The research student experience

Lessons from PRES

Professor Chris Park

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Foreword

The Higher Education Academy designed the Postgraduate Research Experience Survey (PRES) as a means of seeking out and reflecting the research student voice.

PRES is a key aspect of our work at postgraduate level and, alongside our Postgraduate Taught Experience Survey (PTES), provides a unique picture of how postgraduate students feel about core elements of their higher degree programmes. As Chris Park's report demonstrates, we are now in a position to consider the latest results (for 2009) set within the context of data gathered over a longer period (2007-2009) and to reflect on its implications.

The increased participation in PRES, both at an institutional level (82 institutions in 2009) and an individual level (over 18,500 students in 2009), is indicative of the high level of interest in the sector in understanding postgraduate students' experiences. The Academy established both the PRES and PTES surveys in such a way as to ensure that institutional data remains confidential to participating institutions – a particularly valuable approach which allows data to be utilised for enhancement purposes within programmes, departments and faculties.

In a spirit of collaboration and support, the Academy has been keen to respond to institutional colleagues' feedback during the survey development process. For example, each survey will now run during alternate years to allow for focused enhancement work within institutions in the year following each survey. We look forward to continuing to work with and support institutions in their use of postgraduate student experience data for enhancement purposes.

Although many colleagues, both within the Academy and in institutions have contributed to the development of this important area of work, three members of the team merit particular thanks here: Gosia Kulej for her work on survey design and data analysis; Rachel Segal for leading the development work in this area on behalf of the Academy; and Professor Chris Park for his continuing commitment and support in progressing this important area of work.

Colleagues wishing to know more about either the PRES or PTES can contact the Academy's Evidence-Informed Practice team at: surveys@heacademy.ac.uk.

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Executive summary

PRES (the Postgraduate Research Experience Survey) is an online survey tool designed by the Higher Education Academy to collect feedback from current postgraduate research students in a systematic, user-friendly and comparative way. It was introduced in the UK in 2007, and also ran in 2008 and 2009. A total of 108 higher education institutions have taken part at least once over that three-year period – with 82 institutions participating in the most recent (2009) survey.

'Research students' are defined here as postgraduate students who are registered for research awards at UK higher education institutions (HEIs); the vast majority are on doctoral programmes and the rest on research Masters programmes (such as MPhil), either as a stepping stone to a doctorate or as an award in its own right.

Overall, the PRES findings show that research students have generally very positive views about their experiences. Key findings include:

a. *Overall satisfaction* levels for research students are very high: four out of five rated their experience as having met or exceeded expectations, and the proportion has increased slightly each year[1].

b. *Opportunities to develop research and transferable skills* were the areas in which research students' expectations were most often met or exceeded.

c. More than two-thirds of research students agreed that they were *confident about completing on schedule*, and that proportion has also increased slightly each year.

d. Within *supervision*, students were most positive about their supervisors' skills and subject knowledge. UK and Australian research students had very similar levels of agreement on questions about supervision.

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1 This is similar to the satisfaction levels shown by undergraduate students in the National Student Survey (NSS) and taught postgraduates in the Postgraduate Taught Experience Survey (PTES), and to Australian research students who responded to the Postgraduate Research Experience Questionnaire (PREQ).

e. Research students also had very positive views about the *infrastructure* to support their work, particularly about provision of library facilities, access to necessary equipment, and provision of computing resources and facilities. Overall levels of agreement were slightly lower than for undergraduates (NSS), taught postgraduates (PTES) and Australian research students (PREQ).

f. In general, research students were positive about *goals and standards*, with more than two-thirds agreeing that they understood the standard of work expected, the required standards for the thesis, and the requirements and deadlines for formal progress monitoring. Australian research students had much more positive views about goals and standards than their UK peers.

g. The research students who were eligible to answer the questions in PRES on *thesis examination* had generally very positive views, particularly on the fairness and timescale of the examination process. Australian research students had slightly more positive views on thesis examination than UK research students.

h. Research students' views on *skills development* were among the most positive of all the responses to questions within PRES, with more than two-thirds agreeing with most questions. The most positive views were about improving their ability to learn independently and improving analytical skills. Two out of three agreed that they had adequate opportunities to further develop their research and transferable skills; this proportion rose more between 2007 and 2009 than other items. UK research students had similar views on skills development to the taught postgraduates, but their views were less positive than their Australian counterparts. The PRES findings suggest that the Roberts investment in skills development for early career researchers is paying dividends.

i. Less than half of the research students agreed that they were encouraged to reflect on their *professional development* needs, and a little over a third agreed that they were encouraged to think about the range of *career opportunities* available to them or to reflect on their career development needs. There are no comparable questions in the NSS or PREQ, but more than two-thirds of taught postgraduate students who took part in PTES agreed that they were encouraged to reflect on their professional development needs.

Most of the individual questions in PRES can be grouped into seven statistically robust scales. The highest scoring scale (the part of their experience that students were on the whole most positive about) was supervision, closely followed by skills development and thesis examination. Multiple regression analysis shows that the supervision and intellectual climate scales had the strongest impact on how research students rated their overall experience. The most positive areas within the overall experience (based on the mean scale scores) are supervision, skills development, and thesis examination, and the least positive are infrastructure, intellectual climate, and professional development and career.

