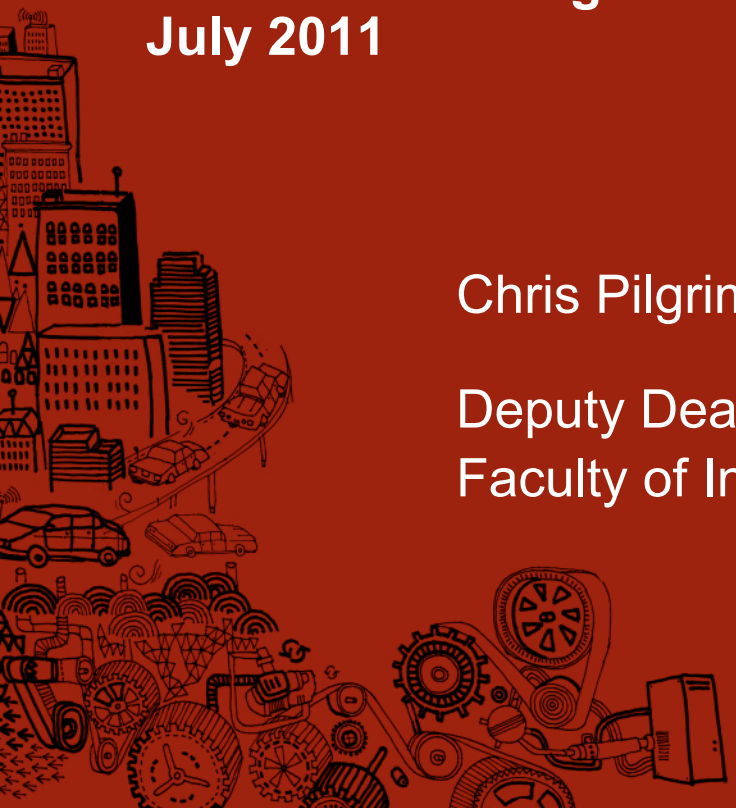
# Professional Practice – A Proposal

SWINBURNE UNIVERSITY OF TECHNOLOGY

**ACDICT Learning and Teaching Network Forum, July 2011**



Chris Pilgrim

Deputy Dean,
Faculty of Information and Communication Technologies

# Business takes dim view of academe

- **Julie Hare**
- From: **The Australian**
- March 30, 2011 12:00AM

Michael Andrew, chairman of the Business Council of Australia's education taskforce

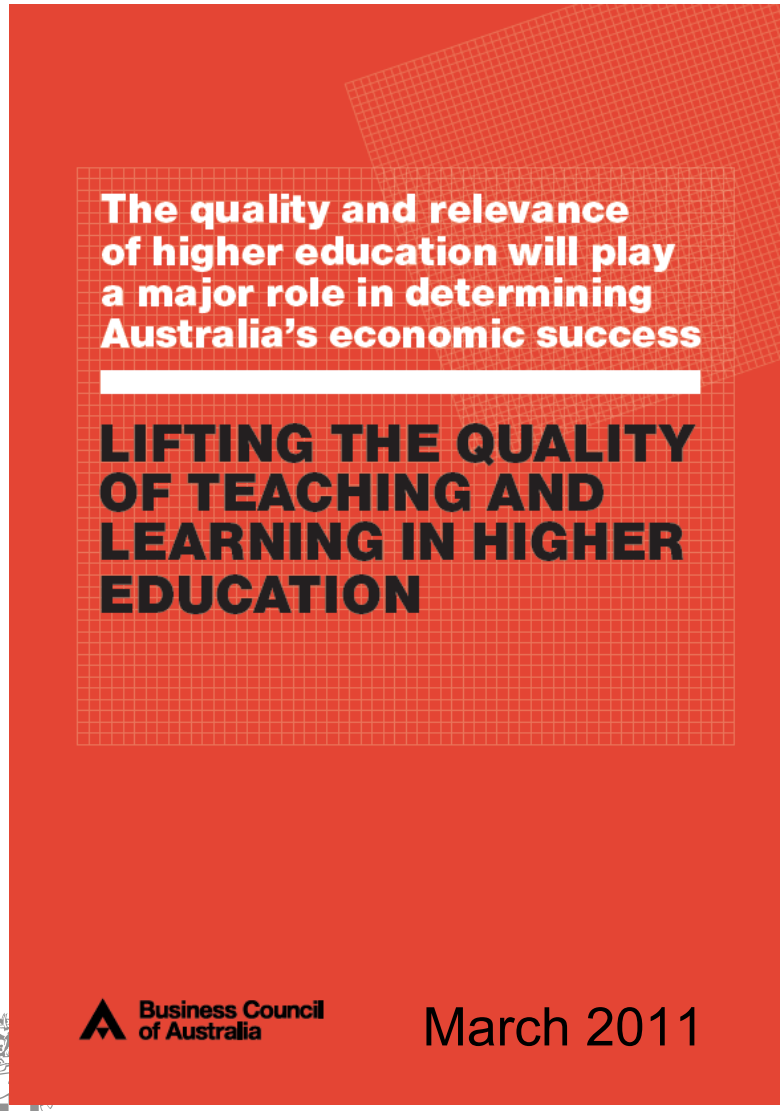
**AUSTRALIA'S business leaders say "suede patch tenured academics" are more interested in preserving the status quo than working to produce graduates with the skills necessary to succeed in business.**

