

Recruiting PhDs: What works?

Dr Charles Jackson

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Executive summary

In recent years there has been growing interest from employers in recruiting newly-qualified PhD graduates driven in part by the increase of students taking undergraduate education. The government has also recognised the potential of highly qualified researchers to contribute to our economic growth and have invested 'Roberts money' to develop the transferable and career management skills of researchers.

Project aims

The aim of the research was to collect detailed information about how newly-qualified PhD graduates are recruited by non-academic employers and also to document the experience of people with PhDs as they move into the labour market. This study aims to highlight what works for employers and university career services in supporting, targetting and recruiting PhD researchers.

By interviewing employers, careers advisers and PhD researchers the project aimed to provide a 360 degree view of the PhD recruitment market and highlight some examples of good practice.

The outcomes aimed to identify any gaps in the recruitment process that might inform CRAC, UK GRAD and other stakeholders about opportunities for the development of further training and related activities for the provision of information and support.

Looking for work as a PhD researcher

With almost half of newly-qualified PhD graduates obtaining work outside of academia, it is important to understand how well-prepared researchers are for looking for work in non-academic sectors.

The PhD researchers participating all found it difficult to get good advice. They found support from a range of sources including peers, family, supervisors, careers service and websites with varying knowledge and enthusiasm.

While some researchers felt confident about entering the world of employment, some found it difficult to know where to begin with their search for work, and others felt they would be perceived as disloyal or uncommitted for wanting to leave academia. Many found graduate recruiters unaware of the range of skills and experience that postgraduate researchers offer.

Some had attended courses (run either by their institution or by UK GRAD) to improve their employability and knowledge of different sectors.

The researchers interviewed had varying perceptions of their own employability, with some believing they should be offered higher pay than first-degree graduates because of their additional skills and experience, while one was even considering not including their PhD qualification on their CV, expecting to be told they were over qualified.

Many researchers felt that the traditional graduate recruitment activities for first-degree graduates, such as presentations and careers fairs, were not suitable for attracting PhD graduates, and they wished for a more targeted approach from employers.

With few employers informing PhD researchers about potential careers, the researchers interviewed thought that email could be used more for communication. Researchers also thought that there was room for more information to be made available online, both by employers and by their institutions.

The key messages from PhD researchers were for:

- institutions to foster closer links with the PhD cohort
- employers to engage with them more, and to understand how PhD researchers differ from first-degree graduates and
- more information about opportunities to be available, both online and otherwise.

How are University Careers Services responding?

With most, if not all, universities having an established careers service for undergraduates, many institutions have used some of their 'Roberts money' to fund an additional post in their careers service to concentrate on PhD researchers specifically. The six universities interviewed here were at different stages with the development and implementation of their PhD researcher programmes; five of the six had dedicated careers advisers for PhD researchers.

Careers provision from the participating institutions consisted of:

- workshops and training events,
- PhD specific sections on careers service website
- booklets and paper-based support.

Events involving employers, whether sector specific events, networking days, or poster exhibitions, were felt to be very good methods for generating and maintaining links with employers who were looking to recruit PhD graduates.

The key themes from interviews with university careers staff were:

- more work is still to be done on rolling-out PhD programmes across the UK
- the online information being provided was well received by those researchers who had viewed it
- The efforts made to forge closer links with departments, faculties and employers were starting to pay off, but there's still more to be done in this area.

The employers' experience

The employers interviewed for this project fell into two groups: those who seek PhD graduates for their subject specific knowledge and skill (eg the Pharmaceutical Industry, Research and Development companies), and those who seek to find graduates with the advanced generic skills obtained by the process of achieving a PhD (eg Investment Banks, Management Consultants). Both of these groups find PhD researchers highly employable, but complained that they were not reaching as many researchers as they would like.

Employers in this survey took different approaches to targeting and recruiting PhD graduates. Initiatives ranged from having separate entry routes for PhD graduates, to sending employees with PhDs out on campus, to running work placement schemes, to taking part in networking and sector-specific events within institutions and on their own premises.

Themes from the employers we spoke to include:

- a need to have better links with PhD researchers and, if possible, the ability to contact them directly in order to make PGRs more aware of the range of employment opportunities they offer
- a desire to forge closer links with careers services to save them time in their search for talent
- acknowledgement that competition for PhD talent in the marketplace is increasing, so most were making changes to accommodate this
- an understanding of the PhD cohort is essential to attraction and recruitment.

Experience of recent recruits

Out of the ten people interviewed who had recently completed their PhDs, some had never expected to work in academia while others had made the decision to seek work in industry during the course of their studies. For some the decision to look for work outside of academia was directly linked to the desire to move away from their subject area.

The attraction of working in industry for those interviewed included variety of work, shorter project timescales and greater job security.

Few of those interviewed had had direct personal contact with university careers advisers but many had made use of information from, and events run by, their careers services as well as making extensive use of web-based resources. Some felt that they had to formulate career plans quite privately so not to risk relationships with academic peers and staff groups.

Key themes from this group were:

- having decided on a career outside of academia, many struggled to find more information to help with a more specific career choice
- careers services were used as a source of information rather than advice
- all reported that they were satisfied with their jobs and some were pleasantly surprised at the relevance of the skills they had acquired in their PhDs for their new employment.

Summary and recommendations

In talking to the different groups involved in this study, we have been able to identify three common themes. These by no means encompass all the issues that arose, but highlight the areas that would make a notable difference.

Demonstrating an understanding of the unique value of PhD graduates

The employers and careers services who have experienced the most success in their activities have done so through demonstrating an understanding of what PhDs can offer, and have targeted their activities and communications to this group. It is apparent that employers and careers services alike have spent considerable time making sure that what they do is relevant, and do not assume that PhD researchers fit into the same mould as undergraduates.

Employers and careers services need to continue to target postgraduate researchers as a distinct group, acknowledging their higher level abilities and their experiences of undertaking their research.

The need for further engagement and dialogue

This project has highlighted a range of ways to bring employers and researchers together to facilitate a better understanding of each other's needs, expectations and potential.

Employers, careers services and UK GRAD should look for further ways of supporting links between researchers and employers, particularly in the area of networking events, work experience and internships.

The importance of communication mechanisms

On a practical level, the ability to make contact with PhD researchers is vital for careers services and employers. The examples from researchers in this study highlighted a preference for email and web-based communication, although the opportunities to talk in depth were also valued. The importance, therefore, of basic communication mechanisms to enable contact direct with researchers and employers is critical.

What else would make a difference?

We have identified three ideas for further consideration:

Having a designated contact in each University Careers Service for employers looking to recruit PhD graduates

Several of the case study organisations spoke about the difficulty of making contact with PhD researchers, particularly in the search for specialist skills but they were often unsure how best to go about this. One suggestion is that the specialist careers advisers with responsibility for services to PhD researchers should be the designated gatekeeper for employers looking to recruit PhD graduates.

Publications and dedicated websites for employers to publicise their PhD job opportunities

There are several publications that are produced for undergraduates where employers can list their graduate employment opportunities but nothing similar targeted at PhD researchers. Many of the employers interviewed felt that their efforts to promote themselves to PhDs are only getting through to a minority of their target audience. Several mentioned a desire for such a publication aimed at PhD students.

Many of the PhD researchers interviewed preferred web-based resources. While there are currently a number of small niche job-sites, searching them all can make job hunting a time-consuming process. It was felt that more job-related portal sites dedicated to specific PhD career areas would make job searching easier.

Labour market information and job search skills for PhDs

Interviews with PhD graduates who have successfully found employment highlight the importance of job search skills and a detailed understanding of the specialised labour markets in which many PhD researchers are looking for work.

PhD researchers need to learn the networking and active job search skills necessary to tap into what is all too often a hidden job market for PhD graduates.

1. Background

1.1 The context

The EU Lisbon Agenda set the ambitious goal for the EU to become, “*the most competitive and dynamic knowledge-based economy in the world...*” by 2010. This is estimated to require 700,000 additional researchers across the EU.¹

Meanwhile in the UK, the Roberts’ review, SET for Success, highlighted a ‘disconnect’ between the supply and demand of qualified scientists. It led the UK Government to invest ‘Roberts money’ to develop the transferable and career management skills of researchers. The Joint Skills Statement (JSS), published by the UK Research Councils and the Arts and Humanities Research Board, and developed with UK GRAD, set out their common view of the skills training that the researchers they fund should have, or develop, during their research training.

While many employers value PhD graduates for their subject specific knowledge and skills, there are also a growing number of employers who value PhD graduates for their high level and transferable skills. Employers also value people with PhDs because they know that many of the brightest and most academically able go on to further study and they wish to recruit from this pool of highly talented individuals.

At the same time, there is considerable evidence that many employers who recruit graduates put little, if any, additional value on a PhD. Recent research by Leeds University Careers Service² has shown that graduate recruiters are still strongly influenced by stereotypes of what PhD researchers, and other postgraduates, would be like and have little direct experience of employing people with PhDs.

In their research to investigate the employment of social science PhD researchers³, Purcell and Elias found both a reluctance to recruit social science postgraduate researchers (PGRs) and a lack of awareness on the part of many employers as to whether or not they had recruited any in the past.

Another recent survey of employers’ attitudes to postgraduate researchers⁴ has also found that many employers either do not encourage applications from PhD researchers or would not treat them differently from other graduates. However, the survey also found that employers do value the skills that PhD researchers offer and that recruiters in SMEs, in particular, “*praise these recruits highly in terms of their specialist skills and ability to move quickly within the organizations.*” Employers were concerned, however, about PhD graduates being over-specialised, finding it difficult to adapt to non-academic work cultures, lacking commercial awareness and having unrealistic expectations.

These studies remind us that, at present, actively recruiting and targeting people with PhDs is of interest only to a small minority of employers. In this research, therefore, the focus was on gathering information from employers with recent experience of recruiting newly-qualified PhD graduates. This included both those who regularly recruit newly-qualified PhD graduates and those who have recently started to actively recruit them.

1 European Commission (2003). COM(2003)226 final and SEC(2003)489 of 30.04.03. See also European Commission (2003). COM(2003)436 final which notes that these are orders of magnitude, the precise results depending on hypotheses retained. There were about 1.6 million researchers in Member States and acceding countries in 2000.

2 Souter, C (2005). Employers’ Perceptions of Recruiting Research Staff and Students. University of Leeds Careers Centre

3 Purcell, K and Elias, P (2006). The employment of social science PhDs in academic and non-academic jobs: research skills and postgraduate training. Swindon: ESRC.

4 McCarthy, M and Simm, J (2006). Survey of employer attitudes to postgraduate researchers. University of Sheffield Careers Service.

1.2 The PhD labour market: supply

Targeting small numbers

One challenge in understanding the PhD labour market is its relatively small size. Whereas just over 300,000 students completed first degrees in the UK in academic year 2004/5, fewer than 16,000 completed doctorates and a substantial, but unknown, proportion of these were professional doctorates in areas such as medicine or clinical psychology⁵. Few, if any, of this latter group of researchers are looking for work outside their chosen discipline.

In addition about 100,000 other higher degrees were awarded and nearly 30,000 postgraduates completed PGCEs. Newly-qualified PhD graduates, therefore, form only a small minority of those completing postgraduate qualifications.

Nevertheless, the number of people graduating with a doctorate increased from 14,120 in 2001 to 15,780 in 2005⁶ – an increase of 12% in total numbers. This still means, however, that in any one year perhaps only about 5,000 UK domiciled PhD researchers gain work outside academia, less than the number of students with first degrees graduating from Oxford and Cambridge.

Subject areas

Approximately half of PhD degrees were awarded in the following subject areas: biological sciences, physical sciences, engineering and technology, mathematics and computer science. Other significant areas are medicine and dentistry (10%) and social studies (8%)⁷. In medicine and dentistry, many will have completed professional doctorates.

Note that some disciplines awarding substantial number of doctorates, such as psychology, can fall across more than one area (eg biological and social science). However, it is probable that about half the doctorates awarded in psychology are professional doctorates in clinical psychology.

UK and international students

Approximately 66% of PhD researchers graduating in 2004/5 were UK domiciled and 13% were from other EU countries. The remaining 20% were from other non-EU countries⁸. While many of these researchers will return to their own countries to work, some will look for work opportunities in the UK.

In addition, people who obtained their PhDs from other countries may also look for work in the UK and many employers are international in their outlook. Most research on the employment outcomes of PhD graduates has focused only on UK domiciled postgraduate researchers (PGRs) or on those funded by the UK research councils, so it is difficult to assess the trends for international researchers. This research gives only a partial picture of the labour market for PhD graduates.

