

Executive Summary

In *Growing Esteem*, the University of Melbourne has declared its intention to become 'one of the finest universities in the world, highly regarded for making distinctive contributions to society in research, learning and teaching, and knowledge transfer'. The knowledge transfer strand of *Growing Esteem*'s 'triple helix' focuses on connecting the University with the external environment, to create an institution firmly embedded and contributing to communities and business.

Knowledge transfer forms the primary intellectual conduit between the University's academia and the wider non-academic society. The University's research, education, and technology connect into community and industry through many different paths - commercialisation, policy, public debate, partnership and exchange, and cultural leadership.

The defining aspect of the University of Melbourne's knowledge transfer is characterised by our reputation for excellence and highest quality endeavours. Whether we address a local community issue or a global problem, excellence and highest quality should mark our contribution. In addition, we recognise our need for the knowledge from the broader community to inform and build our own research, teaching, and education capabilities, to ensure we are one of the finest universities in the world and a valued contributor to society. The Scoping Study generating 366 case studies undertaken with more than 1200 partners shows that the University is indeed driving knowledge exchange. The definition for knowledge transfer is:

The University of Melbourne's knowledge transfer develops intellectual capital through a two-way mutually beneficial interaction between the University and the non-academic sectors, with direct links to teaching and research, and informed by social and global issues. The University of Melbourne's knowledge transfer is anchored in its intellectual capital, history and tradition, and a reputation for independent world-class expertise.

The Knowledge Transfer Taskforce has developed a set of recommendations which put in place the fundamental building blocks and framework for the initiation phase of knowledge transfer, to begin to build this strand as a core capability of the University. The complexities of creating a new core area for the University, where even the definition had yet to be found, presents challenges, and will continue to require careful processes which are collaborative across the University, and reflect the distinctive characteristics of the University of Melbourne's knowledge transfer. The outcomes have the potential to build the University's reputation for innovative leadership in the higher education sector.

The Taskforce's recommendations set in place the foundations for the next phase in 2007, where the emphasis will shift to new initiatives, implementation, building and demonstrating capability. The following recommendations are proposed by the University of Melbourne's Knowledge Transfer Taskforce to the Planning & Budget Committee.

The Knowledge Transfer Taskforce recommends:

1. that the definition and framework (as described in sections B and G) be adopted to form the basis upon which to build the University's capability in knowledge transfer. The framework is based on internal and external drivers, strong partnerships, and implementation across all levels of the University, from student to university-wide projects.
2. that the quality of knowledge transfer be measured in terms of four indicators (described in section F) – innovation, significance, scholarship, and impact. The need to further develop the indicators over the next 12 months is recognised, and in particular, the potential role they may play in an RQF process.
3. that faculties reflect in their structure the knowledge transfer strand of the triple helix, with an emphasis on those aspects of knowledge transfer most appropriate for the faculty's specific academic and student needs (Section H)
4. that knowledge transfer strengths and achievements are explicitly recognised in staff performance appraisal, rewards, promotion, and recruitment, based on clear indicators related to those in Recommendation 2 above (Section I).
5. that there be recognition of the substantial increase in administrative needs which will arise as knowledge transfer activity increases across all levels of the University (Section I)
6. that a Knowledge Transfer Committee be established (as outlined in Section H) as a sub-committee of the Planning and Budgets Committee with oversight for knowledge transfer activities across the University, including scope and coordination, measurement, communication and promotion, and external linkages.
7. that the recommendations by the Knowledge Transfer Taskforce to the Curriculum Commission (Aug 06; see Appendix 4) be adopted.



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Chair, Knowledge Transfer Taskforce
University of Melbourne

B. Knowledge Transfer

Recommendation. The Knowledge Transfer Taskforce proposes that the definition be adopted.

As one of the top 25 universities¹ in the world and one of the few genuinely comprehensive universities in Australia, the University's knowledge transfer cannot be defined by a limited segment of the community, a geographical location, or a particular set of activities. Its community necessarily includes business, government, cultural organisations, individuals and groups, and spans from local groups to international, and the nature of engagement ranges from public lectures to internships. The defining aspect of the University of Melbourne's knowledge transfer is characterised by our reputation for excellence and highest quality endeavours. Whether we address a local community issue or a global problem, excellence and highest quality should mark our contribution. In addition, we recognise our need for the knowledge from the broader community to inform and build our own research, teaching, and education capabilities, to ensure we continue to be one of the finest universities in the world and a valued contributor to society.

The Taskforce recommends the following definition for knowledge transfer:

The University of Melbourne's knowledge transfer develops intellectual capital through a two-way mutually beneficial interaction between the University and the non-academic sectors, with direct links to teaching and research, and informed by social and global issues. The University of Melbourne's knowledge transfer is anchored in its intellectual capital, history and tradition, and a reputation for independent world-class expertise.

Knowledge transfer forms the primary intellectual conduit between the University's academia and the wider non-academic society. The University's research, education, and technology connect into community and industry through many different paths - commercialisation, policy, public debate, partnership and exchange, and cultural leadership. The complexities of creating a new core area for the University, where even the definition had yet to be found, presents challenges for the University. The literature (see examples in Appendix 5) on knowledge transfer and associated areas is still in the process of defining the concept, measures, and expectations from this area. The building of a common understanding of this new area by our University and community and business, will continue to require careful processes which are collaborative and reflect the distinctive characteristics of University of Melbourne's knowledge transfer. The outcomes have the potential to build the University's reputation for innovative leadership in the higher education sector.

The 'enablers'. Building genuine relationships and communicating our value to the community and business as partners in the journey are necessary components for achieving *Growing Esteem* outcomes. To generate critical external support, several 'enabling' areas are essential for strengthening the external connections - marketing & communications, alumni relations, and advancement. These areas affect, and are affected

¹ *The Times Higher Education Supplement*, 2006

by, the public perception and global positioning of the University, and form part of transforming our social and economic engagement.

F. Measurement and Evaluation of Knowledge Transfer

Recommendation. The Taskforce recommends the use of four simple measures for assessing the quality and benefits of knowledge transfer outcomes - innovation, significance, scholarship and impact. These measures give an appropriate level of flexibility for operational use across the disciplines reflecting different strengths, and can be created through the partnership.

To ensure consistency with the University's focus on excellence and aspiration to be one of the world's finest universities, the knowledge transfer strand will require a well-developed set of indicators. The measurement of the quality of mutually beneficial outcomes for both the University and partners, across a diverse range of activities, has been consistently noted in the literature as a fundamental challenge for knowledge transfer. The need to address this area may have particular urgency with respect to an RQF process.

The Taskforce deliberations in this area examined different approaches taken across diverse fields, such as performing arts, population health, and environmental policy. Researching the approach taken by other universities revealed that Michigan State University² (MSU) has created the most developed set of indicators for community outreach, which has some relevance to Melbourne's knowledge transfer. Measurement of knowledge transfer outcomes clearly is in an early phase of development, and the Taskforce suggests that the University consider pursuing this difficult field over the next 12 months, using its resident expertise in measurement.

The faculty consultations have indicated an immediate need for simple straightforward measures which give an appropriate level of flexibility for operational use across the disciplines. To address this immediate need, the Taskforce recommends four measures which occur as common themes throughout the various approaches used with measurement. As illustrated in Figure 2, the four measures are innovation, significance, scholarship and impact. These measures will allow for different disciplines to set their own priorities in knowledge transfer reflecting their specific strengths. Further development of the framework, rationale and operation of these measurement tools will take place over the coming year.

Innovation. Project outcomes that distinguish the project from other projects within the field(s) of activity, and demonstrate innovative approaches to the practice, scholarship, method, partnership, or other aspect of the engagement. Possible measures/indicators are inter-disciplinary, introduction of non-sector partners, new modes of working, new outcomes.