Launching its higher education policy exclusively to The Australian on Monday, the Business Council of Australia's education taskforce said graduates still lacked essential attributes, especially in leadership, teamwork and communication, but universities were failing to heed the call.

"I keep saying to universities that I am your major customer. I take 750 of your product each year. I want engagement around what you are teaching," taskforce chairman Michael Andrew said.

"You need to look at this as a package in the same way as a customer-supplier relationship. Once you have that mindset, there are a lot of wins."

Mr Andrew's comments drew wholesale support from the taskforce. "There is a desire to maintain the status quo and resistance to change from within academia," said Paul Dougas, chief executive of engineering firm Sinclair Knight Merz. "It's based on a desire not to be tainted or influenced, to keep research as a priority and their purist approach to developing the boundaries of knowledge."




- Funding linked to T&L performance
- Institutions to recognise/ reward PD taken by academics and teaching performance
- Increased engagement with industry on curriculum
- A demand-driven system that is responsive to requirements of business as well as students

# Professional Practice – A Proposal

## Agenda

- Background
  - Workshop - Work Integrated Learning – ACDICT T&L Forum (May 2010)
  - Joint ACS, ACDICT, Industry Workshop on WIL (Nov 2010)
  - ALTC Priority Project (OUW, UQ, Murdoch, Swinburne)
- ACS Accreditation
- Challenges for ICT – Perceptions
- Engineers Australia Accreditation
- Proposal
- Workshop – Learning Outcomes and Experiences for PP
- Discussion and Summary

# Work Integrated Learning
# ACDICT T&L Forum (May 2010)

## Sector split over on-the-job year for IT students

**Joanna Mather**

The peak body for computer professionals wants information technology degrees extended by up to 12 months to make room for a compulsory work placement period, but academics and industry giant Google have baulked at the idea.

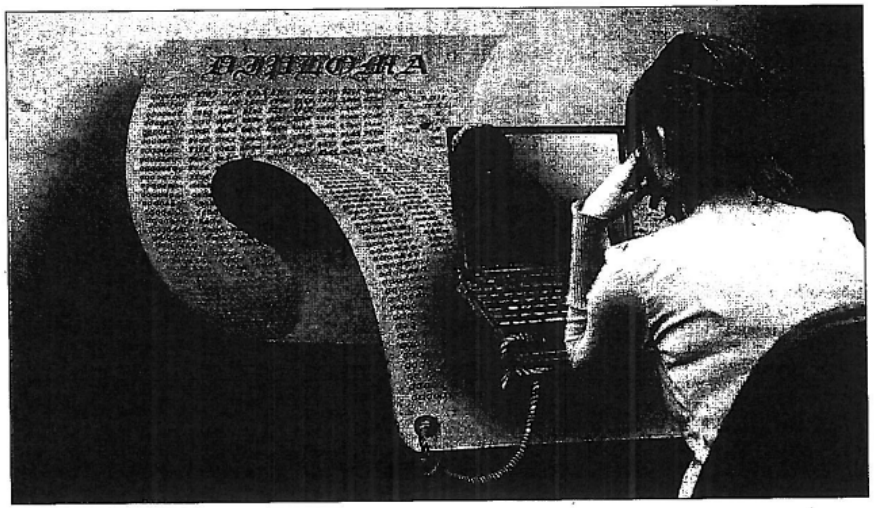
The Australian Computer Society says a portion of the $600 million skills package announced in the federal budget should subsidise employers who provide formal internships for IT and computer science students.

