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Abstract

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A dissemination methodology for learning and teaching developments through engaging and embedding

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Dissemination of learning and teaching innovation in higher education requires approaches to change that are socially-contextualised, dynamic and self-reflexive. This article therefore presents a methodology for dissemination employing an embedding heuristic and engaging in participatory action research. The embedding approach emphasises three organisational domains of action: first, the capacity of communities of practice and distributed leaders to generate organisational commitment and seed activities; second, formal and informal organisational policies and procedures that provide reciprocal processes for initiating and systematically sustaining curricular change; and third, accessible resources, tools and databases that support implementation of innovation. The methodology is applicable for disseminating innovations beyond disciplinary silos across faculties, and more widely, potentially across universities and other institutions. Academic leaders, academic developers and others charged with facilitating pedagogical change may find this dissemination methodology applicable to embedding innovation in a range of domains and as a useful heuristic for planning, diagnosis or evaluation.

Keywords: dissemination, academic development, communities of practice, embedding heuristic, participatory action research

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Introduction

In the ongoing quest to improve the quality of student learning and academic teaching, change and innovation in higher education continue to proliferate and are now commonplace in pedagogical rhetoric (Findlow 2008). What is uncommon, and much more difficult to achieve, is sustained improvement and systemic change across program, department and institutional boundaries. The necessity to successfully translate and reproduce improvements in learning and teaching into new contexts, beyond the local site of origin, relies strongly on effective dissemination.

The challenges of innovation dissemination in learning and teaching within higher education are widely reported (Coburn 2003; McKenzie et al. 2005; Southwell et al. 2005). Two of these dissemination challenges are the sustainability of the successful innovation itself, and its uptake and adaptation within other contexts. Accordingly, these challenges underscore the need to take dissemination beyond information transmission to embed or up-scale the development in new and/or broader contexts (Southwell et al. 2005).

Recent developments in Australian higher education have provided substantial funding support for, and emphasis on, learning and teaching innovations that address dissemination criteria in submissions. Since its inception in 2004, The Australian Learning and Teaching Council (ALTC) has funded over 250 competitive grants (listed on its website) for one or two year projects (up to $250,000 each) which focus on innovation in learning and teaching. To ensure return on its significant investment, the ALTC prioritises dissemination of project innovation and outcomes within and across the 46 Australian higher education institutions.

The limitations of relying on what can be termed default dissemination methods, those passive forms of information transfer of project outcomes and successes, such as

standalone websites, clearinghouses, databases, booklets, CD's or other resources, are recognised by the ALTC. That said, active forms of dissemination, in contrast to recommended communication strategies, are yet to be clearly exemplified in the higher education literature. This article aims to contribute to dissemination practice by presenting an active alternative to more passive forms of dissemination.

The article presents a methodology for dissemination, emphasising active engagement and embedding. In doing so, we address the frequently expressed question of how to engage academic and professional staff to embed change and innovation within higher education. Underpinning the methodology are participative methods of action research (Greenwood and Levin 1998; Reason and Bradbury 2001; Treleaven 1994) that facilitate engagement of a range of stakeholders from overlapping communities of practice (Lave and Wenger 1991).

In the context of disseminating new learning and teaching practices, 'embedding' in higher education conveys the integration of a new practice or set of practices whose translation into an established field of practice has the potential to transform its capability. As such, embedding is a process, situated and local, that involves adaptation of innovation from one local context to another. As Southwell et al. (2005) point out, embedding may require "the modification of policies, procedures and structures to accommodate the new practice" (Southwell et al. 2005, 20). Opportunities to translate the new practice or innovation across diverse domains and into inter-related contexts are created as actively engaged participants span multiple domains, networks and practice communities.

The article is organised in four sections. First, we review the dissemination literature and address distinctions between diffusion and dissemination. Second, we situate the dissemination methodology in its context where it emerged and outline the participatory action research and embedding heuristic. Third, we illustrate in detail the dissemination methodology in practice at one site. Finally, we draw out the implications of this

methodology, consider its challenges and limitations, and identify future research and practice for investigation. We argue that along with participatory engagement, this embedding approach lends itself as a heuristic to much wider application in a range of other learning and teaching contexts where dissemination and sustainability of successful innovation are desirable.

Distinctions between diffusion and dissemination

Terminology use in the research literature denoting the uptake and spread of innovation is complex and, at times, confusing. In their literature review of dissemination commissioned by the ALTC, Southwell et al. (2005, 17) distinguish what they term 'traditional' approaches, those that are widely accepted forms of dissemination, from those that are often denoted by less common metaphors. Thus "traditional… [includes] technology transfer, information dissemination, diffusion, knowledge diffusion, knowledge transfer, innovation adoption, implementation, top-down/bottom-up reform sustainability, networks and connectors" (Southwell et al. 2005, 17); whilst a smaller number of authors extend traditional usage by adding new connotations and using metaphors such as "propagation, scattering abroad, sowing (King 2003), grafting and adapters (Shoenberg 2000), boundary encounters, boundary objects, brokers (Cobb et al. 2003), inside-outside (Fullan 1999), scale, scale-up, spread [and] shift (Coburn 2003)" (Southwell et al. 2005, 17).

Drawing on Stokking's (1996) work on processes of free distribution, McKenzie et al. (2005) suggest dissemination may be an activity, a process or a result. Stokking (1996) distinguishes between diffusion and dissemination by using the term diffusion "to denote the collective 'processes of free distribution' which, once they become more directed, become known as dissemination" (McKenzie et al. 2005, 6). Additionally, they cite Gibbs, Holmes and Segal (2002) "who distinguish different categories of dissemination, involving different

strategies and leading to different outcomes… dissemination for awareness, for understanding or for use" (McKenzie et al. 2005, 6).

For some, the terms dissemination and diffusion are synonymous and are used interchangeably. For others, however, the two terms are employed to denote important distinctions. For example, Elton (2003) in his widely cited article, prefers the term 'dissemination' and McMaster and Wastell (2005), drawing on the earlier work of Blaut (1987), identify negative colonialist and hegemonic overtones in the term diffusion as used by Rogers (1995) and those drawing on his model. That said, for many years, the term diffusion dominated the literature following the lead of Rogers' (1995) classic work.

Critiques of models of diffusion and dissemination

Recent approaches in the field of organisational studies provide a critique of Rogerian linear transmission models of diffusion, suggesting that processes are more often iterative, interactive and reflexive (Buchanan et al. 2007; Ferlie et al. 2005; Fitzgerald et al. 2002). This work, underpinned by an epistemology that prioritises the social construction of knowledge, the role of individual agency and action, and the enactment of practical knowledge in diverse contexts, supports the need to reconceptualise adoption processes involved in diffusion and dissemination.

