

Appendix 8A

ANU PhB Working Party Report November 2014

INTRODUCTION

Research-led education is a major component of the ANU educational advantage (ANU by 2020). At undergraduate level, the current Bachelor of Philosophy (PhB) and Research and Development (R&D) degree programs epitomise this advantage. Students in these programs have a unique opportunity to work amongst highly research-active staff and gain exposure to the latest developments in their chosen field of study.

The PhB in Science was the forerunner in 2003, which was followed by CASS in 2005 and more recently by CAP. Flexibility is the key characteristic of these PhB programs and students have a high degree of freedom in their choice of courses and fields of study for research projects. The Engineering and Computer Science disciplines in CECS also created research-led programs in 2007. However, these are professionally-oriented degree programs that need to resonate with industry. Therefore the term Research and Development (R&D) was incorporated into the degree title rather than PhB. The R&D programs also have to meet the requirements of accrediting bodies, which leads to less flexibility in course choices for students. Nevertheless, all ANU PhB and R&D programs provide their students with greater opportunity to undertake projects within research groups and work under the direct supervision of internationally renowned researchers. Hence, they maximise the opportunity for students to develop research attributes and competencies such as those presented in the recent ANU Pathways to PhD Working Party report.

Due to the staged introduction, the PhB and R&D programs have been growing and maturing independently. Each program has its strengths, and significant outcomes are being achieved. There is now a sufficient wealth of knowledge and experience on which to build a stronger message about ANU PhB and R&D degrees that will enhance their awareness and value nationally and internationally. There are also benefits to be gained from creating an ANU-wide sense of cohort for the students in these programs, and subsequently enhance many aspects of their ANU experience. The challenge for this working party was to distil a set of recommendations from the current knowledge and experience of PhB and R&D degrees that can help develop this message and sense of cohort. Opportunities for enhancements to the programs were also explored.

The full list of working party members, alternates and invitees is provided on page 2. This is followed by the eight (8) terms of reference and the schedule of meetings, which included a student focus group. Discussion of the terms of reference and focus group feedback took place in meetings 1-3. This report presents nine (9) recommendations under 6 headings that reflect several themes and issues that recurred in these discussions. They are:

CONCEPT
PROGRESSION AND STRUCTURE
DIFFERENTIATORS
SUPPORT
PROFILE
ENABLER

The resources consulted by the working party during discussion of each term of reference are listed in appendix I. A mapping of the recommendations to the term of reference discussions in meetings 1-3 is presented in the table in Appendix II. Meeting 4 was used to refine the recommendations.

WORKING PARTY MEMBERSHIP

A/Prof Paul Compston (<i>Chair</i>)	CECS Associate Dean (Education)
Dr Elizabeth Findlay	CASS Associate Dean (Students)
A/Prof Miriam Gani	CoL Head of School
A/Prof Sigi Goode	CBE Associate Dean (Education)
A/Prof Ulrike Mathesius	CMBE PhB Program Convenor (Biology)
Dr David Nisbet	CECS R&D Program Convenor (Engineering)
Dr Matthew Prebble	CAP PhB Program Convenor
A/Prof Geoff Salem	CPMS Associate Director (Education), Research
School of Chemistry	
Ms Joan Angel	Deputy Registrar, Division of Student Administration
Ms Davina Potts	Director of Global Engagement
Dr Victor Pantano	General Manager, FEI-Lithicon
Mr Ben Niles	PARSA President
Ms Laura Wey	ANUSA Education Officer
Ms Felicity Gouldthorp	Executive Officer to DVC(A) (secretariat)
Dr Colin Taylor	Director Alumni Relations and Philanthropy (invitee for meeting 3)
Ms Zaiga Thomann	ANUSA (alternate for Ms Wey)
Prof Tim Senden	CPMS (alternate for Dr Pantano)

TERMS OF REFERENCE

1. Provide a clear and succinct statement on the nature and purpose of the PhB that is consistent with University strategy, the Australian Qualifications Framework and national and international trends.
2. Identify a consistent and sustainable approach for the administrative management of the PhB that recognises any relevant accreditation requirements incorporating the principle of 'shells' to house the overall program.
3. To develop a consistent and appropriate approach for the management of students who wish to transfer in and out of the PhB after commencing studies at ANU.
4. Determine whether an institutional target should be set for PhB enrolment and provide advice on opportunities for further marketing of the program.
5. Identify a university wide approach for the support and pastoral care of PhB students, especially those required to relocate from interstate.
6. Determine key metrics to articulate measures of success for the PhB.
7. Advise on key strategies which will ensure ANU are leaders in the provision of research-led awards.
8. To provide preliminary advice on how people might be encouraged to give to the newly established PhB endowment fund.

