The Learning Gain© tool

BACKGROUND

The Research Toolkit Learning Gain tool© is an interactive resource capable of assessing and measuring impact of training interventions. This has been developed with the White Rose DTP to evaluate the skill development of students resulting from their participation in the Professional Internships for PhD Students (PIPS) scheme. This includes a number of competencies relating to commercial awareness, as we know that this is an area that employers often say is lacking in PhD graduates. We try to involve the host organisations in the process by sharing the same set of questions we ask our students. This gives the host organisation the opportunity to optimise their placement to ensure the optimal development of our students (for example one host enhanced the training experience so that the student gained a greater understanding of funding and finance within their organisation).

The Learning Gain Tool uses pre- and post-activity data to explore impact from the perspective of the activity participant, school or stakeholder representative. This has been successfully used to assess change in provision in Hospital Trusts, examined successful elements of University Summer School programmes, and is currently being used as part of the evaluation strategy for a collaboration of 12 Higher Education institutions in West Yorkshire. Results, using this tool, are generally displayed visually as radar charts – aiding participants and programme management to quickly view impact areas.

HOW IT WORKS

The Learning Gain© tool seeks responses to statements from each PhD student. Responses are given on a scale from 1 to 10 (where 1 equals strongly disagree or this very rarely happens/is the case; 10 equal strongly agree or this always happens/is the case). Statements are themed into areas that have been devised and agreed by Programme Managers and academics from the White Rose partner Universities.

Theme areas are:

1. Personal effectiveness
2. Engagement and influence
3. Commercial awareness and enterprise
4. Skills and employability
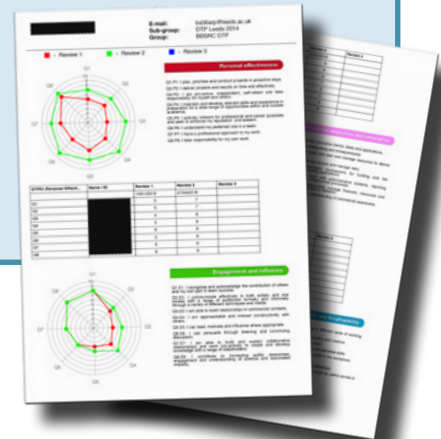
ACCESS TO DATA: RESPONDENTS

Each PhD student is requested to complete their responses prior to, or at the beginning of, their PIPS placement, and then at the end of their placement. From this the learner, as well Programme Managers, can observe movements in responses (or learning gain). Responses are produced as radar charts to provide a visual and accessible way of displaying individual and grouped data (on the next page you can see the results from 48 PIPS placement PhD students).

ACCESS TO DATA: PROGRAMME MANAGERS

At a programme management level, user data can be clustered by institution/group and changes or developments over time can be observed. Where movements between review periods are most variable or dispersed they are highlighted red, movements that are least variable are highlighted green (as shown in the summary output below from PIPS PhD students).

Personal effectiveness	N	Pre-PIPS	SD 1	Var 1	N	Post-PIPS	SD 2	Var 2	Change	% Change
Q1: I plan, prioritise and conduct projects in proactive ways.	48	6.94	1.44	2.06	22	8.14	1.46	2.12	1.2	17% ▲
Q2: I deliver projects and results on time and effectively.	48	7.27	1.41	1.99	22	8.32	1.52	2.32	1.05	14% ▲
Q3: I am pro-active, independent, self-reliant and take responsibility for myself and others.	48	7.54	1.44	2.08	22	8.55	1.41	1.97	1.01	13% ▲
Q4: I maintain and develop relevant skills and experience in preparation for a wide range of opportunities within and outside academia.	48	6.88	1.36	1.86	22	8.27	0.94	0.87	1.39	20% ▲
Q5: I actively network for professional and career purposes and seek to enhance my reputation and esteem.	48	5.4	1.92	3.69	22	7.32	1.84	3.37	1.92	36% ▲
Q6: I understand my preferred role in a team.	48	7	1.49	2.21	22	8.32	1.17	1.37	1.32	19% ▲
Q7: I have a professional approach to my work.	48	7.54	1.35	1.83	22	8.5	1.37	1.88	0.96	13% ▲
Q8: I take responsibility for my own work.	48	8.42	1.03	1.06	22	9.14	0.77	0.60	0.72	9% ▲

Personal effectiveness

Personal effectiveness	Pre-PIPS	Post-PIPS	Change	% Change
Q1: I plan, prioritise and conduct projects in proactive ways.	6.94	8.14	1.2	17% ▲
Q2: I deliver projects and results on time and effectively.	7.27	8.32	1.05	14% ▲
Q3: I am pro-active, independent, self-reliant and take responsibility for myself and others.	7.54	8.55	1.01	13% ▲
Q4: I maintain and develop relevant skills and experience in preparation for a wide range of opportunities within and outside academia.	6.88	8.27	1.39	20% ▲
Q5: I actively network for professional and career purposes and seek to enhance my reputation and esteem.	5.4	7.32	1.92	36% ▲
Q6: I understand my preferred role in a team.	7	8.32	1.32	19% ▲
Q7: I have a professional approach to my work.	7.54	8.5	0.96	13% ▲
Q8: I take responsibility for my own work.	8.42	9.14	0.72	9% ▲

