EPSRC Monitoring and Evaluation Framework for the portfolio of Centres for Doctoral Training (CDT’s)

Updated January 2011
Introduction:

This document provides a basic framework for the monitoring and evaluation of all centres for doctoral training throughout their lifetime, from the start of the training grants to their end point with EPSRC funding. The framework is written to give an indication of what EPSRC would expect the centres to be able to measure and report on in years five and onwards because we believe it is important that all centres know what information they need to start collecting now. Nevertheless we do recognise that at the mid-term review stage in year three (Summer 2010), some aspects of the time-delineated information will not yet be available in centres (e.g. next destinations of students, key publications).

The current portfolio of CDTs includes 45 new centres approved in 2008 with formal start dates of 1st October 2009 and 17 centres – largely in the life sciences cross-disciplinary interfaces (LSI) area – which have been in place for several years. There are also three each of additional Energy and Mathematical Sciences Centres approved during 2009. Accordingly, different timescales will be operating for those centres which have just recruited their first student cohorts compared to engineering doctorate, LSI and complexity sciences centres which are already running strongly on previous grants started up to nine years ago.

The intention here is to have established an acceptable “core plus” evaluation model. This current “core” document is intended to allow all centres to be compared across the portfolio, while the “plus” component (NOT included in this particular document) will ensure that the varying aims and purposes of different types of Centres (like IDCs, LSI-DTCs and the new ‘mission’ programmes) can be reflected in the evaluation outcome over the same timescales.

Many existing centres have already been reviewed in recent years. We will be incorporating such centres in the overall evaluation framework, but there will need to be some adjustment of timescales and incorporation of some specific issues. In the same way, the basic monitoring and evaluation framework proposed here may need to be augmented with a number of additional programme-specific questions for those centres. operating as part of the RCUK strategic themes and for the Industrial Doctoral Centres. Finally, we expect to issue well before the review in 2011 one or more template forms so that financial or numerical data can be collected in a standard format to facilitate comparison between centres during the review process.
Background:
The original strategic criteria used by panels for the assessment of CDTs during the 2008 funding exercise were intended to also establish key criteria for monitoring and evaluating the centres during their lifetime. The criteria included the following issues:

Strategic Alignment
- Evidence of national need for the number and type of trained doctoral scientists or engineers and hence the added benefit of training through the centre compared with the standard PhD model.

International Standing
- Evidence of the international standing of the research of the academic groups identified, including evidence of significant research income and their contribution to the UK research landscape.
- Evidence of existing or developing engagement with internationally competitive research groups though research and training (including strong evidence of institutional commitment, such as structural reorganisation or new academic appointments).

Training, Supervision and Management
- The added value of a centre approach versus supporting postgraduate training through a more traditional DTA approach or via project studentships.
- The quality, coherence, relevance and innovative structure of the proposed training programme, including:
  - High-quality and well-balanced training with exposure to exciting new multidisciplinary approaches;
  - Good facilities with opportunities to gain direct experience of up-to-date techniques and current technologies;
  - Training in employment related transferable skills.
- The quality of management and supervisory arrangements with supporting evidence of a sustained submission rate for doctoral students.
- Evidence that there will be clear leadership of the centre with a named director who will devote the required degree of effort.
- Evidence of applicants’ experience of providing a high-quality research environment for supporting doctoral-level research, experience of providing management/ broadening skills training, and evidence that access to any facilities required for training can be secured.
- Evidence of rigorous quality assurance procedures, including:
  - The recruitment and monitoring of students, and provision of feedback from supervisors.
The selection of suitable supervisors and research degree projects.

**Proposed Evaluation Process:**

The detailed process for the proposed evaluation in year three is under discussion and development. However, in outline it is currently proposed that progress reports will be sought from centres around May to June 2011, for consideration by review panels in the period July to September 2011.

This timetable would give all centres the experience of moving close to recruiting three full cohorts, and to include many of those students actually proposed to start in October 2011, before preparing their reports for submission to EPSRC.

“Success”, in terms of the progress of individual Centres (and CDTs as a whole), will be defined in the context of how well the criteria and questions are being addressed. For example: is a particular Centre evolving appropriately to ensure that the training remains “strategically aligned (what is the evidence for this process etc)?” However, the interrelationships between and weightings attached to the various success criteria / questions must remain fluid and perhaps subjective.