SCHEDULE

07 August 2014	Working Party Meeting 1
11 August 2014	PhB/R&D Student Focus Group (SFG)
28 August 2014	Working Party Meeting 2
16 October 2014	Working Party Meeting 3
30 October 2014	Working Party Meeting 4

The feedback from the student focus group (SFG) was included on the agenda for consideration at the second meeting. The report from a focus group held in 2013 for Science and CASS PhB students was also tabled.

RECOMMENDATIONS

Recommendation 1 - CONCEPT

The PhB and R&D programs are considered to be ANU Undergraduate Research Degrees. The working party recommends the following definition for these degrees:

ANU Undergraduate Research Degrees present challenging learning experiences for academic high-achievers. They provide opportunities to learn in research-rich environments that encourage exploration, risk-taking and critical thinking. Students will develop a set of attributes that will provide them with an edge to pursue their career goals in academia, innovative industries or other research-intensive organisations.

The key points raised and discussed in relation to this recommendation were:

- A need to define a single concept to communicate clarity of purpose for prospective students, all ANU staff and potential employers.
- The PhB and R&D programs still must meet the needs of the discipline areas and retain desired characteristics; e.g. flexibility in the PhB. Therefore, these programs must co-exist, but can do so under the one umbrella of Undergraduate Research Degrees.
- The PhB is strongly aligned with a pathway to PhD, and current R&D programs place more emphasis on professional and industry pathways. It still must be made clear that all pathways are possible from both programs.
- Who is it for? Academic high achievers who want an in depth understanding of their chosen discipline.
- What does the degree provide? Extension, exploration, academic challenge, interdisciplinary research-training, and pathways to further research, and careers in industry and career.

Recommendation 2 – STRUCTURE AND PROGRESSION

The structure of ANU undergraduate research programs should include clearly identifiable components that provide the research experience. These components should be advanced study courses (ASC) that are stand-alone research projects, and advanced study extension (ASE) courses that are standard courses with an additional module for PhB or R&D cohorts. For PhB programs that typically follow the 3+1 honours model, the program should include a minimum of:

Years 1-2	24u ASE or ASC
Year 3	12u ASC
Year 4	24u ASC

For R&D or other programs that typically follow the embedded honours model, the program should include a minimum of:

Years 1-2	24u ASE or ASC
Year 3	12u ASC
Year 4	12u ASC

In regard to the HD progression and H1 graduation requirements, the working party recommends that Colleges adopt one of the following two options:

- The requirement for a HD average each semester and the requirement to graduate with first class honours is applied consistently to all students and this will be audited annually by the office of the DVC(A); or
- The HD progression requirement is applied only to only those components of the program that develop the research-related attributes and other identified compulsory program requirements. For remaining components, such as university electives, programs

may require only a distinction (D) average. For this option, graduation with H2A would be permissible.

Recommendation 3 – STRUCTURE AND PROGRESSION

Academic Progress

(i) The monitoring of program requirements should be undertaken biannually by a sub-group of the Academic Progress Committee, comprising of representatives from each College, ensuring consistent and transparent treatment of these conditions for all students. The Division of Student Administration should design an appropriate business process.

(ii) All Colleges should identify an appropriate exit degree (such as the B.Science (Advanced)) by 31 December 2015 to allow for student transfers out of the PhB and R&D programs. These must be designed so that all credit from the PhB and R&D programs can be transferred, and to ensure students are able to complete their program by completing 192 units with no additional time required.