5 HESA Table 14: HE qualifications obtained in the UK by level, mode of study, domicile, gender, class of first degree and subject area(#6) 2004/05. <http://www.hesa.ac.uk/holisdocs/pubinfo/student/quals0405.htm>

6 HESA Table 14a: HE Qualifications Obtained in the UK by Mode of Study, Domicile, Gender and Subject Area 2000/01. <http://www.hesa.ac.uk/holisdocs/pubinfo/student/quals0001.htm>

7 HESA Table 14 (op cit).

8 HESA Table 14 (op cit).

1.3 Research aims

The aim of this research was to collect more detailed information on how newly-qualified PhD graduates are viewed by non-academic employers as well as on the actual experiences of newly-qualified PhD graduates as they move into the labour market. The intention was to generate a series of case studies from employers to explore:

- Why they recruit people with PhDs?
- What value they put on people with PhDs compared to other qualifications?
- How employable they find new PhD graduates?
- What advice they would give to other employers contemplating recruiting newly-qualified PhD graduates?

In addition to this research with employers, the research also aimed to collect information from University Careers Services on the range of initiatives that are in place or are being developed both to support PhD researchers and to work more effectively with employers interested in recruiting newly-qualified PhDs.

Finally, the research also contacted final year PGRs and recently recruited PhD graduates to discuss their experience of looking for work outside academia.

It aims to provide a 360 degree view of the PhD recruitment market that will highlight some examples of good practice. The outcomes would also identify any gaps in the recruitment process that might inform CRAC, UK GRAD and other stakeholders about opportunities for the development of further training and related activities for the provision of information and advice.

1.4 Methodology

Survey-based approaches to the study of how employers recruit PhD graduates have limitations. It was felt that a much more targeted and in-depth study of the practice of a small number of employers would be more informative. This was backed up with interviews with a small number of university careers services to discuss how they are working with PhD researchers and the kind of links they have with employers looking to recruit newly-qualified PhD graduates.

In addition, the views of final year PhD researchers at their institutions and recently employed PhD graduates would also be sought to provide a rounded picture of the recruitment process.

A qualitative research methodology was therefore used for the research. This included:

1. Two web-based discussions with final year PhD researchers about their experience of looking for work outside of academia. The discussions ran over three days and had 21 participants from 12 different universities. Each day the discussion focused on a different aspect of their experience of looking for work. Researchers were recruited by UK GRAD through emails sent to a selection of the names of final year PhD researchers in a range of institutions which receive Research Council funding. Most of the respondents had attended or were planning to attend a GRADschool. The students were told that the web discussion would be about their experience of looking for work and what would make a difference to them in terms of better information or advice.
2. Telephone interviews with careers advisers from six universities (Birmingham, Bristol, Leicester, Manchester, Nottingham and Sheffield).
3. Case study interviews and visits with employers who recruit newly-qualified PhD graduates. 11 employers were involved and 24 interviews were completed with recruiters, managers and newly-hired PhD graduates. We predominantly interviewed staff from large employers.

Additional interviews were also conducted with a recruitment consultancy specialising in PhD graduates, the Centre for Career Management Skills at the University of Reading, the manager of the Engineering Graduate Centre, University of Nottingham and a member of the AGCAS postgraduate working group.

2. Looking for work as a PhD researcher

The recent UK GRAD survey of the career motivations and expectations of doctoral researchers indicated that many doctoral researchers do not expect to continue their career in academia and that over half the respondents wanted more information on the opportunities available to them. The survey indicated that, while most (72%) PhD researchers felt that studying for a PhD had enhanced their career prospects, only a minority (26%) had a clear idea at the start of their PhD of what they wanted to do when they finished.

In order to understand how final-year PhD researchers were approaching their search for work two web-based discussions were held. These were targeted at those looking for work outside academia. Although almost half of newly-qualified PhD graduates will get work in education, with the vast majority of this group staying in higher education, just over half are likely to obtain employment outside education. It is, therefore, important to understand how well prepared researchers are for looking for work outside the university sector.

In some subject areas there is a strong demand and clearly marked route to employment. In others once they step outside the education sector, their opportunities might appear to be more limited. Not surprisingly this affects career outcomes, with scientists (biological and physical) and engineers being more likely to be employed in research and manufacturing industries than social scientists or arts and humanities PhD researchers.

*'What do PhDs do?'*⁹, the analysis of the first destination of UK PhD graduates who were awarded doctorates in 2003, found that the substantial majority of PhD researchers in Arts and Humanities (70%) and the Social Sciences (66%) were employed in the education sector. In contrast, less than half of Biological and Biomedical Sciences PhD researchers (39%) and Physical Sciences and Engineering PhD researchers (40%) were working in the education sector.

However in these two subject areas, PhD graduates were much more likely to become postdoctoral researchers. Roughly a quarter of biological and biomedical sciences PhD graduates (26%) and physical sciences and engineering PhD graduates (23%) were employed as postdoctoral researchers. Significant proportions also went into research roles in industry – 18% of biological and biomedical scientists and 19% of the physical scientists and engineers.

Far fewer arts and humanities PhD graduates (15%) and social scientists (14%) became postdoctoral researchers. Spending time as a postdoctoral researcher is therefore an important stepping stone to an academic career in the biological and physical sciences and engineering, whereas in the arts and humanities as well as the social sciences, many newly-qualified PhD graduates were employed directly as university lecturers (30% and 39% respectively). Only 8% of biological and biomedical scientists and 6% of physical scientist and engineers were employed as university lecturers.

Not surprisingly, therefore, in the light of the fact that more scientists and engineers look for work outside academia, roughly three-quarters of the PhD researchers participating in the web discussions were scientists or engineers. Approximately equal numbers of male and female researchers participated.

Nevertheless, even though the researchers were from 12 different universities, it is impossible for them to be representative of all final year PhD researchers looking for work outside academia. The findings, therefore, are only illustrative of the range of issues that researchers report.

The remainder of this section presents some key findings from the two web-based discussions.

⁹ *What do PhDs do?* Published by the UK GRAD Programme, 2004. www.grad.ac.uk/wdpc

2.1 Career support

Getting good advice and career support had not been easy for the PhD researchers participating in the web discussions. For several of the participants, friends who were currently working were often best placed source of advice.

"Although my supervisors are of help and always willing to give advice, I have received most of my careers advice through friends and acquaintances. They are the ones actually doing the job that one day I would like to do, so therefore I have asked them specific information regarding their career, how they got to where they are today etc."

"I think my best source of careers advice has been my friends from my undergraduate course! I know what they are doing now and can see how things turned out for them."

"In order to get advice about career choices, I have mainly used my friends who have now left academia. Academics themselves (including my supervisor) are, on the whole, useless for this as they are very one-sided towards staying in academia. I've been quite surprised at the hostility I've received from some academics at the idea of leaving!"

Many of the participants felt that their supervisors were not well placed to advise them on work opportunities outside academia. Some also felt they were perceived as disloyal or lacking in commitment because they did not wish to stay in academia.

"My supervisor doesn't really know anything about careers outside academia and we haven't ever really discussed my future plans."

"My supervisor has now given up on me and feels I have wasted all her time and effort in training me as a researcher, as I am now going to throw it all away. No she is not a big help re careers."

"My supervisor has not been useful in regards to career searches. In fact I feel that my supervisor would probably express anger/disappointment that I will leave and be positively unhelpful, considering it a sign that I wasn't committed to my PhD."

"Again I have to agree with the previous responses that my supervisor is of absolutely no help when it comes to finding a job. He has made comments that he would like me to stay on as a post-doc once I have finished but has no money to offer me a job. When I applied somewhere else for a post-doc he seemed annoyed that I wanted to work with another group!"

"I keep off the subject of my career path with my supervisor (who has given me some advice on how to get on inside academia). I'll also leave it till very late in day to mention my career plans, to avoid any chance of the relationship going sour."

"I've decided not to discuss these (career plans) with my supervisor until I'm very close to leaving. This is based on my experiences with other colleagues, who were particularly hostile about my desire to leave academia, with whom my working relationships have definitely suffered. I simply don't want to risk something similar with my supervisor at this stage of my PhD."

However, there was also evidence that supervisors had been supportive to their PhD researchers with some making appropriate career suggestions.

"In the end, it was my PhD supervisor who suggested I look into becoming a patent attorney, as his brother is one, and he thought it would be a challenging and enjoyable career for me. I started to research it, and the more I found out, the more convinced I was that I'd found my ideal career. It will let me use my scientific knowledge from my degree, and also involves lots of writing, which I really enjoy."

"Personally, the most help I've had about careers is from my supervisor, [he] seems switched on to helping me develop and identify skills separate to my actual topic, but I have tried to make it clear from the beginning that I did not want to be led into academics. His support on this front has been fantastic!"

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"My supervisor doesn't expect any of her students to carry on in academia, and although she thinks it is a shame that not many of us want to, she is supportive of our decisions and helps us to think of jobs that would allow us to play to our strengths."

"Firstly I would like to say that I still don't know which sector I would like to work in, although I have a couple of ideas. I know that I don't want to pursue a career in academia. My supervisor is aware of this and has been fully supportive."

University careers services were seen as a useful source of information about jobs and careers but were often perceived as being primarily targeted at undergraduates and mainly with information about employment opportunities with large employers. However, there were examples of good experiences in terms of supporting respondents to present themselves more effectively.

"The careers service give some basic advice, but it's not always applicable to postgraduates. There do only seem to be a few large employers at careers events, which I find limiting."

"I don't think that having 'PhD' down on my CV makes me any more employable, but making the most out of the experiences and opportunities I've had during these three years definitely has. I've had some very useful help from my careers service, as well as from going to schools (such as the GRADschool) which has taught me how to make the most of my experiences when selling myself to employers."

While several of the participants had never intended to stay in academia, others had been put off by lack of attraction to academic jobs. Poor job security and low pay were mentioned frequently as factors that put people off an academic career.

"In general, most of my search for work has been outside the academic sector - I considered some teaching-only academic posts before coming to the conclusion that the world of academia meshed poorly with my own worldview. So, most of my search for something to keep me interested in the next phase of my life has been through my own efforts; those that have helped me most are personal contacts outside the academic world."

"I'm not sure how much of a pull factor it is, but I definitely want a career with some long term security in it, as much as that is possible these days. I don't think an academic career would offer that, as I've seen many post-docs struggling to find their next job, or keep a post for longer than two years at a time. I think if there was more security and financial equality in academia compared to other sectors, then I'd be more inclined to continue as a researcher/lecturer. I do enjoy the intellectual stimulation of the university environment, and being surrounded by like-minded people, but I feel that other career choices would offer that as well, without the hassle of constantly having to relocate or apply for new grants."

"I see that a lot of career scientists whom I work with are not happy with their jobs. Long hours for no extra pay. Non-existent job security. Poor image (I find the average person-on-the-street has a pretty bad reaction when they find out I am a scientist. It's not something to mention at parties!) Those who are happy are 10 years older than me and still living like students. I DO NOT want to be living in a damp, sub-standard rented student house when I am 40."

"One of the biggest factors affecting my decisions has been job security. I don't want to be constantly chasing after money for my next job, or having to move to another part of the country (and probably to another country) every 2-3 years. I can't see how it can be possible to buy a house or have a family as a post doc."

However, there were numerous comments reporting how useful these PhD researchers, most of whom had attended a GRADschool, had found it. For many of them, this seemed to be the first time that they had become aware that there were wide-ranging career opportunities open to them outside academia. For several, it was also when they realised the potential value to employers of the range of skills and experiences they had.

"To be honest, I wasn't sure what options were open to me after my PhD, other than post-doc positions, until I attended the GRADschool careers workshop last year. It really opened my eyes to the fact that I could work in any sector of the job market using the transferable skills I'd gained doing my postgraduate degree. Since then, I've tried to research as many possible careers as possible, by using my uni careers centre, online graduate job websites, and asking friends and family for their suggestions."

"The UK GRAD school I attended helped me a lot, if only to realise that there are plenty of other PhD students out there who are going through the same problems I am. It also made me look at other job sectors, such as voluntary and sales that I probably would never have thought I could get into. It's true that once you start making a list of exactly what skills you have and matching them up with job descriptions, you do get some surprising results."

"I found the GRADschool very helpful in terms of thinking about employability and CV writing, and helping me to see my PhD in a positive light for non-academic jobs. We might not find a use for our labwork skills or intricate knowledge of one sub-sub-sub-section of our field, but we do have a variety of skills such as perseverance, communication, responsibility, project management, that someone straight out of undergraduate doesn't."

While many of the participants seemed not very aware about how to go about their job search, several had learned most by 'doing'. This had enabled these participants to develop a more proactive job search strategy.

"I agree that the skills we've gained by doing a PhD should make us more employable. I found that by writing a skills based CV rather than a chronological one, I could highlight exactly what I'd learned from my PhD, such as time-management, public speaking, etc. I think this makes it easier for employers to see exactly what you're offering them."