While the PRES findings are generally positive, they also highlight areas for further consideration, both within individual HEIs and across the sector. These include:

a. encouraging and supporting supervisors to provide research students with more effective guidance on selecting and refining their research topic (supervision);

b. increasing the availability of financial support for research student activities (infrastructure);

c. providing more effective means of integrating research students into their department or faculty, and reducing their sense of isolation and marginalisation (intellectual climate);

d. providing research students with more and better information on institutional standards and expectations (goals and standards), including institutional responsibilities towards research students (roles and responsibilities);

e. providing research students with more and better information about the nature of the examination process (goals and standards), particularly the role of the viva (thesis examination);

f. introducing more transparent and effective systems for gathering and responding to feedback from research students (roles and responsibilities);

g. providing research students with more and better information on who they can approach if they are dissatisfied with any elements of their research degree programme (roles and responsibilities);

h. increasing the availability of opportunities for research students to further develop their research and transferable skills, and finding effective ways of making students more aware of the opportunities available to them (skills development);

i. introducing more effective ways of encouraging research students to reflect on their professional and career development needs (professional development and career);

j. introducing more effective ways of increasing research students' understanding of the range of career opportunities open to them (professional development and career).

PRES has proved to be a very useful and user-friendly way of collecting information about what postgraduate research students think about their experience. A growing number of HEIs have elected to use it because it provides them with valuable evidence to inform decisions about enhancing the research student experience. The ability to benchmark an institution's results against those for the sector aggregate and for benchmarking clubs has been particularly welcomed, as has the focus on enhancement, the lack of league tables and the ability to share effective practice between HEIs.

1. Introduction

This report summarises the findings of the first three years of PRES (2007 to 2009), which reveal a great deal about how postgraduate research students view their experiences.

The report is divided into four sections:

— This section (section 1) outlines the nature and development of PRES, comments on the representativeness of PRES results and summarises the other surveys and sources with which the PRES results are compared.

— Section 2 summarises the findings from PRES about the overall research student experience, about students' motivations and career intentions, and about their confidence about completing on schedule.

— Section 3 explores key dimensions of the student experience, characterised through a series of thematic scales and the individual themes and questions from which they are constructed.

— Section 4 draws together the main findings about the research student experience.

PRES

PRES is an online survey tool designed to collect feedback from current postgraduate research students in a systematic, user-friendly and comparative way. 'Research students' are postgraduate students who are registered for research awards at UK higher education institutions (HEIs); the vast majority are on doctoral programmes and the rest are on research Masters programmes (such as MPhil), either as a stepping stone to a doctorate or as an award in its own right.

The Academy has supported PRES and a similar survey of postgraduate teaching experience to help HEIs to enhance the quality of their postgraduate degree provision, informed by evidence-based decision-making.

The development and successful roll-out of PRES has made it possible to see, for the first time in the UK, what research students think about their experiences. It is not a student satisfaction survey; it offers HEIs an opportunity to find out what research students think about their experiences, and the ability to benchmark their students' views against the national aggregate and against the views of students in particular mission groups through benchmarking clubs.

Each HEI that participates in the survey has the benefit of seeing how its own students rate aspects of their experience, in a way that is confidential to the institution and designed to inform enhancement. By aggregating the individual institutional results it is possible to build up a picture of how research students in general view their experiences. This provides a picture that is both rich and informative, and one that has clear relevance to policy and practice.

The first national administration of PRES was in 2007, and it also ran in 2008 and 2009. In future it will run every other year (2011, 2013, etc.) as part of a postgraduate survey programme run by the Higher Education Academy, with PTES (the Postgraduate Taught Experience Survey) running in alternate years.

Representativeness of PRES results

There are good reasons for accepting the PRES results as being broadly representative of research student views across the sector in the UK, even though the survey is voluntary for both HEIs and students. Roughly half of the UK HEIs took part in 2009, with over 18,000 students participating (Table 1), which represents about 20% of the total UK population of research students. A response rate of just under 30% is sound for a survey of this type. However, we very much hope to increase this in future years.

Thirty-one HEIs participated in PRES over all three years, 47 took part twice, and 108 took part at least once over the three-year period[2]. The 108 participating institutions comprise two-thirds of the HEIs in England, Scotland, Wales and Northern Ireland who had postgraduate students registered in 2007-08, according to HESA statistics[3], and they include members of the main mission groups (the Russell Group, the 1994 Group, Million+, and Small and Specialist Institutions).

The students who have taken part in PRES are fairly typical of research students across the sector in terms of demographic profile compared with HESA statistics.

Table 1: Growth in number of institutions and students taking part in PRES in 2007, 2008 and 2009

	PRES 2007	*PRES 2008*	*PRES 2009*
No. of HEIs	58	73	82
No. of respondents	10,544	16,524	18,644
Response rate	25.2%	28.9%	28.6%

Comparisons with results from other student experience surveys

The PRES results can be viewed in a wider context by comparing them with the results of other student experience surveys, particularly the 2009 National Student Survey (NSS)[4] of final-year undergraduates and the 2009 Postgraduate Taught Experience Survey (PTES)[5] of taught postgraduate students. It is also possible to

2 Because different institutions took part in PRES in different years, some of the variations in results between years might be accounted for by an institutional effect, but such an effect is probably relatively minor, because responses to most questions from the 31 HEIs that took part in both the 2008 and 2009 surveys were very similar to those overall.

3 www.hesa.ac.uk

4 www.hefce.ac.uk/news/hefce/2009/nss.htm

5 www.heacademy.ac.uk/ourwork/supportingresearch/postgraduatework

compare PRES results with those from its Australian precursor, the Postgraduate Research Experience Questionnaire (PREQ)[6], for which the 2008 results are the most recent ones published.