² Zimmerman, D, *Points of Distinction: A Guidebook for Planning & Evaluating Quality Outreach*, Michigan State University, <http://www.msu.edu/unit/outreach/pubs/pod.pdf>, 1996

Significance. The importance of the issues addressed through the outcomes (e.g. what would happen if these issues were not addressed?), the number of people/organizations affected. Possible measures/ indicators are new methodologies, outcomes that create uptake or new projects, frequency of appearance of issues in press, scholarly, policy briefings.

Scholarship. How does this lead to an increase in intellectual capital for the University and/or for the partner(s), and what evidence of new ways of thinking about the issue? Possible measures/ indicators are process change, academic programs influenced by scholarly findings, increased number of externally generated projects, number of citations as a direct result of the activity.

Impact. Uptake by community/ Business/ University. Possible measures/ indicators are translation into policy development, implementation of findings, reports and publications, press coverage, change in statistics (health, crime, fraud, etc).

The indicators or possible measures are not necessarily mutually exclusive factors for measurement. Timelines for being able to measure some of these indicators will vary from immediate to years, and hence expectation of outcomes needs to be included through the lifetime of the project. Indicators can be categorised as being related to cultural, social, environmental or economic impacts in line with the higher education policy trends.

G. Knowledge Transfer Framework

Recommendation. The Knowledge Transfer Taskforce proposes that the framework be adopted to provide an overall focus for the University in knowledge transfer.

As a basis for moving forward in 2007, the Taskforce recommends the following framework to guide the faculty and University programs in knowledge transfer. The framework links the overall goal and defining elements of knowledge transfer with the four areas which will serve as the focus for the University, arising from our strengths as discussed in Section E, and the four measures of quality (from Section F) to ensure we maintain our reputation for excellence in all endeavours. The focus areas emphasise the outcomes we are seeking across all programs, rather than the type of knowledge transfer activity, recognising that there are many diverse ways to deliver the outcomes. The elements discussed in Section C of University strengths combined with partners' strengths guide the exchange process in development of knowledge transfer work.

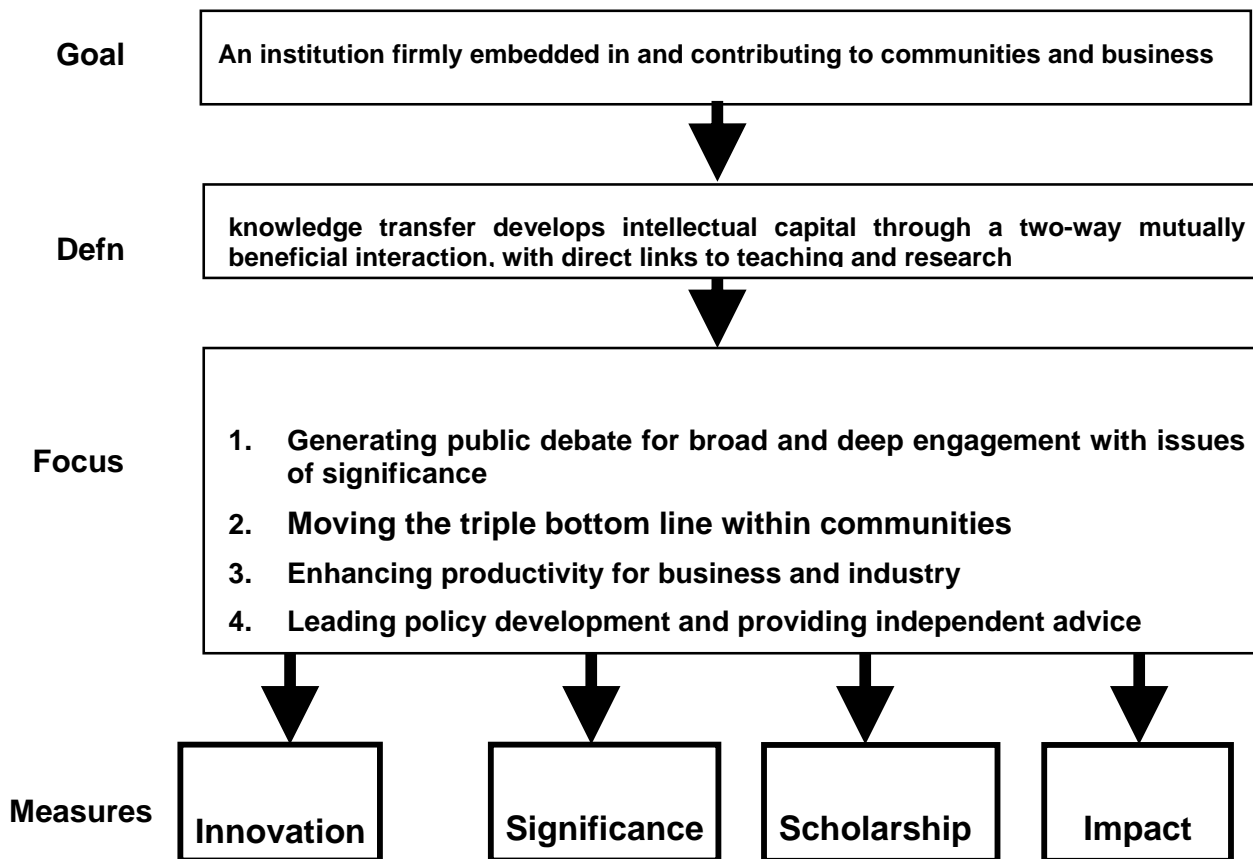


Figure 2: Knowledge transfer framework. The 4 focus areas for the University in knowledge transfer recognises its strengths in excellence and quality and form the basis for the full range of utilisation, from curriculum material through to university-wide projects. The 4 measures create simple indicators of quality to ensure excellence.

H. The Knowledge Transfer business model

Traditionally, teaching and research have been the sources of funding and expense for the University. Knowledge transfer augments a shift in the funding model for the University; providing potential for new sources of revenue and new opportunities to promote the University's teaching and research activity. In this later sense knowledge transfer might be understood as a promotional opportunity for the University.

Knowledge transfer has the capacity to utilise existing resources more efficiently. It can also create opportunities for efficiency in operation through the leveraging of resources into new markets for generating new revenue sources. If resources are managed in accordance with best practice, knowledge transfer represents a viable and efficient option for input into resource and financial planning.

Over the next twelve months, a business plan for knowledge transfer for 2007 and 2008 will guide knowledge transfer activities strategically and operationally. This approach will include a pathway for knowledge transfer initiatives; flagship programs; and internal processes and systems, including committee structure. Importantly, this plan will drive culture change in the University. This shift in culture will involve the reorientation of University activity at each and every level to become more outward looking and cognizant of the needs of partners in knowledge transfer. The coming twelve months will be foundational in setting up organizational capacity for the University long term.

Management of Knowledge Transfer

Recommendation. The Taskforce recommends that a Knowledge Transfer Committee be established as a sub-committee of the Planning and Budgets Committee with oversight for knowledge transfer activities.

Linking faculties with central strategic and administrative functions of the University will be critical to the achievement of the knowledge transfer vision. The next twelve months will involve working with the community discovering effective means of increasing the value that the University can bring to them. Internally this strategy can inform the setting up of an oversight committee for knowledge transfer that connects faculties with the overall aims of strategy. That is, operations of the University will fuel the business plan through the establishment of a Knowledge Transfer Committee as a sub-committee of the Planning and Budgets Committee with oversight for knowledge transfer activities across the University, including scope and coordination, measurement, communication and promotion, and external linkages. The terms of reference and membership of this committee are provided in Appendix 6.

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The business model for knowledge transfer will incorporate the need for integration of functions across the University with external stakeholders. There are a number of cross University issues that focus activity around knowledge transfer. For example in the Faculty of Education, internationalisation and commercialisation are within knowledge

transfer activity. At VCA, the knowledge transfer unit incorporates partnerships, commercialisation activities and community engagement. These foci demonstrate the breadth of knowledge transfer activities across the University.