"I was also rather surprised to find how much I learnt once I had started applying for jobs. It can give you great insight into how employers think and go about looking at your CV, which you can use to your advantage. Also, getting feedback from an employer if they reject your application is always essential!"

"Searching for work is definitely a proactive subject. The more you put in the more you will get out. I've found that people are very helpful if you just ask them, be it your supervisors, or a careers service. Personally I've found my supervisors and recruitment agencies to be the best bet. Supervisors are very useful for giving you the real work side of things for the academic world, and suggesting where to look and so on."

"My best career search has been through key respondents [people this student had interviewed for their research], just mentioning that I was looking for a job and keep me in mind when they hear about things."

"When considering a career, I found it most useful to sit down and think about what I had done and learnt over the three years, in a logical, detached frame of mind to extract the key skill of what I had been doing, and brainstorm what else these skills could be used for, independently of each other - then start to see how these skills can be combined to different subject areas, to create a tree like structure, finishing with a couple of different destination subjects/sectors. I found this came fairly naturally, and found that the ones I thought about the most were the ones that interested me the most, some of which surprised me. And obviously with this in mind, I also found this useful in writing my CV to 'spin' my skills to the appropriate job."

Although few of the participants had direct experience of applying for jobs, more than one had got the impression that many graduate recruiters were suspicious of people with PhDs or did not really understand how employable people with PhDs might be.

"I don't think the traditional corporate world really understand what PhD students can offer. A few of the very large companies have a separate little section to welcome PhD students but we have so much more to offer with regard careers skills e.g. self-discipline, self-motivation, able to work on your own, analytical skills etc. I have found that my PhD has actually made me less employable! One recruiter told me I was rejected due to having a PhD and when questioned, admitted they didn't want a Dr in their team, although I would have got through to interview had I just had an undergrad degree."

In terms of sources of information, it was clear that most of the participants used the internet and websites as their starting point for searching out career and job information. Several were also using recruitment websites, particularly ones that specialised in scientific or engineering job opportunities.

2.2 Employability and recruitment

The researchers had mixed views about their employability. Some did not seem to recognise that they had acquired skills besides their subject knowledge that would be of value to a potential employer, while others cited the range of skills that they had to offer.

"I think a PhD can be summed up as knowing a lot about very little. If you manage to find a job which is in your area of expertise then you can offer the employer a lot. If you have publications you give them extra credibility. You give them up-to-date knowledge in the field and potentially contacts in the area - which can be very useful. If however you don't manage to get a job in the field of your PhD, I would say what you can offer an employer is more limited. You of course have all the skills needed to do a PhD, research, time management etc, but you aren't an expert in their field and therefore they and you will need to spend the same time as they would do for a graduate training you."

"I think PhD students can offer a large range of skills which other graduates will not have. Many of these are the so-called transferable skills, but I think a PhD student will also have more independence and confidence than a recent graduate. Your specific knowledge in your field may not be directly applicable to the job, but often the types of techniques used to carry out the work will be the same. In my opinion, PhD students will be able to solve problems more effectively as they can draw on their research experience, which is much more than the experience of an undergrad."

"Doing a PhD gives you oral presentation skills, writing skills (ie: thesis and/or papers), networking ability, project management, people management (supervision of undergraduate students and often teaching classes), and makes you competent dealing with people in authority."

Several were worried about being too specialised.

"Some friends have mentioned that I maybe too qualified or even too specialised and therefore may have problems finding a job outside my field."

A number of others pointed out that studying for a PhD in many cases can be quite similar to being employed.

"I'm not sure whether employers realise that doing a PhD is much more like a job than it is like studying for an undergraduate degree. Therefore we have to develop many of the skills required in a job - the usual transferable skills of course but also initiative and management of your own large project, which are skills that undergrads are increasingly not required to develop."

"I think employers don't realise that the process is more like a normal job. We work regular hours, put in extra time and have to time-manage, people-manage and do a lot of ground work to get to where we want to be with our research."

Another respondent commented at some length about the distinctive skills that he felt PhD researchers have.

"In my opinion, PhD students as a class have generally two main areas in which they de facto can excel above other applicants. This is observation of colleagues and friends only, so others' mileage may vary.

a) Proven self-reliance and self-motivation

If a PhD is put in personal charge of something they care about, chances are that the project will get done and get done properly. And with the emphasis on project management that so many departments are putting on to PhD students, the PhD is likely to have the skills to get it done on time and under budget, too.

b) Proven analytical skills.

If a PhD works on something that requires careful analysis, chances are not only will the analysis be done properly, but the PhD will take care to check that the right information is going into the analysis, and the analysis is sufficient, but not needlessly precise beyond what is required.

This is not to say that there are not other aspects that make them attractive - rather, the other characteristics of the PhD will very strongly depend on their own experience, both in their PhD and throughout their life. These are very valuable to employers; specialist skills, technical skills, negotiation, communication, collaboration skills; skills from undergraduate days and from projects external to the PhD. Whether you love it or hate it, there is no standard PhD experience, and therefore no standard PhD skillset. Employers may therefore be advised to read and probe beyond the qualification to discover the true capabilities, drives and talents of the person behind the degree."

Making initial contact with employers was a frequent source of difficulty. Many felt that traditional recruitment events, which are primarily for undergraduates, are not very useful for PhD researchers, although some recognised that they could get some useful information and further contacts at such an event.

"Face to face meeting with representatives - preferably on site. I find recruitment fairs etc are utterly impersonal. I don't want to meet a company PR rep - I want to meet the researchers behind the scenes to see what it is really like. But of course that's expensive (annoying?) for the employers."

"I've thought about trying to arrange visits with companies, but particularly with the larger ones, have found this very daunting. When faced with a website for a company of thousands of employees and one email address for enquiries, how do you get yourself in contact with anyone useful?"

"I agree that recruitment fairs are often not useful because it's usually very impersonal and you only ever get to speak to an HR person anyway. On the other hand, they may be more suited to smaller companies where there is a good chance that either the person at the fair is technical staff, or the HR person talking to you will actually be the one who will eventually be reading your application form."

This PhD researcher continued:

"I think larger employers can do more to make themselves contactable in a meaningful way. I had a very positive experience recently with a medium/large employer who had their head of HR's contact details on their website so I was able to speak with her directly. Another very good website I saw listed one or two points of contact for each department. These are much better than some email address: enquiries@company.co.uk where you don't know where on earth it's going to end up!"

Another recognised that there is some value in attending recruitment events.

"Recruitment fairs are good to have an informal chat to find out about the companies and opportunities, but most companies/recruitment staff at these fairs don't want PhDs or don't know what the company wants from them. It would be good to have a careers fair for postgrads, I feel it's a good way to really find out about what's out there, and even if there's nothing for you, it's a good place to start for ideas!"

Several others were starting to use other avenues to generate contacts. One commented:

"One way I'm hoping to get more contacts inside companies I may want to work for is at a conference this summer where I am presenting a poster, and I know industry people are presenting work too. I'm not sure how successful this will be though.

I also have an industrial collaborator who deals with various big companies all the time, and I'm thinking of asking them for contact names. I think this could be more useful than using a 'general enquiries' email.

There's also the alumni database at the careers service, which holds details of people working for various companies who have given permission to be contacted by current students. A friend of mine went for a chat with a medical writer this way, the chat turned into an interview and she started the job the following week!"

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There was also value in going through all the stages of the application process. Several felt they had learnt valuable lessons from first-hand experience of interviews and assessment centres.

"I've attended one assessment centre and interview. I didn't get the job (which was very competitive) but the feedback I received treated my interview favourably. During the interview I discussed my PhD extensively; I covered problems I had with working relationships with several people, project management in finishing a paper to a deadline, how I dealt with problems encountered in my PhD such as equipment or experiments not working, or rejection of papers. I felt that this was taken seriously and positively as evidence of skills I could bring to a job.

"I have found that most companies are prepared to consider PhD students, but you really have to sell the PhD to them at interview!"

On the other hand, some had applied for jobs and realised that they were not as well prepared as they should have been.

"Yes I have had a couple of interviews for jobs. I wish I had been to GRADschool before going though. I learnt a lot about conveying what I actually do, what skills I have to offer an employer etc. Although I think I had what they were looking for, I didn't express it enough and therefore got rejected on both occasions. I am better prepared now to explain my research and what skills I have to offer."

Several also perceived that they do not fit easily into the normal graduate recruitment process. They felt not only that their skills and experience were not valued but also that the timing of the process did not reflect the reality for PhD graduates, who tend to finish at the end of September at the earliest.

"I definitely agree with all the above comments that there is a real gap in the job market for PhD students since we don't necessarily fit onto graduate schemes, but don't have the necessary experience to apply for higher jobs. It would help a great deal if companies thought carefully about what positions they want open to PhD students and made this clear in their recruitment literature."

"The normal recruitment window is really badly timed for PhD students. With normal start dates in the summer/early autumn, it was too early to apply last year, but now I am going to be finished by Oct/Nov, so will be unemployed for a while if I apply for general graduate posts."

"The biggest problem by far is the timing issue. My PhD funding finishes in Sept but no way could I apply for graduate jobs last year to start this summer. Therefore I have to wait until I have finished my PhD to start applying and basically waste a year until I can start the graduate training scheme summer 2007. Although I wouldn't waste the year, any employer looking to take on the best should have a PhD intake around November / December. I have found that some big employers will accept applications all year round and say they allow you to start whenever you want but when really pressed on the issue, they want you to start with the rest during the summer intake."

"Maybe the timing of them is important too. The undergraduate fairs tend to run Easter/start of summer. For post-grads probably Sep-Dec would be most useful as the majority of students will be finishing closer to this time. (Although I do realise you can start or finish a PhD at any time of year.)"

2.3 Making contact

It seemed that a substantial issue for many of these PhD researchers looking for work outside academia was simply to find out more about the range of job opportunities that might exist for them. Little information from employers is targeted at PhD researchers directly and many are looking for opportunities to build on their skills and interests, although they recognise that they will not be working directly in the precise field of their research.

"I attended a GRAD school specifically for 'environmental' careers which included meetings with employers from environmental sectors. This was very interesting, although the organisers' interpretation of environmental was not quite the same as mine, so the employers did not tend to be from organisations that I would be applying to. However it was very useful to be able to talk to people working at these organisations, in a sort of networking-type meeting, especially since most of them were very interested in talking to the PhD students present (and many had PhDs themselves or had even moved to their job from academia)."

"What did work however were meetings through contacts. I was set up twice via an internship and through a key respondent. Getting recommendations in industry (or in academia through your supervisors or who you know from conferences) seems to be the way to go for PhD students if you want to continue in the field. I enjoyed all these meetings because they were genuinely interested in my experiences and views on the specific market I am studying."

There was also a feeling that email should be used more for communication.

"I would like to see some more active marketing of the employers towards PhD students. Email would be good."

"In reality email and internet is the most practical in the final stage of a PhD. Face to face is lovely, (and probably much better) but in reality most of us can't spare the time as we madly try to finish our work and write theses."

"I agree that emails are the best way to get info to PhDs. Perhaps through funding bodies or my department sends out a fortnightly email with all the job ads they have been sent. The problem with this is that they are mostly academic-oriented. Perhaps the careers service could have a separate database of PhDs to email but that would only work if employers contacted them for PhD people jobs!"

Several of the PhD researchers had been quite proactive in trying to make contact with people who could give them information about job and career opportunities.

"When I went out of my way (and subject area) to go to a specific science communication conference, I then made loads of contacts and found out about lots of organisations who do science communication work. None were actually recruiting, but at least in a few months time when I can identify a realistic finishing date, I have a list of names and contact details. Subject specific conferences do tend to have job advert areas (99% jobs in academia) and there are usually trade stands if that is an area you want to work in - so I guess that could be useful to some people. A big issue seems to be to meet people you might work with rather than HR or recruiters."

Another PhD researcher commented:

"I've also been in contact with several people in the area I want to work in, with mixed degree of usefulness. I basically picked one person in every company I could find and emailed them a general information enquiry. I've had a lot of help from a couple of the people; one of them took me out for lunch and an offer of work experience too. I've found that as long as you don't take up too much of their time, then most people are more than willing to talk about their job, especially if it's one they really enjoy."

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Through one of these contacts, I've been in touch with a graduate recruiter who specializes in the field, and she's got me a couple of interviews already. I suppose the time I've spent emailing people and researching on the internet has added up to quite a lot of time away from my PhD. But I'm hoping that if I can get a job sorted out soon, then that'll give me more motivation to actually write my thesis before September. And I definitely need motivating right now!"

Talking to people with PhDs who are now in employment outside academia was also something that most of these PhD researchers would value.

"I think it would really help me if I could speak with past PhD students who are now working in the corporate world."

