

***CHANGE IS INEVITABLE, REINVENTING
CURRICULUM, STAFF, AND SPACES – THE
JOURNEY TO IMPLEMENT THE CENTRE FOR
ADVANCED DESIGN IN ENGINEERING
TRAINING (CADET)***

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SCHOOL OF ENGINEERING

CONTENTS

- Deakin University, School of Engineering
- What is the Centre for Advanced Design in Engineering Training (CADET)
- Open Flexible Working Space(s)
- Project Oriented Design Based Learning (PODBL)
- Change Management, Distributed Leadership, and Change Management Process
- Conclusion



Deakin University has four campuses in Victoria



About Deakin University

- Established in 1974 – 40 years in 2014
- Australia's ninth largest university
- Students from >130 countries – 49,500 students overall
- Deakin is in the top 3% of the world's universities in each of the three major international rankings – Academic Ranking of World Universities (ARWU), Times Higher Education and QS world university rankings
- Deakin is ranked 59 in the world in the Times Higher Education Top 100 Universities under 50 years of age rankings (2014).
- Deakin is a sector leader for student satisfaction, first in Victoria for the fourth consecutive year (Australian Graduate Survey).
- Four faculties, Health, Arts and Education, Business and Law, Science, Engineering and Built Environment, School of Engineering is one of four Schools in the latter

SCHOOL OF ENGINEERING GEELONG WAURN PONDS CAMPUS

- 76 staff members (35% growth in last 18 months - technical, administrative and academic staff)
 - Expect 1220 EFTSL in 2015 (in 2014: 1125 EFTSL – 76% UG (incl 40% in the cloud/online) 24% Masters (excl HDR 60 - FTE in School))
 - School has doubled student enrolment nos in last few years
 - Engineering disciplines:
Mechanical, Electrical and Electronics,
Mechatronics, Civil
- Also Bachelor of Design Technology



CADET

Centre for Advanced Design in Engineering Training

- What is it?
- Partnership with Gordon Institute of TAFE and two strategic secondary school partners Belmont High and Matthew Flinders
- It is going to be different - years 9 – PhD (make secondary students interested early)
- Engineering skills shortage (majority of engineers baby boomers ready for retirement, expected shortage 28,000)
- Fits in with Geelong's sustainable growth strategy – also a response to manufacturing decline
- Closely with industry – meeting future industry needs
- Way forward for Deakin, Geelong and region, and Australia
- Idea of Prof Guy Littlefair, Dean and Head of School of Engineering
- Building designed for 'student centred learning' by Gray Puksand Architects



EDUCATION INVESTMENT FUND (EIF) SUCCESSFUL \$55MILLION PROJECT (\$21.5M STATE GOVERNMENT AND THE REMAINDER \$33.5M FROM DEAKIN)



