INSTITUTION-WIDE FOCUS
FOR STRUCTURED INDUSTRY ENGAGED LEARNING

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ABSTRACT
This paper reports on an on-going implementation of an institution-wide strategy for integrating and embedding Industry Engaged Learning into the curriculum. A case study on organisational change and curriculum enhancement, rationale and strategy for and components and assessment of the transformation are detailed. As such, the paper makes a general contribution to the literature on organisational change, and may be of particular value in the higher education context. Executives endeavouring to promote university renewal or encompassing curriculum change, and those concerned with enhancing learning outcomes from Industry Engaged Learning and similar models (e.g., Cooperative Education, Work Integrated Learning, Professional Practice) will find the paper relevant, fresh, thorough, and helpful.

Introduction: Complexity, Crisis, and Change
Universities are complex systems as, indeed, are all institutions. Institutional survival over time depends on resilience and adaptability, just as it does for living organisms. Ability to adjust to change, learn from experience, become stronger from challenge, and even act upon or influence their environment are attributes of complex adaptive systems. As a complex adaptive system (Schneider and Somers (2006), a university is composed of a variety of inter-related constituent parts operating more or less in harmony—a system of systems; while at the same time the larger system attempts to remain in balance and maintain some semblance of control as it interacts with the multitude of distinct, but co-dependent systems making up its external environment.1

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1 The theory and elaboration of complex adaptive systems are dealt with at length in Hays (2010a and 2010b); and systemic organisational change in Hays and Cowan-Sahadath (under review). See, also, Hays (1994).
Implications for organisational change are considerable, and lack of systems thinking and planning is at the heart of many failed change efforts. One can be certain that underlying a change initiative failing to produce hoped-for results or provoking unanticipated consequences are systemic issues that have been neglected. It is the complex relationships amongst system variables that are the hardest to understand and contend with. Lag times and cause-effect relationships that seem counterintuitive are just two characteristics of complex problems making them difficult to comprehend and resolve.\(^2\) Deciphering and working with these complex variables and their relationships is key to achieving desired change of any consequence. Hidden within this complexity are answers to questions regarding impediments to change such as resistance or poor functioning. They also indicate points of leverage and synergy that can unlock a system’s potential for change, learning, and performance.\(^3\)

Some organisational changes are peripheral or incremental. They do not impact on the way people think, what they value, or who they are. These are minor business process changes or technology upgrades. Such changes are relatively easy to institute (which may account for their appeal), and achieve correspondingly little in the final analysis. Paradoxically, negligible changes seem to occupy much of what we do; and, unfortunately preoccupying, they detract from meaningful change and impede productivity otherwise likely. And, often, the positive learning that could be derived from experience associated with such change is squandered. One series of change projects flows into the next as if each project is part of an overarching strategy—a purposeful stream of integrated and complementary projects when, in actuality, the projects are often discrete, unrelated, and competing with or undermining one other. Resulting crises and chaos permit little opportunity to reflect and learn from experience. It is a vicious cycle (see Hays, 2010b).\(^4\)

Meaningful change impacts not just what we do and how we do it, but takes performance to an unprecedented level. It affects not only how we look and act, but transforms the very fabric of

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\(^3\) A systemic approach to organisational change is described thoroughly in Hays [unpublished manuscript (see, especially, Appendix C “Chaos to Capability”); copies available upon request] and in Hays (2004; 2006a; 2006b).

\(^4\) Considerable work has been done to distinguish levels and types of change, along with their implications, with the most basic distinction being change as opposed to transformation. Basic change is usually construed as incremental or continuous and peripheral, while transformation is thought of as more fundamental, impacting deep structures and the very essence of persons, organisations, or societies. Useful sources include: Blackman and Henderson (2005), Cacioppe and Edwards (2005), Denning (2005), Kindler (1979), McNulty and Ferlie (2004), Rafferty and Simons (2006), and Scott (2003).
our existence, fundamentally altering how we think, what we care about, and how we define ourselves. Systemic change is change at this fundamental level. Changing an institution such as a university implies changing the system. This means, amongst other things, that institutional change initiatives or projects cannot and should not proceed independently or haphazardly. Rather, they should be planned and executed holistically. A holistic change program would, at the minimum:

- Clearly articulate the desired / ideal future state, and gain consensus on success measures.

- Link solidly to the institution’s strategic direction and objectives, and be shown to be crucial to their attainment.