A re-assessment of earlier diffusion models by Fitzgerald et al. (2002) points to the value of process theories of change (Pettigrew 1992) which pay attention to the importance of including the complex social and contextual dimensions that are notably missing in many models. Thus, they demonstrate first, that prior, professional relationships significantly shape the process of diffusion. Second, that there is no one single adoption decision but rather a more prolonged negotiated process between individuals and groups. Third, that diffusion requires a critical mass of stakeholders, including at least some of the most powerful. Fourth, that understanding the differential power of professional groups, such as doctors in health

care (or indeed professoriate in academe), is important in whether an innovation will be adopted. Fifth, that opinion leaders exert both negative and positive influences (Locock et al. 2001). And finally, they conclude that the capacity of an organisation to innovate depends on the history, culture and the quality of relationships, and the strength of external networks. Local contextualising and relational factors are thereby crucial in adoption and dissemination.

Post-linear models of diffusion explored by Ferlie et al. (2005) are characterised by "…their messy, dynamic and fluid quality" (Ferlie et al. 2005, 118), the active, ongoing nature of dissemination and complex interactions of adoptive decisions. Thus their work shows that innovation and adoption processes are neither sequential nor orderly but are ambiguous (Van de Ven et al. 1999) and complex taking place in shifting, multiple domains where "there is no single decision point but numerous decision events performed by many people over time" (Ferlie et al. 2005, 118).

In contrast to typical diffusion models that position actors as comprising a passive conduit, actor-network theory (Law 1991) is useful for studying dissemination practice. Gherardi and Nicolini (2000), using actor-network theory, show how safety knowledge circulates in the Italian building industry. They emphasise that 'to transfer is to transform' and that this distinction is at the heart of the difference between diffusion models of knowledge. They argue that in a translation approach, not only is innovation, or knowledge of it, transformed by actors mediating their understanding and application but that such mediation provides the very impetus for the spreading process and simultaneously reduces inertia by creating and extending networks. Further, that translation may also be mediated through material objects or artefacts that are imbued with meanings associated with their use.

Dissemination in higher education

Within the field of higher education, and especially in learning and teaching, there is a strong tradition of dissemination shaped by notions of transmission and information transfer through

academic development and training (Trigwell et al. 2005). It is therefore timely to consider the contributions of other disciplines that emphasise active processes, strong social connections and the importance of understanding situated context.

A closely related body of literature has focused specifically on change, development and improvement of teaching and learning in higher education (Crosling, Edwars and Schroder 2008; Elton 2003; Kondakci and Van den Broeck 2009; Lueddeke 1999; Newton 2003; Scott 1999; Trowler 1998; 2002). Research in this area has emphasised the particular nuances associated with undertaking change in the higher education context, and therefore merit consideration in dissemination processes. Conflict often arises in the uptake of teaching initiatives in academia due to a strong emphasis placed on research over teaching and the need to therefore focus on discipline- specific knowledge (Harvey and Kamvounias 2008). The challenges of embedding generic skills or attributes, such as intercultural competence, is documented widely in the higher education literature (Badcock, Pattison and Harris 2010; Harvey and Kamvounias 2008; Jones 2009). Dissemination of such skill development throughout curricula is frequently seen as being in direct competition to discipline-specific content and therefore a balanced approach to embedding is required (Badcock et al. 2010; Jones 2009).

Strategies to deal with these nuances and conflict involve: engaging academics through the tribes and territories of their disciplines (Becher 1989); working in academic departments both from bottom-up and top-down to effect change (Trowler 1998); "working horizontally across these [disciplinary] communities to make connections and spread ideas and practice" (Blackmore and Blackwell 2006, 8); and, most importantly for dissemination through engagement and embedding, giving due emphasis to the development of shared meanings amongst change participants through prioritising contextual awareness, collaboration, and team development (Lueddeke 1999). Harvey and Kamvounias (2008)

contend that communication, a sense of ownership, leadership and resources and support strongly influence the success of these dissemination processes.

Dissemination of Australian higher education practice

The developments in the higher education literature are reflected to some extent in Australian higher education practice. In particular, there is strong evidence that learning and teaching innovations are much more readily accepted and adopted if principles, strategies and materials are contextualised for specific disciplines. New approaches, in other words, require translation and adaptation before discipline specialists consider them relevant. From its inception, two core ALTC principles have been to value and recognise discipline differences and similarities as well as to focus on capacity building of systemic change. Various disciplinary-focussed strategies reflect this orientation: first those under the banner of the Discipline-Based Initiatives (DBI) Scheme and later through Learning Networks (as listed on the ALTC website).

However, even ALTC projects which explicitly aim to address dissemination and embedding are not without challenges. Between 2006-2008, twelve projects that highlighted embedding and/or dissemination received significant funding. Our analysis of project application documentation (title, outcomes, method), available on the ALTC website, suggests that only six of the twelve projects clearly demonstrate methods that are indicative of embedding, whilst two others are orientated towards developing resources, polices or strategies that are disseminated by information transmission. It is not surprising however, given its remit to encourage dissemination, that ALTC's interest in dissemination has culminated in the commissioning of an Investigation Project to examine dissemination of ALTC project outcomes themselves. Nevertheless, the challenge of developing active forms of dissemination was underscored by the limited use of the ALTC Exchange. The Exchange was established to foster collaboration, networking and sharing of learning and

teaching knowledge and resources across the higher education sector. With use failing to reach anticipated levels and more recently declined, the ALTC is redirecting its focus to a more static online resource library.

Situating the emergent dissemination methodology

In order to ground the study of participative engagement and embedding in practice, our article focuses on one illustrative site. This section therefore situates the study in its broad context and outlines the emergent methodology.

The Faculty of Economics and Business, with over 8,000 students, is the largest within The University of Sydney and comprises nine disciplines. As a research-intensive university, with less emphasis placed on teaching, there are significant challenges to implementing teaching and learning initiatives. At this site, a national project, *Embedding development of intercultural competence in business education (*EDIC), was funded in 2006 for two years by the ALTC, under their Competitive Grants Scheme. Led by The University of Sydney, three other business faculties took part: University of New South Wales, University of South Australia, Queensland University of Technology. The aims of the project itself were threefold: first, to raise the profile of intercultural learning and competence in business education; second, to develop a framework for embedding the development of intercultural competence in business courses and programs in Australia; and third, to identify appropriate strategies for embedding the development of intercultural competence in business students. This article focuses only on embedding rather than the substantive issue of intercultural competence itself.