Websites

These PGRs expected to use the web and the internet to search for information. They were somewhat surprised that more companies do not have a particular section on their recruitment websites for PhD graduates and most were not aware of career or recruitment websites aimed specifically at people with PhDs. A web-based directory of employers who recruit people with PhDs would also be useful.

"It would be useful to have a careers website dedicated to PhD students, listing employers who actively recruit people with PhDs, and contact details for obtaining more information. I think this would be more useful than career fairs which tend to be more general. Another idea would be to have a directory of past PhD students and the jobs they have gone into, perhaps with contact details if they are willing to provide them, as talking to previous students seems to be one of the best ways of getting advice."

"A website with companies that are recruiting for PhD students would be good. I know various companies and banks do have special 'PhD' entry level jobs that don't require specialist skills. They are aiming to bring in interesting, smart people that they can train themselves. I just never know where to look for such jobs. The couple of job presentations I went never catered for us and I always felt a little 'old and late' as somebody once told me there."

2.4 What would be useful to know in advance

Only a few of the PhD researchers taking part in the discussion groups actually had a job offer and some had barely started looking for work. This highlighted a frequent tension between the amount of time and effort required for job hunting and the pressure they were under to complete their research and submit their theses.

"I wish I had known just how much work it was going to take. Putting 'PhD' on a CV won't get you the job; there is a lot of slog work to go. I wish I had known how useful recruitment agencies are as well. They can take a lot of the leg work for you."

"I started my search last October (and got a job offer in May!), as soon as I entered my third (final?) year. As was discussed in the previous thread, you have to put a lot into searching for a job to get anything out of it. I think because they are uncertain when they will finish, many PhD students put off looking for work until they have submitted their thesis. My advice is DON'T."

While some were still quite undecided about their future career direction, there were numerous comments about having clearer signals from employers that they were interested in employing people with PhDs. For some, recruitment events and materials targeted at PhD researchers would make a big difference.

"I wish I knew exactly what I want to do! I would like to know which employers would value PhD students more, I would definitely prefer to work for one which employs and values lots of PhD graduates."

"I haven't seen anything specifically targeted at postgrads, all the timings of the main recruitment fairs are directed at undergrads. On the other hand, some employers do make a point of saying that they recruit PhD graduates on their websites/brochures, and that is very helpful and reassuring. Other more specialised businesses like pharmaceuticals, engineering, IT firms specifically target PhD graduates, but I think that is more to do with the nature of the business."

Others still felt misunderstood and not valued.

"I have also felt like I have to apologise for the fact I am doing a PhD, this should not be the case! (I even have a friend who is omitting her PhD qualification from her CV because she feels she can't get a job otherwise....we do hear 'overqualified' quite a bit nowadays. Ironic when the government wants a knowledge economy.) Now, I am learning slowly that there are some professions that like the fact you have done extra years of learning, it shows an independent and inquisitive brain."

Few reported experience of initiatives to make PhD researchers more aware of the range of employment opportunities available to them. Examples such as this were exceptional, although they clearly help to get people thinking ahead.

"In my first year, my university held a day of talks about different careers for people with PhDs. Most of the speakers were former PhD students from my university. They included a teacher, a lawyer, a management consultant, civil servants, lecturers, a sales manager, and someone who worked for the BBC. This gave me lots of ideas to investigate further and it was good to start thinking about it in my first year. However, this day was ONLY for PhD students in Biological Sciences. I think I was really lucky in this respect but even within this one university access to such days is not uniform. My friends in Physics and Chemistry have not had such an experience."

Several comments were about the need to be well-organised or about using particular recruitment sites.

"I want to add that the best job-finding resource I have found on the web is the graduate recruitment bureau: www.grb.uk.com. It has lots of information on 'hidden' graduate jobs."

"I'd advise everyone who registers with any agencies/job websites/companies to create a spreadsheet detailing dates, CV version, username and passwords and saving all cover letters. If you don't, things really become confusing and you lose track of which agencies have updated CVs etc etc."

For several, it was the realisation that:

"How little the PhD itself, the qualification, mattered - the really great employers are far more interested in your skills and abilities and experiences, and what you can do for them."

2.5 Messages for employers

Not surprisingly given their limited exposure to the job market, most of these PhD researchers could not give detailed examples of good recruitment practice on the part of employers. They clearly identified employers who want their research skills and therefore set out to recruit people with PhDs but felt other employers were often less good at signalling their interest in employing PhD graduates. Acknowledgement of the PhD experience, and how that made PhD applicants different from undergraduates, was always appreciated.

"I don't know of any employers that raise their profile with PhD students but I like companies that at least acknowledge us as being different from graduates."

"Be open to what [PhD graduates] can offer, don't think that they [are geeks or too clever, many PhD students that I know have great interpersonal and social skills. Also every PhD student is different where as many graduates are the same, graduating from similar courses having been taught similar stuff in similar ways. No PhD is like that."

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"I've found that companies with a strong research and development or IT component are generally better at dealing with PhD researchers. I was particularly pleased with those companies who said something useful like: '30% of our graduate intake have PhDs', or similar which let you know that you were looking in the right place."

This student continued:

"I can't say that I've noticed any correlation between the size of the company and their approach towards PhD students. Smaller companies can be more open minded, yet they may have less experience dealing with PhDs."

Efforts by companies to make contact with people in a specialised subject area were also valued.

"The exception is one company that specifically recruits PhDs from my subject area because they do directly relevant research - this company is extremely well known as a potential employer because they are high profile in terms of the research they do and because they post jobs on academic mailing lists. I attend a PhD students-only conference in my subject area each year and they were among a handful of employers who came to talk to us - and I should also mention they said they were very impressed with all the PhD students they met."

More and better quality interaction between employers and PhD researchers was also something that many felt would make a difference.

"I think interested employers should be encouraged to attend PhD-specific recruitment meetings where they could interact with students to understand what qualities PhD graduates could offer them. This would be a learning process for both students and employers, so it would have to be more structured than a careers fair. PhD students tend to be very good at giving presentations (we have to do so many) so for example you could ask students to give a 10 minute presentation on their work as applied to a general audience - but focused on the challenges and achievements in carrying out the project as opposed to the technical details. Similarly you could have short presentations by employers followed by a networking session."

"As there are relatively few PhD students graduating each year (compared to undergrads) I think the recruiting process should be a lot more personal. Allow PhD students to ring other PhD holders within the company, allow us to ask questions directly to the HR manager etc rather than through some generic website with everyone else. I think you will find not only will you get good PhD students applying but it also sends the right signals about the company - we care about who we employ and we are open and approachable."

There is still more to be done to provide PhD researchers with better career information so that they can target their job search more effectively.

"It would be fantastic for there to be a webpage listing the various job websites and the services offered by the sites as well as the merits and problems with the sites. I've spent a good bit of time looking for jobs on some websites that has been very unproductive."

Finally, one frequent comment was to recognise and value people with PhDs more. This included recognising their skills and experiences but also customising other aspects of the recruitment process, such as its timing.

"If a company decides to take PhDs for graduate positions, take account of their extra experience and skills and offer them a higher wage. A PhD student who's slogged through 3-4 years of research ought to get a better package than someone fresh out of an undergraduate course."

"Many companies require September starts and when I asked them about this they told me to apply when I have finished my PhD. I am lucky to have found a flexible employer who will let me start my new job in January. This is probably because about 50% of their staff have PhDs."

2.6 Key themes

There are several key messages emerging from the focus group discussions. While it is important not to over-generalise from the relatively small number involved in the two web-based discussions, they have raised some useful issues.

1. It appears that many of these PGRs did not know where to go for advice and support. This was in spite of the considerable expansion in terms of web-based resources and the number of specialist careers advisers that universities are appointing.
2. Many of these PhD researchers seem to have little understanding of how to find work in specialised labour markets and in their own subject areas (outside of academia). They would appreciate more contact with employers and feel that this would increase understanding on both sides.
3. Many of this group had attended a GRADschool and nearly all of them had found it helpful and stimulating. For some, it had opened their eyes both in terms of how to present themselves to potential employers and in terms of realising the range of potential job opportunities which they could consider.
4. Some of these PhD researchers seemed to feel quite isolated but nevertheless many get their most useful support from their peer group and those one or two years ahead of them. This includes friends who went straight into employment after their first degree.
5. Many PhD researchers fear they will be seen as disloyal or uncommitted if they look for work outside academia or outside their specific field and this can reinforce their sense of isolation once they have made the decision not to stay in academia.
6. There was a strong preference among most of these PGRs for web-based resources and use of the internet/email for communication.

3. How are University Careers Services responding?

Many universities have used some of their 'Roberts money' to fund an additional post in their careers service. Interviews were carried out with six university careers advisers to discuss how their universities were working with their PhD researchers. These interviews were used to give a flavour of the range of initiatives that universities have introduced or are introducing. They suggest that, while most universities are now focusing more of their resources on PhD researchers, some are only just starting to roll out specific activities for their PhD researchers, although others have been doing so for some time. However because of the relatively small number of interviews conducted with university careers services, the findings reported in this chapter are only intended to illustrate the range of initiatives that universities have been introducing.

The last 10 years have seen most university careers services having to adapt the way they provide their services in response to significant increases in student numbers. Nationally, the number of students completing first degrees increased by roughly 30% from 1995 to 2005 but the number obtaining higher degrees increased about two and a half times, while the numbers on other postgraduate courses increased by more than 50%¹⁰. The most dramatic increase has been in the number of postgraduates studying full-time for higher degrees. Numbers obtaining higher degrees after full-time study have increased more than fivefold in 10 years.

The number of students obtaining PhDs has roughly doubled in this time. However, some of this increase will have been brought about by the introduction of professional doctorates as the route to professional qualification in some fields (eg clinical psychology).

The national figures will also not reflect the fact that the majority of PhD researchers are concentrated in the 'old' pre-1992 universities. In 2000, it was estimated that 14 universities accounted for half of all doctorates awarded¹¹. As a result, the proportion of postgraduates and PhD researchers among a university's student body will vary considerably.

The six career services interviewed were all in major research universities. Several of these universities had already introduced initiatives for contract research staff, a group that has not traditionally been a focus for university careers services.

It was clear from the interviews that the careers advisers had a good understanding of the challenges facing PGRs looking for work outside academia and that they were actively involved in the development of research training activities by their universities to support PhD researchers more effectively.

3.1 Context of the careers services

Five of the six universities taking part in this study had a careers adviser with special responsibility for PhD researchers. However, in three of the universities, this responsibility was combined with a general responsibility for all postgraduates, while in the two others the role was combined with a responsibility for contract research staff. In the remaining university, the 'Roberts money' had been used to fund a Postgraduate Training Co-ordinator who was based in the student learning centre.

One of these universities already had a careers adviser with responsibility for contract research staff and so the appointment of new careers adviser with responsibility for postgraduates was an additional appointment for the careers service.

¹⁰ HESA (op cit) and HESA Table 14a: Qualifications Obtained in the United Kingdom by Mode of Study, Domicile, Gender and Subject Area 1994/95. <http://www.hesa.ac.uk/holisdocs/pubinfo/student/quals9495.htm>

¹¹ Statistics Focus Volume 2 Issue 2 Millichope, HESA 'Doctorates Awarded by UK HE Institutions.'

In some ways, the fact that careers advisers are taking on these specialist roles marks a subtle reconfiguration of the way university careers services are operating. While not replacing the traditional model where careers advisers tend to have individual responsibility for particular subject areas, it marks a recognition that postgraduates and, to a greater extent, PhD graduates have some distinct career needs.

This is not to say that the needs of individual postgraduates were not recognised in the past. Several of the interviewees saw the appointment of careers advisers with dedicated responsibilities for postgraduates, PhD researchers or contract research staff as a natural evolution of the existing service model that aimed to recognise and cater to the individual needs of all students.

However, there was no doubt that the availability of additional funding had in nearly all cases been the trigger for the new appointments. In most instances the funding is temporary and so it is not certain how long these specialist posts will remain. With the possibility that the funding will not always be available it may be that universities will decide to reconfigure their careers services in order to continue offering a distinctive service for their postgraduates and PhD researchers.

3.2 Careers Service offerings

There is a broad similarity in the range of initiatives that these universities had introduced or were planning to introduce. These consist of:

1. workshops and training events
2. website section for postgraduates
3. booklets and other paper-based support materials.

Each of these is described briefly below. In addition to these activities, some of the universities could point to other initiatives that they had been involved with. These included poster competitions/networking events and internship programmes.

In some ways the careers service offerings to PhD researchers were not that different from those being offered to other students. Most of the careers advisers felt that they were, in part at least, responding to the fact that PhD researchers feel very different from final year undergraduates and want to be catered for separately.

Nevertheless, the fact that the Roberts' review led directly to funding for transferable skills training has undoubtedly stimulated several of these universities to develop, or to be able to offer, specialist events for their PhD researchers.