- Analyse and “map” the system—identifying all barriers to and leverage points for change, and planning and implementing accordingly.

- Detail all aspects of the system needing change and the factors needing to be in place for successful change to occur.

- Develop individual project plans that address relevant changes in behaviour and operation *and* that collectively as an overall suite of projects delivers the desired future state.\(^5\)

- Build learning and adaptability into the process to quickly transfer learning from one project to the others and to optimise opportunities as they arise.

It goes without saying that significant organisational change depends on skills and tasks that are above and beyond those suggested by these half-dozen universal principles; and, in reality, much more work is entailed than they might at first blush indicate. But reasoned adherence to these principles and steps can increase the success rate and impact of change. Identifying the factors critical to program success and ensuring they are sufficiently in place can make the difference between attainment and failure. The important thing to remember about Critical Success Factors\(^6\) is that they concern not only tangibles such as dollars, skills, tools, and other resources, but intangibles such as will, passion, courage, or optimism as well.\(^7\) Much can be said for emotional momentum or a groundswell in enthusiasm. Emotions such as fear, anxiety, or distrust (or even

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\(^5\) The suite of projects must be encompassing and inclusive, ensuring all change program objectives and activities are integrated, harmonious, and complementary—where individual project success is seconded to achievement of the desired future state. Thus, individual projects are seen as feeders to one another and highly interdependent—instrumental not ends unto themselves, necessary, but insufficient.

\(^6\) See Zwikael and Globerson (2006) and Vakola and Wilson (2004); see also Hays (unpublished manuscript).

\(^7\) See Hays and Cowan-Sahadath (under review) for more on positivity and optimism with respect to change. Kim and Hays (2010c) also stress the importance of optimism, appreciation, and enthusiasm in leadership.
disinterest) can pose formidable opposition to a change effort, just as excitement, hope, or curiosity can accelerate it (Kets de Vries and Balazs (1998).

While institutional change is seldom as simple and straightforward as we might wish, it is both possible and predictable. But it must be undertaken systemically; that is, using a whole systems approach. Programs or projects undertaken piecemeal will likely be unfruitful; and, while a given project might be completed within time and budget, it may have little overall impact. The project mentality is a particularly insidious problem. While beyond current scope to explore at length, one deleterious aspect of the project mentality is that the project comes to be seen as an end unto itself instead of as an instrumental part of achieving something more meaningful: viewed as the “end game,” project team members lose sight of the bigger picture. They may be rated and rewarded on their project performance, for instance, instead of their contribution to the overall program. This can result in unhealthy and, perhaps unwitting, competition and undermining of collective efforts. The authors refer to this tendency to maximise projects or performance in individual efforts at cost to the overall program or greater good satisficing.8

Bringing the discussion of complex adaptive systems and holistic organisational change back to the matter at hand, the remainder of this paper describes a large-scale, institution-wide change focus at a university in the southern hemisphere. The specific change program focused on embedding Industry Engaged Learning throughout the curriculum.

**Industry Engaged Learning**

Industry Engaged Learning is a structured learning experience that involved active engagement in a real-world work context. In the best-case scenario, students work in real jobs that are related to their majors, course of study, or chosen profession. Basic versions of this mode of learning have long existed in professions such as nursing and teaching, and today professional practice dominates engineering and design curricula. It is not as common in majors having less prescriptive curricula, most likely because it is more difficult to find good student-job fits. Even work experiences only distantly related to the student’s major can be of great value and count as IEL to the degree that they promote learning and development in desirable graduate attributes and key generic skills.

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8 See Byron (2004) as one source on satisficing.
Jobs are considered real for practitioners of Industry Engaged Learning if they involve students substantially or fundamentally in authentic places of work, performing meaningful tasks that contribute to the organisation or institution’s primary objectives. This means these student-workers are integral parts of production or service delivery, as with any other legitimate employee or team member. Students in these capacities work for and with real people, including other employees, suppliers, customers, and clients. They are taken out of the typical academic context for some designated period or proportion of their study time. One implication of this is that experiential learning activities, with case studies, simulations, or team projects, as examples, and having no direct contact with industry or the community, would generally be excluded from classification as IEL (see section on classification, below).

Such jobs can be in industry, the community, or even at the academic institution. It is not the job or location of the work that is most important, but rather the relationship between the work and the student’s study and the learning that comes from the experience.