At this stage it is not possible or even desirable to be specific about baselines and what must be achieved in excess of these to qualify as demonstrating ‘success’. Proscription in this respect is likely to lead to a ‘tick box-type’ approach by centres which will mitigate against the effective management and operation of individual CDTs. It is also acknowledged that the proposed evaluation will be based on both quantitative and qualitative inputs from individual CDTs. EPSRC accepts (and would view as a positive) the fact that Centres will evolve during their lifetime, for example, in terms of their scope, focus, training mechanisms, mode of operation etc. In practice, should there be no evolution then this fact might be viewed as a negative outcome.

**Currently we envisage that recommendations from review panels will be considered by EPSRC in September or October 2011.** Those centres not being supported for their fourth and fifth cohorts (i.e. starting in 2012, 2013) will be told before the end of October 2011 before they go too far down the recruitment route for 2012 starts. Those centres being fully supported by EPSRC will be allowed to run their current grants to the natural final recruitment point for new cohorts in 2013/14, and their subsequent expenditure end point around 2016/17.

We recognise that there might also be scope for EPSRC programmes to fund some centres beyond their three year mid-point review (as described above) but not necessarily to the end of currently awarded grants, where there might be an identified strategic need for continued funding for (say) the fourth year of particular centre grants. Centres should be developing their future plans so that potentially in the longer term their activities can be fully integrated into the parent research organisations and funded in a sustainable way without the current high level of support from EPSRC being required.
Questions to be addressed in the reporting section of the submitted progress report (up to ten pages text, plus any requested annexes, one of which will be a data annex to ensure consistency of information for comparative purposes)

1. Objectives and general CDT operation:

1.1 To what extent has the CDT met its original strategic objectives? What changes were made from the original proposal and why?

1.2 How has the CDT demonstrated added value (e.g. value for money, comparisons with a standard doctorate), and in what ways has the CDT programme benefited from its larger scale?

1.3 How has the CDT ensured proper management and quality control?

1.4 What training have prospective supervisors been offered, especially for new appointees?

1.5 Describe how projects have been allocated (both in terms of mechanism used and spread of supervisors)? How has the supervisor cohort evolved?

1.6 Explain how the projects are checked for (a) academic quality (b) fit to the theme(s) of the CDT and (c) the relevance to any external end user demand (specific or generic)?

1.7 How are you aligning your training with excellence in the wider research field (e.g. other research groups, consortia, working groups etc)?

2. Students attracted and student outcomes:

2.1 What was the volume of applications received in each year of the CDT and what proportion of applicants were awarded places (i) supported by EPSRC and (ii) supported through other funds (e.g. ‘fees only’ EU recruits)? Please make a distinction between speculative enquires and specific applications and explain briefly your recruitment process to ensure high quality candidates?

2.2 What is the disciplinary background experience of applicants and where have they come from (e.g. home institution, another UK institution, from industry or from overseas, diversity?). How does this pattern compare to the ‘typical’ applicants for the subject at your institution? How do these compare to the pattern for appointees? (We are seeking aggregate information and not data on individuals).

2.3 What is the quality of students (1) applying to and (2) recruited by the CDT (1st degree grades, student experience and relevant background, etc)?

2.4 In what ways has the CDT programme enhanced students’ expertise and enabled them to apply it to broader research programmes as applicable outside traditional research fields?
2.5 Where relevant, what benefits are students experiencing as a result of working with industry (or other non academic partners). See question 6.7

2.6 How are students better equipped to be the future leaders in their field and / or act as ‘agents for change’ in their organisations?

2.7 What has been the submission rate per cohort?

2.8 How many students left their studies early per cohort? Please give reasons.

2.9 What are the relative completion rates for students funded via the Centre versus the wider Department / University? Please explain any major variations.

3. Taught component of CDT training:

3.1 Please give brief details of the taught courses offered , (e.g. topic, method of delivery, how many students have attended each one, sharing of courses etc)

3.2 How has performance in these taught courses been assessed internally and externally, including input from potential employers, if applicable?

3.3 To what extent has the CDT delivered interdisciplinary training (in the context of the CDT’s mission and objectives)?