Further, there are several narrative logics related to the national project: a project narrative, a methodology narrative and more specifically a narrative of the emergent embedding heuristic. It is the latter which will now be presented in this article, not only to describe the heuristic itself but also to illustrate how this heuristic was and can be deployed

for active dissemination. The purpose is not to test this heuristic as a model – something which others following may choose to do – but to provide an illustrative account of how in this site it both emerged and was enacted.

Engagement through participative action research

Using a participatory action research methodology (Greenwood and Levin 1998; Reason and Bradbury 2001), the research team actively engaged staff through iterative, action-orientated collaboration in the formal and informal curricula across the faculty (see Treleaven 1994 for a full description of methods of engaging participation). Action research itself has a long history in education since Lewin's foundational work in 1946 (Lewin 1946). Widely used in a range of domains within organisations and communities across differing cultures, the potential of participatory action research within higher education, and academic development in particular, is not fully realised. Yet collaborative or participatory research processes oriented towards action are concepts generally found in action research approaches in their many forms (Dick 1991; Kindon, Pain and Kesby 2007; McTaggart 1991; Reason and Bradbury 2001).

Participatory action research has a distinctive theoretical positioning in relation to the process of knowledge construction. Knowledge construction is not regarded as the work of researchers alone. Instead, it is understood to be co-constructed by researchers working with participants in shared webs of significance and action (Greenwood and Levin 1998; Reason and Bradbury 2001). The intention of such research is to produce practical knowledge that is useful, both for and in action. Further, this methodology is arguably consistent not only with the complexity and self-reflexive nature of developing intercultural competence itself but also with developing a conceptual framework for embedding.

Most action research approaches involve a spiral of four moments: planning, action, observing, and reflecting (Kemmis and McTaggart 2001). Figure 1 schematically represents

the iterative cycles of participatory action research that broadly constituted four phases of a complex, overlapping and intersecting project.

(Insert) Figure 1: Participatory action research cycles at the project site

The first phase, *pre-project*, was the formation of a faculty diversity working party, members of whom undertook an audit by collecting disparate data on diversity policy and plans and identifying achievements and gaps across faculty. Simultaneously, as part of reframing the challenges of intercultural competence and its development, a successful application for ALTC funding was then collaboratively developed across four universities. The second phase, *engaging distributed leadership and a community of practice,* extended an invitation to the diversity working party and beyond to leaders and champions of intercultural competence to form a community of practice. Impetus on which to strategically piggyback the project was identified within the faculty's current priorities and emergent initiatives, such as forthcoming program reviews and accreditation requirements. The third phase focused on *embedding in policies, procedures, curricula, and developing tools, resources, databases* relevant for the project site across disciplinary boundaries. The fourth phase, *disseminating in new contexts*, continues further iterative cycles through the dispersed leadership and communities of practice, e.g. requiring students to develop a global citizenship portfolio, increasing staff awareness of intercultural competence, amending curricula, policies and procedures and providing new tools and resources. Beyond the local site, an important aspect of ongoing dissemination were the national working seminars, to which leaders and champions were invited as proposed in the original application, to stimulate new local communities of practice at other universities and resource them through the innovative methodology of our project. Ongoing cycles, *beyond the project*, involve exploring opportunities to test the embedding heuristic in other institutions and contexts.

An embedding approach

In fulfilling the second project aim, 'to develop a framework for embedding the development of intercultural competence in business courses and programs in Australia', one of the major outcomes to emerge from the cycles of participatory action research was an embedding heuristic. Rather than a 'bolt-on' or 'add-in' approach to developing intercultural competence, a more systematic and sustainable strategy emerged. Understanding embedding as an active process that is dynamic, emergent and unfolding, we created a heuristic comprising three generic, overlapping and interlocking domains in the higher education context (see Figure 2).

(Insert) Figure 2: Embedding heuristic

The heuristic comprises three embedding domains: first, communities of practice and distributed leadership; second, curricula, policies and procedures; and third, resources, tools and databases. The apex of the figure emphasises the focus of embedding and, in this case, developing intercultural competence. The middle of the figure includes scaffolding student learning from raising awareness, to developing understanding, to facilitating autonomy in intercultural competence. These levels are elaborated as a taxonomy (Ridings, Simpson and Leask 2008) in the ALTC project report (Freeman et al. 2009).

Of the three embedding domains, it is the collective nature of communities of practice that underpin and imbue the commitment to systemic change. Communities of practice, a term introduced by Lave and Wenger (1991), refers to those groups of people who share a commitment to, and an understanding of, the work practices they undertake as a group, as a network, or as a distributed/dispersed group. The notion of communities of practice, in its original conception, focused on a spontaneously emerging group. More recently, the organisational uptake of communities of practice has focused on their cultivation in order to foster innovation and enhance competitiveness (Li et al. 2009). In this sense, communities of practice can be encouraged as a platform for collaborative workplace learning and practice

development and thus creation and dissemination of innovation and change (Andrew, Tolson and Ferguson 2008). In the context of a change program, like the embedding project presented in this article, communities of practice bring together potential champions with specific relevant knowledge, who collectively motivate and take action to encourage and enact change. Their inherently participative and voluntary nature is more likely to ensure that innovation or change is enacted as there is an alignment of goals between both the organisation and the participants (Wenger, McDermott and Snyder 2002).

The work of those engaged in a community of practice is characterised by identifying and promoting relevant seeding activities, dispersed throughout their individual and collective spheres of influence. Such processes are referred to in the educational management literature as distributed leadership (Lumby 2003; Simkins 2005). In the context of communities of practice, distributed leadership entails a "bottom-up and emergent process of collaborative and informal leadership, whereby individuals, groups and teams willingly take on responsibility and generate new ideas and initiatives" (Bolden, Petrov and Gosling 2009, 271). It is therefore distinct from delegation to committee membership and devolution of responsibility that are enacted through a top-down approach (Bolden et al. 2009). Through their processes of sharing reflective practice and generating new knowledge, the members of the communities of practice function as distributed leaders to open up and support possibilities for innovation and change. The identification of relevant communities of practice and distributed leadership is therefore crucial to an embedding approach.