While industry placements are mandated in engineering, teaching and nursing degrees, there is no such requirement for trainee IT professionals.

ACS chief executive Bruce Lakin said graduates needed to be more work-ready, particularly as the information and communications technology sector braces for a flurry of activity associated with the roll-out of the national broadband network and e-health initiatives.

"Universities are releasing graduates equipped for lifelong learning but industry is looking for graduates who are capable of being productive in the shortest time possible," he said.

"There is a growing body of opinion, which ACS is fostering, to say the way we address that is to make a component of workplace-integrated learning a compulsory part of the curriculum."



**Students who confine themselves to course work lack work readiness, says the ACS.** Illustration: KARL HILZINGER

This means structured learning in the workplace rather than more informal or voluntary work experience.

Given skills shortage forecasts, work-integrated learning is a hot topic among university leaders and employers, and there are calls for a national internship program for students across all disciplines.

Mr Lakin urged the federal government to provide subsidies or tax incentives to employers hosting IT interns to help strengthen the digital economy, identified by the Henry tax review as one of the four key drivers of prosperity.

In a similar vein, the Australian Technology Network of universities has called more broadly for government incentives for businesses to provide paid student internships and retraining opportunities for older workers.

But academics were hesitant to back the ACS proposal, arguing students have varying family and other work commitments.

Google's head of engineers in Australia, Alan Noble, said although employers placed enormous value on real-world experience, straight-jacketing students into a singular approach was not the answer.

"I don't think there is one silver bullet," he said.

"Work-integrated learning is certainly one avenue but I would caution it's not the only avenue."

Mr Noble said creating an iPhone application, for example, would not fall under the banner of work-integrated learning but was valuable nonetheless.

"I'd be the first to say we are looking for students who have experience," he said. "We'd also like to think we could hire excellent grads who, for whatever reason, haven't had an opportunity to acquire that experience."

The ACS foundation has a well-established work-integrated learning program.

It provides scholarships worth between $25,000and $35,000for students to do 48-week placements or shorter placements on a pro-rata basis.

The ACS has raised the issue with the Australian Council of Deans of Information and Communications Technology, which will table the subject at a meeting in July.

Mr Lakin admits there is little consensus. "Among the 17 deans ... the majority support it but some take a view that says, 'We're not in the business of teaching vocational skills, we're about teaching the philosophy of learning, the meaning of life."

ACD president and dean of the School of Information Technology at Murdoch University, Peter Cole, said employers were very keen to see students gain hands-on experience during their studies.

However, the three-year degree was already full to bursting and it

**Continued next page**

The Australian Financial Review - May 30, 2010

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Professor Kaplan said it was a question of getting the balance right between theory and practice.

"Industry wants people who are useful tomorrow, and it's easy to force students to do more vocational work so they are useful tomorrow.

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"I don't think there is one silver bullet," he said.

"Work-integrated learning is certainly one avenue but I would caution it's not the only avenue."

However, the three-year degree was already full to bursting and it was difficult to see how a mandatory period of work-integrated learning could be squeezed in.

"It's whether or not ICT education wants to move towards a four-year degree," Professor Cole said.

This means structured learning in the workplace rather than more informal or voluntary work experience.

But academics were hesitant to back the ACS proposal, arguing students have varying family and other work commitments.

"It's also got to be industry experience that matches the achievement level of the students," he said. "If you've got some really technically smart person, you are going to upset them if you stick them on a help desk for a month."

# Models of Professional Practice


Case studies

Experiential Learning

Industry guest speakers

Simulations

Industry-linked Project

Scholarship IBL

IBL

Internship / WIL

Industry Placement (IP)

Clinical Placement

Professional Placement for Credit

Project-based Internship

Service Learning

Site Visit/Fieldwork

# ACDICT L&T Forum – May 2010

- WIL
  - Objectives
- Compulsory WIL
  - Equity and access
- Industry needs vs Education
  - Stakeholders - benefits and costs
  - Stakeholders – roles and responsibilities
- Models of WIL
  - Internal vs external
  - Structured vs opportunistic
  - Characteristics of a successful WIL experience
- Resourcing WIL
  - National programs
  - University support

# Forum Outcomes

- Value of WIL
- Rejection of compulsory WIL
  - Access, equity, quality
  - Student diversity and life
- WIL to focus on learning outcomes
  - Centrality of the student in WIL
- Acceptance of multiple WIL models
  - Internal and external

# Joint ACS, ACDICT, Industry workshop on WIL (Nov 2010)

- Acknowledgement that **"WIL ≠ placement"**
- Consider whether all ICT degrees should have a WIL experience – perhaps equated to '12 weeks' (i.e. similar to Engineers Australia requirement)
- Recommended a review of the "Capstone Unit" requirement in the ACS accreditation guidelines.