In most cases the career services were targeting events at researchers in particular departments or faculties. At best, they were getting the opportunity to be involved in induction programmes run by departments and faculties. These provided an opportunity to ensure that new PhD researchers were made aware of the range of activities that the careers services offered for PGRs and also made PGRs aware of wider opportunities, such as the support offer by the UK GRAD programme. In one or two cases, the workshops and training events were formally part of the PhD training programme with credits given for attending sessions.

A major challenge for many universities seems to be the ability to communicate directly with their PhD researchers. Few university careers services have the facility to communicate proactively with their PGRs. The University of Sheffield is one exception and can send emails to all its PhD researchers or target those in a particular department. Most other university careers services could only contact PhD researchers once they had registered with the service and opted in to receive emails.

Workshops and training events

In general, most universities ran one-day or half-day events linked to developing career management skills. Some events are more specific, focusing on topics such as CV writing and interviewing.

Several universities also run 'Careers In' events in particular work areas, such as finance or consultancy, specifically for postgraduates and PhD researchers. These involve employers talking about the type of work that they offer and are designed to inform PGRs' career planning. They are not recruitment events and are similar to events run by UK GRAD at various locations throughout the country. This type of event was felt to be of considerable benefit when it involved people with PhDs talking about the work they do.

Many events are targeted at researchers in particular faculties or departments. For example, the Faculty of Medicine and Biological Sciences at the University of Leicester runs a one-day careers symposium that offers the opportunity to learn about PhD career opportunities and to get coaching and advice on job-searching. Employers and recruitment consultancies participate, as do the MRC and Wellcome Trust.

Some of the universities had run local GRADschools or had been involved in regional events via their Hub contacts. Others were looking to run local GRADschools in the future, recognising how powerful they can be. Several commented on the benefits of collaborative working.

One example of a much more extensive event designed to raise awareness of career and employment opportunities was a week long course run by the School of Pharmacy at Nottingham University (see below).

Increasing the awareness of career opportunities in the pharmaceutical industry

In April 2006 the School of Pharmacy at Nottingham University ran a week long course which brought in people from leading pharmaceutical companies to talk to their researchers. The five-day programme involved speakers from companies talking about different aspects of the pharmaceutical industry from research and development through to sales and marketing. The Centre for Career Development also facilitated sessions on CV writing and career planning.

After the course participants were placed in industry for two days to observe what they learnt from the course, in action. This provided the opportunity for participants to get a taste of what is involved in working in industry, to make new contacts and to get a better understanding of the structure and team interactions in industry settings. The first course had 19 participants and 10 different types of work shadowing opportunities were offered in six different companies.

The course was repeated in October 2006 with 11 companies involved and with places also offered to postgraduate researchers and contract research staff from the Schools of Chemistry and Medical and Surgical Sciences. A third course will be run in May 2007.

Feedback from participants was extremely positive. Comments from participants about their work shadowing experience included:

"I have an inside knowledge of how the company operates"

"...seen how smaller companies work and how the scientists' roles vary compared to larger companies"

"I've found out about the skills and experience required to work in a company"

"I have discovered that to be a researcher in a big pharmaceutical company, one needs not only scientific knowledge but also very strong communication skills."

For more information, see: <http://www.nottingham.ac.uk/pharmacy/industry-oppo/>

Websites and other sources of career information

Most university careers services now have sections on their websites for postgraduates and some also have specific sections for PhD researchers. These usually have links to other websites, such as Prospects, a national graduate careers website, and the UK GRAD website.

However, several of the interviewees commented that they were aware that their website needed revising or mentioned specifically that there were plans to redevelop the postgraduate sections of their website which they often felt were too generic at present.

Some universities also published newsletters and other materials targeted at postgraduate students. For example, Manchester University publishes 'Postgrad Futures', a newsletter especially for postgraduates with information on relevant events, training opportunities and professional development, specialist web listings and case studies.

Other activities

Developing close links with departments or faculties was a key issue in several of the universities as making direct contact with PhD researchers early in their studies was perceived to be particularly advantageous. This could involve joint initiatives with departments or Graduate Schools, or making sure that career issues were covered in faculty or departmental training events. At the University of Birmingham, the Graduate School requires researchers to complete a training needs analysis using an electronic personal development planner.

Nottingham University has established an Engineering Graduate Centre (EGC) using Roberts funding with a professional engineer as the full-time manager. Opened in October 2005 the EGC runs a number of activities including buddying schemes, seminars, training placements (see below) and social activities. It also provides a meeting place for postgraduate engineers offering refreshments, daily newspapers and a library of company and institute information.

Work experience placements for engineering PhD researchers at Nottingham

The Engineering Graduate Centre launched a scheme to place Engineering PhD researchers on short (four to six week) placement programmes in local industry. The placements are designed to give PGRs the opportunity to develop their transferable skills and CVs. Preparation for the placements includes a compulsory work ethics course that aims to give prospective participants an understanding of what it is like working in an industrial environment. Students are visited by the EGC manager whilst on placement and both they and the company complete an assessment form at the end of the placement. When they return to the University, PGRs also have a meeting with the EGC manager to discuss the placement and their skill development. 12 PGRs had placements in the Centre's first academic year and the target is to have placed a total of 70 by the end of academic year 2006/7. One PhD researcher had been turned down when he applied for a job with one of the participating companies but, after he completed a placement there, was offered a job.

Feedback from participants:

"...I found the experience overall to be a fantastic opportunity that has helped me to develop my transferable skills and get used to an engineering working environment. The placement was challenging and allowed me to work with people in a setting with important deadlines giving me a feel for the 'real world'."

"Personally, I would recommend the placement to anyone looking to gain valuable experience in a commercial environment. It involves taking a large amount of time from your PhD but I think that I have gained more in a month on placement than I could have with two months of PhD work..... I have now come back to my PhD with new ideas and ways of thinking which will, I hope, help me to obtain a better PhD."

For more information, see: http://www.egc.nottingham.ac.uk/training_placements.htm

Another reference point for careers advisors is UK GRAD's Database of Practice which is a mechanism for sharing practice and experiences between universities. The database currently has approximately 310 entries and encourages institutions to share ideas to prevent 'reinventing the wheel'. For more information see: www.grad.ac.uk/practice

3.3 Links with employers

Most careers services highlighted that they needed to focus more on developing their links with employers who look to recruit PhD graduates. While all reported very good and extensive links to employers in the market for students with first degrees, they were less confident about the quality of their links to potential employers of PhD researchers.

As we will see, the ability to make contact with PhD researchers is also a major concern for many of the employers who were interviewed as part of this study.

One imaginative way of showcasing the work of research postgraduates and fostering links to employers has been through poster competitions and networking events. One example is the University of Leicester's Festival of Postgraduate Research. Leicester ran their first festival in June 2005 – this is now an annual event and led to the UK GRAD Midlands Hub running a regional poster competition in July 2006, with 12 of the region's HEIs running similar feeder events. A main purpose is to give students the chance to improve their communication and networking skills by presenting their work to a non-specialist audience.

The Yorkshire and North East Regional Hub also ran poster competitions and networking events in both 2005 and 2006 with prizes for the best posters. Their theme was 'Getting Your Message Across – Presenting to the Public' with PhD researchers from universities across the region focusing on explaining their research in a jargon-free way to a mixed and non-specialist subject audience.

Festival of Postgraduate Research

Explaining the real world implications of research projects at the University of Leicester

At the Festival research postgraduates present their work to a large audience which includes the general public, employers, local companies and representatives from the academic world. The Festival demonstrates the value that research postgraduates can offer employers.

Students exhibit their research in a poster presentation format and are judged on their ability to convey the nature of their research, and in particular, its real-world implications. Prior to the festival students formulated their proposals and undertook training before preparing and presenting their posters.

In 2006 the Festival showcased 50 research postgraduates, attracted 40 judges (two thirds were representatives from external organisations) and almost 200 visitors (including representatives from the Regional Development Agency, national and international employers, and a range of regional universities). The event's success in building a dialogue between research students and external organisations is shown through the 120 hours of voluntary time that employers contributed to make the event a success, and in the sponsorship provided to endow prizes for category winners.

Participating postgraduates said:

"It was amazing. During the Festival I got two institutions and one individual who gave me their contact details and took mine as well, and one of them has contacted me for collaborative work."

"The reactions I got from the audiences were very inspirational for my research work. Competitions such as this not only boosts up the confidence of the researcher, but it also helps the researcher think of their research in a much more 'public significance' manner."

For more information, see: <http://www.le.ac.uk/gradschool/festival/index.html>

3.4 Key themes

Discussions with these careers advisers have highlighted the range of initiatives that many major research universities are putting in place to support their PhD researchers develop career management skills.

1. Most major research universities have a careers adviser with special responsibilities for postgraduate or PhD researchers, although some have only been appointed very recently and are still developing their service offerings.
2. Most university careers services have dedicated sections on their websites for postgraduates/PhD researchers with links to the UK GRAD and Prospects websites. These are both seen as useful national resources for PhD researchers and postgraduates.
3. There was a strong perception that PhD researchers want special treatment and feel that they are very different from undergraduates and postgraduates on taught courses. A major challenge for several universities was to get more PhD researchers to use their university careers services and to do so earlier in their studies. However, careers services were working hard to develop close links with department and faculties, and their increased involvement in training was one way they were raising their profile with PhD researchers.
4. Careers services want the ability to be able to identify better those employers who are interested in recruiting PhD graduates. They have a challenge identifying the employers who want PhD graduates – especially non-scientists. A major issue, therefore, is to improve links to employers looking to recruit newly-qualified PhD graduates. Offering a dedicated point of contact (possibly the careers adviser with responsibility for supporting PhD researchers) for employers looking to recruit people with PhDs might be one way forward. There is a role for university careers services to be more proactive in making employers aware of the potential benefits of employing PhD graduates.

4. The employer's experience

An initial expectation was that employers who recruit newly-qualified PhD graduates could be split into two camps. There would be those who recruit PhD graduates for their highly developed subject-specific knowledge and skills, and those that recruit them for their general problem-solving ability and level of transferable skills.

The expectation was that the first group would consist primarily of employers looking to recruit scientists for work in research. The second group would be more oriented to areas such as consultancy or investment banking (one area where it was well known that there was strong demand for highly numerate PhD graduates to work in the city). It was felt that those employers looking to recruit people with PhDs for their subject specific knowledge would be more likely to have developed close links with particular departments or research groups, while those looking to recruit more widely would be more likely to want to attract applicants from any discipline and therefore be more concerned about opening up a wider set of recruitment channels. It was also felt that many employers in this group would have less experience of recruiting newly-qualified PhD graduates.

In reality, while there are some sector differences in terms of how employers approach recruitment, they face many similar challenges. It is certainly not the case that, in consultancy or in the city, employers have only recently started to recruit people with PhDs. Several of the employers from these sectors that we interviewed had a long history of employing PhD graduates. However, it would appear that the interest in, and the competition for, recruiting people with PhDs has increased with more employers in these fields looking to recruit newly-qualified PhD graduates. As a result, it appears that it is in the city and consultancy where employers are being most proactive in developing their recruitment strategies to attract more people with PhDs.

This presents both an opportunity and a challenge. More employers are looking to recruit people with PhDs and many are finding it difficult to recruit as many as they want. This does not mean that people with PhDs can walk into jobs. One investment bank estimated that they might interview 60 to 70 PhD graduates and actually employ five of those. Employers were very particular in whom they recruit and most of the recently recruited PhD graduates we interviewed had researched their employers carefully before applying for a job and had targeted their job applications.

The biggest challenge nearly all these employers faced was reaching the applicant pool. They felt that many PhD researchers who might be potential job applicants were not aware of the range and type of employment opportunities that exist for them outside academia. This is partly because the average graduate recruiter is probably not looking to recruit people with PhDs and may even be sceptical of their value or potential additional contribution. However, this research study with its focus on employers who have recent experience of recruiting newly-qualified PhD graduates has found that in certain clearly defined employment sectors there is strong demand and interest in recruiting people with PhDs.

In the remainder of this section the findings from our research with employers are presented. 11 employers were interviewed about their experience of recruiting people with PhDs. One other employer we approached reported that they were not aware of recruiting from this pool and another was too busy to participate in the research. The organisations involved in this study were predominantly large employers.

In five of these organisations interviews were also conducted with recently recruited PhD graduates about their experience of looking for work. These five organisations therefore provide more detailed case studies of the recruitment process for newly-qualified PhD graduates.

In total, 24 interviews were conducted. 14 were with managers or HR specialists with responsibility for recruitment, while 10 were with recently recruited PhD graduates. The results from these interviews are discussed in the next section of the report. It is interesting to note that at least three of the managers/HR specialists interviewed also had PhDs.