The key points raised and discussed in relation to recommendations 2 and 3 were:

- The blanket HD requirement is stressful and impairs performance (and enjoyment!).
- Students want or see these programs as offering clear points of difference compared to other degrees.
- The progression requirements should test the different attributes that are being developed.
- Data shows that students are currently graduating from the PhB without meeting the HD average requirement. More detailed data is attached.

CASS

For currently active students (57):
 486 HDs (or H1s) out of 694 completed courses undertaken where a finalised result is recorded (70%)
 6 have a GPA of 7
 41 have a GPA between 6.5 and 6.99

For completed students (41):
 337 HDs (or H1s) out of 426 completed courses undertaken where a finalised result is recorded (79%)
 3 have a GPA of 7
 19 have a GPA between 6.5 and 6.99

CPMS

For currently active students (163):
 1539 HDs (or H1s) out of 1945 completed courses undertaken where a finalised result is recorded (79%)
 35 have a GPA of 7
 99 have a GPA between 6.5 and 6.99

For completed students (108):
 1259 HDs (or H1s) out of 1346 completed courses undertaken where a finalised result is recorded (94%)
 23 have a GPA of 7
 28 have a GPA between 6.5 and 6.99

CECS

For currently active students (86):
 1166 HDs (or H1s) out of 1610 completed courses undertaken where a finalised result is recorded (72%)
 13 have a GPA of 7
 45 have a GPA between 6.5 and 6.99

For completed students (22):
 588 HDs (or H1s) out of 770 completed courses undertaken where a finalised result is recorded (76%)
 1 has a GPA of 7
 2 have a GPA between 6.5 and 6.99

- Students want to reduce the risk of tackling a subject that is out of their normal sphere.
- The structures and articulated attributes will also provide clarity for academic staff and other researchers or organisations involved in education process.
- Need to consider transition into and out of the programs.
- The culture of the program is still to achieve at the highest possible level.
- The programs should encourage breadth of study and for students to tackle experiences that take them out of their comfort zone (such as languages, interdisciplinary courses, international experiences etc.) without having to solely focus on achieving HD grades.

Recommendation 4 - DIFFERENTIATORS

(i) A set of credit bearing experiences should be established for the PhB and R&D cohorts that enhance or complement the defining components outline in recommendation 3. The WP recommends that all students have the opportunity to complete one of the following:

- an internship in industry or other organisation with research capacity (such as government or NGOs), or
- an international experience at a university with a reputation for research in the students' field of study
- 12u of the ANU minor in leadership and research

(ii) It is also recommended that options for creating vertical double degrees with PhB and R&D programs are explored. These vertical double degrees could also incorporate the experiences noted above. This recommendation is referred to the Double Degree Project Management Group.

The key points raised and discussed in relation to recommendation 4 were:

- Students want a different set of experiences that further develop and challenge them, offer interdisciplinary study and increase internationalisation.
- The focus group was more enthusiastic about vertical double offerings than flexible double offerings. The option of a master degree in a 5-year timeframe rather than a second Bachelor degree was more attractive for this cohort.
- University networks for international experience could include IARU, C9, or Russell Group.
- A strong emphasis on mentoring could also be a defining feature – see recommendation 5.
- It is recognised that internships require management, facilitation and resources.

Recommendation 5 - SUPPORT

Robust university-wide structures should be established to promote success in the program, and to create a sense of cohort and shared endeavor for all PhB and R&D students. These should include:

- Academic mentoring
- Pastoral care
- Peer to peer support (student mentoring)
- Professional networking

The key points raised and discussed in relation to recommendation 5 were:

- The importance of establishing social networks early, in order to settle at ANU. 1st year camps for example followed by social events. An annual social events calendar should be established.
- Students need to be exposed to potential career and professional options. This can take the form of informal networking opportunities as well as exposure to scheduled speakers

from various professions. This could also be supported by an annual events calendar. The development of contacts through professional networks may endure and help shape future careers.

- Need to establish a university-wide sense of cohort to maximise opportunities for peer support. Students across all the Colleges have shared experiences, pressures and interests. Scheduled, shared social and peer mentoring opportunities would greatly enhance the PhB experience.
- Early engagement with the academic area is crucial. Students need advice in relation to identifying, developing and completing research projects. Support structures may take the form of one-on-one mentoring, or small group workshops.
- Students experience considerable pressure to achieve and need the support of a program convenor with specialised understanding of the program and long-term oversight of the progress of individual students, including early intervention strategies.