CADET

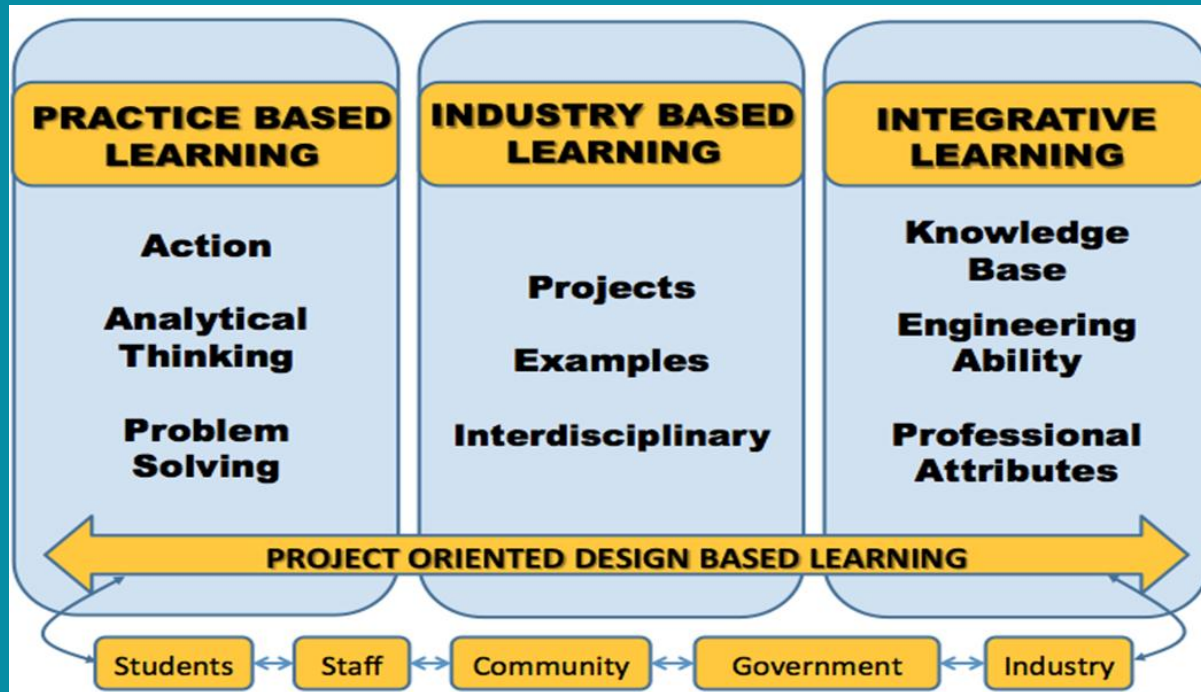
“We wont use classrooms, we will use super smart labs where creativity and design and problem solving will be at the heart of the curriculum, and the learners design, builds and learns at the same time”

Prof. Jane den Hollander – Deakin vice-chancellor

CADET ties beautifully in with Deakin’s LIVE Strategy 2020



PODBL



UNLEASH STUDENT CREATIVITY – BUT HOW WOULD ACADEMIC STAFF BE WILLING AND COPE WITH THE NEW EXPECTATION – BEING A FACILITATOR(S)?



OPEN FLEXIBLE WORKING SPACE(S)

LABORATORIES -11 NEW ONES IN ADDITION TO EXISTING BUILDING

NEW HIGH VOLTAGE LABORATORY LARGEST IN AUSTRALIA



Student Learning spaces

- Multi function design
- Visible accessible
- Comfortable, technology rich
- Supported by Cloud learning
- BYOD (Bring your own device) i.e. Iphone, Ipad,... No computer IT labs
- Lots of PODBL break out spaces/rooms (adjacent to labs)
- Cafeteria for student and staff interaction



OPEN FLEXIBLE WORKING SPACE(S)

- We did NOT want this?
- Not flexible actually - just open (imagine the noise)



- Qantas lounges
- Hot desks or work from a couch

All administrative and all academic staff (technical staff would be in labs) to share open flexible space 'hot desks' similar to Qantas lounge spaces! No offices... no designated desk/space

Was it going to be like playing musical chairs?



Read a journal paper 'Territory and privacy in academic workspaces' (Kimmons and Austin 2012) of study with academics working in hot desks, was alarming... glaring at others, my space, would not leave work, others to mind their spots, they ended up abandoning it eventually

We must NOT repeat this...



CHANGE MANAGEMENT AND DISTRIBUTED LEADERSHIP

- Same workload + growth
- Change Management consultant?
- Strategic Leadership team expanded
- Planning...Planning...