# ACS Accreditation

"ICT is a practical science and practical work, as in project work or industry placements, is required at some point in programs of study so that learning of applied skills and knowledge can be fully developed."

(ACS ANZ Accreditation Board – Application Guidelines 2009 Underlying Principles – p26)

# ACS Accreditation

"The program will include a capstone unit in the final year to allow an assessment of the program objectives."

# ACS Accreditation - Capstone

- Appendix 3: Policy on Capstone Units
- Objectives:
  - "integrate the skills and knowledge developed throughout the program"
  - "provide a structured learning experience to facilitate a smooth transition to professional practice or further study in the discipline."

# ACS Accreditation - Capstone

- "Guidelines are not prescriptive" – "alternate approaches to address objectives"
- "Authentic learning experience" – "based on the type of professional experiences following graduation"
- "Industry Based Learning or an industry project"
- "On campus learning experiences are acceptable" – "the learning experience must capture significant aspects of professional practice"

# Industry and Community Perceptions

- Industry – desire graduates with work experience
- Community – some poor perceptions of professional nature of the ICT industry
- Students – is there a desire to become a professional?

- Is there an opportunity to address these concerns through a change to accreditation?

# Engineers Aust Accreditation

- “A minimum of 12 weeks of experience in an engineering-practice environment (or a satisfactory alternative)”
- “No real substitute for first-hand experience”
- “However it is recognised that this may not always be possible.”

# Engineers Aust Accreditation

"Professional engineering practice exposure must include some of the following:

- use of staff with industry experience,
- practical experience
- guest presenters
- industry visits
- industry based final year project,
- industry research for feasibility studies,
- interviewing engineering professionals,
- industry based investigatory assignments,
- case studies
- etc:"

# Engineers Aust Accreditation

"The requirement for accreditation is that programs incorporate a mix of the above elements, and others

- perhaps offering a variety of opportunities to different students
- to a total that can reasonably be seen as equivalent to at least 12 weeks of full time exposure to professional practice in terms of the learning outcomes provided."

# For ICT …..

- Should we specify a minimum of 12 weeks of experience (or equivalent)?
- Positive impact on perceptions of:
  - Prospective students
  - Parents and teachers
  - Industry
  - Government
  - Community

# Professional Practice - Proposal

1. Remove the ‘Professional Practice’ objective from the Capstone Unit. This unit should focus on the objective of providing an integrative experience in the final year of the course.
2. Add a Professional Practice requirement to the ACS Accreditation Requirements that specifies that students must undertake at least 12 weeks exposure to professional ICT practice (or equivalent) prior to graduation.
3. Include Guidelines that provide a broad set of **learning experiences** that may contribute to the Professional Practice requirement including both on-campus and off-campus experiences.

   The Guidelines should be informed by specific desired **learning outcomes** and provide advice on how the Professional Practice requirement should be demonstrated.

# Discussion

- Should we require a minimum of 12 weeks of experience (or equivalent)?
- Would there be a positive impact on perceptions of:
  - Prospective Students and their parents and teachers
  - Industry, government and the community

- What Learning Outcomes should be prescribed?
- What Learning Experiences should be included?

# PP - Learning Outcomes

- Learning about an occupation
- Learning about some of the variations of that occupation
- Extending the knowledge learnt in university settings
- Gaining an orientation to the kinds of places where the occupation is practiced
- Building the capacities required to engage in and be an effective professional practitioner
- Developing occupationally specific forms of knowledge required for particular practice settings
- Meeting requirements of occupational or professional licensing.

"Guidelines for Practice: Integrating Practice-Based Experiences"
Stephen Billett, ALTC National Teaching Fellow, Griffith University

# EA – Learning Experiences

- use of staff with industry experience,
- practical experience in an engineering environment outside the teaching establishment,
- mandatory exposure to lectures on professional ethics and conduct,
- use of guest presenters,
- industry visits and inspections,
- an industry based final year project,
- industry research for feasibility studies,
- study of industry policies, processes, practices and benchmarks,
- interviewing engineering professionals,
- industry based investigatory assignments,
- direct industry input of data and advice to problem solving, projects and evaluation tasks,
- electronic links with practising professionals,
- case studies.