4.1 Employability

There is a conventional stereotype of the typical PhD graduate as being overly specialised and uninterested in business or commerce. In contrast, in our interviews with employers, nearly all of them valued PhD graduates for their communication and presentation skills as well as their team working experience. PhD researchers were seen by many of the case study organisations to possess skills and competencies that are hard to find among new graduates or experienced hires without a PhD. They describe PhD graduates as “being able to hit the ground running.” This can manifest itself in a variety of ways, such as PhD graduates’ familiarity with specialist techniques and equipment, their ability to review and precis reports, or in the structured way they approach solving complex problems.

There was a strong demand for newly-qualified PhD graduates from the employers participating in this study. This covers both those looking to recruit people with PhDs for jobs that build quite directly on their PhD research (eg the Pharmaceutical Industry, Research and Development Laboratories) and those wishing to recruit PhD graduates for their more generic skills, such as their problem-solving ability (eg Investment Banking, Management Consultancy).

These employers, however, were clear about the skills they were looking for. A critical skill in many settings was the ability to communicate effectively with non-specialists. This was just as true for those recruiting people for their specialist knowledge as for those looking for more generic skills. Several of the employers we interviewed stressed the importance of being able to explain complex information or specialised research findings to non-specialists as a critical skill.

Skill requirements did vary across sectors. Investment banks valued a high level of numerical skills and targeted PhD researchers in quantitative areas such as physics, mathematics, engineering and computing. At interviews applicants are asked to solve problems (ie numerical skills and ability are tested) as this is the most critical skill they are trying to assess.

Some investment banks were also broadening the range of areas in which they were looking to employ PhD graduates with quantitative skills. In the past the focus had been on modelling/derivatives but now some were also offering opportunities in other areas such as trading and sales. This might mean that in some areas additional skills, such as reporting writing, would be important.

4.2 Recruitment strategy

While there would appear to be strong demand from these employers for newly-qualified PhD graduates, it is not the case that all of them were experiencing difficulty in recruiting. This is reflected in their differing approaches to recruitment. While many of the case study organisations had a separate entry route for PhD researchers, not all of them did. Several found that they successfully attracted PhD applicants through their normal graduate recruitment programmes. This was not only in more traditional scientific fields but also in one of the consultancy firms interviewed.

Nevertheless, in one of the case study organisations looking to recruit scientists and with a single recruitment process, it was observed that PhD researchers were more likely to be shortlisted for interview and to be offered posts than undergraduates. This organisation, while not having a separate entry grade for people with PhDs, did offer higher starting salaries to people with PhDs and one manager observed that “PhDs seem to get promoted quicker”.

On the other hand, one consultancy did not offer higher starting salaries to people with PhDs. With a very large number of applicants for jobs and with approximately a third of their applicants having some sort of postgraduate qualification, they felt that it was more appropriate to stress that they were a meritocracy. If new entrants with PhDs performed better than undergraduates or other postgraduates, they would be promoted faster. However, they were starting to run some recruitment and awareness raising events for PhD researchers.

In contrast, other employers were adopting a more differentiated approach to recruiting people with PhDs with a separate entry route, higher entry grade and higher salary for people recruited with PhDs. In some cases, this was because they felt that only people with PhDs had the skills they needed. However, in others the decision to target people with PhDs as a distinct group was more a recognition that newly-qualified PhD graduates represented a group of highly talented individuals that their previous recruitment strategy had tended to overlook. With talent in short supply, there was a need to expand their horizons to include this previously neglected group. That they then found many of these individuals had acquired or developed valuable additional skills through their PhD research experience was an additional bonus.

Regardless of which approach they adopted to recruitment, most of the case study organisations saw an advantage in involving existing staff with PhDs in the recruitment of other PhD graduates. This could be done in a variety of ways from involving them in presentations and workshops at universities through to direct involvement in the selection process. This was seen as demonstrating both their readiness to appoint people with PhDs and their understanding of the PhD experience.

It may also be the case that managers with PhDs have a better understanding of the potential benefits of a PhD for their organisation and, as a result, are more inclined to appoint others with PhDs. In some sense, the first few people with PhDs that an organisation appoints are pioneers who can open up opportunities for others.

4.3 Raising awareness

One major challenge for many of the employers is raising awareness among PhD researchers about the employment opportunities they are offering. This is especially a challenge for employers looking to recruit broadly from the PhD population rather than from a specific discipline or subject area. Several of the employers we interviewed had participated in 'Careers in Focus' events organised by UK GRAD and similar events run by University Careers Services.

UK GRAD Careers in Focus

The UK GRAD Careers in Focus events have been running for several years. Events have been run in the following areas: Investment Banking, Management Consultancy, Professional Services as well as Careers in Academia. Each event is followed up by an on-line chat which provides opportunities to those who participated in the event to ask follow-up questions and to share experiences. The follow-up on-line chats are also an opportunity for those who were unable to attend the original event to get information about what was discussed.

Copies of material from previous events are available on the UK GRAD website as are records of the on-line chats.

For more information about UK GRAD events, see: <http://www.grad.ac.uk>

Employers did tend to limit the number of universities they visited and there was natural tendency for some to limit their visits to what they saw as elite institutions. This is not altogether surprising given that PhD researchers are concentrated in a relatively small number of universities. However, this was also partly because running such events is very costly in terms of time. One leading consultancy commented that they always ran one event in London at which people from any university would be welcome.

These events were one way that employers were seeking to raise awareness. Several of the investment banks and consultancies were offering internship programmes for people to find out what working for them was like and also to provide an opportunity for researchers to gain some hands-on experience. Most of these programmes are not targeted specifically at PhD researchers. However, Credit Suisse has for the last two years run a special programme for quantitative PhD researchers offering them a 10-week structured programme.

Internship Programme at Credit Suisse

Quantitative Summer Institute:

- 10 week programme especially designed for quantitative PhD researchers
- 5 weeks' in-depth classroom training
- One to two desk placements
- Speaker series, networking opportunities, business presentations, social events
- Structured performance process and offer for full-time positions after successful completion

Reflecting on the fact that PhD researchers and postgraduates want to feel valued, several of these companies also have separate sections on their recruitment websites for postgraduates. Typically these include individual case histories of people with postgraduate qualifications and PhDs employed in the company.

4.4 Tailored entry routes and initial training

A number of the employers interviewed went one stage further and offered a distinct entry route for PhD graduates and, in some cases, with tailored training. McKinsey is one company that has adopted this approach.

McKinsey & Company

McKinsey & Company, which traditionally focused on recruiting undergraduates and MBAs, has made a concerted effort over the last 10 years to recruit people with PhDs or advanced professional degrees. It now employs about 500 of them among its 6,000 consultants.

Although it finds it more difficult to target and recruit PhD graduates than undergraduates, McKinsey have recognised that PhD graduates tend to have many of the characteristics, notably problem-solving, leadership, drive and aspiration, as well as personal impact, that McKinsey are looking for.

PhD graduates enter McKinsey as junior associates rather than in the more junior, business analyst position which is used for undergraduates. It also offers a special training programme to new PhD graduates when they join the company that includes a three week mini-MBA and a one week Basic Consulting Readiness programme.

At one of the investment banks interviewed, not only did people with PhDs get accelerated promotion (eg three years' credit towards the time needed before a promotion bar) but they were also appointed at a higher level and with better compensation than new graduates.

The Boston Consulting Group is another consultancy business that has a separate entry stream for PhD graduates. The decision to formalise this is partly a result of the business expanding in the UK. They recruit from all disciplines but applicants are expected to have strong numerical skills. The Boston Consulting Group use existing staff with PhDs extensively in their PhD recruitment.

As well as running presentations at leading universities, they have also been involved in UK GRAD events and run on-campus skills workshops on, for example, writing CVs and working in consulting, at some universities. They feel this has helped to raise awareness about employment opportunities in the company.

4.5 Recruiting specialists

It makes sense in nearly all cases to think of PhD researchers as looking for work in highly specialised labour markets. This applies as much in areas such as investment banking and consultancy as it does for work in the pharmaceutical industry or other areas of research in industry.

Many PhD researchers in physical and biological sciences as well as engineering who look for work outside academia are looking for work in areas closely related to the subject area of their research. This does not necessarily mean moving from a research laboratory in a university to one in a company. There are numerous other roles that PhD graduates can move into that also use their specialist knowledge.

Four of the employers interviewed were looking to recruit PhD graduates with subject specific knowledge. Three of them reported experiencing difficulties in recruiting as many as they wanted. The exception was a government laboratory that used a generic recruitment process advertising for scientific officers in a range of disciplines, although they were trying to match applicants to specific posts. They found it fairly easy to attract good applicants in most subject areas, although slightly harder in physics. Some areas of their work were more likely to require or suit applicants with PhDs (eg Signal Processing) than others but it was apparent that about a quarter of their new recruits had PhDs.

The other interviewees felt that there were several reasons why they were finding it difficult to recruit. They included:

- Difficulty in making direct contact with PhD researchers to make them aware of employment opportunities. At present most companies feel that the only way they can do this is if they have contacts in particular departments or with particular academics. This can be very time consuming and resource intensive, especially when they are looking to recruit people with specialist expertise/knowledge.
- Wanting to recruit people with very specialised skills/knowledge, for example, the desire to recruit someone who has experience of a particular technology. This may be difficult just because very few people are conducting research in a particular field.

Recruiting Chemical Engineers to the Pharmaceutical Industry

New US Food and Drug Administration (FDA) regulations mean that pharmaceutical companies need to recruit chemical engineers with an understanding of Process Analytical Technology (PAT). The goal of PAT is to understand and control the manufacturing process and it forms an integral part of the FDA's current drug quality system.

Not only is PAT a relatively new approach but pharmaceutical companies are competing with the petro-chemical sector for chemical engineers with a knowledge of process engineering. Chemical engineers are also increasingly being employed in other sectors.

One of the pharmaceutical companies was looking to recruit PhD Chemical Engineers with knowledge of the mechanics/physics of granulation/fluid bed drying and reported finding it very difficult to attract suitable candidates.

- Lack of attraction of a particular area of work compared to other closely related areas. Drug discovery, for example, was felt by one pharmaceutical company to be perceived as a less attractive area to work in than some other closely related areas. However, they recognised that part of their challenge was to excite potential applicants about the science involved and to make people aware that it involved more than compound screening.
- The narrow skill-base and experience of applicants was mentioned as a problem by one pharmaceutical company. They felt that the skills of many PhD graduates in biological sciences or pharmacy were too narrow and that some PhD projects were too specialised. This meant that they sometimes targeted their recruitment at the post-doctoral level.

There were other challenges in getting people to move from university research to an industrial setting. One company felt that some PhD graduates expected opportunities to conduct high level scientific research when what the company required was for them to apply their knowledge and skills.

One question all these employers were asked was why they recruited people with PhDs rather than people with first degrees. One manager in the government laboratory saw several areas where applicants with PhDs were likely to have additional strengths compared to people with a BSc. These included:

1. Experimental experience: They were more likely to have experience of collecting and analysing data (and in particular the ability to carry out robust statistical analysis) and so it was not necessary to teach these skills.
2. More confidence in use of equipment: They were more likely to have used similar equipment while doing the research for their PhD.
3. Experience of conducting/writing literature reviews: This was particularly important when investigating new techniques or looking at new subject areas.
4. Usually more mature and they often had wider knowledge of their subject.
5. Often had better people skills and were used to working in a group, sharing instrumentation, etc.

This same manager, who himself had a PhD, felt that scientific officers with PhDs were more likely to hit the ground running when they started work. This was also seen to give them an advantage when it comes to getting promoted, that is they were more likely to get promoted quicker. They were also able to take on a management role in projects sooner which also helped them get the range of experiences required for promotion earlier than other scientific officers without a PhD.

This manager also felt that their recruitment process itself might favour applicants with PhDs. For example, in assessment centre interviews applicants are asked about how they would go about solving a problem. His experience was that people with PhDs tend to be more familiar with the logical steps to take.

4.6 Key themes

The research with employers with recent experience of recruiting newly-qualified PhD graduates has highlighted a number of issues.

1. The employers interviewed who recruit people with PhDs know why they want to recruit them and what skills they offer over and above other new graduates and also compared with graduates with two to three years' of work experience.
2. The major challenge for many employers is knowing how to attract applicants and how best to find and develop contacts with universities. Many of these employers would like to be in contact with, and to attract, a bigger pool of applicants.
3. Although some employers did contact university careers services when recruiting PhD researchers, many were more likely to be looking for links to particular departments or academics, an activity that could be very time consuming.
4. Some employers would also value the opportunity to contact PhD researchers directly so that they could make them aware of the range of employment opportunities that they offer.
5. Competition from employers for PhD graduates is increasing as more employers realise the benefits of tapping into the market for newly-qualified PhD graduates.
6. Employers often involve existing staff members with PhDs in the recruitment of new PhD graduates as a way of demonstrating both their readiness to appoint people with PhDs and their understanding of the PhD experience.