CADET CHANGE MANAGEMENT PROCESS

First we did:

- A focus on ownership and influencing something unique with clear management team accountabilities
- A review of CADET facilities and capacity
- Opportunity to innovate learning and teaching that serves industry needs
- A review of PODBL challenges and benefits
- A discussion of roles, communication and interaction between academic, technical and administration
- Discussion on industry engagement and involvement
- Change management planning and mapping
- Development of a draft vision for CADET
- Agreement that staff are at the early stages of the change process
- Strategies to support staff to embrace the changes and move forward in the change process were reviewed

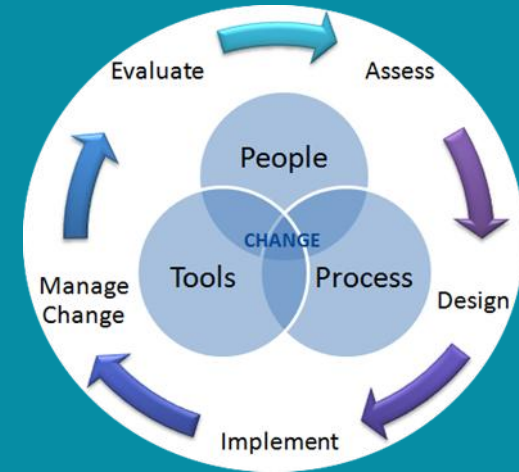
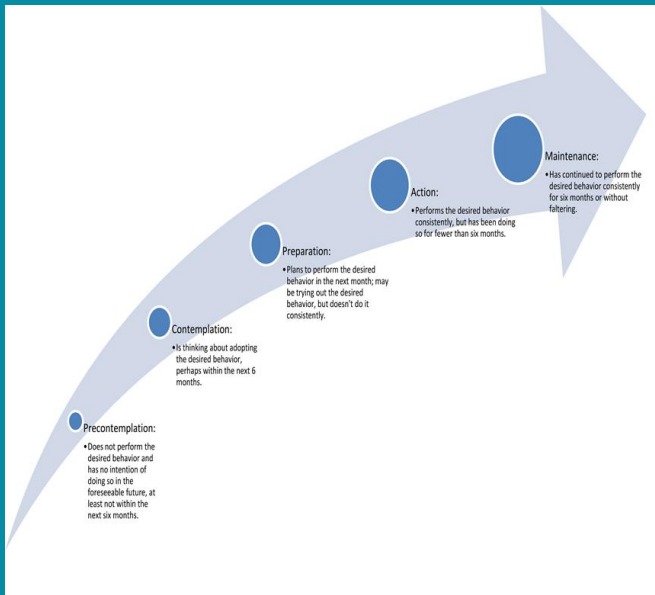


DISTRIBUTED LEADERSHIP

DISTRIBUTED LEADERSHIP IS A LEADERSHIP APPROACH IN WHICH COLLABORATIVE WORKING IS UNDERTAKEN BETWEEN INDIVIDUALS WHO TRUST AND RESPECT EACH OTHER'S CONTRIBUTION. IT OCCURS AS A RESULT OF AN OPEN CULTURE WITHIN AND ACROSS AN INSTITUTION. IT IS AN APPROACH IN WHICH REFLECTIVE PRACTICE IS AN INTEGRAL PART ENABLING ACTIONS TO BE CRITIQUED, CHALLENGED AND DEVELOPED THROUGH CYCLES OF PLANNING, ACTION, REFLECTION AND ASSESSMENT AND REPLANNING. IT HAPPENS MOST EFFECTIVELY WHEN PEOPLE AT ALL LEVELS ENGAGE IN ACTION, ACCEPTING LEADERSHIP IN THEIR PARTICULAR AREAS OF EXPERTISE. IT REQUIRES RESOURCES THAT SUPPORT AND ENABLE COLLABORATIVE ENVIRONMENTS TOGETHER WITH A FLEXIBLE APPROACH TO SPACE, TIME AND FINANCE WHICH OCCUR AS A RESULT OF DIVERSE CONTEXTUAL SETTINGS IN AN INSTITUTION.

(JONES, HARVEY, LEFOE, RYLAND 2013, P.21).