The second embedding domain relates to the formal and informal organisational policies and procedures that provide reciprocal processes through which curricular change can be systematically initiated and gain support. Strategic plans, even if accompanied by funding, can result in perceptions of top-down imposed change and thus may fail to gain widespread support from staff. Moreover, without effective buy-in from staff, such change

often encounters resistance and non-compliance in higher education (Harvey and Kamvounias 2008). Within the formal curriculum, procedures (and policies) for the identification and alignment of intended learning outcomes, teaching and learning activities, assessment and assessment criteria are as important as curriculum content itself (Treleaven and Voola 2008). Within the informal curriculum, procedures for identification and policies for funding of student support initiatives complement the formal curriculum. The focus of the domain is therefore to identify and establish policies and procedures that can be adapted or put in place to support systemic and sustainable change through the curriculum.

The third embedding domain relates to resources, tools and databases. Any community of practice produces abstractions, tools, symbols, stories, terms and concepts, thereby giving congealed form to the experiences of the practice (Roberts 2006). Whilst these artefacts offer useful new materials for embedding, they are passive forms of dissemination. As such, their limitation is that they are insufficient to catalyse sustainable systemic change. In effect, emphasising embedding through communities of practice and distributed leadership reverses the customary approach that provides 'tips and tricks' and workshops relying principally on individual efforts which are not necessarily systematic and certainly not systemic.

Methodology in practice: dissemination through engagement and embedding

This section discusses how dissemination through engagement and embedding was enacted to integrate the development of intercultural competence within the Faculty of Economics and Business at The University of Sydney. The strategies utilised as part of the participative action research methodology are detailed by referring to the three domains of embedding. Whilst this section is presented as a rather orderly narrative, immersion in the project itself was neither structured sequentially nor did it proceed in predictable stages. The emergent nature of communities of practice and engaged distributed leadership required no central co-

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ordination. Rather, what was required was close oversight, fostering of opportunities and linking of the widely disparate developments generated during the two-year project and continued spontaneously since, with champions and their teams taking responsibility.

Identifying communities of practice and engaging distributed leadership

The study commenced by identifying a potential community of practice within the faculty. Building on a previous diversity working party, its members were invited to form an expanded community of practice of those with a keen interest in or established commitment to developing intercultural competence. Participants with varying seniority and functional responsibility came from a range of portfolios including academic leadership, student services, cross-cultural management courses, a student reference group, and peer mentoring. Many held formal committee positions, being on faculty executive group, in management positions, or later, program review or quality assurance committees. Such a heterogeneous group within the faculty enabled grassroots and organisational perspectives to interact, engendering higher order commitment and enthusiasm for supporting intercultural development in the faculty.

This community of practice thereby extended the 'diversity audit' to identify strategic initiatives and existing policies, as well as practices and resources that could support the sustained development of intercultural competence. Guided by this audit, the community of practice reflected on potential directions for opening up an intercultural conversation throughout the faculty. A major driver was the forthcoming Association to Advance Collegiate Schools of Business (AACSB) international accreditation of the faculty that encouraged a commitment to intercultural competence within business education, together with a commencing undergraduate program review and a partial restructuring of faculty management. As a group, the community of practice met formally on five occasions throughout the project, to share and provide feedback on relevant developments emerging in

their portfolios and identify further opportunities to integrate development of intercultural competence within the faculty's strategies. Whilst this community of practice itself was not charged in any formal way with responsibility for integrating the development of intercultural competence, commitment of the participants in this community functioned as catalysts for opening up ways to embed intercultural competence.

As distributed leaders undertaking their usual roles and responsibilities in a range of contexts, they met frequently in committees, working parties, and formal and informal networks. In consequence, these distributed leaders played a significant role by identifying and promoting relevant seeding activities engaging their colleagues within their other communities of practice to support policies and procedures directed to embedding the development of intercultural competence across both the formal and informal curricula.

Despite the strong evidence of support provided by distributed leadership and the community of practice, a survey (Brislin, MacNab and Nayani 2008) was developed and conducted to provide indications of knowledge, experience and attitudes related to intercultural competence across the faculty, thus measuring participants' cultural intelligence. Based on a measurement model developed by Ang et al. (2004; 2006), the survey was conducted within three groups of staff; an academic discipline, a student services group and group of tutors. The descriptive statistics from the survey are displayed in Table 1 below.

(Insert) Table 1: Knowledge, experience and attitudes related to intercultural competence

Analysis of the results from the survey revealed two main outcomes. First, the academics reported higher intercultural competence across all measures. They also indicated lower levels of stress when working with different cultures in the faculty, thereby experiencing less host national culture shock. In contrast, staff in the student services group

indicated they often felt overwhelmed and frustrated by the challenges of dealing with students from diverse cultures. The greater cultural knowledge of the academics reflected the discipline itself and was possibly associated with their greater experience of working/living/studying abroad. Second, all three groups tended to favour a multi-cultural/hybrid pedagogy preference; i.e. they felt that it is the responsibility of staff in the faculty to design classes and procedures that are accommodating of potential intercultural issues. This preference for a multi-cultural pedagogical approach had significant implications for how we chose to address strategy and change and shaped the bottom-up approach to embedding innovation, for it was not widely supported in a range of other disciplines. Indeed, the challenges created by resistance across the faculty to the cultural differences of many international students required a cautious approach to avoid backlash. Thus on reflection, we did not conduct the survey as planned across the whole faculty.

Embedding in curricula, policies and procedures

By first engaging distributed leadership to champion intercultural competence as a focus, possibilities in other communities of practice were opened up for embedding strategies into the second domain: that of policies, procedures and curricula. The following section identifies first, strategies within the formal curricula to develop and demonstrate achievement of learning outcomes in intercultural competence, and second, student support initiatives in the informal curriculum that complement intercultural development in the formal curricula. Illustrations are presented from a range of university and faculty policies and procedures. Some already existed; others were incomplete, absent or offered opportunities for adaptation, translation or up-scaling in the context of their support for embedding the development of intercultural competence.

Mindful of the lower priority on teaching and the desire for a multi-cultural/hybrid pedagogy, a decision was made to integrate curricular developments within existing policies

and procedures, and second, to opportunistically piggyback on strategic priorities and key change initiatives in the faculty. Existing and new directions combined and overlapped to progress the processes of engagement and embedding. Three initiatives were instrumental in embedding innovation and change within the formal and informal curricula: an undergraduate and postgraduate program review, restructuring that opened up the space for a new core unit of study, and existing student support initiatives.