The role of commercialisation

Knowledge transfer will involve a fundamental commitment to create the transfer of research, technology and education for economic gain. Commercialisation is a strong focus of knowledge transfer at the University of Melbourne and a key component of a knowledge transfer business model. It develops intellectual capital through a two-way, mutually beneficial interaction between the University and business sector, and can link directly to the other strands of *Growing Esteem*, teaching and research. Knowledge transfer is inseparable from what the University offers to external partners, whether it is industry, government or the community at large: our intellectual capital.

If the University can harness research to tackle problems facing companies or whole industries, we take on a leadership role, both in the research community and the business community. It is rare for the needs of industry and community partners to fall neatly within the disciplinary boundaries our universities are accustomed to. Teams of researchers are needed which span these boundaries to create innovative solutions to society's problems. For instance, the University of Melbourne's Melbourne Water Research Centre draws on the expertise of eight faculties in its work facilitating collaborations to meet the water management challenges facing the Australian community. There is an increasing recognition that collaboration, work in teams, multi-disciplinarity and active engagement with non-academic partners is essential if the University is to maximise the benefits of our research.

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I. Organisational elements of Knowledge Transfer

International research and best practice examples demonstrate that to implement knowledge transfer activities there are a number of organizational processes that can be streamlined to ensure success (e.g. the University of Canterbury). The need for an externally focused approach that puts those outside the University firmly in its view is critical to achieving operational objectives. Central to this work is the idea of engagement and reciprocity that fosters economic and social development. These organizational practices need to operate across the University, and the following areas are central to achieving the objectives as set out in *Growing Esteem*.

- Recognising Excellence
 - Grants and Awards
 - Creating Fora which Facilitate Engagement
 - Creating and aligning Incentives
- Partnerships
 - Research
 - Teaching Initiatives
- Leadership, governance and administration

Best practice should reflect excellence, relevance and access. Social and organizational practices should be driven by these principles. Within this framework a recognition that knowledge transfer contributes to economic and social development should drive organizational practice. These principles, if operationalised in accordance with the broader principles of knowledge transfer, have been demonstrated to result in tangible financial results. Practices within the University including funding, rewards and esteem measures should value excellence and profile best-practice.

To embed these elements of best practice, it will be important to develop commensurate programs. It will be the task of the proposed Knowledge Transfer Committee to advance and administer these programs.

Recognising Excellence

Excellence should drive internal and external communication of knowledge transfer. The University of Melbourne, through its communication practices can distinguish itself through its excellence in its activities, responsiveness to public issues, and commitment to innovation, best practice and engagement.

The development of robust measurement tools enable excellence to be identified and in turn recognised. Excellence must be explicitly recognised in internal and external communications. Recognising excellence internally through practices such as human resources policy, grants and awards can build commitment to it. This process should incorporate explicit communication to staff of the value of excellence. Once it is built in

to University practices this internal commitment to excellence will be reflected in the way University staff engage externally. This acknowledgement builds and supports the reputation of the University of Melbourne, which in turn generates capacity to meet strategic goals.

The following initiatives can support the recognition and practice of excellence, and can be explored in 2007 by the proposed Knowledge Transfer Committee:

- Grants and Awards
- Creating Forums that Facilitate Engagement
- Creating and aligning Incentives

Partnerships

There are a number of partnership models. The range of mechanisms reflects the range of activities, which in turn are driven by the needs of partners, end-user or audience and the kind of knowledge to be used. The breadth of the University's research areas also drives the breadth of models of engagement.

Genuine partnerships ensure that partner and University interests are addressed collaboratively at the outset. Encouraging active collaboration between University staff and external organizations at the beginning of a project increases the possibilities for gauging the impact these have on partners and end-users. This is because partners can more readily be involved in setting the aims and goal, and will therefore be more ready to participate in the process of evaluating impact on themselves and end-users since they have a clear stake in the exercise.

The scoping study has revealed a number of mechanisms for involving external groups as partners:

- The Onemda VicHealth Koori Health Unit with the CRC for Aboriginal Health runs a facilitated research development process to identify priorities for the centre.
- The MacKinnon Project consulted target groups and existing clients through a process of small surveys at industry events, one-on-one discussions with existing clients and focus groups in order to establish priorities which programs could be developed to meet.
- Responding to tenders from government or industry.
- Building on the communication of research to relevant groups and involving them directly in new projects. Identifying relevant groups who might have needs in a research area and approaching them directly.
- Some activities are short term, even though repeated often, such as the range of public fora in Arts and seminars linking business leaders, policy-makers and researchers in the Melbourne Business School and the Faculty of Economics & Commerce.

Identifying end-user needs often draws on the experience of practitioners, government workers and the expertise of researchers. Often the project will involve research into the

issue to be addressed followed by the collaborative development of programs to enact this research. For instance:

- The evaluation of Burstingthebubble.com for the Domestic Violence and Incest Resource Centre, which evaluated a website and researched how to design effective websites about health for young people.
- The Key Centre for Women's Health has employed a Community Liaison/Research Translation Officer to disseminate their research in forms appropriate for different audiences, including briefings of policy-makers and material designed for end-user groups being researched.
- The Critical Issues Conference, run by the Melbourne Business School draws on external partners as sponsors to assist in identifying a key issue to explore in the conference.
Conferences and public fora intended to increase public awareness of particular issues, improve the quality of policy debate and foster understanding between different groups are common in the faculties of Arts, Economics & Commerce and the Melbourne Business School.

These considerations should be reflected in:

- Research
- Teaching Initiatives

This activity should be supported by a linkage between knowledge transfer and scholarship. Elevating the scholarship of knowledge transfer to recognise it as a core activity and not marginal to the University has benefits for research and teaching as well as knowledge transfer.

Leadership, governance and administration

Recommendation. The taskforce proposes the following areas be addressed to support knowledge transfer: 1) that faculties reflect knowledge transfer in their structure 2) that knowledge transfer strengths and achievements are explicitly recognised in staff performance appraisal, rewards, promotion, and recruitment, and 3) that there be recognition of the substantial increase in administrative needs which will arise as knowledge transfer activity increases across all levels of the University.

To promote the culture of knowledge transfer, University leadership and strategy should incorporate knowledge transfer principles in process and policy. The governance of the University should reflect the seriousness with which the University takes knowledge transfer and thus the following should continue to be part of ongoing governance:

- The University signals the importance of the area by ensuring senior level responsibility for knowledge transfer, the DVC (Innovation and Development), as well as faculty structure
- The University Council includes leaders with strong community, regional, state, national and international connectivity.

- The implementation of the University's strategy involves considered input from community and business leaders and explicitly refers to the exchange with the community engagement
- Funding issues are addressed to assist with the implementation of knowledge transfer.
- The community's strategic plan is recognised as providing an important guiding tool for the development and revision of the University's strategic plan, and vice versa.
- Human resource practice should reflect the fact that in order to implement knowledge transfer effectively, it needs to become intrinsic to the activities, promotion, recognition and rewards of staff at the University. This initiative is led by the Vice Principal Human Resources, who is also a member of the Taskforce.
- Administrative support developed to enable the smooth operations of administrative issues associated with increased knowledge transfer activity.

Appendix 4: Report to the Curriculum Commission
Knowledge Transfer Taskforce
Knowledge transfer and the curriculum: a discussion paper

August 10, 2006

Purpose

The *Growing Esteem* strategy emphasizes the interdependence of research, teaching and knowledge transfer. The purpose of this discussion paper is to articulate some of the ways in which knowledge transfer is already embedded in teaching and learning programs at the University of Melbourne and to discuss ways in which its role might be further developed in the future. By documenting the rich variety of ways in which the interdependence of knowledge transfer and teaching and learning are being and could be expressed, we hope to initiate a broader discussion of effective knowledge transfer experiences that promote learning and the development of desired graduate attributes. We also propose some mechanisms by which a more explicit focus on knowledge transfer in the curriculum might be encouraged.

