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Associate Professor

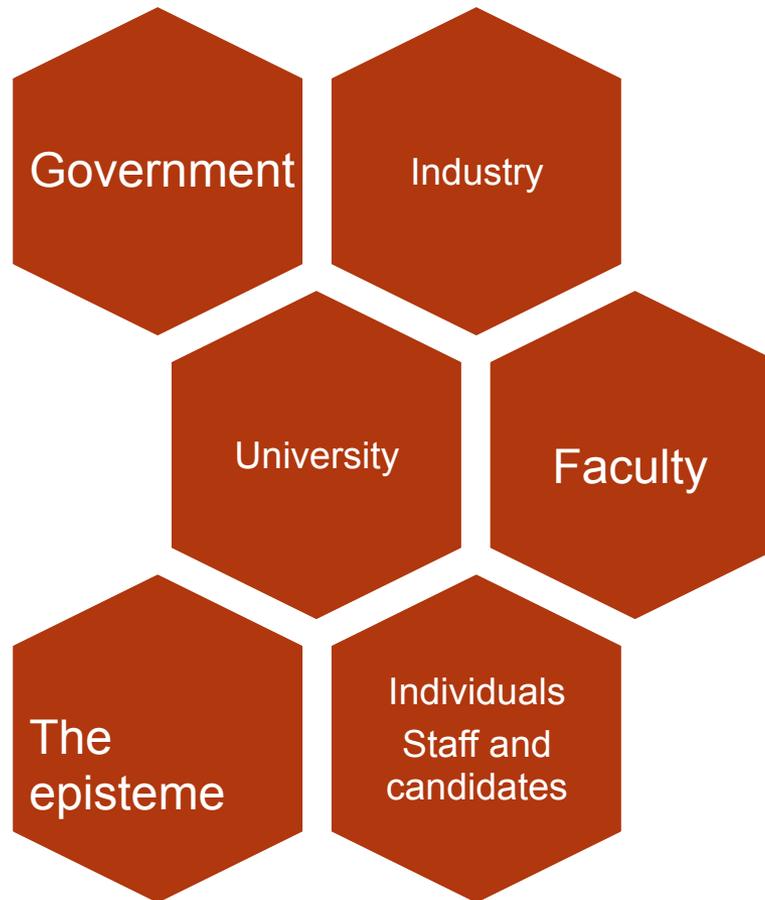
Associate Dean Research

Systematic and orchestrated scaffolding to
facilitate smooth student progress in design
Higher Degree Research degrees

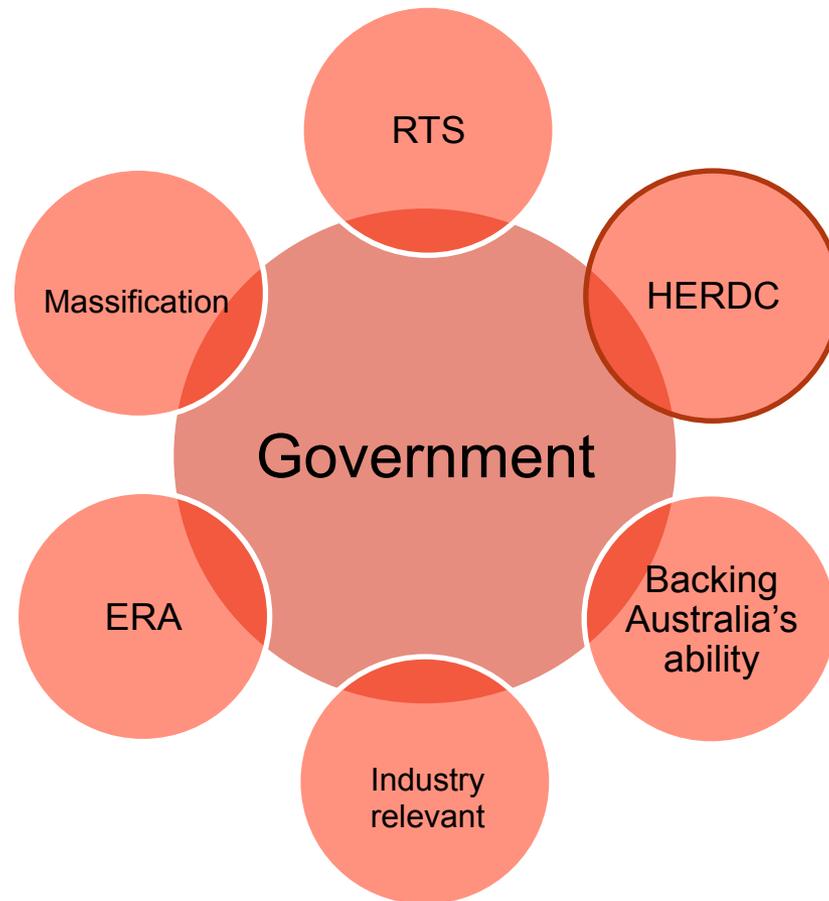
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SWINBURNE
UNIVERSITY OF
TECHNOLOGY