Undergraduate and postgraduate program review

At both university and faculty level, an existing graduate attribute policy afforded a way of locating the development of intercultural competence within current institutional aims for faculty programs. Specifically, two of the five graduate attributes were considered to be highly relevant: *communication* and *ethical, social and professional responsibility*. As these graduate attributes are increasingly aligned with learning outcomes in a program, and scaffolded throughout the degree program in junior and senior units of study, explicitly linking the development of intercultural competence to them provided the opportunity to embed rather than 'add-in' or 'bolt-on' the development of intercultural competence.

However, there was no structural focus for leadership, monitoring or quality assurance at the program level since unit of study coordinators were responsible to disciplines only. The faculty's strategic commitment to international accreditations with an impending visit by a peer review team to review previous recommendations afforded a welcome opportunity for change. Important leverage for driving change and supporting embedding intercultural competence at unit and program level was achieved at the macro level through careful alignment with standards and rules of accrediting bodies such as the European Quality Improvement System (EQUIS) and the Association to Advance Collegiate Schools of Business (AACSB). Pursuing relevant international accreditations where intercultural competence is emphasised, as is the case with EQUIS, or where assurance of learning

standards already exists, as with AACSB, were immensely helpful strategic priorities on which to piggyback.

This commitment to international accreditations resulted in the synchronous appointment of program directors for each undergraduate and postgraduate program. Their leadership responsibilities provided mechanisms for addressing faculty mission, learning goals and program learning outcomes. Some of these learning outcomes could be framed within the context of the graduate attributes that embrace intercultural competence. The leadership of program directors distributed across programs constituted a potential community of practice institutionally focused on the faculty's mission to develop global leadership within its student cohorts. As such, the faculty's new structure of program directors facilitated a systematic closing of the loop from proposal, design, learning and teaching activities, assessment and quality assurance, contributing to both embedding and sustaining the development of intercultural competence.

Reviewing both undergraduate and postgraduate programs provided an opportunity for scaffolding the development of intercultural competence across a program and within units of study. The curriculum planning of a new Masters program (Figure 3) shows how a program learning goal (effectively work in a multicultural team) is developed by scaffolding throughout the three program semesters and their corresponding units: raising awareness (M601), developing understanding (M604) and facilitating autonomy (M606) and, quality assured in the capstone unit (M609/610). This scaffolding is represented in the middle of the embedding heuristic that was presented in Figure 2 on page 12.

(Insert) Figure 3: Scaffolding the development of intercultural competence

New core unit of study

The strongest faculty support to embed the development of intercultural competence was the introduction of a new core unit of study into the Bachelor of Commerce curriculum, the largest undergraduate degree in the faculty. The central focus of *Business in the Global Environment*, taken by 900 students in 2009, is the international business environment. One of its key learning outcomes is to develop students' awareness of cultural differences and how to respond appropriately to these both in the workplace and wider society. Intercultural competence was embedded in the assessment criteria, which were aligned with the learning outcomes, graduate attributes, learning and teaching activities, and assessment tasks. Figure 4 below shows this alignment of one learning outcome with graduate attributes, learning activities and assessment criteria and displayed within the revised unit of study outline.

(Insert) Figure 4: Aligning the development of intercultural competence

Curricula with an intercultural focus, such as that presented in Figures 3 and 4, was selected for the international accreditation documentation to illustrate program quality assurance processes, especially alignment of learning outcomes with assessment. Intercultural competence was thereby modelled and showcased not only to the accrediting panels but also more widely to academics across the faculty.

Student support initiatives

Student support initiatives encompass a broad range of informal curricula within which to embed the development of intercultural competence. At the study site, opportunities were identified in the student life cycle from orientation to employment including: student administration services, student-directed support such as peer mentoring and peer-assisted

study sessions, professional development of teaching assistants, and careers and employer relations. Championed by the project's distributed leaders in their communities of practice, action to embed the development of intercultural competence within these areas of informal curricula centred around three main activities: staff training, program evaluation and career development initiatives.

Training was perceived as a key process for embedding the development of intercultural competence given that the student-directed support programs for peer mentoring, peer-assisted study sessions, and professional development of teaching assistants involve a high proportion of new participants each year. Within the peer mentoring and peer-assisted study programs, the development of intercultural competence was incorporated into the training manuals, training workshops, websites and supervisory feedback. Within the professional development of teaching assistants, an annual session was introduced with trigger questions raising issues of intercultural awareness for discussion. These strategies engaged students and staff at the commencement of the student life cycle and provided support to encourage training participants to become aware of their potential roles in developing intercultural competence within their peer mentoring groups, peer-assisted study sessions and tutorials. Recent follow up post-project shows that training relevant to intercultural competence has remained embedded within these three programs despite changes in coordinating personnel who champion intercultural competence autonomously from the original project.

Procedures to evaluate the development of intercultural competence of participants in the peer mentoring and peer-assisted study programs were implemented in the same cycle as the training adjustments. Within peer mentoring, a benchmark was developed against which mentor and mentees provide feedback on the achievement of intercultural competence development in the program. As illustrated in Table 2 below, the end of program evaluations

ask mentees and mentors to rate the importance of 'developing cross cultural awareness and skill' as an objective for them joining the program. The evaluation also asked for their agreement with the statement: 'The peer mentoring program increased my cross cultural awareness and skills' using a 5-point Likert Scale. Responses to these questions were analysed for the last seven iterations of this program. The analysis shows a high level of importance placed upon developing cross cultural awareness and skills as an objective of joining the program (86% mentees, 95% mentors). However, the level of agreement with whether the program actually increased participants cross cultural awareness and skills differs greatly between mentors (72%) and mentees (47%). We suggest that this differential may be attributable to the fact that the mentors received training sessions with an emphasis on intercultural competence whereas the mentees did not. This result suggests that whilst embedding within the training has been effective for mentors there needs to be further attention paid to mentee development.

(Insert)Table 2: Evaluation of intercultural competence in peer mentoring program

Within the peer-assisted study program (PASS), evaluations were adjusted to gather data on the extent to which participation enabled participants to develop their cross-cultural awareness and skills. In the end-of-semester evaluations, participants were asked to evaluate their agreement with three questions using a 5-point Likert Scale: 'PASS increased my cross cultural awareness and skills'; 'PASS improved my skills in working with people from diverse backgrounds'; and, 'PASS helped me be more open-minded about people from diverse backgrounds'. The analysis of these results in Table 3 shows agreement with each statement across the undergraduate and postgraduate cohorts. These results demonstrate that through embedding a positive change in awareness and development of intercultural competence was achieved.