Working definition of knowledge transfer

The working definition of knowledge transfer at the University of Melbourne is³:

“Melbourne’s knowledge transfer develops intellectual capital through a two-way mutually beneficial interaction between the university and non-academic sectors with direct links to teaching and learning and research, and informed by social and global issues. The University of Melbourne’s knowledge transfer is anchored in its intellectual capital, history and tradition, and a reputation for world-class expertise”.

What do we mean by links between knowledge transfer and teaching and learning?

An emphasis on knowledge transfer gives due recognition to the *context* of our scholarship. It underscores the importance of two-way information exchange and effective collaborations between the academy and its communities in both shaping the focus of our scholarly activities and in realizing their value. It encourages us to attend to the social, cultural and economic issues and circumstances of our time, and to meaningfully engage with external communities to address them effectively.

In the context of teaching and learning, we understand knowledge transfer to refer to the variety of means by which the curriculum and learning experiences are shaped by our social, cultural and economic context, and by which students acquire the capacity to

³ See http://growingesteem.unimelb.edu.au/knowledge_transfer/framework.html

realize the value of their knowledge and skills in external settings. We recognize the strong interdependence of knowledge transfer and research capacities, and the extent to which both are developed from common foundations and rely on many common experiences, often within specific disciplinary contexts. Below, we articulate some of these interdependent shaping, learning and translation processes.

Knowledge transfer in the curriculum

Like many features proposed to characterize a distinctive curriculum in the Melbourne Model – including a grounding in research, internationalization, cultural diversity, and the use of innovative and contemporary teaching and learning practices – knowledge transfer can be embedded in teaching and learning experiences in many ways and at many levels within the curriculum. These include:

- At the within-subject level, where the specific subject objectives might include core knowledge transfer capacities or core knowledge about the context and process of knowledge transfer, and where a variety of practices might be utilized, such as problem- and project-based approaches in teaching and learning, use of case studies and field trips, experiential learning, involvement of community and industry participants in class activities, and consultation with industry, professional and community stakeholders;
- At the whole-subject level, where the subject objectives might have knowledge transfer as a primary objective, such as through field and industry placements or internships, on-location subject delivery, student exchange and study abroad programs, community-based projects, and applied research projects;
- At the level of a sequence of subjects, such as a major, where the systematic development of knowledge transfer skills is an objective of the sequence, and the demands for knowledge transfer skills might become increasingly sophisticated across the sequence, for example, beginning with small design, analysis or performance projects, and culminating in a “capstone” knowledge transfer experience;
- At the level of an entire program, where all learning experiences might be tailored to particular contexts⁴;
- At a supplementary level, where not-for-credit opportunities, including internships, externships and other work experiences, are made available to students with the assistance of community and industry groups and provide students with an opportunity to enhance their knowledge transfer skills during the period of their enrolment.

Engagement. The engagement with community, profession or industry in relation to course content and course delivery is an important aspect of knowledge transfer, and embeds the teaching and learning programs of the University in its local, national and

⁴ For example, in some School of Enterprise courses.

international context. Arguably, this level of engagement should be a feature of every program of the University (while recognizing that responsibility for academic programs lies with the University).

Case-based learning. A case- or problem-based or experiential approach to learning is a natural precursor to knowledge transfer experiences in many disciplines because problems are presented in context and hence encourage the development of an integrated (and often iterative) process of analysis, discovery, and application, always with the initial problem and with the context of application in the foreground. Although case- and problem-based approaches are foundational in a number of disciplines already, there are likely to be opportunities to expand these types of experiences in many programs of study.

Core practical skills. The systematic development of core technical skills for professional practice is often an important early component of an integrated sequence of knowledge transfer learning experiences. This is the case, for example, in the clinical sciences, in education, in design- and technology-based disciplines and the performing arts. Most professions also emphasise evidence-based or scholarship-informed practice, so the capacity to critically evaluate and contribute to the evidence base, or to critically assess and contribute to the scholarly discourse on practice, can also be seen as core skills underpinning effective knowledge transfer.

Core content for knowledge transfer. Core content for knowledge transfer experiences includes an understanding of the legal, political, social, economic, cultural and environmental contexts for practice in national and international settings, and of codes of conduct and the ethics of practice. The Melbourne Model provides an excellent opportunity to enhance the extent to which graduates have a sophisticated understanding in this arena.

Institutional contexts. Exchange programs, and shared or jointly-badged programs provide students with an opportunity to take some of their subjects in a different social and intellectual milieu, and hence to experience directly the impact of context on the characterisation and communication of knowledge. Likewise, online subjects offered at multiple institutions provide an opportunity for students to engage with others from different social and cultural contexts and hence to appreciate the impact of context on learning.

Field and placement experiences. Subjects that are substantially devoted to knowledge transfer already exist in many disciplines. They often include field-based projects, placements or internships and provide rich and sustained opportunities for solving problems in the settings in which they arise, sometimes in real time. They are usually offered at a later stage in a program of study and provide an opportunity to integrate the generic and technical skills and knowledge necessary for effective and meaningful translation of scholarship into effective practice and practical problem-solving. Many of these experiences involve teamwork and collaboration among students and/or between students and other individuals in the field setting.

Integration of knowledge transfer experiences. Integrative knowledge transfer experiences of the kind just described are often the culmination of carefully planned

teaching and learning programs that provide opportunities to systematically develop core competencies and more integrated skills in increasingly more complex settings.

Interdependence with research experiences. Research skills – the capacity for independent, critical and innovative analysis and investigation – are a vital part of the skill set required for flexible, creative and adaptable knowledge transfer capacity. As a result, it is important to recognise that the learning experiences promoting effective knowledge transfer have much in common with those through which students acquire increasingly sophisticated skills in research.

Below is a list of ways in which knowledge transfer might be embedded in the curriculum. This list is best seen as a set of potential skills/knowledge/experiences that might be included in a discipline-based learning design in a way that is appropriate to a particular context of learning. While placement and industry project experiences can be seen as intense and prototypical knowledge transfer experiences that might occur towards the end of a student's learning program, it is important to recognize that these and other knowledge transfer experiences are likely to be most effective when they are integrated into a coherent learning design, rather than when they are isolated components of a curriculum. The effective embedding of knowledge transfer in the curriculum is, in other words, likely to draw on many of the skills and experiences listed below.

Appendix 1 contains some specific examples contributed by members of the Knowledge Transfer Taskforce of ways in which knowledge transfer learning experiences have been embedded in the curriculum.

Development of generic knowledge transfer skills

- skills in communicating with non-academic audiences
- skills in the design and delivery of brief training modules
- teamwork and collaboration skills
- evaluation and research skills
- literacy in relevant non-academic information resources
- cross-cultural understanding and communication
- fluency in languages other than English
- core commercial and business skills

Development of core practical skills

- performance skill development in the arts
- technical skill development in technology-, business- and design-based disciplines
- clinical skill development in clinical sciences

Development of core knowledge transfer content

- knowledge/analysis of legal and professional frameworks
- knowledge/analysis of resources for evidence-based practice
- knowledge/analysis of ethical aspects of professional practice

- knowledge/analysis of teamwork and leadership

Knowledge/analysis of systems and contexts for knowledge transfer

- knowledge/analysis of interrelationships among social, cultural, political, legal, economic and environmental contexts, and their interactions with practice
- understanding of systems, and system behaviour
- experience of working across contexts

Case studies in knowledge transfer

- use of industry/professional/community practitioners to present relevant knowledge transfer problems and knowledge transfer approaches
- field trips and *in situ* learning experiences
- exchange programs
- use of e-enabled case experiences

Case-, problem- and project-based learning and experiential learning

- use of cases, problems and projects to develop skills in generating and testing hypotheses about underlying principles, and in applying theoretical expectations to particular instances

Community and industry projects

- undergraduate student industry projects
- problem-based design projects
- joint university/industry supervision of research projects
- professional placements
- internships

Multidisciplinary and/or interprofessional experiences

- interprofessional clinical placements, where students training in multiple professional disciplines work collaboratively in professional learning environments
- multidisciplinary projects, where students from different disciplines might work together to address complex design or analysis problems

Community/professional/industry consultation

- conduits for information exchange and advice, and resources for community and industry engagement, including advisory boards comprising representatives of the community, professions and industries,
- national and international accreditation processes

Community/profession/industry engagement

- student involvement in outreach activities including performances, exhibitions, and public talks and lectures
- mentor programs linking students to industry or professional mentors, facilitating career mentoring, information exchange and the development of two-sided career- and recruitment networks

Course development

- systematic planning for the development of knowledge transfer skills
- customised courses with setting-relevant case studies and projects.