However, some important differences between the surveys must be borne in mind, particularly the fact that NSS is used to construct published league tables[7]. In addition, PRES and PTES are voluntary for HEIs whereas participation in NSS and PREQ is a condition of funding by the relevant funding bodies. Sample sizes and participation rates also vary between the different surveys – 223,363 students took part in NSS (a 62% participation rate), 14,421 took part in PTES (a 17.7% participation rate), and 3,607 took part in PREQ (participation rate unknown).

How research students rate the different aspects of their experience can also be compared with what HEIs are expected to provide for them in terms of policies and practices, as described in the precepts of Section 1 of the QAA *Code of practice*[8] (which deals with research degree programmes). Where appropriate in the text below, comments are also made about the findings of the 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland*[9], which paints a broad picture of doctoral education across the sector, and identifies examples of good practice and areas for improvement.

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6 http://unistats.anu.edu.au/Pubs/Surveys/PREQ/2008%20PREQ%20Summary%20All.pdf

7 For example, *The Sunday Times* University League Table: http://extras.timesonline.co.uk/stug2006/stug2006.pdf

8 www.qaa.ac.uk/academicinfrastructure/codeofpractice/section1/postgrad2004.pdf

9 www.qaa.ac.uk/reviews/postgraduate/overviewrepENI.pdf

2. Overall experience and motivations

This section focuses on how research students rate their overall experiences against expectations. It also summarises the findings about firstly, motivations and career intentions, and secondly, about students' confidence about completing on schedule.

Overall experience

Research students rated their experience very highly. More than four out of five said that the overall experience of their programme had met or exceeded their expectations. Levels of satisfaction have risen slightly each year, from 80.7% in 2007 to 82.5% in 2008 and 83.9% in 2009.

This compares comfortably with the 81-86% of undergraduate students in England, Scotland and Northern Ireland who reported in the NSS that they were satisfied with the quality of their course, as well as with the 84% of postgraduate taught students who reported in PTES that their overall experience had met or exceeded their expectations. Students' views of their overall experiences clearly appear to be very stable through the ladder of academic qualifications. This is interesting given the huge differences in their actual experiences at different levels. The 84% rating of overall experience in PRES 2009 compares well with the levels of research student satisfaction (85.5%) noted in PREQ in Australia.

The areas of their experience that students rated most highly, with regard to exceeding expectation, were both skills-related (Table 2): opportunities to develop a range of research and transferable skills. Areas that they rated least highly (but still with more than three-quarters agreeing that their expectations had been met or exceeded) were research environment and provision of guidance on institutional standards and expectations.

These results are very encouraging, particularly the positive experiences that research students expressed about skills development. Students' views about each aspect of their experience have become slightly more positive in successive years of the survey. These findings have implications for expectation management, by both the sector and individual HEIs, as well as for the areas of the research student experience where enhancement efforts might best be directed.

Table 2: Research students' views on their experience against expectations

Question	% Agree met or exceeded		
	PRES 2007	PRES 2008	PRES 2009
15a. Supervisory support and guidance	77.3%	79.0%	79.7%
15b. Opportunities to develop a range of research skills	83.6%	82.9%	85.9%
15c. Opportunities to develop a range of transferable skills	81.9%	82.4%	84.8%
15d. Access to appropriate facilities	78.2%	78.2%	80.5%
15e. Research environment	74.2%	75.4%	77.1%
15f. Provision of guidance on institutional standards and expectations for my research degree programme	73.1%	75.8%	77.1%
15g. Overall experience of my research degree programme	80.7%	82.5%	83.9%

Motivations and career aspirations

PRES includes questions which ask about research students' main motivations in pursuing a research degree, and what type of career they have in mind for when they complete. There is no reason to suspect that PRES respondents are not broadly typical of the whole research student population. A third (33.8%) of the 2009 respondents agreed that their main motivation was an interest in the subject, and a further third (31.7%) agreed that it was to improve their career prospects for an academic or research career. The next most popular answer (14.7%) was that "it felt like a natural step for me". In terms of career aspirations, nearly half (44%) had in mind an academic career in higher education (either research and teaching, or teaching only), one in seven (13.9%) had in mind a research career in higher education, and a further one in seven (13.9%) wished to pursue a research career outside higher education.

Confidence about completing on schedule

One area of growing interest to funders and HEIs in recent years has been submission and completion (qualification) rates. A 2007 HEFCE report[10] shows that seven-year research degree qualification rates for full-time UK and other European Union students who started in 1999–2000 vary between HEIs, with research-intensive institutions broadly falling in the range from 75% to 85%. Research councils measure performance in four-year submission rates, and most (for example, ESRC[11]) now expect at least 60% of the students they fund to submit within four years.

More than two-thirds of the students who took part in PRES agreed that they were confident about completing on schedule (many HEIs now have regulations that require submission within four years for full-time research students). The level of agreement and thus student confidence has risen slightly year-on-year (from 65.2% in 2007, to 67% in 2008, to 68.6% in 2009), though by relatively less than the rise in student ratings of experience.

