



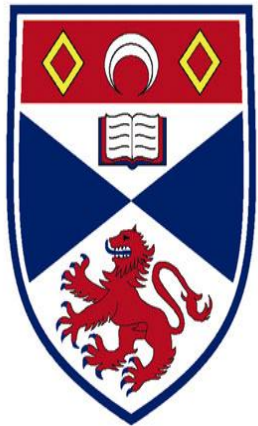
AUL@W

Aiming University Learning @ Work

A Partnership Project between
Students, Academics & Employers

**The Attributes and Early Career
Experience of Scottish Biosciences
Graduates**

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Scottish Funding Council

Promoting further and higher education



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Background and Context

- Growing numbers of students are accessing higher education in the belief that a university course will improve their future career opportunities.
- The world of work is changing. University graduates are facing increasing competition and are no longer ‘guaranteed’ a job for life.
- There is an increased focus on skills and attributes that graduates need to be employable, that can be developed through curricula (Scott, 2005), and which employers require from graduates (Bourgeois, 2002; Universities Scotland, 2003).
- Barnett (1994) argues that traditional forms of higher education concentrate on “knowing that” whereas employers and governments place an emphasis on “knowing how”.

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- This project has four main strands:
- Exploration of current activities relating to work-related learning and employability within Scottish universities.
- Examination of the views and experience of university staff, students on non-vocational programmes, and recent graduates.
- Exploration and development of opportunities for work experience.
- Support and development activity aimed at embedding work-related learning within the university curriculum.

Activity at GCU

- Exploration and development of work-related learning activity within the BSc Psychology Programme.
- The Psychology Division's Voluntary Work and Mentoring Scheme (VWMS).
- A longitudinal study of University-to-Employment Transitions, involving the 3 participating universities, which includes the experience of Biosciences Final Years (FY)/Graduands (Grads).

Summary of progress to date on Graduate Experience research

- A scoping study was carried out, to which 1500 u/g students in their final year, on non-vocational programmes across the 3 universities, were individually invited to contribute; c. 350 responded (c. 23%).
- Using the information received, questions and issues were identified which have been pursued in the 1st phase of the study proper.
- A volunteer sample from the 350 respondents (again involving all 3 universities) was recruited. These are to be tracked across an 18 month period; 4 interviews with each participant are being aimed for.
- These graduands' changing perceptions of the transitional process are being sought, as are their views on WRL in the curriculum, and its impact on their job-finding and career development.
- To date, 133 graduands have participated in Phase 1, taking part in mixed method interviews (up to 1 hour each). The interview material is being selectively transcribed and processed.
- Phase 2 interviews are currently underway, and 73 Graduates have currently participated in this stage.

Key Findings from Online and Recruitment Scoping Study: Final Year Experience Survey

- 355 responses from Final Year Students enrolled on participating programmes in partner institutions



Table 1: Distribution of respondents to online scoping study by institution

Institution	Percentage of respondents
GCU	31%
UoG	36.5%
UoStA	32.6%

Table 2: Distribution of Respondents to online scoping study by Programme

Programme	Proportion of Respondents
Biosciences	24%
Business	7%
History	13%
Maths	7%
Psychology	19.5%
Physics	5%
Social Sciences	12%
Computing	9%
Unspecified	1%
Other	2%

Table 6: Plans After Degree

Plans after degree	%age of Respondents
Postgraduate research	11.5%
Taught Post Grad	16%
Professional Qualification	5%
Take a Year Out	16%
Enter Employment DIRECTLY Relevant to Degree	16%
Enter Into Employment NOT DIRECTLY Relevant to Degree	16%
Don't Know	18%
Other	1%

Plans After Degree Bio FY

- Higher proportions of Bio FY plan to enter PG research (21%) than the wider FY population (11.5%) ($p=0.000$).
- 51% of Bio FY who are planning to undertake further study had secured a place in the Spring prior to graduation.
- Lower proportions of Bio FY were planning to enter into employment which was not directly relevant to their degree (10%), than was the case in the wider FY population (16%) ($P=0.000$)
- Higher proportions (35%) of Bio FY who were planning to enter into employment had secured a position in the Spring prior to graduation, in comparison with the wider FY figure of (27.5%) ($p=0.019$)

Key Findings Phase One Mixed Method Interviews with Graduands/Graduates

- Qualitative and quantitative data were collected from 133 Graduands/Graduates from participating programmes in partner institutions

Table 4: Distribution of Phase One Participants by Institutions

Institution	Percentage of Respondents
GCU	32%
UoG	42%
UoStA	26%

Table 5: Distribution of Phase One Participants by Programme

Programme	Percentage of Participants
Biosciences	23%
Business	7%
History	12%
Maths	5.5%
Psychology	18.5%
Physics	8%
Social Sciences	14.5%
Computing	8%
Arts	1%
Unspecified	1.5%

Table 7: Plans After Degree

Plans After Degree	Percentage of Respondents	
	Scoping Study	Phase One
Postgraduate Research	11.5%	8%
Taught Postgrad	27.5%	19%
Professional qualification	5%	-
Year Out	16%	13.5%
Relevant Employment	16%	35%
Non-Relevant Employment	16.5%	16%
Don't know	18%	3%
Other	1.5%	5.5%

