. TPPs draw on a framework of evidence based teaching and		17. Unit evaluations

Fig. 2. Academic Professional Development Framework (formal/extended).

important source of motivation (or demotivation). While universities can encourage the dissemination and adoption of best practice, without engagement with innovative strategies and processes by academics, it is likely that there will little uptake and resulting change in practices (Southwell, Gannaway, Orrell, Chalmers, & Abraham, 2010). Cognisant of this, a key feature of the development of the Academic Professional Development Effectiveness Framework was the collaboration with academic developers through regular communication at the biannual meeting of the Council of Australian Directors of Academic Development (CADAD).

Through the CADAD network, universities were invited to trial the framework on one or more of their programmes. Nine university teams took part in the trial. The trial teams represented a diverse range of institutions encompassing research intensive, regional, multicampus and dual sector institutions. There was also considerable range in organisational structure, size and age of institution, for example, five teams were based in universities with 30 000 students or fewer and the remainder in institutions reporting between 40 000 and 74 000 students; five were based in universities established prior to the 1960s.

Trial teams consisted of between two and five members, with a team leader responsible for coordinating the trial activities with colleagues within their institution and overseeing the final written report. There was a range of experience within trial teams from senior academic developers with more than five years' experience to those newer to the field. There was also considerable variation in the size of their academic development units.

Trial teams received financial support to participate in the trial which required attendance at the introductory workshop during which the draft Framework was presented and a range of support material was provided, regional meetings to discuss progress and data collection, on-going contact with the project officer, and a presentation session during which their feedback was shared. Following this engagement and collaboration phase, trial teams submitted a written report. Teams were free to choose which of their programmes, particular outcomes or particular indicators they wished to evaluate and which, if any, of the support materials would be utilised. In the process of gathering their data and analysing their performance against the specific effectiveness indicators, the trial teams were reassured that the focus of the trial was their assessment of the Academic Professional Development Effectiveness Framework, and that the findings of their evaluation of their programmes would remain confidential to themselves. Similarly, while data collection was necessary to assess the Framework, trial teams were not

	learning experiences and engagement	learning practices (eg HEA professional standards framework) 16. Student perceptions of teaching are incorporated into TPPs		
Student approaches to learning	18. TPPs incorporate University graduate attributes	19. TPPs highlight importance of relevant, authentic and inclusive assessment tasks		20. TPP participant perceptions of quality of student assessment tasks
Institution Level				
Focus	**Input Indicators**	**Process Indicators**	**Output Indicators**	**Outcome Indicators**
Policy	21. University policies and priorities recognise the role of TPPs in enhancing the quality of teaching and learning e.g. 22. requiring, and providing financial support for, the completion of a formal TPP for new academic appointments 23. recognising and rewarding teaching (through career progression, grants etc) 24. faculty/dept recognition of staff participation in TPPs in workload formulas	25. PDR process and promotion criteria record/ recognise completion of TPPS	26. Number and proportion of staff completing TPPs 27. Non completion rates 28. Number and proportion of new appointments enrolled in TPPs 29. Number and proportion of staff completing TPPs who are nominated for Teaching Awards 30. Number and proportion of staff competing TPPS who receive Teaching Awards/Grants	31. Annual report of TPP activities 32. Satisfaction as reported through TPP evaluations 33. Period external review of program and benchmarking report to University Teaching and Learning Committee
Resourcing	34. University allocates adequate resources to TPP provision (funding, staff and facilities), e.g. 35. an adequate number and range of TPPs are planned 36. appropriately qualified and experienced staff appointed			
Culture		37. TPPs delivered within a culture of supporting learning communities	38. Number and proportion of TPP participants attending teaching and learning events	

Fig. 2. (*Continued*).

expected to include their data in the reporting process although most chose to do so. Collectively, the trial participants reported on all of the indicators for programmes at both the formal and informal level. However at the institutional level, none trialled the culture indicators. The findings were shared at a final reporting session which involved a presentation to all participants, small group feedback sessions, round table discussions and the submission of a written report.