Recommendation 6 - PROFILE

A marketing strategy for ANU undergraduate research is developed with a plan that can attain an institutional target that 5% of undergraduate students will be in an undergraduate research degree by 2020 (currently 3%). The strategy is informed by the nature and purpose of the degrees provided in recommendation 1. In addition to an ATAR, the recruitment process for reaching the institutional target should include an interview or similar process that allows students to demonstrate their research capability.

The key points raised and discussed in relation to recommendation 6 were:

- Students often find the PhB and R&D programs while researching ANU, or hear by word of mouth or other informal means
- There is still a lack of clarity of what the programs are for or why students should enrol
- It is recognised that undergraduate research degrees are resource intensive and that the target must be a sustainable one. The target is university wide, with some Colleges more equipped than others to increase numbers.
- A marketing plan should be developed with the input of current students, alumni and their employers.
- The admissions process should include a mechanism for considering potential for research in addition to the ATAR
- For the marketing campaign to be linked to the scholarships strategy (recommendation 8) with the message that if you meet the admission requirements, we will enable you to come to ANU to undertake an undergraduate research degree.
- ANU Undergraduate Research Degrees should be marketed as the number one academic program of its kind nationally, and in the Asia-Pacific region.

Recommendation 7 - PROFILE

That ANU maintains leadership in Undergraduate Research Degrees by providing research experiences of the highest quality. Students should have ready access, from 1st-year onwards, to the academic staff responsible for the research reputation of ANU. A suite of metrics and activities to evaluate the university's leadership position, including those listed below, should be developed by a group comprised of: Planning and Performance Management (PPM), the Division of Student Administration, the Division of Student Life, and Alumni Relations and Philanthropy.

The working party raised and discussed the following key points:

- Achievements should be monitored and alumni profiles created and updated regularly to support marketing and the development of compelling stories (recommendations 6 and 8)

- PhB and R&D alumni should be engaged to gather feedback on their educational experience, and its subsequent impact on careers, for the purpose of constant program improvement
- Benchmarking of employability for ANU PhB and R&D graduates against students from similar programs and/or other research-intensive universities
- Developing social, academic and professional networks and student experience that are difficult for competitors to replicate
- Leadership could be maintained by developing social, academic and professional networks and creating student experiences that are difficult for competitors to replicate; e.g. making best use of networks with other research-intensive universities
- The undergraduate research conference should expand to include all Colleges and include presentations, 3 minute thesis competitions and posters.

Recommendation 8 - PROFILE

That Alumni Relations and Philanthropy (AR&P) surveys recent PhB and R&D students to develop a value-proposition for giving to schemes that support programs. Then, AR&P develops a long-term multi-tiered strategy for establishing endowments, by 30 April 2015.

The key points raised and discussed in relation to recommendation 8 were:

- Need to establish a compelling story before anyone will give.
- The compelling story should also inform the marketing strategy.
- Recent graduates are the best test – ANU need to establish if they would give, even if they can't yet.
- The need to fund as many scholarships as possible.

Recommendation 9 - ENABLER

The offices of the DVC(A) and DVC(R) consider the establishment of an Undergraduate Research Centre (or similar entity) to enable the above recommendations, particularly those recommendations aimed at realising the benefits from generating a university-wide sense of cohort amongst PhB and R&D students.

The key points raised and discussed in relation to recommendation 9 were:

- There was a strong belief from student and working party members that ANU undergraduate degrees would benefit from the development of a strong sense of cohort amongst the students.
- Need to provide a resource to enable the recommendations.
- A space for students to interact and to house a university wide undergraduate research convenor should be created. It would also be a space that could host social and professional events.
- Academics would also be welcome to come to the space to find out more about teaching in these degrees and meet students. Any undergraduate student interested in research or conducting research would be welcome.
- Students would be encouraged to share ideas and tell others about what they are doing. It would also be a space where they could inform others of potential supervisors/topics for ASCs and ASE's that they know about.

Appendix I List of Resources consulted during discussion of each Term of Reference.