Industry Engaged Learning is similar in some respects to professional practice programs such as Cooperative Education, Industry-Based Learning (IBL), and Work Integrated Learning (WIL). These programs all have at their core students working, the assumption being that working experience complements academic study. The intent of such programs is that they will bridge the theory-practice divide: students undertaking them will graduate more employable and better equipped to “hit the ground running” than their counterparts who have completed academic units only.

The traditional professional practice model in higher education is the so-called “sandwich”: one or more relevant work experiences sandwiched between standard coursework study periods. Many of these programs stipulate that students will work full-time and be paid near-graduate wages. While reasonable, these requirements reduce the number of positions actually made available to students, and more flexible programs are needed.

There is little disputing that students working through such programs undoubtedly gain valuable practical experience unlikely afforded by academic study alone. However, these programs are

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9 We will not attempt to cite definitive works in these areas, but refer readers to fine journals such as the Journal of Cooperative Education and Internships, Asia Pacific Journal of Cooperative Education, and Journal of Teaching and Learning for Graduate Employability. At least a dozen prominent journals have published articles on related themes, including a 2010 special edition on Work Integrated Learning in Higher Education Research and Development.
labour-intensive and costly, and are often seen as adjunct and cumbersome rather than fully-integrated into curricula. A range of options is probably the best way to accommodate diverse curricula, student preferences, and host organisation requirements, but makes administering these programs more difficult.

While it is reasonable to assume students learn for, at, through, and from work, many students, themselves, fail to recognise what they have learnt and its value. Many students speak of their work experience in glowing terms, and are particularly optimistic about their employment prospects as a result of their gained work experience. However, few appear to make the leap between theory and practice or learn to learn from practice. They believe they have learnt, though are vague as to what. There is nothing inherent in work, per se, that facilitates such awareness and appreciation. In fact, the typical work environment mitigates against such learning: busyness is stressed; learning is not. It would also be the rare workplace manager that understands how best to structure work for learning or how to exact the best lessons from experience.

One of the objectives of the change program that is the focus of the case presented herein was to change the way students, academics, workplace supervisors think about and value work and the learning that can come from experience: that it is, in fact, learning from practice that matters, not merely the practice itself. Some might argue that this takes the emphasis off work. It is not that we are diminishing the value of work or experience, but that we are emphasising what can be gained from work over and above experience. That so much can be gained from work over and above the experience emphasises the need to re-examine our Industry Engaged Learning units to incorporate supervision and assessment that foster students reflecting upon practice and upon themselves as learning practitioners.

The chief reason behind this push was the university’s declared commitment to have Industry Engaged Learning a meaningful part of every undergraduate degree program by 2015, or, as the Vice Chancellor put it, “To deliver world-class practical outcomes through Industry Engaged Learning.” We explain more about the IEL curriculum further on.

**Embedding IEL Institution-wide: A Major Change Focus**

It may not be obvious that this new emphasis across the university represents a significant change in behaviour (what we do and how we do it), but change in thinking and valuing as well—change
presupposing new and different skill sets, knowledge and understanding, themselves the product of on-going education and engagement, and the institution of a variety of new policies, procedures, processes, mechanisms, and systems for doing the work. To increase the probability of successfully embedding IEL throughout the curriculum we attempted to explicate all of the behavioural and cognitive shifts necessary and that indicate achievement of the desired future state. Enhancing current practice as an Industry Engaged Learning institution was a challenging endeavour at the heart of the university’s identity, with particular focus on reviewing and enhancing all units to optimise learning through work an on-going undertaking.

The review (see below) identified a number of key shifts applicable to most change programs of this scope. Main transitions are shown in Figure 1. In a related activity, we developed a Force Field Analysis10 with respect to the change effort, identifying forces for and forces against attainment of the ideal future state. Forces promoting and supporting change included strong senior leadership support, building national and international momentum for Work Integrated Learning, and a concomitant drive toward blended learning. A primary impeding force was found to be the highly-decentralised nature of university operations, including how its Industry Engaged Learning programs were administered. These shifts and FFA findings were incorporated into the change program and embodied in the university IEL strategy and change management plan.