THE CHANGE PROCESS INCLUDED AN ASSESSMENT PROCESS REVIEWING THE PEOPLE, PROCESSES AND TOOLS TO SUPPORT FUTURE DESIGN PLANS AND ACTIONS. CHANGE MAP HIGHLIGHTING KEY FOCUS AREAS INCLUDING: ADOPTION AND REWARDS COMMUNICATIONS LEARNING AND SUPPORT



ALL STAFF PLANNING DAY 1

BUILD POSITIVITY AND ENGAGEMENT

INTRODUCTION TO PODBL – PROS AND CONS

THREATS, COMPETITORS AND TRENDS

STAFF NEEDS GOING FORWARD

THE FACILITY



ALL STAFF PLANNING DAY 1 – STAFF FEEDBACK

Please rate the following:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
◆ The workshop was relevant and informative	4%		7%	33%	56%
◆ The workshop met my objectives			11%	48%	41%
◆ The presentations were useful and supported the objectives	4%			44%	52%



ALL STAFF PLANNING DAY 1

STAFF FEEDBACK SURVEY

Highlight one outcome that you will apply from today

- Plan for appropriate changes
- Design based approach
- There is a need for change
- Team based workshop
- Communicating CADET to external and internal staff
- Communicating information to colleagues in the Faculty to assist going forward
- More open minded
- Further upskilling
- Change my unit
- The need to study DOBDL further
- Enhance student outcomes
- Engage more positively in the process
- Celebrate success
- How to put PODBL in my units
- Learn and do more research in understanding PODBL**
- Discuss project development with other staff