1 Provide a clear and succinct statement on the nature and purpose of the PhB that is consistent with University strategy, the Australian Qualifications Framework and national and international trends.

[Benchmarking the PhB](#)

[CASS PhB report](#)

[Science PhB report](#)

[Statistical data \(PhB to research degree conversion\)](#)

2 Identify a consistent and sustainable approach for the administrative management of the PhB that recognises any relevant accreditation requirements incorporating the principle of 'shells' to house the overall program.

[Proposed PhB structure](#)

[PhB testamur example](#)

[PhB AHEGS example](#)

[PhB academic transcript example](#)

[Engineering FDD statistics](#)

[Advanced Computing FDD statistics](#)

3 To develop a consistent and appropriate approach for the management of students who wish to transfer in and out of the PhB after commencing studies at ANU.

[Proposed PhB structure](#)

[Statistical data overview \(enrolments, attrition, retention\)](#)

[PhB Admissions briefing paper](#)

4 Determine whether an institutional target should be set for PhB enrolment and provide advice on opportunities for further marketing of the program.

[Statistical data overview \(enrolments, attrition, retention\)](#)

[Statistical data \(PhB to research degree conversion\)](#)

5 Identify a university wide approach for the support and pastoral care of PhB students, especially those required to relocate from interstate.

[Results from Student Focus Group \(held on 11 August 2014\)](#)

[Undergraduate Research schools](#)

[Mental Health roundtable report](#)

SFG Consider input from student focus groups

[Results from Student Focus Group \(held on 11 August 2014\)](#)

[2013 PhB Science focus group discussion](#)

[Research paper – please remember we are not all brilliant](#)

[Research paper – is more always better?](#)

6 Determine key metrics to articulate measures of success for the PhB

[PhB medallists](#)

[GPA and cohort data](#)

7 Advise on key strategies which will ensure ANU are leaders in the provision of research-led awards.

[Benchmarking the PhB](#)

[Program proposal CBE PhB](#)

8 To provide preliminary advice on how people might be encouraged to give to a PhB endowment fund.

[Address data \(where alumni are now located\)](#)

[Demographics](#)

[Career destinations](#)

[Further education](#)

[Current ANU engagement](#)

Appendix II: Mapping of ToR meeting notes to recommendations. Each tick indicates where information from the notes was used to distil the recommendation. Each recommendation captures information from multiple ToR discussions.

RECOMMENDATION CATEGORY	#	MEETING 1			MEETING 2			MEETING 3		
		ToR 1	ToR 2	ToR 3	ToR 4	ToR 5	SFG	ToR 6	ToR 7	ToR 8
CONCEPT	1	✓			✓				✓	
PROGRESSION AND STRUCTURE	2		✓	✓		✓	✓			
	3		✓	✓						
DIFFERENTIATORS	4	✓					✓	✓	✓	✓
SUPPORT	5			✓		✓	✓		✓	
PROFILE	6						✓	✓	✓	✓
	7							✓	✓	
	8							✓	✓	✓
ENABLER	9	✓			✓	✓		✓	✓	

Terms of Reference (ToR)

- 1 Provide a clear and succinct statement on the nature and purpose of the PhB
- 2 Identify a consistent and sustainable approach for the administrative management of the PhB the overall program
- 3 To develop a consistent and appropriate approach for the management of students who wish to transfer in and out of the PhB after commencing at ANU
- 4 Determine whether an institutional target should be set for PhB enrolment and provide advice on opportunities for further marketing of the program
- 5 Identify a university wide approach for the support and pastoral care of PhB students, especially those required to relocate from interstate
- SFG Consider input from student focus group (SFG)
- 6 Determine key metrics to articulate measures of success for the PhB
- 7 Advise on key strategies which will ensure ANU are leaders in the provision of research-led awards
- 8 To provide preliminary advice on how people might be encouraged to give to the newly established PhB endowment fund