3.4 How has training prepared students for their PhD projects, and what metrics and information have you used to reach these conclusions)

3.5 What transferable skills programmes have you used or developed, and what careers training do you provide?

3.6 What have you been doing to help your students to explore, discuss and reflect on the wider ethical issues around their work?

3.7 What have you been doing to encourage your students to engage with the public and to understand the value of this engagement?

4. Impact in the host research organisation(s):

4.1 What wider impact has the CDT had in the host research organisation(s)?

4.1.1 How has the CDT become integrated within the host research organisation(s)?

4.1.2 Has the CDT facilitated new academic collaborations (give examples)?

4.1.3 Have any new academic posts or promotions been created as a result of the presence of the CDT? How many?

4.1.4 Has the CDT’s approach to skills training been followed in other parts of the host institution(s)? How?

4.2 How has the CDT leveraged additional direct or in-kind funding?
4.2.1 How has the CDT grown since its inception relative to its planned size?

4.2.2 What contributions has the CDT attracted from other funders, including University studentships?

4.3 What user (e.g. employers, industrial, clinical, government etc) involvement has the CDT attracted?

4.4 What progress has been made in making the CDT more sustainable within the host research organisation(s)? What are the likely sources of funding (non EPSRC) to maintain the CDT beyond the initial five year funding period?

5. Impact in the wider community:

5.1 What impact and interaction has the CDT had in the wider community, including other research organisations, industry, business, the public and society? Have there been any wider policy, strategic or social impacts arising from or influencing the direction of CDT activities?

5.2 How does this Centre coordinate with the wider training of people in this subject (e.g. is this centre the main provider of students, does the Centre provide access to resources to other students)?

5.3 How has the CDT helped to bring about new collaborations in other research organisations, industry, business and society, including internationally?

5.4 What wider initiatives have been set up as a result of the presence of the CDT, including those with other research organisations, industry, business and society?

5.5 What prominent visitors/speakers and events, from other research organisations, industry, business and society has the CDT been able to attract?

5.6 Have you any evidence that sponsoring companies/sectors been changed as a result of the activities/training provided via the CDT, especially amongst SMEs?

6. Outputs from centres:

These questions will be especially relevant at the final reporting point but will need addressing towards the mid-term review point to ensure that information is being collected at the centres.

6.1 Please give details of the first destinations of CDT students who have completed to date (for on-going Centres, include the last 3 years data):

   6.1.1 How many graduating students of the CDT have continued academic research, e.g., PDRA positions or fellowships? Of these, how many are in research at interdisciplinary and cross-disciplinary interfaces?

   6.1.2 How many students have secured employment in relevant (in terms of the subject/discipline of the research project) companies and businesses for the long-term benefit of the UK?
6.1.3 Other employment?

6.2 Are there any interesting case histories of students moving to excellent and/or unusual careers directly stimulated by the CDT model of support, of benefit to the UK?

6.3 Please give details of some research highlights arising from CDT projects.

6.4 List the publications the CDT students have generated to date. Please comment on (i) the number of publications, (ii) the journals or other mechanisms (e.g. best practice guidance issued by learned societies / professional bodies) in which work has been published, and (iii) the degree of mixed authorship from academic and/or industrial backgrounds?

6.5 What conference presentations and posters have been generated to date (list any prizes or awards received)? Comment on the likely impact of these activities on the discipline / industrial sector in which the centre operates.

6.6 What Intellectual Property, e.g., patents secured, spin-out companies, other commercialisation etc, has been generated to date and what has been the impact of these outputs?

6.7 What follow-on funding from EPSRC, other Research Councils, industry, business and research charities would you ascribe directly to the CDT?

6.8 What other steps have been taken to publicise the outcomes of Centre outputs, including ‘branding’ the CDT model?

7. Other issues:
If there is anything else you would like to report on the CDT which is not covered elsewhere, please include it in this section:

Notes:
Examples could include:

i. the results from ongoing internal student and alumni surveys,

ii. impacts on (or of) the wider higher education sector

iii. the levels of in-kind contributions received from industry or business to support your centre.

iv. collaborating business feedback, e.g.:

v. how has the CDT supported your business needs?

vi. the enhanced qualities of students they subsequently recruit,

vii. what return on investment are they estimating from their involvement in the CDT?

viii. have there been any unexpected benefits from their involvement in the CDT, for example?