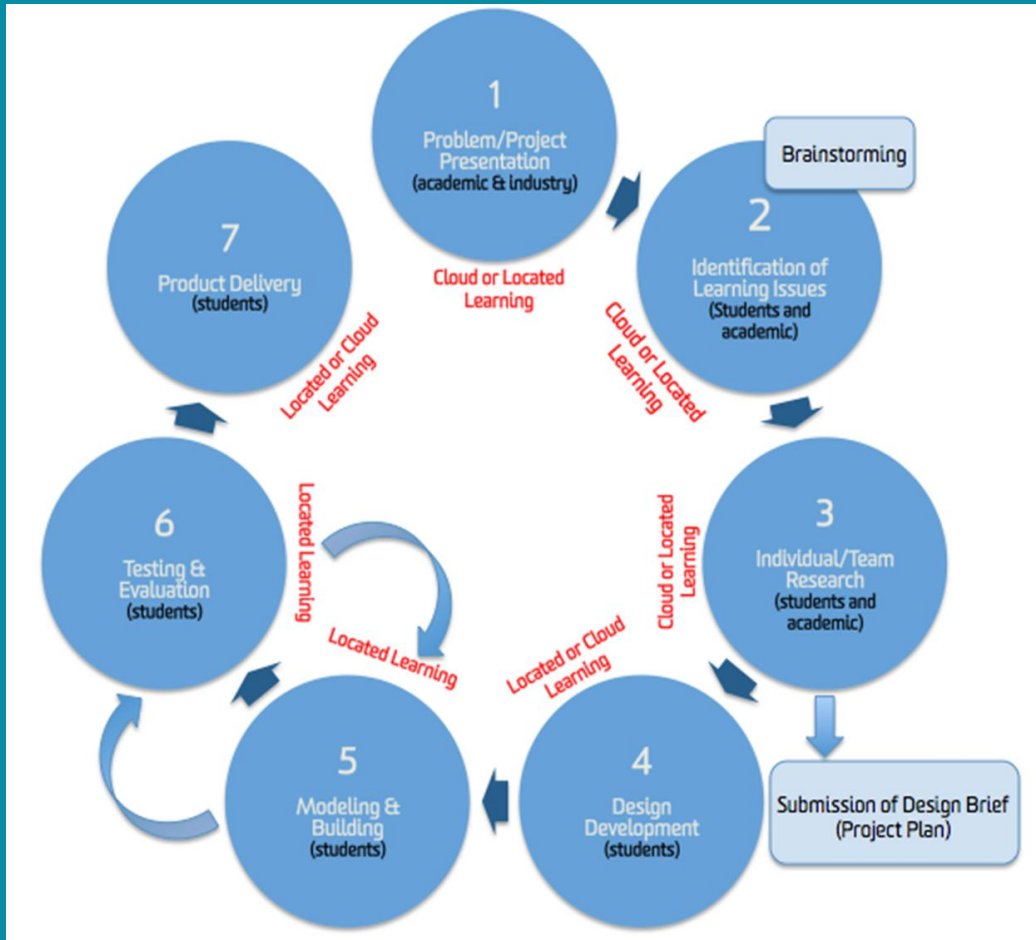
WE HUNG DRAWINGS EVERYWHERE



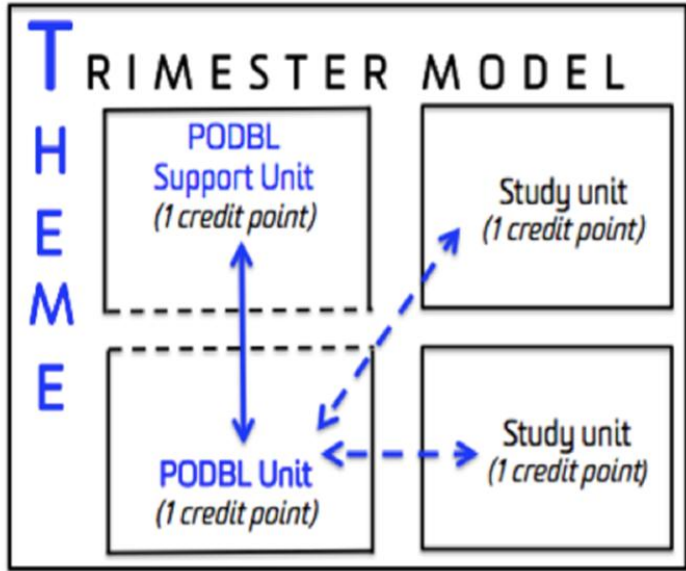
PODBL WORKSHOP PLANNING DAY

- Workshopped various models taken from various institutions, pros and cons for each one - Deakin Engineering to find its own model – build on our capacity, skills etc – and bring staff along
- Essential that all engineering disciplines agree on same model
- Earlier surveys of staff (to gauge understanding of design and projects) and students particularly senior students very keen on idea (they could see the benefit)



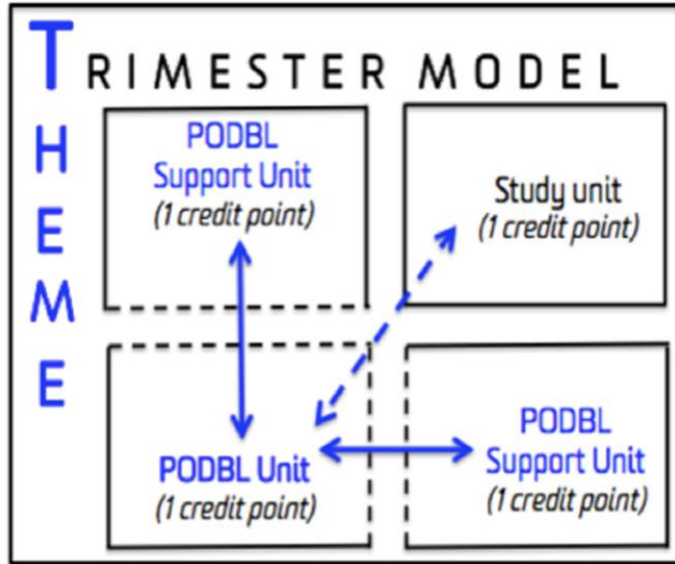


AGREED STRUCTURE/MODEL



One PODBL unit, One PODBL Support Unit, Two Study Units

OR



One PODBL unit, Two PODBL Support Unit, One Study Units

ALL STAFF PLANNING DAY 2



INTERNATIONAL SIGNIFICANCE – MODELLED ON INTERNATIONAL DESIGN
UNDERSTAND WORK ENVIRONMENT AND FUNCTIONALITY
CONTINUE TO BUILD FACULTY UNITY/COLLABORATION