	Recommendation	UEC agreement	AB agreement
1.	The working party recommends the following definition for these degrees: <i>ANU Undergraduate Research Degrees present challenging learning experiences for academic high-achievers. They provide opportunities to learn in research-rich environments that encourage exploration, and are designed for intellectually ambitious students who aspire to study at the highest level. Students will gain exemplar levels of experience and achievement, enabling them to pursue their career goals in academia, innovative industries, research-intensive organisations or senior national and international policy development.</i>		
2.	The structure of ANU undergraduate research programs should include clearly identifiable components that provide the research experience. These components should be advanced study courses (ASC) that are stand-alone research projects, and advanced study extension (ASE) courses that are standard courses with an additional module for PhB or R&D cohorts. For PhB programs that typically follow the 3+1 Honours model, the program should include a minimum of: Years 1-3 18u ASC plus 18u ASE or ASC Year 4 24u Honours research project For R&D or other programs that typically follow the embedded honours model, the program should include a minimum of: Years 1-2 24u ASE or ASC Year 3 12u ASC Year 4 12u ASC In regard to the 80% progression and H1 graduation requirements, the working party recommends that Colleges adopt one of the following two options: (i) The requirement for an 80% average each semester and the requirement to graduate with first class honours is applied consistently to all students in PhB named degrees; or (ii) In research degrees other than the PhB, the 80% progression requirement is applied only to those components of the program that develop the research-related attributes and other identified compulsory program requirements. For remaining components, such as university electives, programs may require only a 70% average. For this option, graduation with H2A would be permissible.		
3.	(i) The approval and monitoring of program requirements for individual students should be undertaken biannually by group named the Conditions of Awards Committee comprising of suitable and technically qualified representatives from each College, ensuring consistent and transparent treatment of these conditions for all students. The Division of Student Administration should design an appropriate business process. (ii) All Colleges should identify an appropriate exit degree (such as the Bachelor of Science (Advanced)(Honours)) by 31 December 2015 to allow for student transfers out of the PhB and R&D programs. These must be designed		

	so that all credit from the PhB and R&D programs can be transferred, and to ensure students are able to complete their program by completing 192 units with no additional time required.		
4.	(i) A set of credit bearing experiences should be established for the PhB and R&D cohorts that enhance or complement the defining components outlined in recommendation 3. The WP recommends that all students have the opportunity to complete one of the following: - an internship in industry or other organisation with research capacity (such as government or NGOs), or - an international experience at a university with a reputation for research in the students' field of study, or - 12u of the minor: ANU Leadership and Research (ii) It is also recommended that options for creating vertical double degrees with PhB and R&D programs are explored. These vertical double degrees could also incorporate the experiences noted above. This recommendation is referred to the Double Degree Project Management Group.		
5.	Robust university-wide structures should be established to promote success in the program, and to create a sense of cohort and shared endeavor for all PhB and R&D students. These should include: - Academic mentoring - Pastoral care - Peer to peer support (student mentoring) - Professional networking		
6.	A marketing strategy for ANU undergraduate research is developed with a plan that can attain an institutional target that 5% of undergraduate students will be in an undergraduate research degree by 2020 (currently 3%). The strategy is informed by the nature and purpose of the degrees provided in recommendation 1. In addition to an ATAR, the recruitment and admission process for reaching the institutional target should include an interview, application and referee reports, or similar process that allows students to demonstrate their aptitude for these research-rich degrees.		
7.	That ANU maintains leadership in Undergraduate Research Degrees by providing research experiences of the highest quality. Students should have ready access, from 1 st -year onwards, to the academic staff responsible for the research reputation of ANU. A suite of metrics and activities to evaluate the university's leadership position, including those listed below, should be developed by a group comprised of: Planning and Performance Management (PPM), the Division of Student Administration, the Division of Student Life, and Alumni Relations and Philanthropy and the academic convenors of the research degree programs.		
8.	That Alumni Relations and Philanthropy (AR&P) surveys recent PhB and R&D students to develop a value-proposition for giving to schemes that support programs. Then, AR&P develops a long-term multi-tiered strategy for establishing endowments, by 30 April 2015.		
9.	The offices of the DVC(A) and DVC(R) consider the establishment of an Undergraduate Research Centre (or similar entity) to enable the above recommendations, particularly those recommendations aimed at realising the benefits from generating a university-wide sense of cohort amongst PhB and R&D students.		