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10 www.hefce.ac.uk/pubs/hefce/2007/07_29

11 www.esrcsocietytoday.ac.uk/ESRCInfoCentre/opportunities/postgraduate/training/recognition/submissions.aspx

3. Dimensions of the research student experience

This section summarises the main findings from PRES, starting with the scale results and followed by a more detailed examination of research students' views on particular dimensions of their experience. These results cover supervision, infrastructure, intellectual climate, goals and standards, thesis examination, roles and responsibilities, skills development, and professional and career development. For most of these themes the PRES findings can be considered alongside the results from other student experience surveys, and alongside both the expectations of Section 1 of the QAA *Code of practice* and the findings of the 2006 QAA review of research degree programmes.

Scales

The individual questions on specific themes can be grouped together to form scales, which provide a useful way of comparing themes. Seven scales, which are robust and internally reliable judged using the Cronbach's alpha coefficient[12], can be calculated for the PRES questions, one for each major theme. Mean scale scores (which range between 1 and 5) are presented in Table 3 for the 2009 PRES results, along with the differences between the 2009 means and those for 2008 and 2007. All of the mean scale scores were higher than 3, which is positive (given that the range of possible values is between 1 and 5).

Students' responses to the questions that make up each scale varied little overall over the three-year period, hence the very small differences in mean scores. The professional development and career scale was introduced for the first time in 2008[13].

12 www.joe.org/joe/1999april/tt3.php

13 www.heacademy.ac.uk/ourwork/supportingresearch/postgraduatework

Table 3: The PRES scales

Scale	PRES 2007	PRES 2008		PRES 2009
	Mean	Mean	Mean	SD
Supervision	3.93	4.02	4.03	0.960
Skills development	3.86	3.96	3.97	0.798
Infrastructure	3.62	3.70	3.75	0.918
Intellectual climate	3.40	3.45	3.50	1.020
Goals and standards	3.80	3.79	3.81	0.961
Thesis examination	3.96	4.01	3.92	1.079
Professional development and career	-	3.00	3.14	1.115

The highest scoring scale – the part of their experience that students were on the whole most positive about – was supervision, closely followed by skills development and thesis examination. Goals and standards were also scored highly, although students rated their experience in this area as being relatively low with regard to their expectations (Table 2). The professional development and career scale had the lowest mean score, but the intellectual climate scale also received relatively low ratings.

The 2007 PRES report[14] included the results of a multiple regression analysis between the mean scale scores (independent variables) and overall experience against expectation (the dependent variable). Including all seven scales in the model accounted for 41% of the variance in students' overall evaluation; this is a statistically significant amount ($p>0.001$). Supervision and intellectual climate were the two statistically most significant scales, which suggests that these two aspects of research students' experience have the strongest impact on their overall evaluation of their research degree programme.

In all of the subsequent tables in this report (Tables 4 to 11) '% Agree' refers to the total percentage of respondents who chose either the 'Agree' or 'Strongly Agree' responses to individual questions.

14 www.heacademy.ac.uk/ourwork/supportingresearch/postgraduatework

Supervision

The supervision scale, which is the most highly rated of the seven scales and a major determinant of students' views on their overall experience, contains six questions. Students' responses to each of the six questions, or the six questions overall, have been very similar between the three years, and were all positive (Table 4).

Table 4: Research students' views on supervision

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
1.a My supervisor/s have the skills and subject knowledge to adequately support my research	82.2%	83.8%	4.33	84.4%
1.b My supervisor/s make a real effort to understand any difficulties I face	73.0%	75.1%	4.09	76.0%
1.c I have been given good guidance in topic selection and refinement by my supervisor/s	68.4%	72.3%	3.98	73.0%
1.d I have received good guidance in my literature search from my supervisor/s	62.1%	64.0%	3.78	64.8%
1.e My supervisor/s provide helpful feedback on my progress	70.8%	72.8%	4.01	73.7%
1.f My supervisor/s are available when I need them	71.7%	74.0%	4.05	74.7%

The aspects of supervision that students rated most highly were the skills and subject knowledge of their supervisor/s, the effort they make to understand difficulties their students might have, and their availability. Students also rated highly the feedback from supervisors on progress, and supervisor guidance on selecting and refining a topic. The lowest score related to literature search guidance.

Levels of agreement on supervision questions by the research students who took part in PRES 2009 were similar to those of their counterparts in Australia who took part in

PREQ 2008. There were no comparable questions in the NSS, and the results from the 2009 PTES were not directly comparable because relatively few respondents had done a lot of work on their dissertations or had much engagement with their supervisors at the time of the survey.

The QAA *Code of practice* (Section 1) expects institutions to "appoint supervisors who have the appropriate skills and subject knowledge to support, encourage and monitor research students effectively" (precept 11), expects students to have a main supervisor, normally as part of a supervisory team, with a "clearly identified point of contact for the student" (precept 12), and expects institutions to ensure that "the responsibilities of all supervisors are clearly communicated to students and supervisors through written guidance" (precept 13). The PRES results confirm that, from the research students' perspective, these expectations are broadly being met.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* identified many areas of good practice in supervision, including formalisation of the appointment and training of supervisors and formalisation of monitoring and review of supervision. It also identified areas for further consideration, including the monitoring and management of supervisor workloads, the need for better engagement of experienced supervisors in appropriate development activities, and the formalisation of supervisory team arrangements and feedback mechanisms on supervisor performance.

Infrastructure

Research students' views on the infrastructure that supported their work were positive; this was the fifth highest scoring scale (Table 3), but scores on individual questions were lower than those for supervision (Table 4). Scores (Table 5) were very similar in each of the three years of the survey.