5. Experience of recent recruits

Ten people who had recently completed their PhDs¹² working in five different organisations were interviewed as part of the research. They had PhDs in a variety of disciplines ranging from Radiochemistry and Molecular Biology through Structural and Chemical Engineering to Physics, Computing and Philosophy. They were predominantly scientists and engineers and the experience of social scientists or arts and humanities PhD researchers might be slightly different. Three of those interviewed were Australian, two of whom had studied for their PhDs in the UK but the other one had completed his PhD in Australia before coming to the UK. This reminds us of the global marketplace for researchers careers.

5.1 Career choice

There were many variables that appeared to have affected these PhD graduates career decision-making. Not only did the timing of the decision not to stay in academia vary but some of the 10 were also making the decision to look for work outside their subject area. For one of them, for example, it was a very conscious decision that he did not want to continue working as a laboratory scientist.

Some of these PhD graduates had never expected to work in academia. As one of the engineers commented, *“Even when I started my PhD, I saw it as the final part of my education and not the start of an academic career.”* Others had only made the decision to work outside academia during the course of their studies. For several of them, it was a gradual realisation that academic life was not for them. For others though it was the recognition that the chance of getting an academic post was slim. One physics PhD graduate, now working for an investment bank, observed that his supervisor was taking on six PhD researchers every year and it was therefore pretty obvious that few of them would ever get a permanent post in academia.

Another described how, in retrospect, he wished that he had talked to other PhD researchers and post-docs before he started his PhD. He would have had a better idea of what he was letting himself in for – the way of life, the working conditions (short-term contracts), pay and so on.

Nevertheless, one or two still felt that they might return to academia at some point or that they might take a job more closely related to their original academic subject area in the future.

For PhD graduates still working in an area directly linked to their PhD, the career choice was primarily to look for work outside academia. In most cases, this means looking for a research job in industry or a government laboratory rather than a post-doctoral opportunity or, less frequently, a lecturing position.

For others, the decision to look for work outside academia was also closely linked to the decision not to continue to work in the same subject area. How people ended up making the choice of type of work to apply for was quite varied. A couple of the PhD graduates now working in consulting had come across it as a potential work area almost by chance. One described how, having started researching different career areas, nothing much appealed until he had quite fortuitously read an article in the newspaper about consulting.

Another described how he felt consulting would help him keep options open and make him more employable in the longer term. Most other options he considered – patent law, barrister, the police – he perceived as much more restrictive.

¹² One was still writing up his thesis and had only started work six weeks earlier.

One of these PhD graduates was now also involved in recruiting other PhD researchers for his company. He felt that one problem for many PhD researchers who are trying to decide what they are going to do next is that they do not know what excites/interests them. They need opportunities to discover this; something that he felt was probably covered in UK GRAD week long events but not in taster courses such as 'Careers In ...' events. For this individual it was realising that problem-solving was what he found most challenging and was what he wanted to do that helped him considerably in focusing his job search.

There were several factors that seemed to attract people to working outside academia:

- Greater variety of work and the opportunity to do something more applied
- Shorter timescales for projects (three to six months rather than two to three years)
- Greater job security.

Others also mentioned common misperceptions about work outside academia. Two common ones were:

- How competitive it was inside organisations
- The quality of one's work colleagues.

Several of these researchers commented directly about one of the pleasant surprises being both the intellectual quality of their work colleagues and the friendly nature of the work environment. Several also felt that the competitive nature of academic life was also frequently underplayed.

5.2 Targeted job search

One characteristic of many of these recently employed PhD graduates was that they had carefully targeted their job search and had made relatively few job applications. For several of them, the job they now held had been the first, and sometimes the only, job they had applied for.

One or two had some experience of looking for work as undergraduates but several others had entered their PhD studies without considering alternative options.

However, some had not really known how to go about looking for work. One described how she had made an initial decision that she did not want to work in a lab but then had little idea about what else she could do or how to go about finding a job.

In terms of how this group had gone about their own job search, and thinking about the advice they would give to others, key learning points included:

1. Using the internet to research possible work areas and to identify possible employers
2. Seeking to meet people working in a particular field both to find out more about what it is like to work in that area and also to get a perspective on the application/interview process
3. Getting interview practice: the need to prepare well and to learn from unsuccessful interviews about what to expect in the future.

PhD researchers looking to work outside their subject area had already made an important career decision and it is perhaps not a surprise that they were then pretty systematic in how they pursued their job search.

5.3 Use of careers services

Few of these recent PhD graduates had had direct personal contact with university careers advisers but many had made use of information and events run by their university careers services. They also mentioned using web-based resources, such as the Prospects website.

Two had been to GRADschools, which they had found very useful, and several others described events run at their university which had helped raise their awareness of the options open to them. One described how, *"It had been particularly good to meet others in same situation and to hear about lots of diverse job options."* Going to a GRADschool had helped him to realise that he had got skills and that he could translate them into the real world.

Some, however, had only got limited support from their careers services. One reported being told that her CV was fine but she had not been given any support or advice on how to find jobs as a scientist.

Nevertheless, it would appear that university careers services had a considerable role for many of this group as a source of information, for example, providing case studies of recruitment practice in different companies.

5.4 Pitching an application

Several of the PhD graduates now working in consulting described how they had given a lot of thought and time to writing their CVs. One commented that people with PhDs "often struggle to write appropriate CVs – too detailed or too much on the thesis but too brief on other things, such as transferable skills." This individual recognised that to pitch his CV appropriately for the sort of jobs that he was applying for he had to have some understanding of the labour market in which he was looking to work.

Another commented that *"I spent quite a long time on getting my CV right. The more people I put it in front of, the better it became."*

A number of key issues were identified by several of these PhD graduates, these included:

- The need to be able to explain your PhD convincingly to a non-specialist
- The ability to demonstrate with practical examples the range of transferable skills acquired

It was also stressed that it is important to convince potential employers that one was a good PhD researcher and to be able to talk about the impact of the work that they had done. Employers will value examples that demonstrate leadership capabilities and initiative, such as giving a presentation at an international conference.

5.5 Attitudes of supervisors

Attitudes of academic supervisors to their PhD researchers looking for work outside higher education seemed to vary quite considerably (see also Section 2.1). One PhD now working in a research laboratory had had his supervisor point out the job advert to him as something he might be interested in as she knew he was looking for a more 'hands on' role.

On the other hand, another commented about *"the subtle pressure to stay in academia for good people"* and another reported how one of his two supervisors had now cut-off communication with him. This PhD reported that he had initially expected that he might continue in higher education and that his decision not to had not been taken lightly. However, it had come out of his experience of studying for his PhD but had, nevertheless, been a surprise to quite a lot of people.

It is not surprising therefore that several of these recent PhD graduates had developed their career plans quite privately or through discussion with friends already working rather than through conversations with their PhD peer group.

5.6 Starting work

One challenge for PhD graduates starting work alongside undergraduates or other postgraduates is that in some scientific settings they may find some of the routine work dull. They could feel that they were taking a step backwards. One of the managers interviewed who had a PhD described how he had realised that he needed to get stuck in and show that he could do this routine/basic type of work so that he could progress onto more interesting work.

For others, it was clear that their PhD had given them confidence in terms of feeling on top of the science underpinning their work. One described how she knew about the background area and knew she had a strong knowledge base. She liked getting to use her knowledge in different environments. This PhD scientist also felt on top of the technical side, for example, she was familiar with use of analytical tools, and had used similar equipment, ie seen similar output, knew how to interpret data, etc. Her job also used her data analysis skills and statistical knowledge.

She also felt her PhD had helped with report writing and this was another skill she had already used in her job. From her PhD she knew how to read and evaluate research articles/reports and how to write a review, ie identify what's important, and had developed her writing style.

None of those interviewed had any regrets about the jobs they had taken. They were much more likely to talk about how interesting and challenging the work was.

Several of those working in consultancy had also found that the knowledge and understanding of their scientific or engineering discipline were directly relevant in some of their work assignments. This helped them to feel that they could make a real and valuable contribution to projects even at an early stage in their career.

5.7 Key themes

Although only a small number of recently employed PhD graduates were interviewed, there were a number of similarities in their experiences.

1. Once they had made the decision to look for work outside academia, several had found it difficult to know how to go about making a career choice.
2. Most had carefully targeted their job search and made relatively few job applications. Typically, they had spent considerable time making sure that their CV was appropriate for the sort of job that they were applying for.
3. They tended to use their university careers services more as a source of information than as a source of careers advice. They also actively used the web to search for relevant careers information as well as for researching potential employers.
4. All reported that they were satisfied in their jobs and some were pleasantly surprised at the relevance of the skills they had acquired in their PhDs for their new employment.

6. Summary and recommendations

In this final section of the report we summarise the key findings from the research and present the overarching themes that have emerged.

This research is based on a targeted and in-depth study of the practice of a small number of employers. This has been supported by interviews with a small number of university careers services to discuss how they are working with PhD researchers and the links they are making with employers looking to recruit newly-qualified PhDs. The views of final year PhD students and recently employed PhDs have also been sought to provide a rounded picture of the recruitment process so that, although this is a small scale study, it is based on a 360 degree view of the PhD recruitment market.

6.1 What works?

In this project, a range of initiatives were discussed in order to highlight practices that are currently working well for each of the three stakeholder groups.

6.1.1 What works for final year PhD researchers?

Recognition that PhD graduates are different

PhD researchers want to be treated differently and to have their skills and experiences recognised. Both University Careers Services and employers are realising the importance of demonstrating that they value PhD researchers by developing targeted activities, such as workshops, and PhD-only recruitment events. The level of activities for PhD researchers is increasing, often due to the dedicated PhD careers advisers paid for by the 'Roberts money'. What works is when both employers and careers services acknowledge that PhD researchers are a niche cohort and target communications and opportunities.

Raising the understanding and value of non-academic careers

Nearly all the PhD researchers participating in this study expressed a lack of confidence in their ability to find work outside academia, either in the specialised area in which they had done their PhD or in the wider labour market. Some also fear they will be seen as disloyal or uncommitted if they look for work outside academia or not in their subject area. Many respondents had been to national or local GRADschools or Careers in Focus events, run by UK GRAD, or similar events hosted by their careers services, which they found very helpful. Frequently, it appeared that PhD researchers relied on their peer group and those one or two years ahead of them for much of their career information and support. Careers services and departments could capitalise on this by running more events where alumni who are now in non-academic jobs talk about their experiences of the PhD recruitment market to boost PhD researcher confidence in their abilities and options.

Knowing where to find information and support

It seems that many PhD researchers are still unsure where and how to find career information, despite the significant increase in web-based resources and the number of specialist careers advisers in Universities. One PhD student highlighted a careers day they had attended in their first year which provided 'lots of ideas to investigate further'. Induction events that profile the careers service and support available are a good way of highlighting early in the research degree process where to look for information and guidance. Providing information via the web and email mailings works well for this group.

6.1.2 What works for Universities and their Careers Services?

Providing specialist careers advisers

Although all university career services we spoke to emphasised that PhD researchers have always been entitled to use their services, they recognised that many PhD researchers felt they had very different needs from undergraduates and postgraduates on taught courses. Many universities now have a careers adviser with special responsibility for postgraduates. In most cases the focus is on PhD researchers as the posts were nearly always funded by 'Roberts' money. Some combine responsibility for PhD researchers with work with contract research staff. In some instances the appointments were very recent and several of these universities were in the process of developing their service offerings. Most universities did, however, have dedicated sections on their websites for postgraduate/PhD researchers. It is clear from the focus group discussions with PhD researchers that there can be a perception that the careers support in Institutions is primarily for undergraduates. Increasing the capacity for specialist advice should enhance the attractiveness of the service to researchers.

Being able to contact directly PhD researchers within an Institution as a group is a simple concept, yet not something all Institutions can easily do. It enables careers services and employers to communicate directly about support, career development and recruitment opportunities.

Offering work experience placements / work shadowing opportunities

Employers, generally, valued applicants who had undertaken some kind of work experience. Recruiters often use this function to make firm job offers, reducing pressure to fill jobs by other means.

One new initiative at Nottingham, where the university established an Engineering Graduate Centre in October 2005, is a scheme to place Engineering PhD researchers on short (four to six week) placement programmes in local Engineering Companies. Twelve researchers have had placements so far and the target is to have placed a total of 70 researchers by the end of the 2006/7 academic year. The School of Pharmacy at Nottingham has also run a five-day course to raise awareness of the range of career opportunities in the pharmaceutical industry. The course was followed up by a two-day work shadowing opportunity for participants in a wide range of industry settings.