Knowledge transfer and postgraduate programs

Different courses will involve a different mix of knowledge transfer experiences. This may be particularly evident at the postgraduate level, where different types of postgraduate programs may have quite distinctive knowledge transfer objectives. For example:

- Postgraduate professional degrees are likely to have particularly systematic designs for knowledge transfer experiences, often reinforced by professional accreditation processes. Many programs also have well-articulated models for grounding professional practice in scholarship. Programs are usually supported by advisory boards and practitioner participation which ensure strong connections between the curriculum and what the profession regards as community needs.
- Postgraduate coursework programs may require more advanced forms of knowledge transfer experience compared to undergraduate programs, and may be in a position to offer more opportunities for placement-, internship- and project-based experiences.
- Enhancements to research training programs might include experiences that foster the development of effective knowledge transfer skills in the research scholar of the future. Components under discussion include skills in engaging with the public, communication, education, commercialization and Intellectual Property, and opportunities for multidisciplinary engagement on “big problems”.

Knowledge transfer and the proposed University of Melbourne graduate attributes

Knowledge transfer skills are fundamental to the proposed University of Melbourne graduate attributes⁵. In particular, knowledge transfer experiences underpin the development of high levels of skill and flexibility in problem-solving, in creative contributions in the workplace, in understanding, assessing and initiating innovative contributions to community needs, and in promoting and developing egalitarian ideals and social, civic, ethical and environmental responsibility. In particular, knowledge transfer experiences should provide the opportunity to develop skills in some or all of: analysis of significant community and industry problems and challenges; experience of applying knowledge within industry and professional settings to yield innovative and effective solutions; collaborative problem-solving, including in multidisciplinary teams; the ethics of community and professional engagement; and the cultural, social and organizational aspects of effective community and industry engagement.

Recommendations

⁵ “Aspirational values or practical skills? Defining graduate attributes at the University of Melbourne”. Report of the Academic Women in Leadership Program, July 2006.

As the examples above demonstrate, knowledge transfer is well embedded in many of our existing programs, and the principle that our programs should reflect it is uncontroversial. What may help to build a distinctive curriculum in the Melbourne Model, though, is a commitment to explicit and systematic consideration of knowledge transfer experiences in our subject and program designs. The recommendations below are made with this aim in mind. Rather than prescribe specific forms of knowledge transfer experience, or require a detailed accounting of knowledge transfer approaches at subject level, we propose that curriculum design groups be encouraged to articulate knowledge transfer objectives at the level of courses and programs of study within courses, and to do so in consultation with an appropriately constituted advisory group. We also recommend that resources be developed to assist staff and students in developing and responding to knowledge transfer experiences, through professional development activities and through mechanisms for supporting student-centred learning. We affirm the recommendation that the Academic Programs Committee (APC) give consideration to course and program level knowledge transfer objectives in their course approval process, and we also propose that the Teaching and Learning Quality Assurance Committee (TALQAC) course review processes attend to mechanisms for assuring effective knowledge transfer experiences.

Accordingly, we make the following recommendations:

1. Curriculum committees and other relevant academic governance bodies should be encouraged to seek advice from relevant community, professional, industry, academic and student bodies, for example through advisory boards with representation from appropriate stakeholder groups. The role of the board would be to provide advice from community, industry and other stakeholders on issues relevant to course design and delivery.
2. Curriculum committees and other relevant academic governance bodies should be encouraged to articulate a coherent set of educational objectives pertaining to knowledge transfer⁶ at the level of individual subjects, programs of study such as majors, and degree programs. These objectives should be developed in the light of advice from relevant advisory board(s), and should aim to develop graduates with excellent knowledge transfer skills (as reflected in the attributes of the University of Melbourne graduate).
3. A discussion paper should be developed on mechanisms, including e-portfolios, by which students can be encouraged to understand and reflect on progress towards meeting educational objectives (such as those pertaining to knowledge

⁶ The same could be requested for other key aspects of the curriculum, including research, cultural diversity and internationalization.

transfer) and on the relationship of these objectives to graduate attributes and personal learning goals.

4. The Academic Programs Committee should routinely request an explanation of how new courses propose to embed knowledge transfer experiences in the curriculum (as proposed by Professor Warren Bebbington and agreed to in principle by the Academic Programs Committee earlier in 2006).⁷
5. The Teaching and Learning Quality Assurance Committee course review process should include an assessment of processes for assuring the mutual two-way effectiveness, value and reach of knowledge transfer experiences.
6. The University's professional development activities for academic staff, including the Graduate Certificate of University Teaching, should include a focus on knowledge transfer in the curriculum.

Pip Pattison, on behalf of the Knowledge Transfer Taskforce⁸

August 10, 2006

⁷ Indeed, APC might also request an explanation of how research, cultural diversity and internationalization are embedded in the course.

⁸ Contributions from members of the Knowledge Transfer Taskforce are gratefully acknowledged, as are valuable comments by Andrew Gaff, Marilyns Guillemain, Richard James, and members of the Knowledge Transfer Taskforce and the Curriculum Commission.

Appendix 4.1: Examples from Knowledge Transfer Taskforce members of knowledge transfer affecting the curriculum

Activity Title:	Navigators
Department/Faculty:	Victorian College of the Arts
Course/ subject affected:	Postgraduate Diplomas and Masters students across the VCA
Partner Organisations:	DasArts (The Netherlands); the Western Cape York communities of Mappoon, Napranum and Arukun, ABN AMRO and Melbourne International Festival of the Arts.

Describe the knowledge transfer activity

The occasion for this international multi-arts collaboration is the 400th anniversary of the first European contact with the continent of Australia – the landing of the small Dutch ship *Duyfken* on the western coast of Cape York in 1606.

The project will bring together 12 postgraduate students from each of the VCA and DasArts (a leading collaborative arts training institution in the Netherlands), three academics from each of the institutions, visiting artists and the Cape York indigenous communities living in the area where the Dutch ship *Duyfken* made the first recorded contact between Europeans and indigenous Australians in 1606. Through the medium of the performing and visual arts, and working with the Indigenous people of the area, the participants will explore the nature of journeying and the relationship between Europeans and Indigenous Australians.

Navigators is an act of creative imagining, which rekindles the spirit of voyaging into the unknown. It is an interrogation of 400 years of cultural interaction and an exploration of the maxim you don't know what you don't know. The *Duyfken's* Captain dismissed the land of Western Cape York as 'rubbish country' – he couldn't know the nature of wealth that lay there. The outcome will be a unique and moving event: part performance, part installation, part multi-media spectacle, part exhibition, part social experiment. It will be part of the 2006 Melbourne International Festival of the Arts, and will be assessed as part of the students curriculum based work.

The project will be accompanied by an international conference on the 17th century Dutch philosopher Spinoza to be hosted by the VCA's Centre for Ideas for all participants, and the broader VCA community and the public.

The ten-week project will include taking the participating students and artistic staff to Cape York for two weeks. Local Indigenous artists and communities are closely involved with the planning and realisation of the project. The project will also create a unique long-term partnership with a major international partner, DasArts.

It has long been a goal to establish a collaborative practice based postgraduate program at the VCA. This project paves the way.