Table 5: Research students' views on infrastructure

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
3.a I have adequate access to the equipment necessary for my research	67.8%	67.8%	3.87	69.4%
3.b I have a suitable working space	64.1%	64.8%	3.77	66.0%
3.c There is appropriate financial support for research activities	44.6%	51.2%	3.38	51.8%
3.d There is adequate provision of computing resources and facilities	66.0%	65.7%	3.83	67.8%
3.e There is adequate provision of library facilities	66.3%	70.1%	3.90	71.1%
3.f I have the technical support I need	59.1%	61.8%	3.75	63.9%

Research students were most positive about the provision of library facilities and access to the equipment necessary for their work. Two-thirds agreed that the provision of computing resources and facilities was adequate, and that they had a suitable working space; slightly fewer agreed that they had the technical support they needed. The lowest score in this scale was for financial support for research activities; only half of the respondents agreed that this was adequate.

Overall, the scores on library resources, computer resources and specialised equipment were slightly lower than those given by undergraduate students in the NSS, slightly lower than those given by taught postgraduate students in PTES, and lower than those given by research students in Australia in PREQ.

The QAA *Code of practice* (Section 1) expects institutions to "only accept research students into an environment that provides support for doing and learning about research and where high quality research is occurring" (precept 5), and the supporting notes clarify that this might include "adequate learning and research tools including access to IT equipment, library and electronic publications" and "access to the facilities

and equipment necessary to enable students to complete their research programmes successfully". PRES respondents' views go some way towards confirming that these expectations are being met, but there is also room for improvement.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* identified as an area for further consideration the need to make available a base for research students to work from.

Intellectual climate

Intellectual climate covers aspects of the research students' experience within their departments or faculties. Such factors have a direct bearing on how research students rate their overall experience, and this is reflected in the fact that the intellectual climate scale was one of the two strongest predictors in the multiple regression model. It has the second lowest mean scale score in PRES (Table 3), so this is an area that students regard as being open to improvement. This is borne out by how research students rated the individual questions within the scale (Table 6), although the scores on most questions increased between the 2007 and 2009 surveys.

Table 6: Research students' views on intellectual climate

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
4.a My department provides opportunities for social contact with other research students	53.4%	57.2%	3.61	59.1%
4.b My department provides opportunities for me to become involved in the broader research culture	52.0%	55.2%	3.54	56.7%
4.c The research ambience in my department or faculty stimulates my work	49.3%	49.9%	3.43	52.6%
4.d I feel integrated into my department's community	49.0%	46.4%	3.32	49.1%
4.e My department provides a good seminar programme for research students	57.2%	58.5%	3.63	59.9%

Within this area (Table 6), students were most positive about departmental seminar series and opportunities for social contact with other research students, and to a lesser extent the provision of opportunities to get involved in the broader research culture of their institution/department. They were much less positive about the research ambience and about feeling integrated into their department's community (only half agreed that they did). The sector recognises that research students often experience loneliness and feelings of isolation, but the PRES results reveal their relative degrees of dissatisfaction.

There are no questions about intellectual climate in either the NSS or PTES, but results from PREQ in Australia show almost equally low levels of agreement overall to the PRES findings. There appears to be room for considerable improvement in how far departments and faculties integrate, value and support their research students.

The QAA *Code of practice* (Section 1) expectations about research environment (precept 5) also covers aspects of the intellectual climate, including "ready access to academic colleagues and others able to give advice and support", "opportunities for students to develop peer support networks" and "the pursuit of high quality research in cognate areas by a community of academic staff and postgraduates". The PRES results show that, from the perspective of research students, there is still some way to go in delivering successfully against these expectations.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* identified the need to ensure that research students were more fully integrated with the overall research environment of the institution as an area of further consideration. The findings of the 2009 CROS (Careers in Research Online Survey), which collects views on the experiences of research staff, identified a similar need[15].

15 http://vitae.ac.uk/CMS/files/upload/CROS_2009_October.pdf

Goals and standards

Research students generally felt that they had a sound understanding of what is required of them regarding goals and standards; this scale came out in the median rank of the mean scale scores (Table 3). As with the other scales, the year-on-year changes in research students' scores are relatively small (Table 7), but the slight decline in scores on two questions between 2007 and 2009 should be noted.

Table 7: Research students' views on goals and standards

Question	PRES 2007	PRES 2008	PRES 2009	
	% Agree	% Agree	Mean	% Agree
5.a I understand the required standard for the thesis	69.2%	69.4%	3.84	70.2%
5.b I understand the standard of work expected	75.8%	72.6%	3.91	73.6%
5.c I understand the requirements of thesis examination	61.4%	60.7%	3.68	61.9%
5.d I understand the requirements and deadlines for formal monitoring of my progress	73.9%	71%	3.89	71.6%

More than two-thirds of the PRES respondents agreed that they understood the standard of work expected, the requirements and deadlines for formal progress monitoring, and the standard required for the thesis. The one area in which there was less agreement was in understanding the requirements of the thesis examination itself.

There are no questions on goals and expectations in either the NSS or PTES, but research students who took part in the 2008 PREQ in Australia were 10-15% more positive than those who took part in PRES 2009. This is an area where improvements can be made, perhaps most effectively within HEIs, by providing clearer information and guidance to research students at induction, during the programme, and most importantly in advance of the examination.