The HDR environment



The National Scene



Design is frequently associated with national competitiveness

Industry

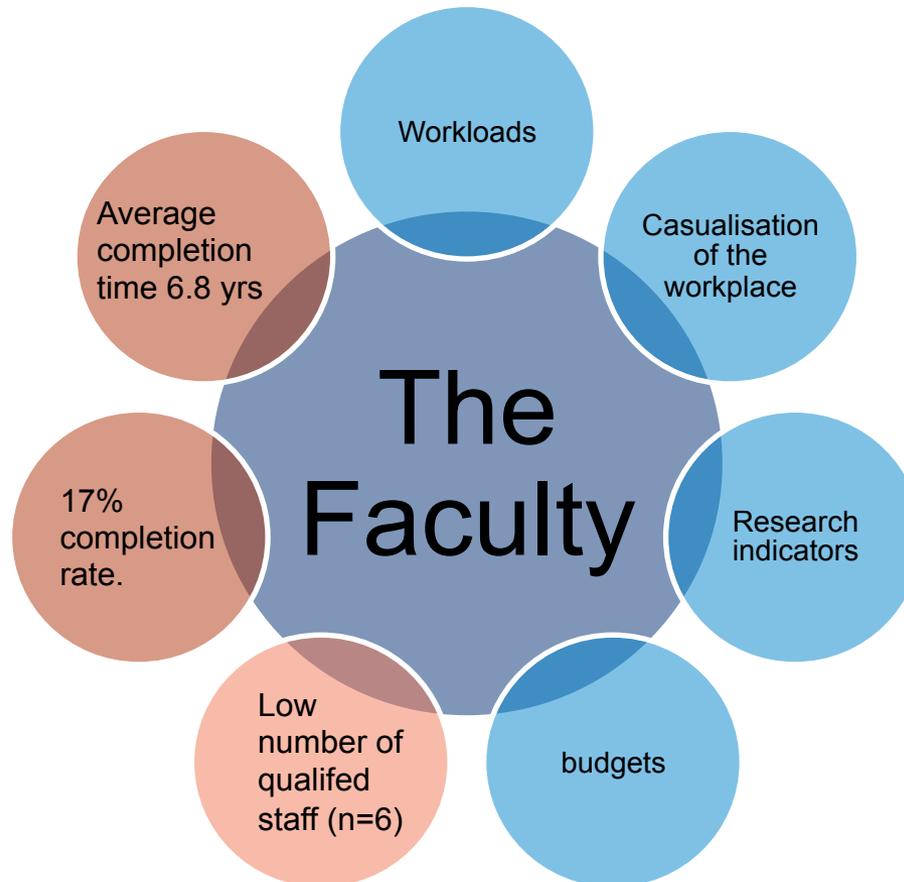
- Backing Australia's ability and Design Victoria tells us that industry wants more PhD qualified people.
- The competing demands of academia and industry have been highlighted as a problem in the Parliament of the Commonwealth of Australia Research Capacity Report (2008) is more than a matter of dichotomies. The same Report has also notes the lack of doctoral qualifications among Australia's academics to be a disadvantageous aspect of Australia's research capacity.