The VCA plans to make a similar postgraduate collaborative program developed with an international partner institution an annual event. This project has and will have a tremendous impact on the VCA's objective of establishing major international collaborative projects. The success to date of this project has energized a 2007 collaborative project between the VCA, Darma (Prague) and Ohio State University for the Prague Quadrennial in Design.

External partners

- DasArts, Netherlands (affiliated with the Amsterdam School of Arts)
- Weipa Town Council
- Melbourne International Arts Festival
- The Government of the Netherlands
- Comalco (sponsor).
- ABN Amro (sponsor)
- The Western Cape York communities of Mapoon, Napranam and Arukun

Describe the motivation of thinking behind designing / initiating/ accepting this knowledge transfer work

How does it link to the student's learning/teaching/research

The project was initiated by the Director of the VCA following discussions with the Netherlands Ambassador Dr Hans Sondaal to conceptualize a project reflecting the 400 years relationship between Australia and The Netherlands. Development of the project has taken place over the last 2 years and involved discussions in Amsterdam, Melbourne, Cape York, Canberra and The Hague.

The project is designed to:

- Strengthen students capacities to work collaboratively across art form disciplines and international borders
- Deepen their understanding of indigenous history, protocols and cultural matters
- Engage in independent research and contribute to a team based tangible outcome with high professional and production values ie the Melbourne International Festival of the Arts
- Expose each cohort (ie VCA and DasArts) to different creative leadership styles and pedagogical methodologies
- Be a tangible reflection of the historical period being explored ie the beginning of contact between The Netherlands and Australia through the partnership of both countries leading performance creation institutions.

How does the partner's knowledge inform the interaction

- The indigenous communities (Mapoon, Arukun and Napranum) are actively involved in the project as the story of the arrival of the Duyfken is deeply embedded in the people's oral tradition and is told today in the present tense. The contact also was the beginning of the massive changes ahead for indigenous Australian's after 40,000 years. The VCA has a major commitment to indigenous emerging artists and this project is building sustainable relationships through VCA masterclasses in the Crocfeest, recruitment strategies, masterclasses at the VCA by Cape artists etc.
- ABN AMRO is a global Dutch company and is supporting the project as a major sponsor and will utilize it for corporate purposes.
- The DasArts collaborative model is being echoed in a postgraduate approach at the VCA – rendering a unique multidisciplinary performance creation program.

What has been the impact on the partner's work, and on the research or learning within the department?

The project has been in planning mode for 2 years and the Dutch students and staff arrive in mid August. VCA students have been meeting, developing journals and emailing with DasArts.

The project has captured students enthusiasm, excitement and will be a life changing experience for them professionally and personally. They will extend their artistic development and make connections that may continue to enrich and inform their artistic practice.

Activity Title: Commonwealth Games Ceremonies and Festival Melbourne 2006

Department/Faculty: Victorian College of the Arts

Course/ subject affected: School of Production, School of Music

Partner Organisation: 2006 Commonwealth Games

Describe the knowledge transfer activity

Project description

- Peter Wilson, Lecturer in Puppetry at the VCA, was the Director of Puppetry for the opening ceremony of the Games and recent graduates and current students in Puppetry were engaged as puppeteers.
- VCA Design students from the School of Production were part of a conceptual workshop that resulted in the “flying tram” that became a major feature of the Games’ opening ceremony. Ten students from the School of Production were part of the production team for the opening ceremony, including one who “called” the athletes’ teams into the stadium.
- As part of the Commonwealth Games cultural festival, the VCA hosted an International Youth Masterclass in Percussion with 90 tertiary percussion students from ten major tertiary music institutions around Australia. Peter Neville, Head of Percussion, played a leading role in the conception and development of the Masterclass, which featured the Commonwealth’s leading percussionists and percussion ensembles. The workshop culminated in a major free concert, World Percussion Spectacular, at the Sidney Myer Music Bowl on March 19 playing to 13,000 people with 5,000 turned away.

The engagement aspect of the activity

- The Opening and Closing Ceremonies of the Commonwealth Games reached an estimated television audience of one billion people.
- The World Percussion Spectacular held at the Sidney Myer Music Bowl attracted an audience of 13,000 people.

Impact of the activity.

The two-week workshop that preceded the concert (hosted by the VCA) brought together musicians from around the world in the true spirit of a Commonwealth. The resulting cultural exchange and social capital building is a major impact of this activity.

External partners

- Department of Victorian Communities (Office of Commonwealth Games Coordination)
- Ten Australian tertiary music institutions

Describe the motivation of thinking behind designing / initiating/ accepting this knowledge transfer work

How does it link to the student's learning/teaching/research

- Students research, conceptualize and realize production/puppetry based outcomes
- Students engaged in collaborative activity with other artists and master artists
- Students were offered a significant artistic development and professional work experience

How does the partner's knowledge inform the interaction

- The hosting of the 2006 Commonwealth Games was one of the biggest public undertakings ever realized in Melbourne with substantial financial investment. The Federal and State Governments expect substantial long-term economic, social and cultural benefits to accrue from the kudos and international standing derived from the success of the Games. Central to this exposure was the Opening Ceremony and the free event Festival Melbourne and the contributions of VCA staff and students provided memorable elements of the festivities. These activities had a high impact on the success of the Games.

What has been the impact on the partner's work, and on the research or learning within the department?

- The Commonwealth Games opening and closing ceremonies were critically appraised and receive world wide coverage
- As a result of the VCA's engagement, our Head of Puppetry and recent graduates are being offered work in Doha at the Asian Games, in Kuala Lumpur and Japan.
- As an outcome of the percussion workshop and spectacular, students have established bonds with Australian and international master percussionists, fellow students, been exposed to different instruments and playing and teaching methodologies. Their performance capabilities have been immeasurably enhanced.
- The percussion staff of the VCA and the 10 participating institutions 'bonded' – exchanged teaching and research methodologies and discussed future collaboration options.

Activity Title: Legal Internships
Department/Faculty: Faculty of Law
Course/ subject affected: Legal Internships
Partner Organisation: See below

Melbourne Law School recognises that many of its students take the opportunity to engage in significant and exciting law-related work during their time at the Law School. Legal Internship allows students to gain credit for research arising out of their work in an internship of at least 6 weeks of full-time work in an approved organisation. Students gain credit for a substantial research essay involving critical legal research and analysis, on a topic developed by the student during or after their approved internship.

The faculty (through a faculty member who is the coordinator of the subject) lets students know of any opportunities but the students arrange their internships. The coordinator must approve all internships. There is no fixed list of organisations - the faculty will always consider new opportunities for internships. But students are advised of those organisations where other students have previously successfully completed an internship.

The students need to complete a detailed research paper based on the internship. This means that an academic with relevant expertise needs to supervise the paper (typically not the coordinator). So there is support and guidance for students both while planning the internship, while they are on the internship and after the internship - to the extent the research paper is completed after the internship. The research paper is undertaken in close collaboration with the organisations so the intention is that there is mutual benefit.

Examples of approved internship organisations include international organisations, government departments, non-government organisations, and law reform bodies. The internship must involve substantive legal work. In 2005 the Law School granted total funds of \$27,000 to 18 students undertaking international legal internship programs.

2005 Legal Internships

Law students undertook legal internships in a broad range of organisations in 2005, including:

- Legal Aid and Consultancy Centre, Katmandu, Nepal
- UniCapital Washington Internship Program
- Yogyakarta Local Ombudsman, Yogyakarta, Indonesia
- Reprieve Australia

- Reprieve US
- Suhakam (Human Rights Commission) Malaysia
- Reprieve US, Capital Defence Office, Texas
- Office for Outer Space Affairs, United Nations Office, Vienna
- TEWLS which operates the Aboriginal Women's Outreach Unit in the Northern Territory
- US Congressional Internship in Washington DC
- Law Faculty of the University of Sriwijaya, Palembang
- Reprieve Australia, Texas Defender Service in Houston
- Central Australian Aboriginal Legal Aid Services Incorporated and the Central Land Council
- UniCapital Washington Internship program
- Cape Town Legal Resources Centre, South Africa
- Yamatji Land and Sea Council, Geraldton, WA
- Yamatji Marlpa Barna Baba Maaja Aboriginal Corporation, Karatha, WA

Department: Media & Communications

Partner: 21st Century Newspaper, China

Through the Media Unit, the University of Melbourne has developed a multi-faceted relationship with *21st Century Newspaper* in China. Two of the activities relate to knowledge transfer between student groups

The Media & Communications Program, Faculty of Arts, is the student area most affected.