The QAA *Code of practice* (Section 1) expects institutions to "provide research students with sufficient information to enable them to begin their studies with an

understanding of the academic and social environment in which they will be working" (precept 10). It also expects them to "put in place and bring to the attention of students and relevant staff clearly defined mechanisms for monitoring and supporting student progress" (precept 15) and "clearly defined mechanisms for formal reviews of student progress, including explicit review stages" (precept 17). With regard to thesis examination, the Code expects HEIs to "use criteria for assessing research students … [that] must be clear and readily available to students, staff and external examiners" (precept 22). The PRES results show that, from a student perspective, and with the exception of precept 22, these expectations are generally being met.

Thesis examination

The PRES questionnaire includes four questions relating to the examination of the thesis, but only those research students who had submitted and had been examined or were awaiting examination were invited to answer them. The number of students who responded in this section was relatively small each year (720 in 2009; 622 in 2008; 447 in 2007), so with such relatively small sample sizes the results must be treated with caution.

The thesis examination scale had the third highest score of the seven scales in 2009 (Table 3), and research students' views about examination were generally very positive and varied little from year to year (Table 8).

Table 8: Research students' views on thesis examination

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
6.a.i The thesis examination process was fair	82.2%	80.4%	4.2	77.9%
6.a.ii The examination of my thesis was completed in a reasonable timescale	77.1%	75.2%	4.1	76.4%
6.a.iii I was given adequate support and guidance in preparation for my viva voce	61.8%	63.5%	3.7	61.6%
6.a.iv I was given adequate support and guidance to make any changes to my thesis following my viva voce	70.7%	73.8%	4.0	66.9%

More than three-quarters of the research students who had been examined or were awaiting examination agreed that the process was fair and had been completed within a reasonable period of time. Two-thirds agreed that they had been given adequate support and guidance to revise their thesis after the viva. Research students were less positive about the support and guidance they had received while preparing for their viva.

The PRES respondents were slightly less positive about the examination process overall than their Australian counterparts who took part in PREQ 2008. There are questions about assessment in both the NSS and PTES, but meaningful comparisons cannot be made because the contexts are too different.

The QAA *Code of practice* (Section 1) expects institutions to have appropriate assessment criteria that are "clear and readily available to students, staff and external examiners" (precept 22), to have clear and transparent assessment processes that are operated "rigorously, fairly, and consistently" (precept 23), and "to communicate their assessment procedures clearly to all the parties involved" including students (precept 24). The PRES results suggest that these expectations are broadly being met, at least from the student point of view.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* noted that a growing number of institutions were running mock vivas and/or workshops to assist students in preparing for their vivas, and that an area for further consideration in some HEIs is the clarity of guidelines for the conduct of research degree examinations.

Roles and responsibilities

Although the questions relating to roles and responsibilities (Table 9) do not form a scale, they do produce useful responses that help to identify students' levels of awareness and understanding.

Table 9: Research students' views on roles and responsibilities

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
8.a I know who to approach, or where to find this out, if I am dissatisfied with any element of my research degree programme	58.9%	54.2%	3.64	61.8%
8.b My institution values and responds to feedback from research degree students	47.8%	45.5%	3.45	51.3%
8.c I understand my responsibilities as a research degree student	77.6%	76.9%	3.95	75.5%
8.d I am aware of my institution's responsibilities towards me as a research degree student	47.3%	56.2%	3.60	59.2%

Responses to the questions in this area were mixed in 2009, and the scores on almost all questions increased between 2007 and 2009 (Table 9). This increase over time implies that HEIs are providing their research students with more and/or better information about institutional procedures and policies.

Three-quarters of the research students who took part in PRES 2009 agreed that they understood their responsibilities, but less than two-thirds agreed that they understood their institution's responsibilities towards them. Less than two-thirds agreed that they knew who to approach if they had any problems. Only half agreed that their institution values and responds to feedback from them.

There are no questions on roles and responsibilities in the NSS, PTES or PREQ, so cross-survey comparisons cannot be made.

The QAA *Code of practice* (Section 1) expects institutions to develop and implement a code of practice and to make it readily available to research students (precept 3), to define and communicate clearly the entitlements and responsibilities of research students (precept 9), to ensure that the responsibilities of all research student supervisors are clearly communicated to supervisors and students through written guidance (precept 13), and to "put in place mechanisms to collect, review and, where

appropriate, respond to feedback from all concerned with postgraduate research programmes" and communicate results appropriately (precept 21). It also expects them to "put in place and publicise procedures for dealing with student representations … [that] allow all students access to relevant information and an opportunity to present their case" (precept 25), and to have in place formal procedures for dealing with complaints (precept 26) and appeals (precept 27) made by research students. The PRES results indicate that there is still work to be done in most of these areas.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* concluded that most HEIs have appropriate complaint and appeals procedures, and noted areas for further consideration – including arrangements for collecting and dealing with feedback from research students, through both student representatives and questionnaires.

Skills development

Research students' responses on skills development have attracted interest across the sector for a number of reasons, including the growing importance of skills development within research degree programmes and interest in evaluating the impact of the Roberts funding[16]. Anecdotal feedback from many HEIs is that research students and their supervisors often have rather negative views about the relevance and usefulness of skills development workshops and programmes (particularly in transferable skills), especially those which require a time commitment. This may compromise a student's progress on their research and could put timely completion at risk.

Mean scores on the skills development scale are second only to the supervision scale (Table 3). Students rate this area of their experience very positively (Table 10).