**Challenges for Institution-wide Focus for Structured Industry Engaged Learning**

An institution-wide refocused orientation and across-the-board enhancements to practice represent nothing short of a transformation. Achieving these aspirations demands major organisational change, encompassing processes, tools, techniques, and systems, and the culture of the university itself. Such transformation implies fundamental changes in language, norms, roles, relationships, identity, values, interaction patterns, rules, and more. One need only to consider the volume of faculty and staff members who will be part of the change to appreciate the scope of...

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10 Kurt Lewin (1943; 1951) is the acknowledged originator of field theory and the FFA (see, also, Cartwright, 1951). The FFA has since become part of the standard change toolkit. See Brager and Holloway (1992), Hays (unpublished manuscript), or Schwering (2003) for background on usage.
what the university is undertaking, including the positive impact on the students and the many industry and community partners who will be involved—each in his or her own way taking on a new role, doing things differently, learning new skills, embracing a new set of goals, and being held accountable for products and services that may be new in practice.

Concluding Remarks

Though a recent term, Industry Engaged Learning builds on a solid history of work experience for learning programs such as Cooperative Education and Work Integrated Learning. Many would be familiar with these programs and what they essentially attempt to achieve. Few would dispute that work experience for learning programs have merit and contribute in practical ways to a university education. What role they specifically play and how they best complement formal academic study remain topics of interest. Having worked in the field in various capacities for several years and researched a variety of aspects of work experience for learning, the authors conclude that these programs have more potential than has yet been realised or for which they have been given credit. They confer more than employability skills and jobs upon graduation, worthy objectives in their own right. They have the potential to contribute significantly to the learning and the shaping of values and identity that should accompany formal academic study. We see as a challenge that all stakeholders—teachers, academic mentors, workplace supervisors, students, and program administrators—need to come to a shared appreciation of what work experience for learning programs have to offer and commitment to realising fully their potential.

A fundamental weakness in work experience for learning programs is that they remain generally misconceived, under-estimated, and poorly-resourced. One important causal factor here is that they are not sufficiently researched. Much needs to be better understood. Practice often lacks strong theory foundations.

Given our conclusion that work experience for learning programs are under-researched, particularly in the difficult domains of learning, we are making a strong commitment to developing a research agenda and capability in the area of Industry Engaged Learning and quality assurance in teaching and learning aspects of these programs. Over the next three to five years we will champion research into how, when, and why learning from work experience occurs and may be enhanced, and we will be looking into the relative merits of different types of IEL programs. We will examine preparatory, through-going, and follow-up and transition-back learning strategies. Our commitment extends to developing and validating a theory for Industry
Engaged Learning. The field suffers from lack of such theorising. Our focus is expected to draw upon and synthesise theories of adult, experiential, transformational, and workplace learning.

As a final observation, we speculate that, to date, professional practice as a discipline has emphasised practice over theory. We have tended to focus on the work, itself, rather than the learning that can be promoted from the experience. Our goal forward is to peer outside our practice and begin to redefine it in accord with a world quickly leaving us behind but offering untold opportunities in the future. We look forward to the journey and recognise the support of the World Association for Cooperative Education and the Australian Collaborative Education Network communities in doing so.

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References


Swinburne University of Technology is at the forefront of Industry Engaged Learning, demonstrating global leadership in the theory and practice of IEL. Its IEL program is a key differentiator, positioning Swinburne to attract a greater number and diversity of students, and garner attention from and foster greater collaboration with industry and community. Alumni support the program enthusiastically and create new and different opportunities for students to engage in industry and community learning.

Every student graduating from Swinburne has a set of meaningful and relevant Industry Engaged Learning experiences that are fully integrated into and a natural part of their studies. These experiences enrich students’ academic studies, leading to achievement of Swinburne’s aim to produce graduates with outstanding and sought-after practical knowledge and skills. IEL is perceived by students as vital to their education and future. Every faculty and administrative staff member at Swinburne understands, embraces, and promotes the philosophy and aims of Industry Engaged Learning; IEL permeates the curriculum and is an integral part of all planning, initiatives, and activities.

Industry Engaged Learning is embedded in practice. It is the way Swinburne does its core business, not just in delivery of education to students but in its approach to engaging with industry, the community, and other educational institutions as well. It is the university culture. When we think of learning and teaching, we think outside the confines of the classroom to the workplace and other non-traditional sites of learning. This enables Swinburne to capitalise upon learning opportunities arising anywhere, any time. Since we are continually learning and innovating we stay ahead of all competitors who strive to duplicate but can never surpass us.