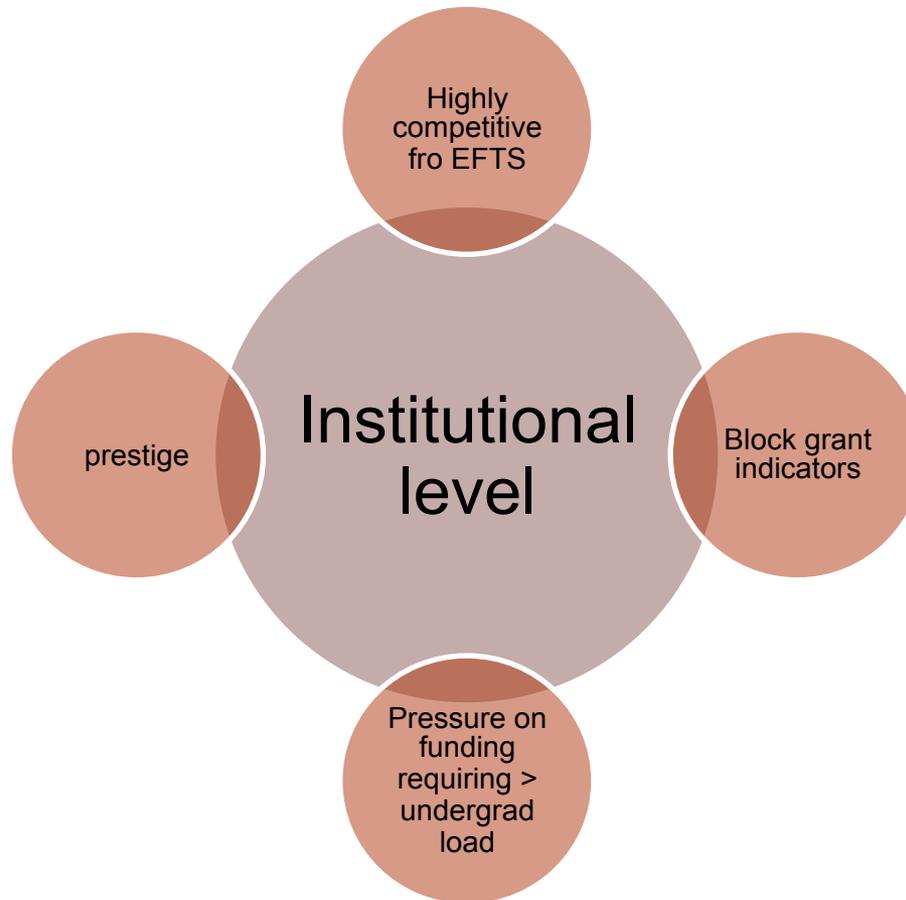
The Faculty 2004-2006

2011
average
completion time
3.75 yrs
(majority
finishing in 3
years)