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16 Additional funding given by RCUK to HEIs who have Research Council-funded research students, to contribute to the cost of skills development activities. See: http://vitae.ac.uk/policy-practice/1685/Roberts-recommendations.html

Table 10: Research students' views on skills development

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
2.a As a result of my experience so far I feel confident about managing a research project	66.5%	69.3%	3.86	70.6%
2.b My experience so far has improved my analytical skills	74.2%	78%	4.04	78.3%
2.c My experience so far has helped me to develop a range of communication skills	63.8%	68.9%	3.86	69.3%
2.d As a result of my experience so far I have improved my ability to learn independently	80.1%	80.5%	4.14	80.8%
2.e There are adequate opportunities available for me to further develop my research skills	60.8%	60.6%	3.86	69.8%
2.f There are adequate opportunities available for me to further develop my transferable skills	57.9%	58%	3.77	64.9%

Research students' responses to individual questions within the skills development scale were among the most positive of all the questions within PRES, with more than two-thirds of students agreeing with every question (Table 10). Students were most positive about the ways in which their experience had improved their ability to learn independently, which is arguably the essence of a research degree programme. They were also very positive about improving their analytical skills: nearly four out of five agreed that these had been improved. More than two-thirds agreed that they had developed a range of communication skills and were more confident about managing a research project. Around two-thirds also agreed that they had adequate opportunities to further develop their research and transferable skills.

There was a marked increase in the scores for opportunities for research students to further develop both their research skills and their transferable skills between 2007 and 2009. There are various possible explanations for this, including an institutional effect

(see footnote 2) and an order effect (created by moving these particular questions to a different part of the questionnaire between the 2008 and 2009 surveys[17]).

These effects cannot be ruled out, although the percentage increase appears to vary between different groups of students. A third possible explanation is that the increase in scores reflects a real increase in the availability of skills development opportunities, or a rise in student awareness of what is available, or both. Either way, this finding suggests that research students are more likely than they previously were to actively engage with the skills development opportunities that are available to them.

Although the 2009 PRES results (Table 10) show that research students in the UK have very positive views about skills development, there is still some way to go to match their Australian counterparts, who rated skills overall at least 10% more positively in PREQ[18]. In the NSS[19] around 80% of UK undergraduate students agreed that their communication skills had improved, and taught postgraduate students rated skills questions in PTES[20] in a similar way to how the research students did in PRES (for example, 77% agreed that their programme had developed their transferable skills, and 79% agreed that it had developed their research skills).

The QAA *Code of practice* (Section 1) expects institutions to "provide research students with appropriate opportunities for personal and professional development" (precept 19), have in place procedures for development needs analysis (precept 19), and provide opportunities for research students to maintain a record of personal progress (precept 20). While the questions in PRES focus on other aspects of skills development, the PRES results overall show that most research students have highly positive views about the benefits of skills development, but slightly less positive views about the opportunities available to them.

The 2006 QAA *Report on the review of research degree programmes: England and Northern Ireland* identified numerous examples of good practice in skills development. Among the

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17 These were the only questions that were moved in the questionnaire between the 2008 and 2009 surveys.

18 http://unistats.anu.edu.au/Pubs/Surveys/PREQ/2008%20PREQ%20Summary%20All.pdf

19 www.hefce.ac.uk/news/hefce/2009/nss.htm

20 www.heacademy.ac.uk/ourwork/supportingresearch/postgraduatework

areas for further consideration were the development and delivery of training programmes and personal development planning, and making sure that programmes are appropriate for and accessible to particular groups of students (particularly part-time students).

Because of the interest across the sector in research student skills development, the Academy undertook some more detailed analysis of the 2009 PRES results[21]. One area of interest was how students' views about skills development change through time as they progress through their research degree programme, engage more with the skills development opportunities on offer, and become more aware of their own training needs.

Analysis of the 2009 PRES results shows that students' responses to four of the skills questions (questions 2a, 2b, 2c and 2d, Table 10) become more positive as they progress from year 1 through to year 3. They remain relatively unchanged between years 3 and 4. This shows that research students' views on skills development, and their awareness of the personal benefits of developing their skills, become more positive as they become more experienced during their research degree programme.

A detailed analysis of the pattern of responses to the questions on opportunities to further develop skills (questions 2e and 2f, Table 10) reveals that the group of students who showed the biggest increase between the surveys in ratings on research (10.1%) and transferable (8.8%) skills was those who had completed a postgraduate programme just before they began their research degree. It is likely that research students who had previously completed another (typically taught) postgraduate programme had a better-than-average awareness of their own skills and training needs.

Detailed analysis also shows that the increase in agreement between 2008 and 2009 was the same (at 9% on average) for students in each year of study. Taken together, these two patterns suggest that there is improvement throughout research degree programmes, and it is not simply a case of more experienced research students being more aware of what is on offer. This suggests that the Roberts investment is paying dividends across the sector.

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21 I am grateful to Gosia Kulej (Higher Education Academy) for taking on this extra analysis. Further details can be found in the PowerPoint presentation at: www.vitae.ac.uk/CMS/files/upload/Vitaeconference2009-A1-PRES.pdf.

It is also informative to examine which groups of research students have the most positive views about the opportunities available to them to further develop their skills (questions 2e and 2f, Table 10). There are no significant differences between males and females, and no correlations between the responses to these two questions and either domicile or ethnicity. By age, students who are 25 years old or younger show the highest levels of agreement about opportunities to further develop their research (76%) and transferable (71%) skills.

With regard to year of study, first-year research students showed the highest levels of agreement that they had adequate opportunities to develop their research (77%) and transferable (70%) skills; however, levels of agreement fell in subsequent years. In terms of what students had done just before they began their research degree, those who had gone straight from an undergraduate programme showed the highest levels of agreement in relation to opportunities to develop their research (74%) and transferable (70%) skills.