Findings of the trial

Throughout the trial, the focus was on assessing the relevance of the Framework in varied settings, and on the reliability and validity of the Framework in evidencing the achievement of the intended outcomes of teacher development programmes and the consequential changes in teaching and learning. It was not expected that all indicators in the Frameworks would be addressed simultaneously, but that academic developers would select those relevant to their particular context and concerns, identify appropriate data and systematically collect and analyse the data over time. They were then asked to assess how practical, relevant and applicable the Framework was for the purpose of evaluating their programmes. The following comments, taken from the final reports of senior academic developers leading the trial in their universities (participants are identified as U for university and a number), indicate their positive response to the Framework:

- …this is a valuable and usefully constructed tool for evaluating the programmes; (U1)
- …helpful for exploring potential sources of data; (U3)
- It moves things beyond the anecdotal; (U4)
- An excellent, timely and very useful framework; (U8)

Trial teams were also asked to identify the strengths of the Framework and areas requiring modification. The strengths were: its flexibility to be adapted to varying institutional contexts and programmes; the comprehensive range of qualitative and quantitative indicators which allowed for an understanding of how and

why programmes are effective or not, rather than focussing on satisfaction with the delivery of the programme only; its application to either a detailed investigation of specific outcomes or a broad overview of the provision of teacher development programmes; its educative role in terms of facilitating decisions on what data to collect, how to collect it and how to organise it; its use as a scaffold for planning new programmes; and the opportunity it creates to engage in conversations which will promote an awareness of the need for institutional alignment between policy, resourcing and recognition of quality teaching and learning. While it was reassuring that the Framework was found to be fit for its purpose, the project team was surprised with the degree of flexibility and adaptability of the Framework in meeting different institution-specific purposes.

The trial participants (identified by U for university followed by a number of the participant) reported the following uses of the Framework during the feedback sessions.

- *Developing a narrative*. More than half of the trial teams used the Framework to develop a narrative, framing their discussion around the indicators and their supporting data. Those adopting this approach endorsed the narrative guidelines which had been developed to support the trial teams. One of the reported benefits of adopting a narrative approach was the ease with which the evaluation could then be adapted for other purposes such as annual reporting, documenting activities for internal and external review processes and supporting submissions for funding. (U1, U2, U5, U8, U9)
- *A curriculum design checklist*. Sometimes called 'backward design', the process of looking at the intended outcomes and indicators of effectiveness at the beginning of the curriculum design process allows for stronger alignment, not only of the curriculum, instructional strategies and evaluation processes, but also with institutional values and priorities relating to teaching and learning. Trial teams reported that using the Framework as a template in the development of new academic development programmes not only clarified the structure and content required for quality design and delivery, but also facilitated the identification of data required to evidence the achievement of the outcomes, and planning for how and when to collect it, thus reducing reliance on participant surveys. (U5, U7, U9) In terms of preparing a new programme, one trial team reported that the Framework presented with them *a timely and appropriate opportunity to assess comprehensiveness, check that feedback and evaluation processes were adequate and incorporate effectiveness measures thoroughly.* (U1)
- *A basis for reflective practice*. Trial teams reported that the Framework provided them with a basis to more targeted reflective practice during and following the delivery of academic development programmes. While educational practitioners are experienced in reflective practice techniques, trial participants commented that their reflections often led them to draw ineffective or non-specific conclusions as they made rather general observations of their teaching and their participants' responses. (U1 U3, U4, U7) They reported the structure of the Framework provided opportunities for *deeper reflection on the nature and design of programmes* and extended their *perspectives on how the impact of the programme might be evaluated.* (U5) They began to realise that their typical practice of basing conclusions regarding the quality of their programmes on either theirs or their participants' perspectives left the real question of whether intended outcomes were achieved largely unanswered. (U1, U6, U7, U8)
- *Development of an evaluation plan*. The trial teams reported that the Framework highlighted the limitations of their previous emphasis on participant feedback, most often undertaken at the final session of a programme, as it had little or no relevance to the intended outcomes of their programmes. (U1, U2, U3, U5, U8) However, by referring to the Academic Professional Development Effectiveness Framework, the trial teams were able to plan for an embedded approach to evaluation. The evaluation process was developed and embedded at various stages of the academic development programme enabling academic developers to gather a variety of data to demonstrate effectiveness in the short and long term by one of the trial teams. They considered that the value of the suite of indicators was in the *provision of comprehensive, custom-selectable and time appropriate indicator use* which supported a critical analysis of the design of their programme, the development and implementation of ongoing evaluation and consequently the collection of data related to teaching and learning outcomes. (U5) Similarly, another trial team found that the Framework *highlighted gaps in our evaluation processes*. While evaluating a programme which was designed to support staff with the inclusion of new technologies into their teaching, they recognised that they had made no attempt to evaluate the effectiveness of the programme in changing teaching practices. (U3) This prompted a review of their evaluation plan and the development of strategies which could be integrated into future programmes in a timely manner.
- *Benchmarking*. A trial team in one institution was challenged to make a case for the inclusion of a particular academic development programme in an institution specific system which rewarded participation in academic professional development. By using the Academic Professional Development Effectiveness Framework as a benchmarking tool, the team was able to demonstrate the quality of the programme with that of another programme included in the reward structure. The use of the Framework provided a scaffold not only for the systematic collection of data, but also for developing *a convincing argument supported by evidencing which left no doubt about the justification for including the programme.* (U4) Another trial team used the Framework to guide the development of a submission for funding to extend an academic professional development programme to regional campuses. They reported being able to *. . . demonstrate the success of the programme in enhancing teaching and learning and highlighting the potential benefits of wider participation.* (U6)
- *Reviewing institutional context*. While the primary use made of the Framework was to evaluate programmes, trial participants reported that the Framework also helped them reflect on what they were *not doing* or what improvements were needed both at the programme and institutional level. (U1, U5, U7, U8) One trial team found that they were able to analyse institutional policies related to teaching and learning within the context of the effectiveness indicators of the Framework and subsequently plan actions which would address the observed shortcomings. During this process, they added a number of indicators into the Framework to target institution specific areas of need, some existing indicators were modified or moved to different sections of the Framework, and others were discarded entirely. In this way the trial team was able to build a highly relevant framework finding a balance between *not being too prescriptive or too general.* (U7) Another institution used the Framework as a blueprint for developing an institutional approach to professional development which had evolved in a somewhat piecemeal manner rather than as a coherent set of programmes. (U6)