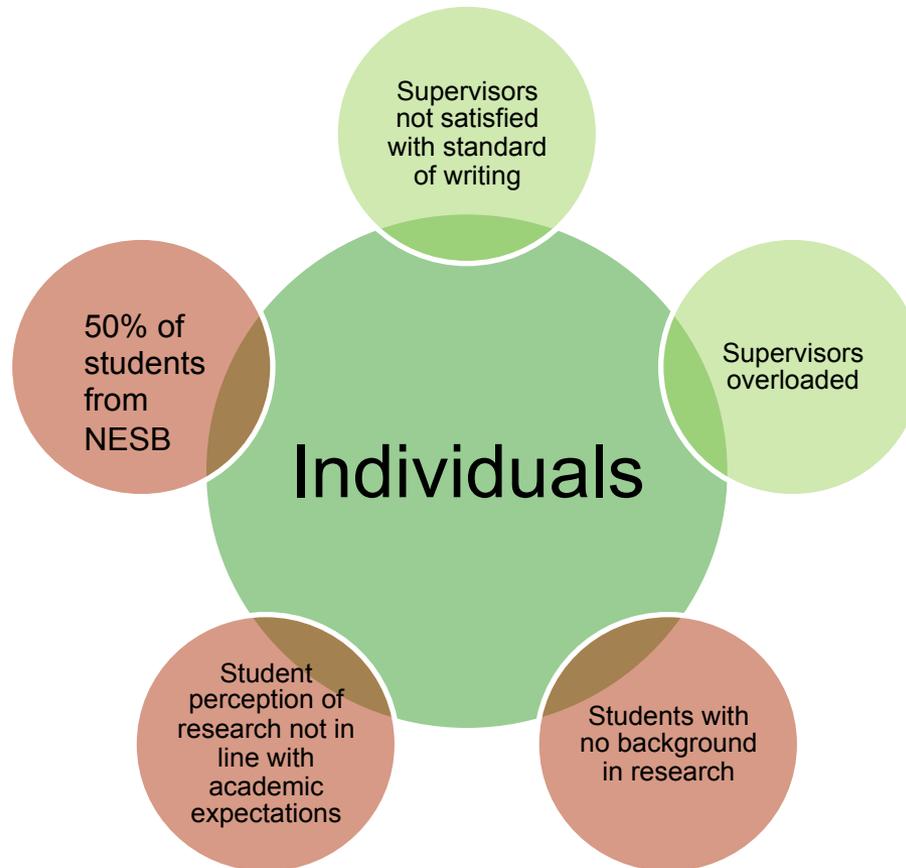
Completion
rate 75%

Qualified
staff
n=24





Individuals



Where we started

- CAPA: Best Practice Supervision
- Best practice in supervision entails a supportive and collegial relationship between supervisor/s and candidate

CAPA: Supervisors:

- actively mentor HDR candidates in all aspects of becoming a researcher;
- are usually available (with minimal repeated or enduring disruptions due to leave of absence, sabbatical, etc);
- introduce HDRs to research and industry networks;
- encourage and provide advice on the most suitable journals for publication;
- co-author journal articles and/or conference papers;
- provide guidance in applying for external awards, grants etc;
- encourage attendance at departmental seminars and social forums e in applying for external awards, grants etc;

CAPA continued

- Best Practice Provision of Minimum Resources
- Best Practice Research Funding
- Best Practice Collegial Environments

The literature

- Literature on supervision and how to write a PhD including:
- Chung Tsoi, 2005; Arambewela, 2003; Australian Vice Chancellors Committee, 2002; Churchill and Sanders, 2007; Finn, 2005; Grant, 2003; Green, 2005; Grix, 2001; Lee, 2009; Manathunga, 2005; Zeegers, 2008

The best book/s

Kamler and Thomson (2006). *Helping doctoral students write : pedagogies for supervision*. London ; New York : Routledge

Murray, R. (2006), *How to write a thesis*. Maidenhead, England ; New York : Open University Press

Supervisor or supervision

- Sinclair, M. (2004). The pedagogy of 'good' PhD supervision: A national cross-disciplinary investigation of PhD supervision. Canberra: Department of Education Science and Training.
- The ANU research provided convincing data that in fact a supervisory panel was more effective. However, if we relied solely on panels that could offer the breadth of knowledge required we would end up with a massively reduced cohort of doctoral students.

What was missing

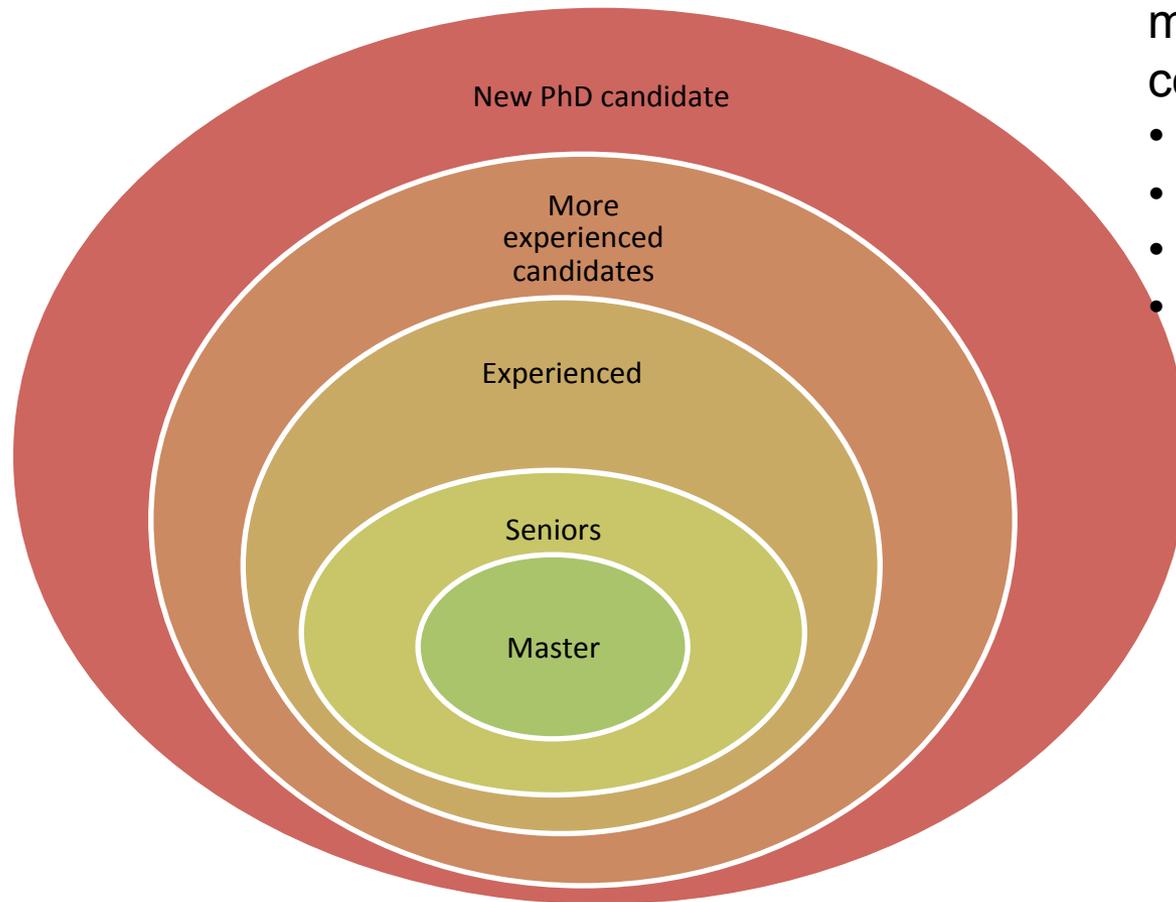
- What is common in such lists is the absence of notions of episteme.
- Also, “supervision” is conflated this with” a supervisor”.