Full-time students tended to agree more with both statements (questions 2e and 2f, Table 10) than part-time students; this echoes the findings of a Vitae report on *Understanding the part-time researcher experience*[22]. Students who would like to pursue a research career in higher education also agreed more than those with other career intentions; the lowest scoring group on both questions was those who would like to pursue 'any other professional career'.

Overall, therefore, there are some apparent differences between different groups of research students in their views about the adequacy of opportunities to further develop their research and transferable skills. While the skills development results overall are very positive, there is room for further improvement in many HEIs in making appropriate skills development opportunities available to all research students, raising awareness among all research students about what opportunities they have available to them, and encouraging all of them to engage fully with the opportunities that are on offer.

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22 Hooley, T., Kulej, M., Edwards, C. and Mahoney, K. (2009) *Understanding the part-time researcher experience*. Cambridge: Careers Research and Advisory Centre (CRAC) Limited. Available from: www.vitae.ac.uk/policy-practice/74571/Part-time-researcher.html.

Professional development and career

This new scale was introduced for the first time in 2008, after a detailed review and analysis of the PRES questions. It has the lowest mean score of all seven scales in PRES 2009 (Table 3), and this varied little between 2008 and 2009 (Table 11).

Table 11: Research students' views on professional development and career

Question	PRES 2007	PRES 2008		PRES 2009
	% Agree	% Agree	Mean	% Agree
7.a I am encouraged to think about the range of career opportunities that are available to me	37.6%	34.8%	3.08	37.1%
7.b I am encouraged to reflect on my professional development needs	47.5%	44.3%	3.21	43.3%
7.c I am encouraged to reflect on my career development needs	38.3%	39.6%	3.13	39.9%

Research students' views on each of the three questions in this scale were far from positive (Table 11); less than half of them agreed that they were encouraged to reflect on their professional development needs, and little over a third agreed that they were encouraged to think about the range of career opportunities available to them or to reflect on their career development needs. Views on each of these three areas changed little between 2008 and 2009[23].

There are no professional development and career questions in either the NSS or the Australian PREQ, but 69% of the taught postgraduate students who took part in PTES agreed that they were encouraged to reflect on their professional development needs. This is considerably higher than the PRES results.

23 Although the scale was introduced in 2008, responses to these questions in the 2007 survey have been converted into a mean scale score retrospectively; this is shown in Table 11.

Given the growing interest across the sector in employability and career development as part of the Roberts agenda, more detailed analysis was done on the 2009 PRES results to see how responses varied between different groups of students[24]. For example, full-time students agreed slightly more than part-time students with the questions about thinking about career opportunities (question 7a, Table 11) and reflecting on career development needs (question 7c, Table 11). Younger research students, and those who agreed that their overall experience had met or exceeded their expectations, tended to have more positive views about the professional development items. The age group who agreed most was that of students between 26 and 40 years of age. This is also the age group who were most motivated by improving their existing career, so the results are internally consistent.

Students in the early stages of their research agreed most (44.5% overall) that they were encouraged to reflect on their professional development needs. Non-UK students agreed (on average 7%) more than UK students with all of the professional development items, and international (non-EU) students agreed much more strongly (49% overall) that they were encouraged to reflect on their professional development needs. Students' responses also varied by discipline. Those who agreed most with the professional development items were studying in more vocational areas such as agriculture (52% on average), medicine and dentistry (47%), engineering (44%) and business management (45%). Students in creative arts and design (34%) and law (35%) tended to agree the least.

There are no questions relating to professional development and career in either the NSS or PREQ. The PTES questions on this theme focus on the benefits gained from taking the programme, rather than on whether students are encouraged to think about their needs and opportunities. It is thus not possible to provide meaningful cross-survey comparisons.

The QAA *Code of practice* (Section 1) expects institutions to "provide research students with appropriate opportunities for personal and professional development" (precept 18), but the framing of the PRES questions does not allow any judgements to be made about whether this expectation is being met.

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24 Further details can be found in the PowerPoint presentation at: www.vitae.ac.uk/CMS/files/upload/Vitaeconference2009-A1-PRES.pdf.

4. Summary and conclusions

PRES is a supportive and user-friendly way of collecting reliable quantitative information about what postgraduate research students think about their experience.

A growing number of HEIs have elected to use the Academy's survey because it provides them with valuable evidence to inform decision-making about enhancing the research student experience in their own institution. The ability to benchmark an institution's results against those for the sector aggregate and for benchmarking clubs has been particularly welcomed, as has the focus on enhancement, the lack of league tables (due to data confidentiality at institutional level), and the ability to share effective practice between HEIs.

Overall, the PRES findings show that research students have, in general, very positive views about their experiences: overall, they rate them as positively as undergraduates in the NSS and taught postgraduates in PTES.

The most positive areas within the overall experience (based on the mean scale scores) are supervision, skills development and thesis examination. The least positive are: infrastructure, intellectual climate and professional development and career.

There is much to celebrate in the PRES findings, which also highlight areas for further consideration, both within individual HEIs and across the sector. Key findings and areas for further consideration are summarised in the Executive summary.

Further information about PRES is available from the Higher Education Academy website at www.heacademy.ac.uk/ourwork/supportingresearch/postgraduatework, or via email to surveys@heacademy.ac.uk.

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