Describe the knowledge transfer activity.

- a) Each year, students from China who are runners up in two English speaking competitions run by *21st Century*, come to Melbourne for a study tour. The study tour involves some activities that are part of the international orientation program, and some that fun experiences. They are hosted by University of Melbourne students for some of the activities. The KT is a sharing of cultural background and experience for both hosts and visitors, and an immersion in Australian culture generally and UoM academic culture specifically for the visiting students. This KT activity is now in its fourth year. A UoM staff member travels to China for the competitions, to serve as a member of the judging panel.
- b) *21st Century Newspaper* is always in need of native English speaking interns to work on the paper for sponsored internships. So far two students from the Media & Communications Program have travelled to Beijing for three-month periods of work on the publication. The students are simply recommended for these internships, it is not a University sponsored activity, however both interns so far have served as interns in the Media Unit as part of their studies.

Describe the motivation or thinking behind designing/initiating/accepting this knowledge transfer work.

- The students from China and the UoM have an opportunity to experience each others' cultures, and broaden their knowledge and experience internationally
- The partner provides exposure to the media in China for students who, upon graduation from the Media & Communications Program, would expect to work in a very diverse, international media environment

Activity Title: Industry Studies in Asia
Faculty: Melbourne Business School
Course: Subject in MBA Program
Partners in 2006: ANZ, Invesco, Lonely Plant, Crumpler, Cleanskins.com, Al Homaizi, Air New Zealand, Olex, Ensign, Boost Juice

Describe the knowledge transfer activity.

Industry Studies in Asia builds on the international diversity of the MBS student body and their significant interest in the global economy and international business management (in particular, the China Market). It is enabled by the ability of MBS to access Chinese businesses (typically Australian companies seeking to grow their operations in China) through its corporate and alumni networks. With the stewardship of faculty who have significant experience in the region, they are able to add real value to host firms.

Describe the motivation or thinking behind designing/initiating/accepting this knowledge transfer work.

Linking to the student's learning / teaching / research

This is an elective subject which includes as its capstone integrative experience a visit to Shanghai to study a particular problem of interest to a chosen firm. The subject allows students to apply the skills they have developed in the core subjects of the MBA.

Students travel to China (80 students participated in 2006) for ten days and work in teams of 5-6 to investigate and recommend resolutions to a management or business issue to the companies that partner in the program.

They obtain in-depth insights into designated industries operating in Asian business centres; acquire skills in analysing industries and identifying associated business opportunities; and deepen their understanding of cross-cultural business operations.

Partner's knowledge which informs the interaction

Students work with local executives to share knowledge, skills and techniques in analysing business problems and identifying associated business opportunities. In doing so, both parties develop deeper understanding of cross-cultural business

operations as well as the relationships between the macro economic environment, political systems, cultural dynamics, business opportunities, structure and process.

Impact on the partner's work, and on the research or learning within MBS

Students learn to understand the relationships between the macro economic environment, political systems and cultural dynamics and business opportunities, structure and process.

They develop secondary research skills as a basis for identifying challenges and opportunities confronting selected industries in diverse contexts.

They also develop primary research skills as a basis for identifying challenges and opportunities confronting selected industries in diverse contexts.

The main deliverable of the course is a detailed report submitted to the host organization and the lecturers responsible for the subject, which may focus on a specific organizational issue, a new or existing product/service/venture, or an entire industry.

In addition to the educational impact for students, this activity provides practical research, analysis and recommendations for businesses in China which are wrestling with real strategic issues. The impact in many cases is immediate as the recommendations can often be directly implemented.

At a broader level, the anticipated impact is between business outcomes for participating organisations and stronger commercial relations between Australia and China.

Activity Title: Teaching Indigenous Health in Medical Education.

Department/Faculty: Onemda VicHealth Koorie Health Unit, Centre for Health and Society, School of Population Health, FMDHS

Course/subject affected: Health Practice 2, Bachelor of Medicine Bachelor of Medicine, Bachelor of Surgery and Bachelor of Medical Science

Partner organization: The Koorie Heritage Trust

Describe the knowledge transfer activity.

The integration of Indigenous Health into the Medical curriculum within the FMDHS, particularly medicine, has been a core component of the activities of Onemda. This has been led, developed and delivered primarily by Indigenous academics within the School of Population Health, and with the support, both implicit and explicit of the Koorie community, though community organizations such as The Koorie Heritage trust, and the Victorian Aboriginal Community Controlled Health Organisation (VACCHO).

Describe the motivation or thinking behind designing/initiating/accepting this knowledge transfer work.

- Inclusion of Indigenous health into undergraduate medical curriculum has been nationally framed by the Committee of Deans of Australian Medical Schools, Indigenous Health Curriculum framework.
- Previously, an Aboriginal Health tutorial was developed and delivered on campus, with a Koorie tutor. This tutorial was not a ‘stand alone’ tutorial, but linked with other, integrated teaching in Aboriginal health.
- The development of this tutorial was to move it from the University campus, to The Koorie Heritage Trust, and thus, into an Aboriginal teaching space.
- Now, every Medical student that passes through The University of Melbourne will have had the opportunity to visit The Koorie Heritage Trust, a cultural keeping centre of national significance.
- The Koorie Heritage Trust’s knowledge informs the interaction in several ways
 1. By exposing the students to an Aboriginal cultural keeping centre
 2. By ensuring a culturally safe space for the Koorie tutors to undertake their teaching, thereby maximising their teaching input.
 3. By drawing on Indigenous knowledge to inform the teaching and learning of medical students.
 4. By exposing students to a resource which they can continually access throughout their degree.
- The impact on the relationship between The Koorie Heritage Trust and Onemda is that a Memorandum of Understanding has recently been signed which recognises not just this knowledge transfer initiative, but a range of other activities which now take place between The Koorie Heritage Trust and Onemda. These activities include:
 1. Collaborating to write an Aboriginal oral history “Listen up to Koories talk about Health” (Vickery, Clarke and Adams)
 2. Collaborating on innovative multimedia teaching resources
 3. The Trust hosting many Onemda Unit work and planning days

- This example of knowledge transfer has been reproduced in the School of Population Health's postgraduate teaching. Masters level subjects on Aboriginal Health and Aboriginal Health Policy run teaching sessions at The Trust, exposing students to the permanent exhibition, and the range of other, non-permanent displays.
- The working relationship around cross-cultural education, in particular, Aboriginal cultural education, has led to Onemda providing support and being a junior partner in The Koorie Heritage Trust winning a large and significant tender to deliver educational training sessions about Aboriginal culture to The Department of Human Services (Victoria) over 5 years.

Activity Title: PETRONAS Project
Faculty: School of Enterprise
Course: Graduate Certificate in International Management (PETRONAS) and Professional Certificate in Management (PETRONAS)
Partners in 2006: PETRONAS PERMATA

1. Basic details

Graduate Certificate in International Management (PETRONAS) and Professional Certificate in Management (PETRONAS)

These are in house, co-badged programs delivered at Kajang, Kuala Lumpur, to eight cohorts per annum. The teaching team is made up of about 9 academics of the University of Melbourne who travel to deliver intensively in country.

In the period 2003 – 2006 there have been in excess of 600 course completions and the contract is now extended through to 2009.