- This meant that the program needed to include intensive research grounding for these candidates.
- We looked to a program of cohort mentoring that goes beyond reliance on individual supervisors.

LPP

- The program takes Legitimate Peripheral Participation (LPP) as a form of mentoring by drawing on a breadth of knowledge that a community of scholars and administrators can provide if it is deliberately constructed to scaffold research development.
- We have used the concept as part of a dynamic process of inducting the candidates through a series of staged processes, starting from outsider positioning and moving through to being positioned as independent researchers at the centre of a community of practising researchers.

Legitimate Peripheral Participation



What does this mean for contexts

- Government
- University
- Faculty
- Individuals

- First 6 months of candidature
- 20 weeks- 6 modules
- + 6 months to extend to 40,000- pre data collection (confirmation of candidature)
- 24 month review (scaffolded learning developed to meet individual needs)
- 30 month review- full draft of thesis

Content
Locating background information. Using catalogues to find books and media. Using Indexes to find periodical articles. Finding Internet resources.
Where do I start? What does my Faculty provide for me? Who do I see when I have a problem with my program? Red tape from Application to Graduation.
Evaluating what you have found. How to distinguish scholarly from non-scholarly work. . How to read the texts critically.
Writing a critical analyses of your sources
Using EndNote bibliographic software to cite what you write using a standard format
Syntax and Grammar
Managing your research. Logical progression, Time management and Milestones
Reviewing the analysis

Content
The research proposal:- Language use/words used, Items covered, Questions addressed, Word limits and audience. Avoiding plagiarism.
Is your idea novel? How do you know? Why does it matter?
Working with the research proposal
Researchers in all disciplines are required to describe and defend the methodologies they use—the theories, understandings, conceptualisations and representations of inquiry that determine how their research should proceed (or are proceeding). This session looks at these issues in relation to the discipline of design.
Writing the background of the project. Drawing on the critical review already undertaken. Writing up the current knowledge, published and unpublished work, gaps in the evidence and the potential value of furthering knowledge in this field. The research hypothesis should also be included in this section, with the explanation of reasons for undertaking the work.
In quantitative research the data collected takes the form of measurements or counts which can be statistically analysed.
Working with peers. Writing up your research gap.
Finalising Assessment Task 2