(Insert) Table 3: Evaluation of intercultural competence in peer assisted study program

Career development initiatives in the faculty's Careers and Employer Relations Office exemplified distributed leadership from their community of practice member and the use of the embedding approach. An audit undertaken by their staff enabled them to plan their future work into which they embedded (*inter alia*) developing intercultural awareness and skills of faculty students in their programs, events and activities, and evaluations. By seeking diverse student representatives, targeting employers with a focus on international employability and intercultural competence, in their online communication strategies, and through internships and volunteer opportunities for students they exhibit to students the practical benefits of developing intercultural competence.

Finally, a further strategic action for embedding of the development of intercultural competence was considered in the closing community of practice meeting. A joint recommendation was made to seek faculty funding to introduce a 'global citizenship portfolio' within the Careers and Employer Relations Office and a subsequent proposal from student administration services put forward. The aim of the global citizenship portfolio is to recognise student engagement in activities relevant to the development of intercultural competence in both coursework and within their secondary testamur (an official record of student involvement in informal curricula), consistent with the response of Australian Universities to the Bologna Process. Such a move, still under consideration, offers integration of both formal and informal curricula across the student experience in their degree and compliments the strategies discussed above by providing formal recognition.

Embedding through resources, tools and databases

A third domain crucial for effective embedding was to collect and make available resources, tools and databases to support academic staff and students. Resource provision was co-

ordinated by another university project partner (Freeman et al. 2009) but was not a major focus within this faculty, given the limitation of clearing houses and repositories when used as stand-alone dissemination strategies (Southwell et al. 2005). Several ways of using new tools in a system-wide approach were nevertheless achieved.

The provision of in-house online resources specific to the requirements and practices of the University of Sydney made it easier for busy academics and students to use. For example, the diversity focus of two widely used in-house groupwork websites, one for students and another for the design, management and assessment of group work by staff, was promoted more actively. An online marking and feedback tool, *ReView* (Thompson et al. 2008), was used to develop assessment tasks (in consultation with staff) related to intercultural competence. It was also used to assure outcomes in the core Bachelor of Commerce unit of study, thereby completing the feedback loop for the systemic approach to embedding.

The complexities of dissemination

In this article, dissemination has been demonstrated as *activity, process and result* (McKenzie et al. 2005). Dissemination was enacted throughout the project *activities*, from conceptualisation and initiation, at the field site by generating a community of practice that brought together a range of committed staff to engage in participatory action research. *Processes* of dissemination were initiated and extended by the seeding activities of these distributed leaders into the everyday work of their portfolios, their formal and informal networks, and decision-making bodies of the institution. As cultural change, these are part of the long-term processes. However, within the short-term duration of the two-year project, project dissemination *results* are observable in numerous artefacts, such as new curricula, and evaluations.

The complex, situated and relational nature of dissemination emphasised in the post-linear diffusion literature (Ferlie et al. 2005; Fitzgerald et al. 2002; Locock et al. 2001) has been illustrated in detail throughout the account of the study site. Prior professional relationships were a feature of the initial community of practice forming on the back of the diversity working party, cross-cultural teachers, and committee members some with considerable history and influence in the faculty. External networks, such as international accreditation, validated the focus on intercultural competence and the capacity of the faculty to pursue it as important.

The emergent, iterative and reflexive approach to change enabled the initiative to piggyback on strategic concerns of the faculty, thereby gaining some momentum in a research culture that exhibits less concern for learning and teaching imperatives or developments. Demonstrably, the embedding of the project involved numerous negotiations, no single adoption decision of a completed package or implementation of training and dissemination of resources (Fitzgerald et al. 2002). Processes of translation across different domains (for example from classroom to career education) and up-scaling (from one unit of study to a new foundation unit in the flagship undergraduate program) were facilitated by engagement of a wide range of participants and by the systemic use of the embedding approach. Using the embedding heuristic for planning and diagnosis highlighted possibilities in the local context that informed participants' actions within their portfolios and communities of practice. Such an emergent, self-organising approach contrasts with planned projects following a superimposed model and implemented by a formal decision-making committee.

In developing intercultural competence at this site, embedding processes across three domains commenced with identifying and/or generating communities of practice whose members willingly engaged their distributed leadership. A strong argument can thus be made

for this active approach to engagement as preferable to the passive, individual orientation of resources and tools such as workshops and online websites.

However, embedding change within business education involves an ongoing set of complex processes which takes considerable time and will require future research on the sustainability and broader impact on student learning and preparation for global citizenship with intercultural competence. Further research could usefully explore the applicability of this approach across and between multiple universities.

The applicability of our approach to embedding change is being adopted in a current project exploring embedding sustainability in business education through an international collaboration between an Australian and a Canadian university. The project context is one of significant institutional difference with one university strongly prioritising the role of sustainability in its central mission and the other characterised by the lack of sustainability rhetoric. The bottom-up approach discussed in this article and illustrated by the embedding approach is vital in encouraging collaborative action towards embedding sustainability in the formal and informal curricula. The momentum gathering from this approach is testament to its capacity to voluntarily engage participants to enact change and innovation for which they are either passionate or see as an important direction in business education.

Concluding remarks

This article contributes a methodology for dissemination through engagement in participatory action research and embedding across three organisational domains. In so doing, it seeks to address the challenges associated with achieving sustained improvement and systemic change in the higher education context. This article also contributes to a discussion of funded projects as the means of effecting change in higher education. In the Australian context, if funding for learning and teaching projects continues at the current rate, and with similar requirements for active dissemination, then the methodology presented here may offer a

contextualised, iterative and reflexive approach to developing and sustaining teaching and learning improvements and innovation.

In summary, the article clarifies much of the fuzziness surrounding dissemination and unpacks the practices associated with engagement and embedding. It emphasises the importance of embedding in each of the three domains: distributed leadership in communities of practice; curricula, policies and procedures; and resources tools and databases. In turn, this methodology provides an approach for supporting sustainable change, and helping adapt change into new contexts. The field study illustrates how the methodology enacted change across the three domains. The value of the embedding heuristic lies in engaging with it systematically, iteratively and emergently.

Several salient points merit final discussion. First, understanding the higher education context and the related social and political dimensions of dissemination is crucial. Change does not happen in a vacuum but typically takes place in messy, complex social environments and practice communities within universities. Accordingly, dissemination strategies must be adaptable and involve an array of stakeholders engaged in multiple domains, for these stakeholders interact in various intersecting communities of practice that may be supportive or resistant. Working with, and engaging stakeholders as distributed leaders, is a vital starting place for effective dissemination. Second, employing action research as a methodology prioritises engagement and participation through including the views and input of participants and encouraging adaptation, translation and spread of practices beyond the original context. Third, dissemination through embedding requires careful and comprehensive analysis across the three organisational domains. The related strategies for embedding in each, thereby reduces the risk of dissemination gaps and optimises potential sustainability. Finally, by presenting an active approach to dissemination throughout an initiative from

conceptualisation through engagement and embedding, the article provides a practical

alternative to more commonplace but ineffective, passive forms of dissemination.