This approach works for employers who can see first-hand the potential of doctoral graduates, for Universities by building closer links with local employers and for PhD researchers by providing an opportunity to experience employment in a particular firm or sector.

Bringing employers and researchers together

Other successful initiatives bring employers and PhD researchers together by means of poster competitions and networking events where there are opportunities to explore further potential and expectations. Leicester University and two of the UK GRAD Regional Hubs (Yorkshire and North East, Midlands) have organised events where PhD researchers prepare posters designed to explain their research to non-subject specialists - something which several of the employers we interviewed saw as a key skill that they look for in recruitment. Prizes are awarded for the best posters and in the Midlands, the regional event was for finalists selected from similar events held in local universities. Other research has found that smaller employers have experienced challenges with raising their profile and career opportunities to PhD researchers. These kinds of activities work well to highlight local employers' work, what they have to offer and enable them to engage locally with potential employees.

6.1.3 What works for employers?

Knowing and articulating your recruitment needs

Understanding what skills a PhD graduate acquires in the course of their study is the first step to realising what benefits they can bring to an organisation. PhD researchers are seen, by many of the case study organisations, to possess skills and competencies that are hard to find among new graduates or experienced hires without a PhD. They describe PhD graduates as 'being able to hit the ground running'. This can manifest itself in a variety of ways such as their familiarity with specialist techniques and equipment,

their ability to review and précis reports, or in the structured way they approach solving complex problems. PhD graduates are keen to understand how they fit and are valued, and want to be able to see quickly, via websites and recruitment information, that they are a group that employers are interested in. By demonstrating a knowledge of doctoral graduates and what they bring, you become a more attractive potential employer to this group.

Involving existing staff with PhDs in the recruitment process

Most of the case study organisations also see an advantage in involving existing staff with PhDs in the recruitment of PhD graduates. This can be done in a variety of ways from involving them in presentations and workshops at universities through to direct involvement in the selection process. This is seen as demonstrating both their readiness to appoint people with PhDs and their understanding of the PhD experience, both of which were important to prospective employees.

Offering PhD graduates work placements to raise career awareness

In areas such as Investment Banking and Management Consultancy, some employers have been recruiting newly qualified PhD graduates for some time, while others have only recently started to recruit people with PhDs in any significant numbers. Case study organisations in both these categories were planning to increase their PhD graduate recruitment and were introducing opportunities, such as internships targeted at PhD researchers, to encourage recruitment and raise awareness of employment opportunities in their fields. This also provides an opportunity for researchers to gain some hands-on experience in sectors that they may not have considered working in.

Rewarding PhD graduates with higher salaries and faster career progression

In more traditional scientific fields, some employers successfully recruit newly qualified PhD graduates through their normal graduate recruitment programmes. In one of the case study organisations where recruitment was not differentiated between undergraduates and postgraduates, PhD graduates were more likely to be shortlisted for interview and to be offered posts than first-degree graduates. Typically these organisations, while not necessarily having a separate entry level for people with PhDs, do offer higher starting salaries to PhD graduates and one observed that "PhD graduates seem to get promoted quicker".

Some organisations mentioned that they appointed PhD graduates at a higher level and with better salaries than they offered to first degree graduates. Overt recognition of the higher level skills and qualifications of PhD graduates makes an employer more attractive to a researcher considering whether to apply.

6.1.4 What worked for recent recruits?

Understanding what it is that you want to do

Some of those interviewed had found it helpful to spend some time identifying what it is that interests and excites them about their PhD in order to be far more focused when searching for jobs outside of academia.

Using the university's careers service

The university's careers service had played a considerable role for many in this group. The service had generally been used as a source of information (ie case studies of recruitment practice in different companies), rather than for personal advice and guidance.

Spending time getting application and pitch right

For those respondents who had used the careers service, the knowledge gained about the labour market was to their advantage.

To be able to explain your PhD convincingly to a non-specialist and to have the ability to demonstrate with practical examples the range of transferable skills acquired were identified as invaluable skills to acquire.

Getting feedback and help with CV writing was also recommended to make sure it was appropriate for the job being applied for.

6.2 Next steps and recommendations

Three key themes have emerged as common to all the stakeholder groups involved in this project. These do not encompass all the issues that arose, but highlight the areas which, if they were further addressed, would make a notable difference to the ability of PhD graduates and employers to make useful connections.

Demonstrating an understanding of the unique value of PhD graduates

From this study is clear that some businesses find PhD graduates highly employable. Those interviewed valued PhD graduates for their communication and presentation skills as well as their team working experience. The candidates being attracted are of high calibre and employers wish to find ways to target and recruit an increasing number.

The postgraduate researchers themselves cited the skills they had developed as 'networking, project management and people management', as well as more 'independence and confidence than a recent graduate'. They felt that employers should 'probe beyond the qualification to discover the true capabilities, drives and talents of the person behind the degree'.

The employers and careers services who have experienced the most success in their activities have done so through demonstrating an understanding of what PhDs can offer, and have targeted their activities and communications to this group. It is apparent that employers and careers services alike have spent considerable time making sure that what they do is relevant, and doesn't assume that PhD researchers fit into the same mould as undergraduates.

Some employers in the survey have displayed substantial commitment to attracting, training and recruiting PhD researchers. Some made sure that existing members of staff with PhDs went out on campus, while others would forge close links with specific departments to engage with the academic staff. Credit Suisse's 10 week structured work experience programme, which is exclusively open to PhD researchers, is an example of investing time and money to make an impact in this market. While providing practical work experience, this approach recognises PhD researchers' desire to be treated differently and to be valued for their additional skills.

Similarly, Nottingham University's scheme to provide four to six-week work placements in local engineering companies also provides opportunities for local employers to engage with potential employees.

Employers and careers services need to continue to target postgraduate researchers as a distinct group, acknowledging their higher level abilities and the experiences gained by undertaking their research.

The need for further engagement and dialogue

Many postgraduate researchers are still unsure where to look for careers information and opportunities. The benefits of being able to talk to PhD graduates who are now in work was highlighted, along with a recommendation that companies provide contact details of people with whom researchers can discuss employment opportunities. There is clearly an interest in engaging on a more personal level to find out about career possibilities.

This project has highlighted a range of ways to bring employers and researchers together to facilitate a better understanding of each other's needs, expectations and potential.

Poster campaigns and networking events, such as those run by Leicester University and the Midlands and Yorkshire and North East UK GRAD regional hubs, proved successful in generating dialogue between the two groups.

Employers, careers services and UK GRAD should look for further ways of supporting links between researchers and employers, particularly in the area of networking events, work experience and internships.

The importance of communication mechanisms

On a practical level, the ability to make contact with PhD researchers is vital for careers services and employers. The examples from researchers in this study highlighted a preference for email and web-based communication, although the opportunities to talk in-depth were also valued.

The importance, therefore, of basic communication mechanisms to enable contact direct with researchers and employers is critical.

6.3 What else would make a difference?

Despite the extensive range of initiatives that both university's careers services and employers have introduced over the last few years, many employers want to do more to make PhD researchers aware of the opportunities that they offer. Three areas for potential further development are highlighted:

Having a designated contact in University Careers Services for employers looking to recruit PhD graduates

Several of the case study organisations spoke about the difficulty of making contact with PhD researchers but they were often unsure how best to go about this. In specialist fields, it may make sense to contact particular departments or even individual academics but this is inevitably very time-consuming and therefore difficult to do in practice. Other employers wanted the opportunity to email PhD researchers directly about career opportunities. One suggestion is that the specialist careers advisers with responsibility for services to PhD researchers should be the designated gatekeeper for employers looking to recruit PhD graduates. Producing a list of all the specialist careers advisers with responsibility for PhD researchers would be very helpful to employers.

Mechanisms for employers to publicise their PhD job opportunities

There are several publications that are produced for undergraduates where employers can list their graduate employment opportunities but nothing similar targeted at PhD researchers. Several of the case study employers mentioned a desire for a publication aimed at PhD students. Although the PhD researchers who participated in this study had a strong preference for web-based and email communication, the availability of such a publication would be one way for employers to ensure that many more PhD researchers are made aware of potential employment opportunities. Employers recruiting small numbers of PhDs are only ever likely to visit a small number of universities but would still like to attract the best applicants nationwide. At present many feel that their efforts to market themselves to PhDs are only getting through to a minority of their target audience.

There are currently many small niche job-sites that can make job hunting a time-consuming process for many PhD researchers. It was felt that more job-related portal sites dedicated to PhD careers would be useful for job searching.

Labour market information and job search skills for PhDs

Interviews with PhD graduates who have successfully found employment highlight the importance of job search skills and a detailed understanding of the specialised labour markets in which many PhD researchers are looking for work. Although all universities are running workshops and events for PhD researchers, there is an ongoing challenge to provide them with the skills and strategies needed for effective job search.

PhD researchers need to start by gaining an understanding of what they enjoy and what they are good at but they must also learn networking and the active job search skills necessary to tap into what is all too often a hidden job market for PhD graduates. This research has shown that lack of understanding of how a specialised labour market operates can be a significant barrier to successful labour market participation even to those with the formal qualifications required.¹³ It is, however, a market where jobs may be created for applicants who offer the right skills at the right time.

¹³ Jackson, C (1966). Managing and Developing a Boundaryless Career: Lessons from Dance and Drama, *European Journal of Work and Organizational Psychology*, 5, 617-628.

Anything to add?

We appreciate that not all institutions, organisations and individuals have had an opportunity to contribute to this review. We hope that this goes some way to highlight what works for key groups and to instigate new ideas and initiatives in recruitment practices for PhD graduates.

To find out about current initiatives and to share your own activities visit UK GRAD's Database of Practice: www.grad.ac.uk/practice

If you'd like to get in touch regarding this review or with any further developments contact admin@grad.ac.uk

The UK GRAD Programme

The role of the UK GRAD Programme is to support the academic sector to embed personal and professional skills development into research degree programmes (RDP).

Our vision is for all postgraduate researchers to be fully equipped and encouraged to complete their studies and to make a successful transition to their future careers.

Doctoral researchers are our most talented: they have the potential to make a significant difference to the economic competitiveness of the UK. The UK GRAD Programme has a key role in enabling them to realise their potential.

To achieve our vision we have four main objectives:

- raise the profile of the importance of personal and professional development in researcher training for all stakeholders
- encourage the integration of, and opportunities for, personal and professional skills development in research degree programmes
- encourage and share good practice within higher education institutions
- as a national resource, continue to innovate, develop and provide exemplar ways of embedding personal and professional development and career management skills

For more information on how we achieve these objectives go to www.grad.ac.uk

UK GRAD Regional Hubs

The UK GRAD Programme operates both at a national level and through a series of regional Hubs. Each Hub region has a voluntary co-ordinator plus a dedicated project officer based in a university, with input from a steering group of representatives of other regional HEIs.

Regional Hub activities include:

- building and facilitating networks of academics, PGR support staff, employers, and all those with an interest in personal and professional development for doctoral researchers
- hosting regional events including Good Practice workshops
- co-ordinating views from the regions to feed into a national policy debate
- facilitating the sharing of information and materials across the region
- working to increase provision, quality and choice for researchers

For more information see www.grad.ac.uk/hubs

Careers in Focus: sector specific events

Careers in Focus events are **interactive** one-day events, hosted by employers keen to recruit PhDs. The event provided participants with real insight into careers in a specific sector through a series of dynamic activities, including:

- interactive workshops on key business areas
- networking with representatives from the world's most prestigious investment banks
- careers fair and CV clinic

For more information see: www.grad.ac.uk/cif

GRAD courses

One of the major activities of the UK GRAD Programme is its extensive programme of courses, run throughout the UK to support the personal development and teamwork skills of postgraduate researchers, and to build facilitation skills and confidence in employees (called 'GRADschool Mentors') from the world of work.

Our vision is to create an inspirational, challenging and experiential learning environment in which all participants will learn something new about themselves and take away skills, tools or information which will motivate them to complete their studies, further realise their potential, and enable them to make more informed choices about their future careers.

There are three main types of GRAD courses:

National GRADschools: National GRADschools are residential and vary between three and five days in length. Participants attend from all institutions, disciplines, age ranges and experience.

Local GRADschools: Local GRADschools are run at regional level and are supported by UK GRAD. They vary in length between one and four days, and can be residential or non-residential courses.

Other GRAD courses: Other GRAD courses are shorter sessions run at universities and conferences, which may be anything from one hour to two days long. These interactive sessions are designed individually to meet the individual needs of the institution.

Discover more about the benefits of GRAD courses: www.grad.ac.uk/gradschools

Database of Practice

The UK GRAD Programme has responded to increasing requests from the sector to develop a mechanism to share practice in this area. This database has been developed as a tool to allow institutions and individuals to describe their practice in all areas related to skills and career development for researchers.

For more information see: www.grad.ac.uk/practice



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