STAFF MEMBERS MAIN CONCERNS

Security of space <ul style="list-style-type: none"> • Information • Items • Industry 	Need to consider developing guidelines / information for staff What do other Faculties or Divisions do that have locked down areas? What cameras exist and will that cover needs?
Storage <ul style="list-style-type: none"> • Personal books / papers / research etc. • Exams • Personal items and other stuff 	Locked specified rooms personal items and/or books etc... Scanning services for information to be transferred to electronic storage Cabinets available for storage
Working Tools <ul style="list-style-type: none"> • Laptops • Phones • Ergonomics • Etc... 	Ensure all staff have laptops Height adjustable desks available Ensure appropriate docking equipment for various technology All desks have screens, mouse etc. Ensure enough power points and Wi-Fi is available Consider noise cancelling headphones for staff Liaise with HR OH&S regarding ergonomics
Agile Office Etiquette <ul style="list-style-type: none"> • Food smells • Noise levels • Respects for each other • Etc... 	Consideration of how do desk spaces get chosen, can staff be part of this so it's conducive to work? Phone call etiquette, when, how and who is around you Remembering and thinking of each other and who is around you Can there be walls around the kitchen to limit smell of food permeating (or will fans be enough) Where should people eat/ Consider development of guidelines / mutual understanding for these matters?
Student and Staff Interface	Level 3 not accessible for students Where do we meet with students, what is available/options/recommendations Can utilise level 1 and 2 Utilise Skype / Lync/ online systems Consider developing an information or 'working' document for options and recommendations given the different requirements for staff and options within the building. Should be a working group to develop this and it could include some students as key stakeholders.



ALL STAFF PLANNING DAY 2 – STAFF FEEDBACK SURVEY

Please rate the following:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
♦ The workshop was relevant and informative				59%	41%
♦ The workshop met my objectives			12%	53%	35%
♦ The presentations were useful and supported the objectives			3%	56%	41%

No more strongly disagree or disagree

ALL STAFF PLANNING DAY 2 – STAFF FEEDBACK SURVEY

Which part of the workshop did you find most useful and why?

- Guest presenters views backed our direction
Workshop on e-portfolios ****/ International visitors
**** All of the workshops
- Workshop at day's end
- The first presentation by RMIT PVC (note: previous)
- All good. End sessions discussing CADET – nice to know more info, helps to alleviate some fears After lunch**
- Cadet brief** Architects report***
- Challenges / impact ; discussion – level 3*****
- Hard to say – 1st session before morning tea great HOS and David Beanland; workshops in the afternoon great as well
- Discussion on solutions
- HOS opening statement; set the new direction; David's presentation was informative and line with CADET and PODBL



CONCLUSION

- Planning.... Absolutely paramount
- Worth investment in change management consultant! (saving in the long run)
- Message(s) – be clear on where staff are on the change ladder - one step at the time, don't overload, awareness first... Staff NEED TIME (+training) to climb up
- Sell it, get people excited about the future.. CADET on international map
- Supportive leader head of school – driving the change
- Sharing the responsibility - distributed leadership - across strategic and staff members too
- Keep staff involved
- Be prepared to renegotiate (i.e. hotdesks) – win win situation



STUDENT-CENTRED ENGINEERING EDUCATION

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=ZX1HPZL_GLQ&LIST=PL66FCB7A740579D66&INDEX=1](https://www.youtube.com/watch?v=ZX1HPZL_GLQ&list=PL66FCB7A740579D66&index=1)



THANK YOU QUESTIONS?



“It is not the strongest species that survives; nor the most intelligent. It is the one that is most adaptable to change”

Charles Darwin

Cadet and the School of Engineering

“To offer a student-centered experience through world-class facilities, learning and research opportunities at the frontier of Australian engineering education. In so doing, we will produce creative and innovative graduates who will shape the future.”

Mission:

A commitment to develop and inspire minds in a learning environment that encourages and empowers anyone to become a world-leading engineer.

Vision:

Produce world leading engineers through project orientated designed based learning and through partnerships that inspire creativity and collaboration in teaching and research with a strong industry focus.