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Figure 1: Participatory action research cycles at the project site
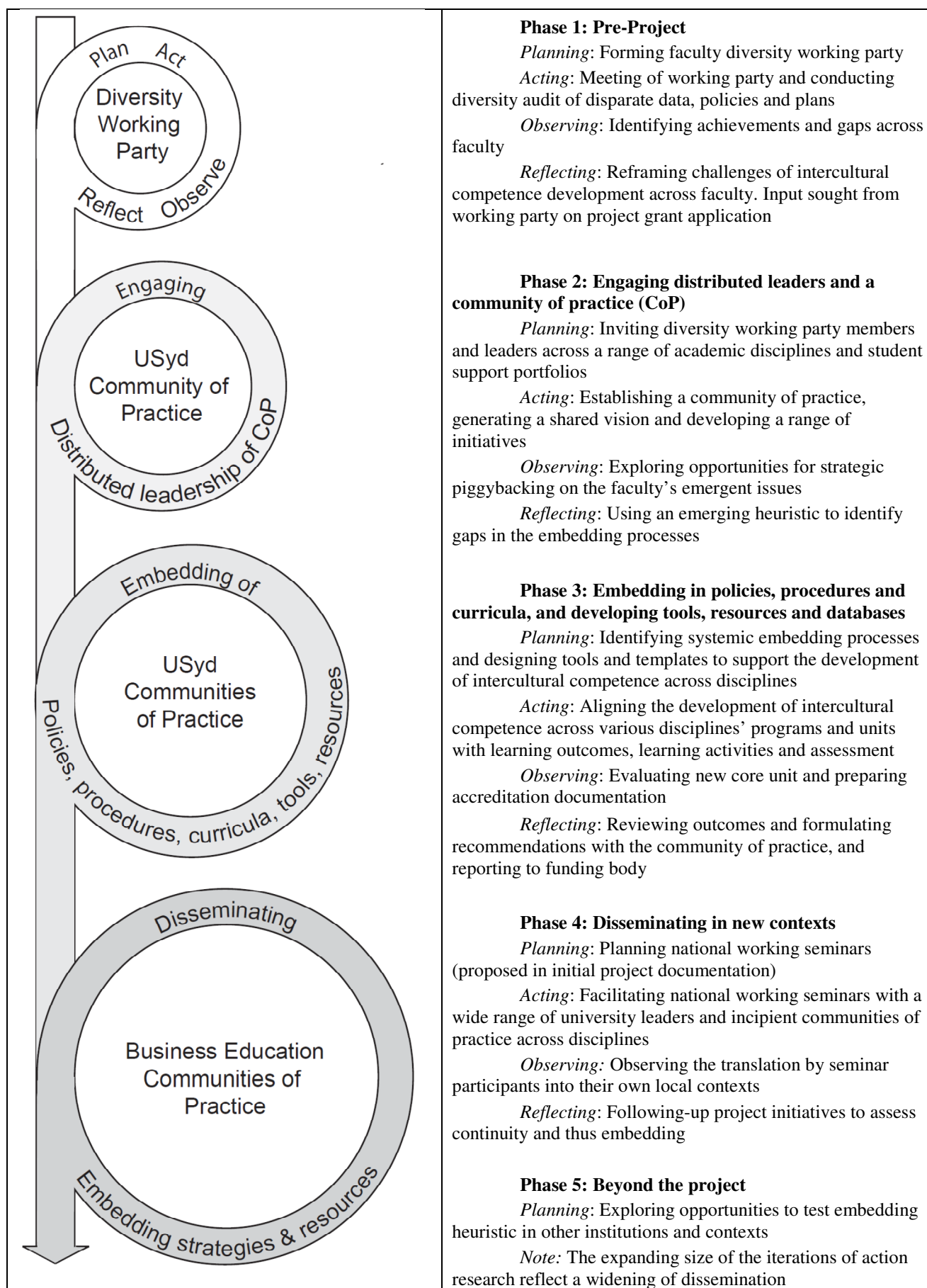
Phase 1: Pre-Project
Planning: Forming faculty diversity working party
Acting: Meeting of working party and conducting diversity audit of disparate data, policies and plans
Observing: Identifying achievements and gaps across faculty
Reflecting: Reframing challenges of intercultural competence development across faculty. Input sought from working party on project grant application

Phase 2: Engaging distributed leaders and a community of practice (CoP)
Planning: Inviting diversity working party members and leaders across a range of academic disciplines and student support portfolios
Acting: Establishing a community of practice, generating a shared vision and developing a range of initiatives
Observing: Exploring opportunities for strategic piggybacking on the faculty's emergent issues
Reflecting: Using an emerging heuristic to identify gaps in the embedding processes

Phase 3: Embedding in policies, procedures and curricula, and developing tools, resources and databases
Planning: Identifying systemic embedding processes and designing tools and templates to support the development of intercultural competence across disciplines
Acting: Aligning the development of intercultural competence across various disciplines' programs and units with learning outcomes, learning activities and assessment
Observing: Evaluating new core unit and preparing accreditation documentation
Reflecting: Reviewing outcomes and formulating recommendations with the community of practice, and reporting to funding body

Phase 4: Disseminating in new contexts
Planning: Planning national working seminars (proposed in initial project documentation)
Acting: Facilitating national working seminars with a wide range of university leaders and incipient communities of practice across disciplines
Observing: Observing the translation by seminar participants into their own local contexts
Reflecting: Following-up project initiatives to assess continuity and thus embedding