Engagement and influence
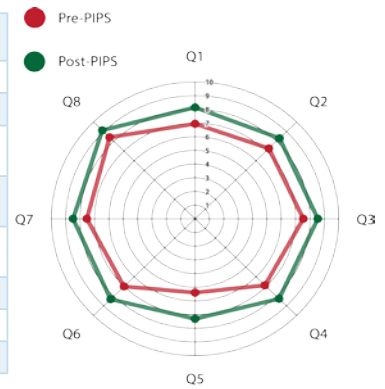
Engagement and influence	Pre-PIPS	Post-PIPS	Change	% Change
Q1: I recognise and acknowledge the contribution of others and my own part in team success.	8.17	8.82	0.65	8% ▲
Q2: I communicate effectively in both written and oral modes with a range of audiences formally and informally through a variety of different techniques and media.	6.77	8.14	1.37	20% ▲
Q3: I am able to build relationships in commercial contexts.	5.44	7.18	1.74	32% ▲
Q4: I am approachable and interact constructively with others.	7.12	8.5	1.38	19% ▲
Q5: I can lead, motivate and influence where appropriate.	6.5	7.59	1.09	17% ▲
Q6: I can persuade through listening and convincing discussion.	6.65	7.91	1.26	19% ▲
Q7: I am able to build and sustain collaborative relationships and work pro-actively to create and develop knowledge with a range of stakeholders.	6	7.68	1.68	28% ▲
Q8.E8: I contribute to increasing public awareness, engagement and understanding of science and associated impacts.	5.73	8	2.27	40% ▲

Commercial awareness and enterprise
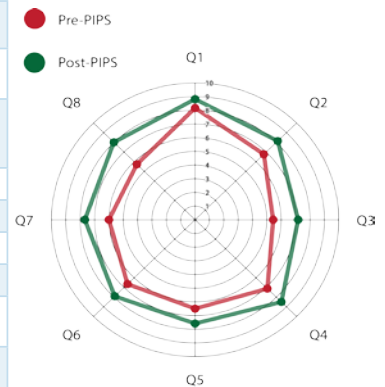
Commercial awareness and enterprise	Pre-PIPS	Post-PIPS	Change	% Change
Q1: I identify innovative trends, ideas and applications.	5.69	7.14	1.45	25% ▲
Q2: I am enterprising and entrepreneurial.	4.44	6.23	1.79	40% ▲
Q3: I set goals and plan and manage resources to deliver results.	6.85	8.36	1.51	22% ▲
Q4: I effectively assess and manage risks.	6.69	7.95	1.26	19% ▲
Q5: I understand mechanisms for funding and the processes for making applications.	5.85	7.36	1.51	26% ▲
Q6: I can work with administrative systems, reporting procedures and infrastructure processes.	5.98	7.82	1.84	31% ▲
Q7: I can responsibly manage finances, resources and infrastructures related to research.	5.9	8.05	2.15	36% ▲
Q8: I have an understanding of commercial awareness.	5.56	7.68	2.12	38% ▲

Skills and employability
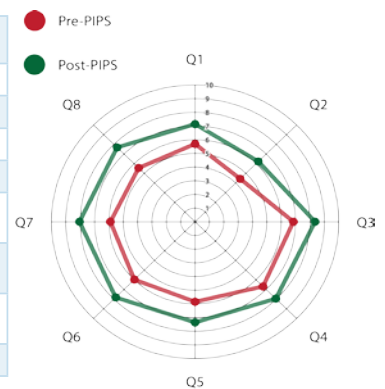
Skills and employability	Pre-PIPS	Post-PIPS	Change	% Change
Q1: I am adaptable to working in different types of working organisations.	7.23	8.64	1.41	20% ▲
Q2: I consider myself to be innovative and creative.	7	8.14	1.14	16% ▲
Q3: I am developing leadership skills.	6.58	7.86	1.28	19% ▲
Q4: I am able to identify all of my transferable skills.	6.35	8	1.65	26% ▲
Q5: I am able to demonstrate my skills in the workplace.	6.83	8.45	1.62	24% ▲
Q6: I am able to multi-task.	7.33	8.55	1.22	17% ▲
Q7: I am able to work with moving deadlines.	7.25	8.55	1.3	18% ▲
Q8: I can see where my research could be useful across a variety of sectors.	6.65	8.09	1.44	22% ▲