Developed by the School of Enterprise with support from The Faculty of Economics and Commerce

Developed for and with PETRONAS PERMATA – the learning and development unit of PETRONAS (the largest company in Malaysia which trades mainly in Oil and Gas)

2. Describe the knowledge transfer activity.

PETRONAS had completed a major review of its strengths and weaknesses, in regard its capacity to become a globally successful company.

As a result it sought expressions of interest from educational institutions in the USA, the European Community and Australia to become the educational partner to two programs. The Management Development Program for managers already in senior positions who could benefit from working together on topics identified by the Company and the Building Management Excellence program for those middle managers identified as potentials for senior management.

The School of Enterprise proposed the development of a customised in house program which could be developed as a co-badged award involving University of Melbourne entry management, all lecturing and assessment and include areas of improvement identified by PETRONAS' path to global operations.

On winning the tender PETRONAS provided the School with the key topic areas for each of the identified groups. The School staff worked with academic staff of the Faculty using a corporately focused master program as the template to develop an initial draft Graduate Certificate and Professional Certificate for review by the Company.

A full week of in-house discussion and review was then undertaken in Kuala Lumpur which allowed the learning and development staff of the company, the lead academic and lead contract manager to work through the proposed content and reach agreement. Additionally through this process appropriate Company data was identified to become part of the course content and due process was agreed to ensure its confidential release to the School.

The full course materials (all teaching notes and readings) were then reviewed by the Company and final sign off achieved.

The pilot delivery of both programs was completed within five months of winning of the contract. A full review was completed of both programs following this pilot which resulted in more company data becoming part of the content of the program and the assessment, which is integral to return on investment, confirmed as appropriate.

An additional customisation was agreed to for development of the first PETRONAS material case study. This study is based on the investment that PETRONAS has made in F1 racing and though not public, is now used in each program. Work has commenced on further PETRONAS case studies to be developed for use in the program, and are to be defined by topics completed as Major Projects which are described below.

The resulting product and service assists PETRONAS in its drive to become a global company by ensuring that the investment being made results in direct returns to the company. The methods include:

All topics are taught in the context of the Oil and Gas sector and specifically with reference to PETRONAS strategy, culture and global position.

All participants are PETRONAS nominees, thus the program is a strategic HR tool for the Company.

PETRONAS internal 'experts/strategy drivers' contribute directly to the course and this strategic content is reviewed annually. All teaching staff in the program are provided a full confidential briefing at least annually to ensure alignment of research based and industry educated teaching.

All assessment is relevant to the needs of the Company, however most specifically the major assessment to the program is large project which must be completed in a team. The team members must not work in the same sector or geographic site. The team must propose a topic and have this signed off by an appropriate Company Sponsor who agrees to provide access to appropriate data and advice as needed and who will make up part of the Project Presentation assessment team.

All projects are completed in writing but the final 10% of assessment relates to the Team Project Presentation where each team undertakes this presentation in front of the University of Melbourne assessors who are supported by all other Team Sponsors from throughout the Company.

The resulting projects (all of which are based on 'live data or live issues') are tracked for implementation in the Company and if possible there is also financial tracking as to the return on investment. This tracking is managed through the PETRONAS/School of Enterprise portal as developed and password protected for the Company. The site provides a data and communication portal for all alumni of the program.

3. Describe the motivation or thinking behind designing/initiating/accepting this knowledge transfer work.

- Both Graduate Programs provide the student with the capacity to develop his or her knowledge in general or international management within the context of their roles and aspiration for, and in the Company.
- Both Graduate Programs provide the University of Melbourne the opportunity to demonstrate its capacity to ensure high quality research based teaching in a totally Company customised environment. Academics have had the opportunity to publish through case studies as though the studies are commercial in confidence the moral right to the author has been negotiated.
- Academics involved in developing and teaching in the programs report significant development of understanding in their area of expertise of a complex corporate environment which in turn educates their teaching in public programs and their thinking in research.
- The Company is reporting significant success in implementation of the major projects (of which over 150 have been completed). Additionally there is significant development of networking throughout the organisation as a result of the strategic links developed as a result of team and group learning.

In short the PETRONAS program allows for research based teaching to be integrated with 'live' and globally focused practice resulting in a product that meets the developmental needs of the Company. It allows the University to increase its reach into Asia with an iconic Company in the region. It provides research and teaching staff of the University to develop networks in and perspective on the needs of large emerging global companies., to understand better how business is done in an asian company with staff in 35 countries.

The project by design provides an active avenue for knowledge transfer to occur both ways in particular in the areas of changing culture in companies, managing people and most importantly in knowledge management which is one of the key business differentiators identified in successful companies.

Activity Title: Royal Botanic Garden's Australian Research Centre for Urban Ecology (ARCUE) linkage with the School of Botany

Dept/Faculty: Botany/Science

Course: Bachelor of Science, honours, research higher degrees

Partners in 2006: Royal Botanic Garden's Australian Research Centre for Urban Ecology (ARCUE)

Our association with ARCUE came about because Prof. P. Ladiges was on the Board of the RBG until recently. The University and RBG signed a MOU a few years back to be mutually supportive in research and knowledge transfer.

This research centre is funded through the Baker Trust as a grant to the Royal Botanic Garden's, so their research income is not listed as ours. In other words the benefit of having the Centre associated with the School is not captured directly in research quantum. We provide ARCUE with access to offices, a lab., equipment, seminar series etc, to facilitate interaction with our staff and students. Their staff assist with training honours and postgraduate students and give some undergraduate lecturing in return.

We share knowledge in the field of plant ecology, including techniques etc.

Involvement

Initially Head of Botany (P. Ladiges), Director of RBG (P. Moors), Baker Trust and the Board of the RBG.

Impact

- A number of PhDs and honours students have been trained jointly
- ARCUE has contributed to undergraduate teaching in third year level applied ecology.
- ARCUE associated with Botany has attracted overseas leading ecologists, including two Miegunyah fellows, and workshops involving people applying ecological knowledge in planning and management of biodiversity in the city.
- Our School's profile has been raised with the Baker Foundation, which has potential for future funding.

Benefit to students

Undergraduates

They are being taught by 'industry' people and are therefore have exposure to 'real world'.

Direct input by industry people into curriculum development.

Postgraduates

Co-supervision of students by University/industry

Direct exposure to industry.

Benefit to ARCUE

- Gain direct access to highly trained graduates and has impact into training.
- Gain additional research benefits by getting access to grants and intellectual expertise by collaborating with academic staff.
- Access to world class research infrastructure.

Activity title: Practice Research Units
Department: School of Social Work, Faculty of Arts
Course: MA (Research) /Ph.D student level impact
Partners: Partnership organizations include large metropolitan hospitals (St Vincents, RMH, RWH, RCH, Alfred, Peter McCallum); Government departments: Human Services (Ageing, Health, Mental Health, Trauma and Resilience) and Department of Communities (Office of Senior Victorians); Moreland Hall; Jesuit Social Services; Brotherhood of St Laurence; Anglicare.

Describe the knowledge transfer activity.

The senior academics from the School of Social Work head up each Practice Research Unit, which works with key agency partners from the particular field of practice as well as government department representatives to research specific projects or conduct research/practice seminars.

Describe the motivation or thinking behind designing/initiating/accepting this knowledge transfer work.

- how does it link to the student's learning/teaching/research
- how does the partner's knowledge inform the interaction
- what has been the impact on the partner's work, and on the research or learning within the Department?

These Research Units were initiated in the 1980s to more directly engage the School of Social Work's research/consultancy work in the wider community with their postgraduate training activities. Each Unit supports three to five postgraduate research students.

The partners' knowledge directly informs the Research Units' activities. The focus is on applied research in specific sectors (as represented by the various external partners) and the communication of results for effective utilization of improved practice.

The impact on the partners' work is not detailed in the scoping study. However, each of the Research Units has generated successful ARC linkage Grant applications in Ageing, Health, Mental Health and Trauma and Resilience.