The experiences of trial participants confirm that the Academic Professional Development Effectiveness Framework provides a flexible, comprehensive and educative tool which can be used for both evaluation and planning purposes. Following the trial and the feedback received from the CADAD members, the draft Framework was revised and finalised. The finalised version of the two versions

of the Framework is available in the final report (Chalmers, Stoney, Goody, Goerke, & Gardiner, 2012) and presented in this paper.

Conclusion and limitations

The Academic Professional Development Effectiveness Framework was a timely initiative given the increasing attention on the quality of teaching in higher education over recent years. In Australia, concern surrounding the quality of teaching has been fuelled by the Bradley Report on Higher Education which revealed a worrying decline in students' satisfaction with some aspects of their learning experiences (Bradley et al., 2008). This has generated a degree of scepticism about the effectiveness of teacher development programmes for teachers and their students (Stefani, 2011). The Academic Professional Development Effectiveness Framework provides academic developers with a rigorous, adaptable and defensible approach to evidencing the effectiveness of their programmes. The Framework can be used to inform national and international benchmarking activities and support collegial networks and conversations around quality teaching and learning indicators (CADAD, 2010). What sets the Framework apart for other initiatives to measure the impact of teacher development programmes is that it enables the systematic collection of both qualitative and quantitative data over the short and long term, focuses on the intended outcomes of programmes, is relevant to the broad range of both formal and informal programmes, takes account of contextual factors, is flexible and acknowledges that changes in teaching occur over time.

Significantly, the Framework is also educative in that it can inform decisions on what data to collect, when to collect and how to organise it. The Academic Professional Development Effectiveness Framework enables academic developers to look beyond the immediate results of participant satisfaction of the programme delivery, to the intermediate and longer term effects of programmes on teacher and student behaviours, to institutional teaching and learning policies and culture, and to providing data which demonstrates sustained and sustainable improvement.

While the results of this project suggest that the Academic Development Professional Development Effectiveness Framework is a useful and adaptable evaluation tool there are some limitations to the conclusions which can be drawn. As the participating academic developers were given the freedom to work with any part of the Framework, it was impossible to guarantee that feedback would be received on every indicator in the Framework. In particular determining the usefulness of the indicators regarding the institutional culture surrounding teaching and learning was problematic. There are several reasons for this. The terminology in the indicator itself is somewhat subjective with varying interpretations of how a supportive culture can be defined or described. Related to this is the difficulty of gathering actual evidence of the culture even though many participants reported conversations which alluded to their colleagues' perceptions of the culture. Finally academic developers participating in the trial were particularly interested in the outcomes of their teacher development programmes which resulted in few participants choosing to address the institutional level indicators. Therefore further analysis of the indicators related to the institutional culture remains to be done.

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