Phase 5: Beyond the project
Planning: Exploring opportunities to test embedding heuristic in other institutions and contexts
Note: The expanding size of the iterations of action research reflect a widening of dissemination
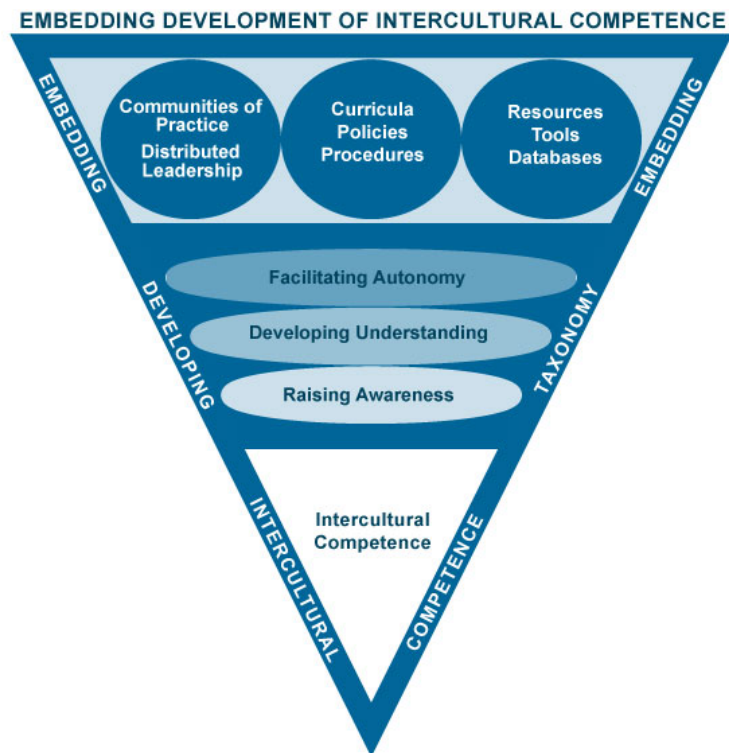
Figure 2: Embedding heuristic

Table 4: Knowledge, experience and attitudes related to intercultural competence

Indicator	Academic unit (n=10)	Student services group (n=17)	Group of tutors (n=13)
Cultural intelligence, knowledge	80%	65%	72%
Cultural intelligence, strategy	62.5%	59%	56%
Cultural intelligence, behavioural	70%	70%	64%
Cultural intelligence, motivational	85%	65%	83%
Host national culture shock	32%	53%	45%
Host culture pedagogy preference	30%	18%	23%
Multi cultural/hybrid pedagogy preference	60%	58%	39%
Faculty openness to training	80%	66%	64%

Figure 3: Scaffolding the development of intercultural competence

Curriculum planning of a Masters Program

		Sem 1				Sem 2			Sem 3
Unit Program	M601	M602	M603	M604	M605	M606	M607	M608	M609/ M610
Learning goal 5	Intro	Extend		Extend		Extend		Extend	Mastered and assured

Effectively work in multicultural team ← Raise awareness →
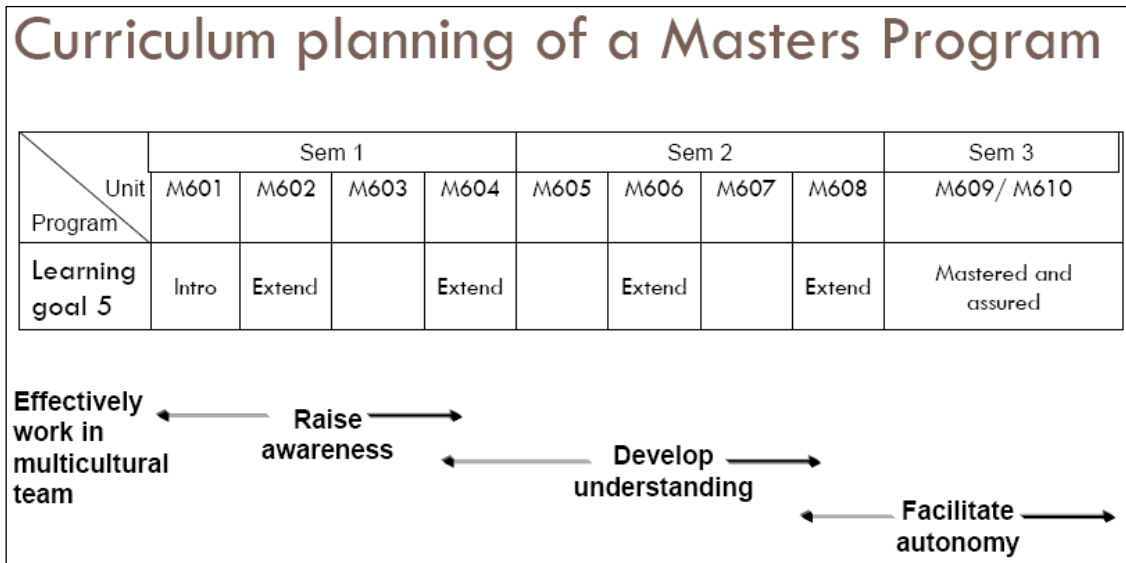
← Develop understanding →

← Facilitate autonomy →

Figure 4: Aligning the development of intercultural competence

Intended Learning Outcomes	University of Sydney Graduate Attributes	Student Learning Activities	Assessment Criteria *Reflective Journal Summary 25%*
6.Work with people from diverse backgrounds with inclusiveness, open-mindedness and integrity and manage the dynamics of working within a team	**Ethical, Social and Professional Understanding (ES&PU):** Graduates of the Faculty of Economics and Business will hold personal values and beliefs consistent with their role as responsible members of local, national, international and professional communities.	Attend all classes to contribute to team work Work cooperatively with team in and out of class Keep Reflective Journal and respond to questions set for directed reflection Submit Reflective Journal Summary and Country Report by due date	Ability to critically reflect on the negotiation and reconciliation of differences in teams Ability to critically evaluate your own development of intercultural competence Appreciation of the need to use intercultural competency in interactions across cultures and contexts

Table 5: Evaluation of intercultural competence in peer mentoring program

Question	Postgraduate Mentees 2007 – 2010 (Avg. n=47)	Postgraduate Mentors 2007 – 2010 (Avg. n=30)
Rate the importance of the following objective to you in joining the peer mentoring program: Developing cross cultural awareness and skills (Important/Very Important)	86%	95%
The Peer Mentoring Program increased my cross cultural awareness and skills (Agree/Strongly Agree)	47%	72%

Table 6: Evaluation of intercultural competence in peer assisted study program

Question	Undergraduate Participants 2007 – 2010 (Avg. n=76)	Postgraduate Participants 2007 – 2010 (Avg. n=55)
PASS increased my cross cultural awareness and skills (Agree/Strongly Agree)	58%	61%
PASS improved my skills in working with people from diverse backgrounds (Agree/Strongly Agree)	74%	73%
PASS helped me be more open-minded about people from diverse backgrounds (Agree/Strongly Agree)	61%	64%