Table 8: Changed Plans After Degree by Programme of Study

	Changes made to plans after degree between scoping study and phase one interview	
Programme	Yes	No
Biosciences	17%	83%
Business	33.3%	66.7%
History	33.3%	66.7%
Maths	0%	100%
Psychology	55.5%	44.5%
Physics	30%	70%
Social Sciences	23.5%	76.5%
Computing	50%	50%
Phase One	30%	70%
Chi Square p=.149		

Table 9: Altered Career Plan Between Participation in Scoping Study and Phase One Interview

	Changes made to career plan between scoping study and phase one interview	
Programme	Yes	No
Biosciences	12%	88%
Business	0	100%
History	17%	83%
Maths	0%	100%
Psychology	53.5%	46.5%
Physics	28.5%	71.5%
Social Sciences	33.3%	66.7%
Computing	75%	25%
Phase One	27%	73%
Chi Square p=0.067		

Graduate Employment

- 26 of 133 participants had secured graduate level employment.
- Bio accounted for the largest proportion of these (7)
- All Bio Grads who had secured a graduate position described it as “sought after”.
- All of Bio Grads who had secured grad employment indicated that the recruitment information had specified that a graduate was required for the position.

Usefulness of Degree

- 77.5% of Bio Grads felt that their degree would be useful to them when they entered employment, compared with 69% of the wider FY participants ($p=.310$).
- 52% of Bio Grads felt that their degree had prepared them well for entering the labour market, in comparison with the wide FY participants (43%) ($p=.317$).

Skills and Attributes Developed through the Biosciences

- Analytical Skills
- Specialist subject specific knowledge
- Information retrieval and critical appraisal including peer review
- Communication and interpersonal skills
- Confidence in presenting to peers and wider audiences
- Report and academic writing
- Laboratory skills and competencies
- Team and independent working
- The ability to prioritise and meet deadlines
- Discipline
- Interest in science
- IT Skills

My degree is quite specialised but at the same time, you don't have to be a Bioscientist...there was lots of subject specific stuff and that's what I'm interested in, and also things like analytical skills that we learned in labs...IT skills too I suppose.

Edward - Biosciences Grad

I think my degree will be very useful, because I just think you have so many transferable skills that even if you don't get into your own area that you are still going to have lots of useful skills from things you've done like presentations and essays and what not...the lab work is sort of like team work, so that's another one and I guess writing essays and doing presentations and stuff like that would give you lots of computer skills.

Ruth - Biosciences Grad

The Biosciences Grad

Biosciences Grads participating in this study:

- Compare favourably with their counterparts.
- Face lower levels of uncertainty with respect to their future.
- Account for the largest proportion of employed participants at Phase One.
- Report that WRL activities have had a positive impact upon their skills and development and have assisted them in securing and performing well within employment.
- Understand the relevance and usefulness of their degree and the skills and attributes which they have developed.

- *I think my summer (placement) helped me (secure my position), I know it helped me because I was specifically told it helped me a lot, my supervisor from the summer was one of my references and that helped me no end as well I think, I think those are the primary reasons. I don't know if I appeared more studious than some of those people because some of my friends went for it and some them worked a hell of a lot more than I did over the course of their university career so I think my outside experience really, really helped me in this instance.*

Declan - Biosciences Grad

I did some work experience with a research unit which involved going out on a boat onto a xxx (specific location)..... and catching (xxx) we had to go out and catch a couple of (xxx) and that was probably very beneficial for my future employment, it was also an amazing experience, out really early in the mornings in this boat, I think the fact that I'd handled (xxxxx) was one of the biggest things that benefited me for this employment.

Peter - Biosciences Grad

My work placement is the one thing that stands out that will positively impact on my future career, I was given important work to do, not just minor work, I was given a major project that was important to the company and got a result that was good for the company, now they're actually publishing some of the work so I'm being acknowledged as part of that, I'll always have that to look back on and show potential employers....the placement year was a challenge, at uni, you just watch a lot of time but on the work placement you have to do things and learn new skills so that was challenging.

Katherine - Biosciences Grad

Brief Conclusions at this Stage

- Current experience within the Biosciences points towards the positive impact of WRL within the field.
- This reaffirms the role of co-ordinated WRL activities within Biosciences Programmes.
- Biosciences Grads are faring as well or better than their counterparts with respect to employment after university.
- However those who have secured employment at Phase One are still in a minority.

Points To Consider

- Current experience within Biosciences points towards the positive impact of work related learning within the field. This reaffirms the role of co-ordinated work related learning activities within such programmes. Consideration should be given on how to expand or improve such activities.
- In spite of the positive experience of Biosciences Grads, at this stage, only a small minority of applicants had secured what they viewed as graduate employment.
- It is therefore important that institutions put in place mechanisms which are aimed at managing expectations regarding graduate employment and supporting students through the transition period.

GCU Project Team

- The Grant holder at GCAL is Prof Mike Mannion, Dean of School of Engineering and Computing.
- The core project team is located within the Division of Psychology, School of Life Sciences, and comprises:
 - Ms Nuala Toman - Lead Researcher
 - Ms Lesley McAleavy - Student Liaison Officer and Project Administrator
- The management team comprises, in addition to the above:
 - Dr Douglas Forbes (SL, and former Programme Organiser); Ms Rachel Mulholland (SL and Chartered Occupational Psychologist); Dr Lindsey Burns (Lecturer and Level Tutor); Mr David Carse (Student Association and member of Project Steering Group)

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