Content
This session explores a wide range of issues to do with human research as both investigative and evidentiary method. Including: <ul style="list-style-type: none">• Developing appropriate and empathetic ways to investigate people and situations.• Ways to avoid imposing your own values and assumptions on what you observe or learn.
Working with transcripts and anecdotes: Issues, methods and content
Academic use of sentences and paragraphs.
Observation techniques can be part of quantitative research as well as qualitative research. Classifications include: participant and non-participant observation, obtrusive and unobtrusive , observation in natural or contrived settings, disguised and non-disguised observation, structured and unstructured observation, direct and indirect observation
Linking ideas through sentences and paragraphs.
Working on assessment task 3. Steps to writing a literature review
This session introduces the major theoretical approaches used by professional historians and locates the unique role of historical methods within the discipline of design. “Why and when do it,” “how do we do it?” And “what problems will we have to come to terms with in doing it?”
Finalising Assessment Task 3

Content
Which research method is most appropriate to your research project? Do you know the difference between quantitative and qualitative research methods?
Visualising design work in relation to theory and practice through the use of geometrical concepts, like points, areas and directed lines. How design work affects research outcome
Drafting and re-drafting
Thinking ahead. Data collected needs to be analysed. Organising data collection, analysing data and the framework for communicating about your data.
Who must apply for ethics clearance? When to apply for Ethical Approval How to apply Where to apply
Academic scholarship- more than writing ideas
How do researchers actually work within practice-based design research, and externalise different thoughts on possible ways of performing this type of research.
Working with peers —working with your drafts re choice of method and your justification of this choice against other methodological possibilities
Finalising Assessment Task 4

Content
Both your proposal and your final project document must present a coherent argument. In this session you will develop an outline structure for the major research project document. You will also develop a more detailed outline for the Advanced Research Methods final submission.
Discuss aspects of visualisation and visual communication within a theoretical contexts of visual language
Writing to an academic audience
An introduction to IP: Patents, Trade marks, Designs, Copyright and Confidentiality/trade secrets. How does Intellectual Property legislation affect your research work? Embargo of findings.
Working with structures developed in the previous week, and look at alternate structures.
Working with what you have already written
A discussion about the practice of practice-based design research. Relating theoretical foundations of design work with stages of product development. Evaluating and building prototypes, discussing the sketches of conceptual design proposals, illustrating concepts with prototypes, building prototypes without technical functionality.
Does your proposed approach to method allow you to collect information that answers the questions you have proposed?
Editing work- strategies for editing your own work.

Content
Putting portfolio proposal together; an outline of the research project; a rationale that explains why the research is important; some background information about the field of the research; information about the method, methodology and analytic approach adopted; a realistic timetable for completion of the research; information about ethical considerations and special requirements; information about anticipated problems and how they will be dealt with.
Presentation by a senior research student
Oral presentation skills
Students present design projects
What is an abstract AND what it is not.
What still needs to be done in terms of writing your proposal
Students present design projects
Work on final document

Compilation of Assessment: Between 10,000 words or equivalent

- A 200 word abstract;
- An annotated bibliography of at least fifteen sources relevant to their project ;
- A three page discussion of the research area and gap that their study addresses;
- A contrastive analysis of a minimum of 36 articles regarding research as relevant to the project;
- An analysis of a minimum of 3 designed works relevant to the project,
- A one page visualisation of their project;
- A three page Identification and justification of an appropriate research method; and
- A two page consideration of any ethical issues that may affect the research

Assessment criteria

- 1. Has the area in which the project is located been clearly identified?
- 2. Have appropriate sources been used to identify issues related to the research topic?
- 3. Have the implications of these issues been discussed in relation to the proposed impact within the field of design?
- 4. Have linking statements and headings been used to make the document coherent?
- 5. Correct use of references and bibliography
- 6. Document complete and formatted appropriately
- 7. Use the library resources to identify relevant academic sources
- 8. Complete an Ethics application accurately
- 9. Justify the choice of research methods in a research project

- completion times have more than halved in the years since the program was introduced. Prior to 2005, fewer than five out of the twenty-four students enrolled completed in under 5 years. The average rate for completions at this time was 6.8 years. After the introduction of the program, of the fifteen candidates who enrolled in 2005, one took more than five years to complete (6.5 years), when the average completion time was 3 years. This has been at a time when students were gradually drawn into the episteme by more knowledgeable others, in the plural, and not just by a more knowledgeable other, in the singular. The supervisory role was not diminished, but enhanced, with the engagement of principles of LPP.

- That trend has continued in subsequent years
- We see a pattern where students take $>$ than 5 years.....but that is another story